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FARM NOTES.

The Spring Work.

The fact that past experience is not a safe guide to follow, so far as weather conditions affecting the spring work are concerned, is annually illustrated. Last season the weather was very unseasonable in May. The temperature was unusually low all through the month, and there were an uncommonly large number of rainy days. But April weather had been fine, and the farmers were well along with their work, yet the cold, wet weather delayed the spring planting not a little. In most cases, the later planted corn was the better, however, so this did not turn out to be as great a hardship as was feared by many earlier in the season. But this season the weather conditions have been very different. The weather throughout most of May has been hot and comparatively dry, except in the western part of the state, but most farmers did not get as early a start on their spring work as was the case last year, and corn planting is again rather late on most farms, notwithstanding the fact that good corn weather has prevailed since rather early in May. This simply illustrates that the farmer cannot judge one season by another, but must keep up with the season's work as well as possible, and be ready to take advantage of favorable weather conditions when they come, if possible, and also be prepared to await their coming in case the season should prove to be dilatory.

But even then, we make many mistakes when we do the best we know how. In another column of this issue will be found an account of how an untimely hard rain ruined the prospects for a good oat crop over a considerable section of the western part of the state. In other localities with which the writer is familiar, rather opposite conditions have prevailed. In some cases oat fields were sown and seeded to clover with little preparation of the seed bed, and little rain has fallen to firm the loose soil about the seed or to hasten the early growth of the plants. Where the soil is left in this loose condition on the surface and dry, hot weather follows, as it has in eastern Michigan, the result is unsatisfactory as reflected in the thrift of the oats or the clover sown in them. Now these opposites in weather conditions which have prevailed in different sections of the state are brought to the reader's attention to illustrate the fact that we should do good work in the preparation of the seed bed for all our crops, and in case the crop gets a poor start on account of adverse weather conditions it will be some consolation to think that we have done our best, and if we keep right on doing our best we will make up the loss on one crop in some other crop for which the conditions over which we have no control prove to be more favorable. It is not an uncommon circumstance to meet farmers who are very blue over the outlook at this season of the year. Weather conditions are seldom ideal for the accomplishment of the spring work on schedule time, and often they are unfavorable for the best development of the spring crops after they are planted. But it

is worse than useless to let this fact get on our "nerves" and affect our dispositions in an adverse manner, since it unfits us for the accomplishment of equally important work in preparation for or caring for other crops and will not bring about any change in these conditions which we cannot control. The only thing to do under adverse circumstances is to change our plans to best fit the conditions and keep right on doing our part in the making of favorable conditions for the success of our crops to the best of our ability, as this is the method which will pay our best in the end every time.

Scarcely a season passes in which one does not see fields which have been

to make an effort to recover, so far as it may be possible, the losses due to conditions over which he has no control.

Fertilizer in the Hill for Corn and Beans.

Please inform me through the columns of the Michigan Farmer as to what kind of fertilizer, and how much, should be used per hill for corn and beans when using hand planter with fertilizer attachment. Soil is of black sand.

Midland Co. M. I. S.

It is doubtful if enough fertilizer can be applied in the hill with a hand planter to be harmful to the seed beans or to do the corn very much good. The writer applies about 125 lbs. of fertilizer per acre in the hill with the horse corn planter, but this device spreads the fertilizer

injured by the contact, especially with potash fertilizers. A good many bean growers use 200 to 300 lbs. of fertilizer with beans, sowing same through the grain drill on each side of the rows in which the beans are planted. But for all of these crops, it is the writer's opinion that the best way to apply fertilizer is to put it on broadcast and work it into the soil, as then it will be available throughout the season as the plants reach out for it, and it becomes well mixed with the soil so that the plants get it in a natural way as their roots develop and the plants are in need of the nourishment.

Conserving and Maintaining Soil Fertility.

Would like to ask readers of The Farmer whether they think it possible to increase the fertility of a farm if one sells more grain off from it than he puts back on.

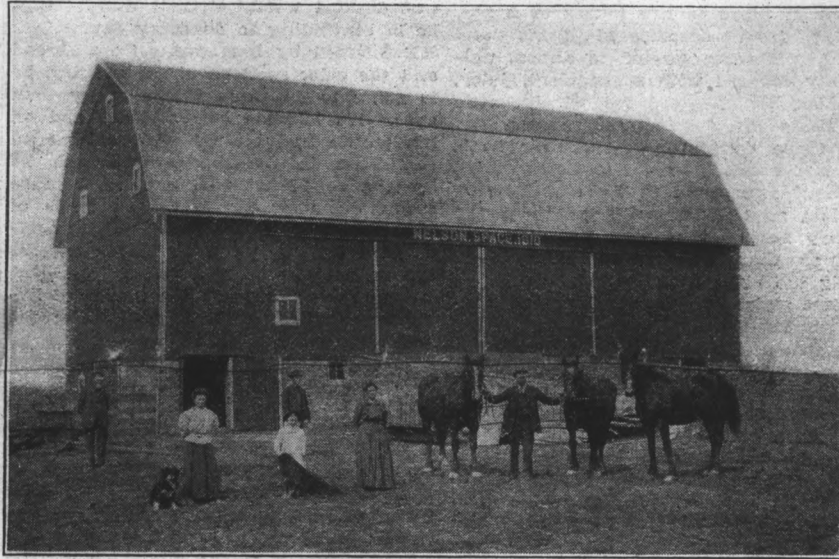
So. Lyons, Mich.

H. E. P.

While it is entirely possible to maintain and even increase the fertility of a soil without putting back all that is taken from it in the form of grain, if this process of conservation is to be kept up indefinitely some provision must be made for supplementing the plant food which nature has stored in the soil as it becomes depleted by cropping. By the growing of clover and other legumes the humus content of the soil may be kept up and the nitrogen required for the growing of other crops can be provided through the wonderful power of the legumes to obtain and store in their roots a supply of this most expensive plant food element necessary for the growing of good crops. The clovers are also deep rooting plants and will, to some degree at least, bring up the mineral elements of fertility from the lower strata of soil for the benefit of themselves and of future crops. But, notwithstanding the bounty of nature in providing for the future, it is obvious that in time the larger proportion of the inert plant food which has been stored in the soil will have been made available by the processes of nature, and the crop producing power of the land will be depleted, unless this supply of fertility is supplemented in some other manner. It is this very fact that has caused such an enormous increase in the use of chemical fertilizers in recent years in this country, and a much greater increase in the same direction by the farmers of the old world. And this process of supplementary fertilization must be continued indefinitely under

our methods of farming if the crop producing power of our lands is to be kept up to normal, through the proper balancing of the plant food ingredients which are required for the growing of maximum crops.

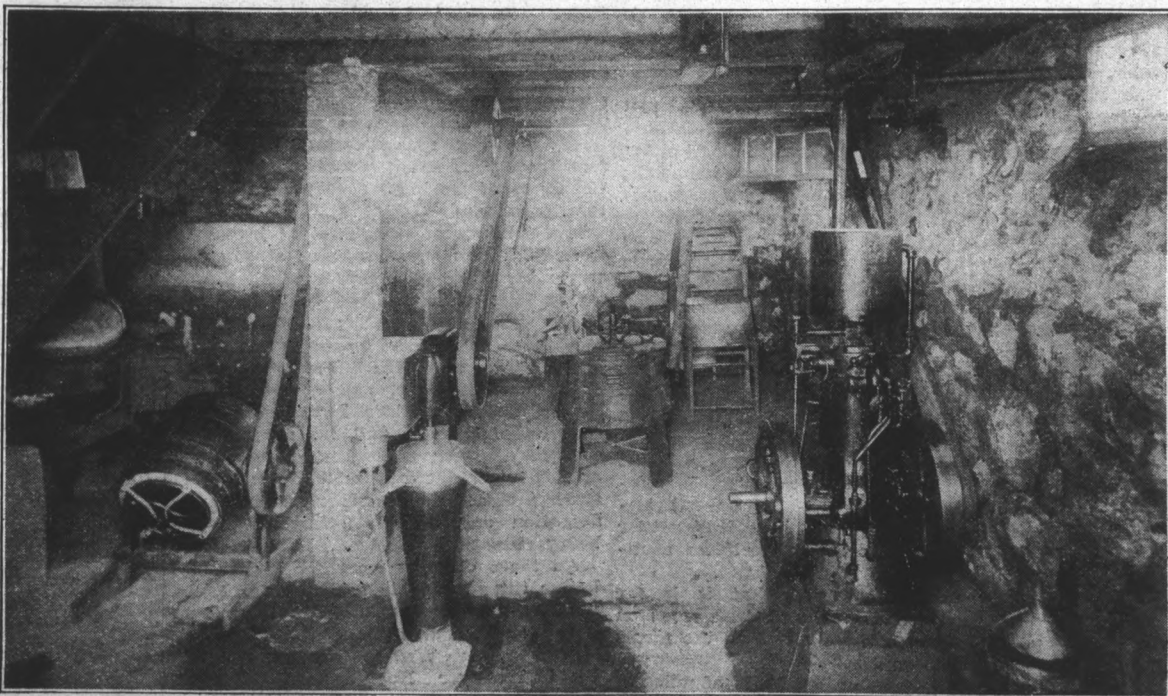
Theoretically, at least, if all the crops grown upon the land were fed to live stock and the manure returned to the soil the fertility of our farms would be maintained indefinitely, and so long as the latent mineral plant food remained in excess of the needs of the crops grown, the fertility of our land might be actually increased. But practically, there would be an end of this process in time, since a considerable portion of the actual plant food would be marketed in the form of animal products and there would be an even greater waste in the inevitable losses of plant food from the manure



Stock Barn on the Farm of Nelson Space, Eaton County, Mich.

planted to spring crops which did not make a good stand owing to unfavorable weather conditions or perhaps in which the poor preparation of the ground was a factor, where the owner became discouraged with the situation and failed to make any profitable use of the field during the season, thus practically losing all the labor expended in the preparation of the ground and the planting of the crop. There is certainly an element of chance in the business which is discouraging at times, but it is folly for a man to get the idea that such occasional reverses are "just his luck," and for this reason fail

about the hill instead of dropping it directly in the hill with the seed. This amount will aid in giving the corn plants a quick start, but it is not a sufficiently heavy application to prove permanently beneficial in maturing a large crop of grain. Where stable manure is not available for covering the whole of the corn ground, we also use a liberal application of fertilizer sown broadcast and worked into the ground when same is being fitted for the crop. In the use of fertilizer with beans care should be taken not to put too much fertilizer in contact with the seed, as its germinating quality is easily



The Separator, Churn and Washing Machine are Operated by a Gasoline Engine in Mr. Space's Home.

even if it were handled in the most careful manner. Already considerable alarm is being voiced by scientists regarding the future exhaustion of the stores of mineral plant food in the form of phosphate rock and potash salts, but it is probable that other sources of these plant food elements will be discovered in the future, and that there is no immediate occasion for alarm on this score. The resources of man are increasing apace in the application of science to agriculture, and we believe that there is no question but that man will be equal to the occasion of supply food for the world for many, many centuries to come.

But it does not follow that there is no need for the average farmer to give more attention to the conservation and maintenance of soil fertility. In case a considerable portion of the grain and other crops grown on the farm is marketed, it is the part of wisdom to provide a degree of supplementary fertilization which will delay the time when the failing fertility of the soil will be reflected in noticeably reduced yields. Not that it is not desirable to grow and sell cash crops from the farm. In the writer's opinion a combination of at least one special cash crop with some form of live stock farming is the most desirable and profitable to follow, but the matter of crop rotation and supplementary fertilization should be closely studied to secure the greatest degree of soil conservation, to the end that our farms may be kept in a productive condition. In case grain farming is followed extensively and persistently without such care and precaution, the damage to our soils will soon be noticeable, and it will be far more difficult to rehabilitate them afterward than it would have been to conserve their fertility before its depletion becomes a serious problem.

CARING FOR THE CORN CROP.

The care of any crop begins some time previous to the planting. In the first place, we should see that the rotation is right, and that the corn follows a crop that will properly fit the ground for it. It is quite generally agreed that there is nothing better than a clover sod from which one crop has been taken.

Another way of giving the crop good care is to give it plenty of plant food beforehand. There is no danger of getting too much stable manure on the corn, and I think more good will be accomplished by spreading it thinly and evenly and letting it go over more ground, unless there is plenty of heavy dressing.

Early plowing is another condition that will favor a good corn crop. Of course, we can not always plow as early as we would like, for the oats must be gotten in first, and the manure hauled. It will help much if most of the manure is hauled out during the winter or early in the spring, so this job will not interfere with the plowing when the soil is in condition. Ground plowed in April and harrowed occasionally after rains in latter April and early May will be in good condition for the crop.

It is possible, however, to give the ground considerable preparation after the corn is in. I like to go over it with a spike-tooth harrow at least twice before the corn is up. After it is up one can cultivate and cross with a weeder if the soil is not too loose. There are sometimes conditions of the soil in which it is not safe to harrow after the corn is nearly up or to use the weeder later, but this is the exception and not the rule. We have sometimes used the weeder or harrow and followed with the garden rake to uncover the corn, as the operation could be done faster than to use the cultivator, and the soil in the hills was stirred, thus enabling the corn to get the start of the weeds that were easily killed at this time. Any scheme we can devise to get the start of the weeds and grass rather than to try to subdue them after they have started is worthy of trial.

We prefer to row the corn both ways as it can be more easily cultivated and kept clean this way, and the ground will be in better condition for wheat which follows a part of the corn. One field is planted between the trees in an orchard set this spring. The marking was done with an adjustable marker which marked the space between two rows of trees at a passage, and left wider rows next to the trees each way. This enables us to give both the corn and the trees good culture, and we can sow a cover crop at the last cultivation of the corn.

The later care of the crop consists in cultivation with a two-horse spring-tooth or small shovel cultivator, going rather

deeply as soon as the corn is large enough to permit it, and decreasing the depth until time for the setting of the ears, when only the surface is stirred. We aim to cultivate about once each week for a few weeks until the corn is well out of the way of the weeds, after which we work the soil after each hard rain so as to prevent the formation of a hard crust.

S. B. HARTMAN.

WHAT THE "SETTLER" IS DOING IN NORTHEASTERN MICHIGAN.

If thirty years, spent in the heart of the undeveloped part of northeastern Michigan, eleven years of it helping to clear a new farm upon which my parents moved without money or even a team, the balance spent cruising and working among the lumber jacks, playing politics by holding down county offices, always retaining an active interest in agricultural matters and thoroughly knowing the district, would qualify a person to speak on that section of the state, then certainly I should be qualified.

In looking back, several things occur to me in the matter of changes which have taken place in the soil, climate and various essential features of that section.

As a barefoot boy I wandered over what we called "plains," bare of everything except a gray moss which, under the influence of the sun, got so stiff as to hurt the feet. Scrape this moss aside and you saw the pure sand.

Today those same "plains" are covered with thick grass, oak, maple, cherry, willow, aspen, and Jack Pine, so thick you cannot look across them for forty rods. Plow those same plains today and you find from three to five inches of a sod, formed from decomposed grass and leaves, while the ground is almost universally covered with a succulent, juicy, fattening bunch grass for which cattle and sheep will desert tame pasture.

In those days, too, the lumber trails and tote roads always headed for these "plains," and stuck to them as long as possible, so a person driving through the country naturally was on the plains as long as they would run in anywhere nearly the right direction.

These plains are usually long and narrow, being from a mile to two miles wide, and at times from five to ten miles long.

A person driving all day on the old tote roads naturally formed the idea that the whole country was "plains." If he had got off the tote road a mile or so in either direction he would have come to the rolling, gravelly lands which produced the pine belts of hard wood, also he would have encountered elm and ash flats and swamps of cedar, spruce and tamarack, mostly all underlaid with good land. In fact, he would have discovered that not over twenty per cent of the country was composed of the so-called "plains." Men, who have gone into the north of Michigan, purposely to investigate, have been forced in trusting to a team and buggy and reported the country with fully three times as much "plains" land as it really had.

One of the peculiar facts is that during the "palmy days" of the lumberman, when the country was rich and everybody supposed to be making money, there were scarcely any laid out roads; the low places were made passable by means of as cheap a corduroy as possible; streams were crossed by means of pole bridges, continually rotting out and dangerous; school houses were few and built of logs; town halls practically unknown, the voting being done and town board meetings held in the livingroom of some settler's house, or the office of some lumber camp; rural churches were unknown; everything was built in the most temporary and inexpensive manner possible.

All this in the time when the land was rolling in wealth and this section was furnishing millions for the improvement of the cities lying at the mouths of the streams upon whose bosom the logs were taken to market. When these rich lands that had raised the greatest crop in history, were stripped of their immense treasures, the country was dubbed a worthless barren "plain" and turned over to the few hardy settlers, without roads, bridges, schools, churches, or anything in the shape of permanent improvement. And what has this settler done with this so-called worthless country?

He has demonstrated that it is far from worthless. He has raised crops on it that vie with those raised on the farms in "God's Country."

He has opened up hundreds of miles of section line roads, built them according

to state specifications, with gravel and stone, and drawn the state's reward of \$500 or \$1,000 per mile, if you please. He has ditched the low places, withdrawing the water, and you cross the streams on cement or iron bridges; at intervals you will come to the district school and, if built of wood, it will be set on a brick, stone or cement foundation, while brick or cement school-houses are not uncommon; he has built town halls in similar style, in which to transact public business; quite often a rural church points its spire skyward, a neat, permanent and attractive building; he has cleared his fields along the roads, enclosing them with up-to-date woven wire fencing; he is building substantial farm buildings and thousands of acres of young orchards are spreading themselves upon the hillsides, coming into bearing with fruits of such color, texture and flavor as to command the interest of fruit men all over the country; he has organized his rural telephone companies and built telephone lines until the farthest back settler is put in touch with the outside world; he has increased his mail facilities until the rural carrier or star route delivers it almost daily at his door; he has organized granges and culture clubs and is building commodious quarters for them in almost every young settlement in the district; he has caused this "worthless sand heap" in northern Michigan to bear such yields of cereals, roots, and forage crops as to compare favorably with many older sections where land is worth five or six times as much money.

All these things has the settler of northeastern Michigan done with a heritage which, when turned over to him was deemed worthless, and these things he is continuing to do every day.

Reinforced by immigrants from abroad and the older sections of the country, he is going to do these things faster than ever. He is wide awake, alert and on his mettle and blessed with unbounded confidence in the section in which he lives, a confidence well founded because ample demonstration has been made of the capabilities of the district along agricultural lines to place its future success beyond doubt.

A marked change in the modes of living among the people is noticeable; the red sash and "stagged pants" are no longer the style; a country dancing party will show well setup young fellows dressed in style very little behind that of his city cousin; among the fairsex the decrees of dame fashion will be observed to a moderate degree and I doubt not but the hobble skirt might be unearthed in unlooked for places in our new settlements.

The ambition of the young man is no longer to be the best canthook man or horse teamster in the vicinity, but to know the essentials of running farm machinery; to be able to hew more ties than his fellows or ride a log in rapid water is not nearly so essential as to be able to prune an orchard or run a seeder; to estimate the weight of a sheep or beef animal correctly is of more importance than to be able to estimate standing timber; to understand the Babcock test and know the best insecticide and fungicide is infinitely more valuable than to be able to qualify as head sawyer in a lumber mill.

These changes are attracting the attention of an army of investors, shrewd world-wise men who, after examination, quickly see the advantages this section possesses, with its abundance of pure water, 30-inch annual rainfall, lands, the poorest of which is a mat of the finest natural pasture in the United States, good growing seasons, steady winters free from fluctuating weather, all within 400 miles of the center of population of this great nation.

The interest of this class of investors is causing a very marked and steady advance in values of property of all kinds.

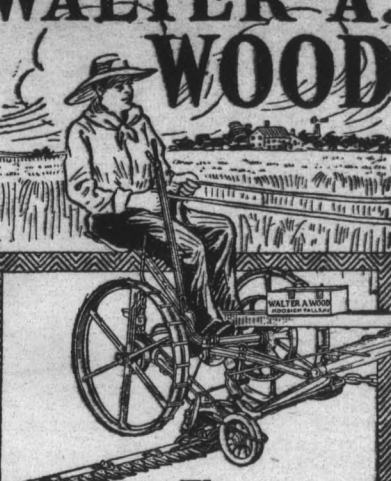
Development on a large scale is going on all over the district; a dozen, two hundred-acre apple orchards are in process of clearing and setting, while hundreds are being put out, of five to ten acres; trials of alfalfa have passed the experimental stage and its future success is assured; several thousand acres of this important crop will be put in this spring; small fruits are receiving wide attention and already strawberries are being shipped by carload.

All these changes work for higher and better things and bid fair to place Michigan in the proud position of having no cheap or "worthless lands."

WM. F. JOHNSON,

Field Manager Northeastern Michigan Development Bureau.

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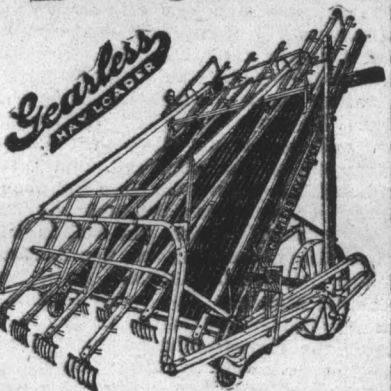
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LILLIE FARMSTEAD NOTES.

Oat Prospects.

I think, without any question, the oat prospects in this vicinity are the poorest they have been during my experience in farming. Once before, under somewhat similar conditions, we had very poor prospects for oats, but even then they were better than they are now. Everybody is complaining that many of their oats did not come. Some have re-seeded and some are expecting to cultivate or plow up and put into other crops. Certainly the average oat field in this vicinity is a hard looking sight.

We finished sowing all of our oats and oats and peas on Saturday, April 29. The very last of the drilling was finished in a light rain. I was congratulating myself all the while we were putting in the entire 45 acres that the ground was in splendid condition and that they would probably germinate and come up and get a good start and the prospects were fine for a good crop. But, on Saturday night, April 29, an unusually heavy downpour of rain came. I knew then that my hopes for an excellent oat crop were ruined. No plant, so soon after sowing on clay soil, could receive such a downpour as that and then thrive well afterwards. Such a heavy downpour beats the earth down, hammers out the air and makes it an uncongenial place for the germination and development of the seed. I had it all planned out that probably by Monday the land would be dried off so that we could go on with spring tooth harrows and loosen up this soil. That would have partially saved the crop. But, Sunday night, the next night, we had another heavy shower and then Monday forenoon another one. In fact, this was all one rain storm. I don't know how much water fell, but there must have been something like two inches. It was an exceedingly heavy rain and came down in sheets. The ground was all covered with water. The rain came down with such force that it packed the ground down tremendously. Now, before we could get onto the land some of the seed had germinated and we could not follow out our original plan of loosening it up with a spring tooth harrow. As a matter of fact, we didn't get onto the land again until May 9, and then it was impossible to get on the spike tooth harrow because some of the oats had come up and these looked at that time the only chance to get a stand. Consequently, we had to let it go and begin fitting the beet ground. This worked up nicely on fall plowing that hadn't been stirred this spring. We got the field in proper shape and began drilling on the 10th and got in about six acres that day. That night there came downpour No. 2. The land would not do to work again until Saturday, May 13, and all of the beet ground which had been previously fitted had to be worked up with a spring tooth harrow and then smoothed off with a leveling harrow before we could go on with the beet drilling. When it will rain again no one knows, but the surface of our clay ground is forming a hard crust and we ought to have a light rain within a few days, on this account. Not that the ground needs the rain for moisture's sake, but to soften up this crust.

Now the peas and oats that were sown just previous to this first rain did not rot to amount to anything, and are coming up fairly well, but they never can make a good crop simply because the mechanical condition of the soil after being hammered down by this rain, is in such a condition that it is impossible for plants to thrive to the best advantage, but the seed did not rot and we will have a fair stand. But the oat fields, both of them, are absolutely ruined. It is one of the most peculiar sights I have even seen. You can see where every tile drain is in the field. They run in every direction, and right over these tile drains is a good stand of oats. They are doing fine. A little way from them on either side there are practically no oats at all, just now and then a spear. In many places it will not average a spear of oats to a square foot of ground, the rest of them rotted. As I stated before in a previous article, I had set my heart on raising a bumper crop of oats this year. And I think I did my part. Who will say that there is no luck in farming? I did the best I knew how and yet adverse weather conditions had entirely defeated my plan and prospects, as I am out of an oat crop. Not only that, but I am out some very high-priced seed and I am out a whole lot of labor that I had to pay cash for.

Now, the result of this whole business

is that I will have no oats at all this year, and furthermore, I will have to buy seed oats next year, but there is no use complaining, it can't be helped. The result will be one extra field of corn, and a larger potato field. Perhaps it is all for the best. Perhaps this extra field of corn and this enlarged potato field will bring me in more profit than it would if I had kept it for oats. At any rate, I am going to believe that it will. That is the only way that I can see to get out of it. I figure that that heavy downpour of rain caused me \$250 to \$300, and perhaps \$500 damage, and I don't see how I have any way of getting it back. It is something that may not happen, and probably will not happen again in 20 years. Perhaps, never, at least I hope not.

Alfalfa.

Just after this first heavy rain we had several days of very cold weather. At night it froze ice quite thick, a half inch thick in some instances, and this freeze hurt the alfalfa. There isn't any doubt about it. Many of the leaves turned white. In spots in the field now the plants are yellow, but it has not killed it and in some portions of the field it does not seem to be injured as much as others. But it is certainly not going to come forward and make as heavy a growth as it would if we hadn't had the frost. I cannot see that the frost hurt the red clover perceptibly. It is doing fine, thickening up at the bottom, making a fair growth, and bids fair to be a bumper crop.

COLON C. LILLIE.

BONES FOR FERTILIZER.

We have a lot of bones left at our lumber camps, and we would like to gather these and use them in some way for fertilizer. Will you kindly advise us what we had best do with these bones?

Ontonagon Co.

T. A. G.

Bone meal is a well known and valuable fertilizer. It contains about 25 per cent of available phosphoric acid and two to three per cent of ammonia. A small amount of potash added to bone meal makes a splendid complete fertilizer, but the bones themselves cannot be utilized so that they are of any particular value without first being treated or reduced. Bones ought to be steamed or tanked in the first place, to get the grease out of them. Grease is not a plant food, and not only that, the grease in the bone prevents the bone from decomposing in the soil and, consequently, prevents it from becoming available as plant food. Again, if the bones are not finely divided or ground the plant food in them becomes available very slowly, in fact, so slow that they are practically worthless. Of course, we know that if we bury bones near a growing tree or grapevine or anything of that sort, then, in the course of time the plant food in the bones becomes available and will be beneficial to the plant, but it will take years for the plant food to become available in the bone unless it is finely divided.

Now, there are two ways these bones can be prepared so that it will be practical to use them as fertilizer. One is grind them in the regular bone grinder or a bone meal mill, and this will give what is known as raw bone meal. It acts quite slow as plant food because it contains so much grease, but we can get fair results with it on land that you want to seed down to permanent meadow.

The bones can also be treated with sulphuric acid and will dissolve and crumble and then by using a dryer they can be used as fertilizer. Now, I should say that T. H. G. could get as much out of these bones by gathering them up and selling them to some fertilizer company that has the necessary equipment to prepare them so that they will give results. There is a good market and they can be sold for a good price per ton. The fertilizer manufacturer will first extract the grease from them and he utilizes this as soap grease. Then he grinds the bones very fine and sells it direct as steamed bone meal or he mixes it with other ingredients to make a complete fertilizer, and I am of the opinion that the money which these bones would bring, if invested in a fertilizer already prepared, would accomplish more good and better results than for anyone to treat a comparatively small amount of bones themselves.

COLON C. LILLIE.

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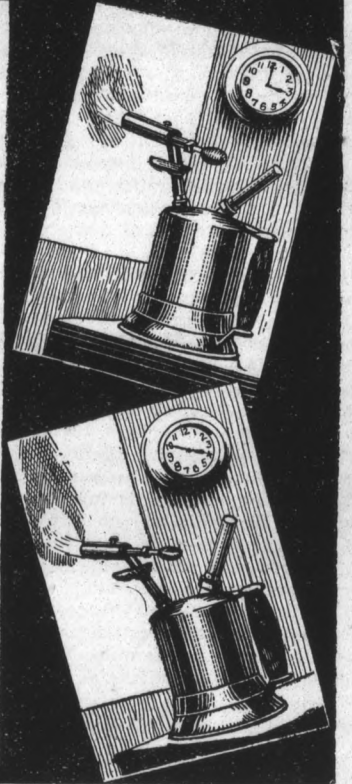
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LIVE STOCK

BUILDING UP THE HERD.

In the management of every beef herd there is either progress or deterioration. No herd is ever maintained at a constant standard. Example after example might be cited of men who founded herds with the very best animals that they could buy. After a few years, through poor management or lack of judgment in breeding and feeding, their herds were very much inferior in quality to what they were in the beginning. On the other hand, there are many more who belong to the ranks of true breeders. They are men whose herds improved with every succeeding generation of calves.

It has been the writer's privilege to study carefully during the past three months the lives and methods of the greatest improvers of our modern beef breeds. These men were breeders in the truest sense of the term. It is a striking fact that before any of those men were able to effect any improvement in their herds, they had ideals in their minds of animals superior to the ones that they or any other men possessed at that time. Without such an ideal they could not have made progress. They were all men who were first-class judges of animals. Almost without exception they were men who spent considerable time studying animals or herds belonging to other men.

As it has been in the early times so it is today with progressive breeders. The men who are really successful breeders are those who have ideals in their minds of animals which they are trying to produce from their matings. They realize that it takes thought and study to accomplish any desired end in breeding. Above all, they know well that they must know what they are breeding for.

It is not enough to mate animals just because they are pure-breds. The reasons for that are very plain. Every animal has certain faults which ought to be offset by the one with which it is mated. If a man is satisfied to mate his animals for the reason that they are pure-bred, he in a great many cases makes the bad mistake of mating two that have the same fault. In that case, the fault is intensified and the progeny is a poorer individual than either of its parents.

About the first and easiest way of building up a herd is by the use of high-class bulls. Much of the improvement made by some breeders has centered around some one bull and his producers. One of the greatest breeders of Short-horns living today is known principally by the animals which he has shown and sold from one great breeding bull. The bull, himself, was an International champion and two of his calves have been champions of the same show and many others have been very prominent in the show ring. When a bull is found that meets the requirements for mating with the cows in the herd or a large portion of them, he should be retained as long as possible if his calves are satisfactory.

Men with small herds, especially those handling grades, too often make the mistake of buying a bull calf every time they need to change bulls. In every locality there are bulls that have been used in other herds until they have heifers of breeding age. This makes it necessary for their owners to dispose of them. From such as these a man can secure a bull three years of age for about the same price as a calf would cost him. By this method a man is able to see from a bull's offspring what kind of a breeder he is and to judge accordingly whether he is desirable or not. This matter of buying a sire that has been tried cannot be too much emphasized for only about half the bulls in use can be rated as successful breeders.

More culling needs to be done among the cows. A large number of cows are unfitted, either from lack of size, from faulty conformation or from lack of constitutional vitality to be retained as breeding animals. This culling ought to be enforced with equal rigidity, either in buying or in purchasing from other breeders. Poor cows constantly pull the average of the herd downward. The herd cannot be built up unless the poor ones are excluded. Too many men have made the fatal error in their haste to build up a large herd, of retaining every female. In a few years they have had herds of much less average value than at the start. Real progress cannot be made unless the cows are culled just as severely as are the bulls.

A factor that follows selection in herd improvement is care and feed. It follows selection in point of time, yet it is no less important. It is with feed and care that the greatest breeders have brought out their greatest improvements. Every one of the early breeders upon whom much of our present day types and breeds depend were generous feeders. Unless an animal is well cared for its good qualities will never be made manifest. Without it selection for animals of better beef type and with better beef making tendencies would be well nigh impossible. Besides that, it is now a well established fact that young cattle which are poorly fed will grow tall and narrow and will degenerate from the beef type. Thus for another reason must he who would improve his herd feed them well.

Active outdoor life is essential in determining and in maintaining vigor and vitality. In nature and under the operation of the law of natural selection the weak physically are eliminated very rigidly. Under farm conditions this point ought to be emphasized more. Only the most vigorous are fit to reproduce, especially in a herd where the aim is to raise the standard of the herd. In maintaining natural vigor the open air active life is very necessary. Those animals that are kept closely housed soon weaken in vitality and are impaired in their breeding powers, both in ability to breed and in the quality of the offspring which they produce. A rich man's farm, upon which the writer worked a few years ago, had a big, splendidly equipped barn. The cattle were kept closely housed and, seemingly as a result of that, the cows and bulls lacked materially in the vim and vigor which is so important in breeding animals of all kinds.

Grass serves a double purpose. It is the best feed nature has provided and upon which man will never be able to improve. In the second place, it furnishes a means of getting the cattle to take exercise. The breeding cows will live on good grass except in cases where they are being fed for sale or show, or for some reason they are run down in condition.

Silage will be a big factor in the feeding of the beef cattle in the future. Our old country brothers have root crops of all kinds to furnish succulence during the winter. Beets are too expensive for us to raise. Besides, silage yields just about as much feed per acre and is equally as good for all practical purposes. Many of the leading breeders now have silos on their farms and everyone of them is well pleased with silage as a feed. These men say that the cattle relish the silage and that they come through the winter in better condition and that it is a very economical feed.

The bulls need outdoor life as well as do the cows. We have succeeded best by allowing the bull to run in a small pasture near the cows during the summer. If the pasture is large enough we have found it best to run a couple of yearling steers with the bull to keep him company. Once when we were working on a farm where about 20 breeding bulls were kept, we constructed a small pasture within a big pasture where the largest herd of cows were kept. Into that small pasture we put six mature bulls. Of course, the primary object in so doing was to enable us to have the bulls near the cow herd and to give them exercise. However, there is another point which we wish to impress here, that is, that those bulls got along peaceably and did not fight and injure each other as some might have expected. On a dairy farm within a mile from where this is being written there are three mature bulls, a Holstein, a Jersey, and a Guernsey, all living contentedly in the same small pasture.

The heifers must not be bred too young. If they are bred young much of what should have gone to build up the muscle and bone of their own bodies must necessarily be used to nourish the fetus. This stunts the growth of the heifer more or less. She never reaches the size she might otherwise have reached and is never as successful a producer of calves as she would have been had she been allowed to reach some degree of maturity before being bred.

Early calves, those coming in January and February, will usually give the best results. They will be big enough to eat grass when spring comes. They will not require so much time when the other work is pushing. As a rule, they will go on and make bigger and better calves. At sale time those early calves will be larger and in all probability will sell for a higher price than those coming later.

Milk is a prime essential with pure-bred calves. If their mothers do not give enough to keep the youngsters in condition, a nurse cow should be supplied if the calf is worth it. If he is not worth it, the best thing to do is to castrate him and raise him on skim-milk. If such are sold for breeding purposes they will bring discredit to the pure-bred business and will depress the price in general.

The herd must be looked upon as a cold business proposition and handled as such if it is to be made to pay. Men get much that is pure enjoyment out of handling good stock yet if the business does not pay, practical men will not stay with it. It is a business that requires men of brains, with ideals of good animals in mind, and skill and ability to enable them to breed and to rear successfully animals that will be superior to those in other herds.

H. E. McCARTNEY.

GROWING AND FEEDING BALANCED RATIONS.

About four-fifths of the food that an animal uses goes to make heat, fat and energy and this part of the food is commonly called "carbohydrates." We will call them heat producers. They are composed of the sugar, starch and oils that are in the rations. Most of the remaining one-fifth is needed to make muscle and is commonly called proteids, or protein. We will call it muscle making food; it is composed of the gluten and albumen in the rations. Much of the little left goes to make and repair the bones and is commonly called ash, or lime, and is found in the woody part of the fodders or in the form of lime in grains. Of the other solids we need not speak as the little that is required is nearly always present with the other elements of their food, except salt, and anyone knows they ought to salt as well as water their stock.

An animal's needs will vary some, as some animals require a little more of some food elements than others do. A growing animal, a horse hard at work or a cow giving milk requires more of the muscle and bone making elements than an idle one would, and in winter it takes more of the heat producers than it does in hot weather, and in case we wish to fatten a grown animal we would increase the fat producers a little.

When a ration is only a little out of balance nature provides a way to adjust the matter by the animal not digesting what is not wanted. But when a ration is badly out of balance the waste becomes excessive and is expensive as well as liable to injure the digestion of the animal and at the same time the animal is starving for want of what is lacking. So it is very important to know how to feed.

Clovers, (mammoth, June or alsike), June grass, oats and barley, are nearly balanced, as are most of the root crops, while oat, rye, wheat and barley straw, with cornstalks and timothy hay are badly balanced, being very short of muscle producers and corn is short on both bone and muscle producers. Wheat bran, buckwheat bran, alfalfa, beans, peas, soy beans and cowpeas are all rich in muscle-making elements.

Whether cowpeas and soy beans will do well as far north as central Michigan, I am not sure and it is important to get northern strains of alfalfa to have it do well here. Soy beans, common beans, bran and alfalfa are very rich in muscle-making elements and will almost double their value when used to balance foods that lack in proteins.

By calculating a little in advance it will be possible for the average farmer to produce the larger proportion of the muscle-making foods on the farm, and thus save some of the expensive feed bills usually incurred in balancing up the ration for the farm stock.

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F. G. SMITH.

HOGS ON PASTURE.

We have a big bunch of Yorkshire gilts out on June grass pasture. I built a temporary house under a big hickory tree and they are 40 rods from the barn. All they get is June grass and water and corn once a day that we carry down there. They are doing fine. They seem to be perfectly satisfied and they graze like cattle. They do not seem to miss their slop at all. I believe they are going to make a satisfactory growth. I can see already that they have gained in flesh and growth since they were put out there. This, it seems to me, is certainly reducing the cost of raising hogs in both expensive feed and expensive labor to a minimum.

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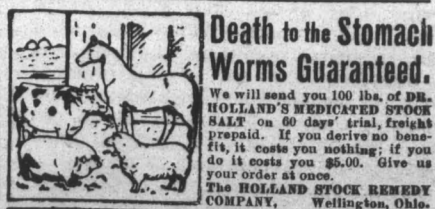
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SOME NEGLECTED PHASES OF PORK PRODUCTION.

Hogs will thrive in any locality where the land can be made to produce a combination of suitable forage and grain crops. As the country reaches an agricultural maturity and more intensive systems of stock growing and feeding are practiced the bulk of pork growing will be confined to the intensively developed stock and dairy farms. Dairy farming and pork growing handled in combination can be made to yield large profits. As the science of feeding is better understood hogs will increase in number, and acres of clover, alfalfa, cow peas, soy beans and rape will rotate with grain crops and farmers will grow hogs of size and quality at less cost.

Quality is a potent factor in pork growing. Much of the success in producing pork cheaply depends upon how largely and wisely farmers utilize the best breeds and types in producing animals that are adapted to the demands of the markets. Pure-bred swine must be used as foundation stock in establishing and maintaining useful types. Profitable and uniform types cannot be held in control by crossing of the breeds. By keeping pure-bred stock it is possible to prevent the deterioration of the stock and quickly establish the best type of hogs for profitable pork production.

Comfort is essential to profitable pork growing. Hogs are still relatively high priced, but relatively no higher priced than grain. It is very important that farmers who are feeding hogs should get

clining condition. Nature, in her workings, keeps a wideawake eye on the welfare of the mother as well as the offspring. If the sow is in a low flesh condition nature prevents her taking another burden until her system has regained sufficient strength to withstand the strain. Because some sows do not come in heat or fail to breed, many farmers conceive the idea that they are diseased and sell them. When a large number of sows are running together it is best to put the smaller and weaker ones in a yard by themselves and give them a little special care and feeding before it is desired to breed them. Good vigorous sows are necessary if we get a crop of vigorous and uniform pigs.

Sows eating their pigs is a frequent source of trouble in many herds. The most frequent cause of this complaint is the craving for some particular element of food that is deficient in rations. However, it is a habit that may be acquired under a wide variety of circumstances. Like the balky horse, the self-sucking cow or the egg-eating hen, the cure lies in the management fully as much as in the food and medicine. The balanced ration is of great importance, but not the whole thing. Sows that have had the run of an alfalfa field, been fed grain and had unlimited exercise have been known to eat all their pigs after they were a day old. To prevent sows eating their pigs at farrowing time bran, roots, green feed and plenty of water should be given them. They serve to keep the bowels active and the system clean. Good, dry and comfortable nests often give relief

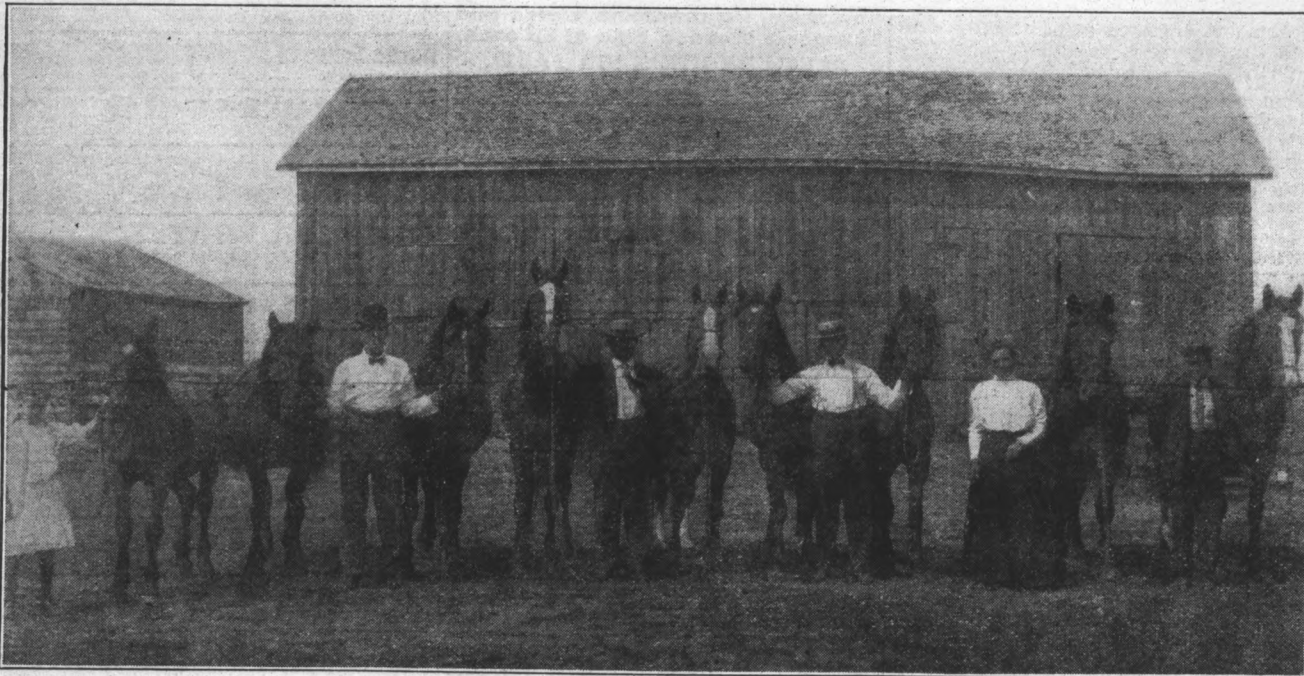
ment which young pigs are heir to. There are many causes and various remedies, but the best remedy is to prevent them by feeding the sow a proper diet of less slop and more dry food. The nests should be kept dry and well disinfected with lime. Some successfully combat the disease with laudanum, but it should only be used as a last resort, for any kind of strong medicine will be likely to check the pig's growth and get them into an unthrifty habit.

It is much easier to grow and fatten pigs than it is to get the highest price on the market. About the only advice that is safe to follow is to avoid being a market crank and to sell the hogs as soon as they are ready to go, that is, when they have reached a point where it no longer pays to feed them except for speculative purposes. It seldom pays to feed grain to hogs after they are well-conditioned for market, for at this time most of the food required for the food of support will be apt to be wasted and the food of increase is sure to become a diminishing quantity, diminished to such an extent that it cannot make a profitable gain on the hogs. One of the most successful feeders of hogs, of my acquaintance, once remarked that he never read the market reports until his hogs were about ready to ship to market.

New York. W. MILTON KELLY.

LIVE STOCK NOTES.

Reports from Wyoming state that fewer cattle and sheep than usual will be shipped out this year. The high prices of last year brought about heavy shipments



Efficient Farm Power as Provided by the Breeding of Good Horses on the Farm of C. O. Bingaman, of St. Joseph Co.

the most out of their grain, and in order to do this they should make the hogs comfortable. Comfort means cleanliness, fresh air, dry beds, plenty of water and sunshine. Make up your mind as to what makes the hogs comfortable and strive to apply that degree of comfort to every hog on the farm. They will feel better, eat better and make better use of their food if they are kept comfortable. It means dollars in your pocket book if you provide comfort for the herd.

Water is an important factor in making hogs comfortable, and is necessary for the complete assimilation of all solid foods. Many fail in the hog business because of a short supply of water. Hogs must have plenty of water for bathing and drinking. When practicable, it is much safer to have the yards arranged so that the hogs may have access to water whenever they crave it, than it is to have the feeder decide how much they may drink when stuffed with dry grain. In some cases fattening hogs eat more grass and other succulent foods when the supply of water is withheld. This extra succulent food not only helps to make the ration more evenly balanced, so far as a shortage of protein is concerned, but also the shortage of water, because such green feed contains 80 or 90 per cent of water, whereas the dry grain contains but 10 or 12 per cent of water. Hogs must have plenty of water to remove the unassimilated foods if they are kept healthy.

Sows should be in a vigorous flesh gaining condition before they are bred. It is noticeable that sows low in flesh at mating time seldom bring as strong, healthy and vigorous pigs as sows that are in good flesh condition. No farmer should mate his sows when they are in a de-

clining condition. Nature, in her workings, keeps a wideawake eye on the welfare of the mother as well as the offspring. If the sow is in a low flesh condition nature prevents her taking another burden until her system has regained sufficient strength to withstand the strain. Because some sows do not come in heat or fail to breed, many farmers conceive the idea that they are diseased and sell them. When a large number of sows are running together it is best to put the smaller and weaker ones in a yard by themselves and give them a little special care and feeding before it is desired to breed them. Good vigorous sows are necessary if we get a crop of vigorous and uniform pigs.

The care and management of the little pigs is detail work and no man can succeed in getting these little fellows started in the right direction unless he keeps close watch of the sows and their pigs during the early spring months. The first trouble is apt to be sore mouths and to avoid this the pigs should have their large front teeth removed soon after they are farrowed. It is a form of blood poisoning that is usually caused by lacerating each other's mouths in the struggle for their place at the teat. When their mouths are in a foul condition a drop of diluted carbolic acid will clean out the bad flesh and remove the trouble. Peroxide of hydrogen is also a good remedy.

The next trouble is thumps and to prevent this the sows and pigs should have plenty of exercise to prevent them from getting lazy and fat and not going away from their nests. If the weather is warm and sunshiny let the sow out for an hour or more with her pigs each day.

Another serious complaint is worms, which cause more trouble among pigs than most hog-growers realize. The pigs get sick and die and it is called hog cholera or some other high-sounding name, without further investigation. For treatment there is no remedy superior to santonine. Dissolve one ounce in warm water and mix with their slop and feed to about 75 head of average sized hogs, the first thing in the morning and continue the treatment until the herd is cured of worms.

Scours is the most dangerous derange-

ment which young pigs are heir to. There are many causes and various remedies, but the best remedy is to prevent them by feeding the sow a proper diet of less slop and more dry food. The nests should be kept dry and well disinfected with lime. Some successfully combat the disease with laudanum, but it should only be used as a last resort, for any kind of strong medicine will be likely to check the pig's growth and get them into an unthrifty habit.

Iowa reports a fair pig crop, an average number of hogs being fattened and a growing tendency to go into raising hogs more extensively.

During the past year the only country that increased its output of meat to the London market was Argentina, and that by the enormous figure of 122,346 tons, or something over 35 per cent.

The demand for breeding cattle is not confined to any part of the country, but extends to all sections, and good breeding cows are having a quick sale when any are offered, but most farmers refuse to part with them.

Reports from some of the important cattle feeding districts of Iowa state that about 75 per cent of the number of cattle fed last year are on full feed this year, with heavy feeders preferred and stockers and feeders salable at \$4.25@5 per 100 pounds.

The scarcity of stocker and feeder cattle everywhere is telling on prices for such stock, and at last there is also a big demand for stock for breeding purposes. Prices are absurdly out of proportion with those paid for matured beef cattle, and this is true of both stock cattle and breeders. As rangemen in the northwest carried over fewer cattle last winter than usual, they have been eager buyers this spring, especially since the good rains revived the grass that was suffering from March and April dry weather. John Clay, who recently made an extended trip over the northwestern ranges, says that two-year-old southwestern steers have been delivered in the northwest at a cost of \$30 to \$35 per head, being the highest prices ever recorded. Their extreme dearth may be realized when it is stated that during the past decade four-year-old range steers have sold at an average price of about \$40 per head in western markets. Northwestern range cattle were in similar condition to a year ago, having come through the winter better, but the cattle failed to do well during the last two months owing to the dry weather, which retarded the growth of grass.

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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.

Weak Fetlock Joints.—I wish you would tell me what to do for a little colt that is weak in fetlock joints. When standing or walking its feet seem to turn under its body. This same mare has had three colts; her other two colts showed a similar ailment and both died. Mrs. J. McD., Clare, Mich.—Apply one part carbolic acid and ten parts glycerine to navel, if the wound is not healed, once a day, and give 1 gr. doses of quinine four times a day. The mother of colt should be well fed in order to nourish her colt properly. It is a mistake to do much to the legs and joints of a very young colt.

Rheumatism.—One of my cows has been lame since last fall; most of the trouble appears to be in fore shoulder and I would like to know what alls her. Our local Vet. treated her for stomach trouble, but she showed no improvement. A. G., Richmond, Mich.—Give 2 drs. salicylate of soda and ½ oz. powdered nitrate of potash at a dose in feed two or three times a day and apply to shoulder equal parts aqua ammonia, turpentine and olive oil once a day for a few days, then occasionally.

Leaking Navel.—I have a colt ten days old that leaks water from navel and I would like to know what can be done to relieve an ailment of this kind. J. H., Lake Odessa, Mich.—Dissolve 1 oz. powdered alum and 1 oz. sugar of lead in a pint of water and apply to navel five or six times a day. If in 24 hours this fails to somewhat check the flow of urine stich the opening, using linen or silk, after it has been saturated in one part carbolic acid and ten parts glycerine or olive oil. In some cases a spring clothes pin can be fastened on so as to check this flow of urine.

Indigestion.—My eight-year-old cow has a very rough, dry coat, which seems tight to her body. A. R., Oshtemo, Mich. Mix together equal parts by weight powdered sulphate iron, ground gentian, ginger, bicarbonate soda and fenugreek and give her two tablespoonfuls at a dose in feed two or three times a day. She should be washed with soap and water with some borax added.

Incipient Heaves.—We have a fine 7-year-old mare that is coming down with the heaves and I would like to know what to do for her. G. W. B., Grass Lake, Mich.—Feed no clover, nor musty, dusty badly cured fodder of any kind; grain and grass is the best food for her. Also give a teaspoonful fluid extract lobelia a desertspoonful of tincture opium and a teaspoonful muriate ammonia at a dose in damp feed two or three times a day.

Congestion of Parotid Glands.—I have a brood mare that has an enlarged condition of the glands below both ears. This seems to affect her most when out on grass and appears to affect her breathing. J. R. E., North Adams, Mich.—On account of your mare eating large quantities of grass and spending more of her time masticating food the salivary glands are stimulated into action more thoroughly, than if a short part of her time was spent in chewing food. Give 1 dr. iodine potassium at a dose in feed twice a day; also apply one part tincture iodine and five parts camphorated oil to enlarged glands daily.

Roup.—My fowls seem to have a disease that affects their head, making them quite dumpy for a few days, causing them to lose the use of themselves, and die. They have free range, are fed corn, oats, barley, and salvage wheat. C. D. S., Clinton, Mich.—Paint the head, mouth and throat with tincture iodine lightly every few days, but bad cases should be killed and burned. Your roost should be thoroughly cleaned and fumigated with sulphur or formaldehyde. Whitewash the coop and be sure that your chickens are not roosting in a damp coop with draft.

Thrush.—Contraction—Foot Sore.—I recently bought a horse that is quite sore in both fore feet; his hoofs are contracted and his frogs are diseased. R. H., Barrytown, Mich.—Blister coronets with cerate of cantharides three times a month; apply calomel to diseased frogs once a day and apply wet cloths to wall of hoofs every night. Of course, moisture and filth is usually the cause of thrush, therefore you had better keep hoofs dry until frogs are healthy. When you have him shod use rolling motion shoes.

Azoturia.—I have a seven-year-old gelding that recently suffered from an attack of azoturia, but is now in working condition. There has been several cases of this kind in our locality and I would like to know how to prevent it. R. M., Vanderbilt, Mich.—Azoturia is a diatetic disease, brought on by overfeeding and under-exercising of fleshy horses. A work horse should not be fed more than one-third as much grain when idle as if working; besides, he should be supplied with plenty of fresh air. The disease comes on for want of proper elimination of surplus nourishment of the body. Draft horses are far more apt to suffer from it, than drivers. If a horse is stopped immediately when an attack comes on and not obliged to exercise until they fully recover, few deaths would occur; how-

ever, owners and drivers seem to forget this most important point and drive some distance until the animal loses control of hind quarters. The bowels and kidneys should be stimulated into action, hot applications applied to back continually. Give 1 oz. aloes, ½ dr. calomel and 2 drs. ground ginger, one dose only. Or give 1 lb. epsom salts and 1 oz. ground ginger, one dose. Or give 1 qt. raw linseed oil to open bowels. Give injections of hot soapsuds, also give ½ oz. fluid extract of buchu three times a day. Give ½ oz. doses bromide of potash two or three times a day and if the horse is unable to pass his urine have it drawn off. There are many other remedies which act fully as well as those I have mentioned, but it is well to keep in mind that this is a preventable disease, but not always curable.

Itchy Condition of Skin—Bursal Swelling on Cow's Knee—Enlarged Glands.—As I am a new beginner in farming, I come to you for a little advice regarding a mare that I bought last winter which is inclined to rub herself. The man I bought her of did not groom her, consequently she became very dirty and filthy. She is not lousy and her coat is now in fairly good condition. I also have a cow that has a soft bunch on knee and the glands of throat are some swollen. F. C. G., Breedsville, Mich.—Apply equal parts tincture iodine, spirits of camphor to knee once a day. Give 1 dr. iodide potassium at a dose in feed twice a day and it will gradually reduce bunches in throat. For your mare apply the following lotion once a day to itchy parts of body: Dissolve ¼ lb. baking soda in one gallon of tepid water and wet her with it. Also give her two tablespoonfuls of cooking soda in her feed night and morning.

Distemper—Enlarged Glands.—I have a colt four weeks old that had distemper, causing it to cough. This same colt has two bunches in throat, one on each side of neck and a slight swelling under jaw. D. E., Brant, Mich.—Give your colt ½ gr. quinine at a dose three times a day and apply equal parts tincture iodine and glycerine to enlarged glands lightly once a day.

Enlarged Leg.—I have a yearling colt that cut her leg last summer. The wound healed very slowly and now there is a large bunch, but it does not cause lameness. Would you advise me to apply medicine and remove it, or leave it alone? N. T., Manton, Mich.—You will obtain fairly good results by applying tincture iodine every day or two, but I am inclined to believe you will be disappointed in reducing the bunch entirely.

Wire Cut, Leaving Bunch.—One year ago my horse cut his fore leg on a wire fence, making a wound above knee. The wound healed fairly well, but a large bunch remains, making him blemished, which, of course, depreciates his value. Can it be removed, and if so, how? W. N. T., Pigeon, Mich.—In most cases of this kind drugs make but a slight impression; however, if you are not using the horse apply tincture iodine three times a week, but let it be understood you will never succeed in reducing the bunch entirely. In my practice I usually cut off such bunches; however, this had better not be done until fall.

Sore Necks—Navicular Disease.—I have two mares and both of them are troubled with sore necks. A scab usually forms on sore and pus can be found underneath. I also have another horse that points one fore foot and shows some lameness. J. O., Maple City, Mich.—First of all, it is important to have good fitting collars; besides, the collars should be kept clean and if the horses are worked a portion of the collar or sweat pad that comes in contact with sore parts should be removed, because pressure and friction are exciting causes. Remove core with knife. Apply peroxide hydrogen three times a day and dust on equal parts boric acid, oxide of zinc and powdered alum ten minutes after using peroxide. Pointing the foot indicates foot lameness, therefore I am inclined to believe that you have a case of coffin joint lameness. Standing your horse in wet clay and applying equal parts tincture iodine and camphorated oil to heel every day or two will give some relief.

Chronic Cough.—My horse had pneumonia and since then has been troubled with a cough. He does not cough very much while at work. E. W., Vassar, Mich.—Give a desertspoonful of tincture opium, a teaspoonful muriate ammonia and two tablespoonfuls powdered licorice at a dose in feed three times a day.

Enlarged Shoulder.—I have a three-year-old colt that worked on the outside of a three-horse team and in some way shoulder must have been bruised, causing a bunch to grow. I have blistered it twice and am not able to see that it is any smaller. J. M. S., Plymouth, Mich.—Apply one part iodine and eight parts lard to bunch three times a week, or it could, perhaps, be cut out.

Fibrous Tumor—Sit Fast.—We have a mule that has been troubled with sore shoulder for a long time. Last year we succeeded in relieving him and keeping him to work, but this season we have gotten very little good out of him. One shoulder has a large bunch situated low down and remedies fail to take swelling and tenderness out of it. H. S., Jenison, Mich.—From your description of bunch I believe it should be cut out and the sooner it is done the earlier he will go to work.

Bloody Urine in Cattle—Haematuria.—I would like to know the cause of bloody urine in cattle. My first experience was in a calf that was fed on dry feed, good hay and sweet milk. After he commenced passing bloody urine I kept him in barn and he died in three days. He was six months old and in good flesh. The next case was a cow that took sick last May and we treated her; she rallied some but

(Continued on page 587).

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POULTRY AND BEES

PERSONAL SUPERVISION A BIG FACTOR.

To me it seems that personal supervision is the most important item in connection with profitable poultry keeping. I would never think of keeping a poultry farm which I would not be able to oversee in every detail. Indeed, in my long experience I have most of the time done the greater part of the work with my own hands, and what I could not do myself I have always left full instructions as to how it should be done, and afterwards seen that my instructions were carried out.

I remember reading a remark of Lewis Wright's, when I first commenced poultry keeping, which I have found since by experience to be perfectly true. It was to the effect that if a man wishes to succeed in the keeping of poultry, either on a large or a small scale, he must either do everything himself or see that it is done. To leave things to others to do as they please is sure to end in failure. It may be members of one's own family, or it may be help specially hired, but no matter who it is the owner should see that everything of general or special management is carried out according to his arrangements and under his supervision.

In order to be able to superintend everything, if one cannot do the work himself, there must of necessity be a complete practical knowledge of every detail. If poultry houses are to be built, the poultry farmer may not have time to erect them himself, but he should be able to give full instructions as to plans and all details to the carpenter or whoever he employs, superintending the work as it goes along, and so with any other work. In the management he may have to entrust the making of the food to someone else, but he should know how it is done, so that he can see at a glance whether his instructions have been followed. In the cleaning of the houses, the way the stock is fed, the location of the coops, the arrangement of the different pens, the selection of the breeding stock, in fact, every detail should be so thoroughly known by the owner that he can control the carrying out of everything that he cannot do himself.

How Things May "Go Wrong."

As to my own experience, I have found that when, by sickness, absence, or other unavoidable cause, I was compelled to leave the work to others, invariably something went wrong. It may not have been much, but small things count in poultry keeping. I have had sons and daughters willing to attend to everything for me when I was unable myself, and they were taught all that was necessary to be done, but when it came to using their own judgment in various emergencies that might arise (and such things happen every day in poultry keeping) they were sure to do the wrong thing, or else do it quite differently from what I would do. I have had chickens killed by hens of other broods because of placing coops too closely; young ducks trampled to death by being allowed in the house of the older ducks; roosting houses swarming with vermin because not cleaned out in time; hens drinking water thick with slime, because the vessels were not cleaned before being filled.

It seems no use correcting, reprimanding, or advising, for the same thing occurs again and again. I think the reason is that so few take a real interest in poultry keeping; they simply do things as a sort of duty. This will never do. For instance, when I go to feed my stock I stand and have them all about me. As I fill the troughs I watch the birds. I see whether they are eating or not. I can detect any bird not well. I soon know all the birds by appearance. In this way one gets to know the habits and characteristics of all, which is most useful. I can tell how much food they eat up greedily, so that I need not feed them too much. The servant way of feeding is to go around, pitch all the food into the vessels and leave it there, whether it is eaten or not. This sort of thing is true of every kind of work.

I firmly believe that if poultry keepers would take such an interest in their fowls as to attend to all the work themselves, either by doing it with their own hands or seeing it done, there would be fewer failures in poultry keeping. There is, of course, an exception to this in the case of the manager of a poultry yard of prize stock, as is often the case with gentle-

men fanciers, who go in largely for exhibition and generally employ a man who is accustomed to raise stock of this kind. But then the manager takes the place of the owner in the other case, and it is he who oversees the work. There is an old proverb, "If you want a thing done well, do it yourself," and this is specially applicable to poultry keeping.

Canada.

W. R. GILBERT.

FOUL BROOD IN MICHIGAN.

Reference was made in these columns, some months ago, to the systematic effort being made by the Bureau of Entomology of the Department of Agriculture to determine the extent to which the disease known as foul brood prevails in the apiaries of this country. A preliminary report, giving the data acquired up to March 1 of this year, has just been issued, it being deemed advisable to acquaint bee-keepers as well as those responsible for the suppression or control of foul brood in the various states with the facts thus far ascertained. It is asked that bee-keepers and others having knowledge or suspicions of the existence of foul brood in territory not covered by this report aid in making the investigation as complete as possible by sending samples of suspected brood to the bureau for examination. Concerning the attitude of bee-keepers toward this investigation the report deplores the fact that some are unwilling to let it be known that they have disease in their apiaries. This, of course, is all wrong, as it is no particular disgrace to have foul brood appear in an apiary. The disgrace comes in allowing it to remain. In appreciation of this feeling, however, the bureau has adopted the policy of not announcing the names of the persons who supply samples, the records being made only by counties. In making the records it seemed impracticable for the bureau to consider units smaller than counties, and a county is recorded as containing disease when the first sample of diseased brood has been received from that county. In most cases, however, several samples have been received from the counties recorded.

Naturally our readers are most interested in that part of the report which deals with conditions in Michigan. The data thus far secured indicate that foul brood in this state is entirely confined to the lower peninsula. Of the 68 counties below the straits American foul brood is asserted to be in existence in 38; while five others are under suspicion. Since every bee-keeper is directly interested in knowing whether the disease is present in his home county, we give the names of counties from which samples of American foul brood have been received. They are: Allegan, Antrim, Barry, Benzie, Berrien, Branch, Calhoun, Clinton, Eaton, Genesee, Gratiot, Hillsdale, Ingham, Ionia, Isabella, Jackson, Kalamazoo, Kent, Lapeer, Lenawee, Livingston, Macomb, Mason, Mecosta, Missaukee, Montcalm, Muskegon, Oakland, Oceana, Osceola, Ottawa, Saginaw, St. Clair, Shiawassee, Tuscola, Van Buren, Washtenaw and Wayne. The five counties under suspicion are: Charlevoix, Grand Traverse, Kalamazoo, Manistee and Sanilac. European foul brood is not nearly so prevalent, being reported as present in Berrien, Cass, Manistee, Mason, Newaygo, St. Joseph, Sanilac and Van Buren counties, and as suspected in Allegan and Kalamazoo.

The data thus presented should prove valuable to those alert bee-keepers who realize the seriousness of this disease and the necessity of holding it in check, as well as a valuable guide to those officials of the Dairy and Food Department who are charged with apiary inspection work in this state. Those who would aid in further ferreting out this disease should remember that the only evidence accepted by the bureau is that contained in a sample of diseased or suspected brood forwarded for examination.

Poultry workers have, for some time, found it desirable to secure some form of superficial floor covering for brooders and brooder runs, which should be free from the dust that usually accompanies such materials, together with the spores of fungi, bacteria and protozoa which can usually be found in abundance in the hay, chaff, or straw which is employed for this purpose. During the past year the Rhode Island experiment station has made a study of this subject and it has been found that the best material is a sawdust composition, bound together by an oil having a wax base and rendered antiseptic by the addition of some coal-tar disinfectant.



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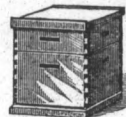
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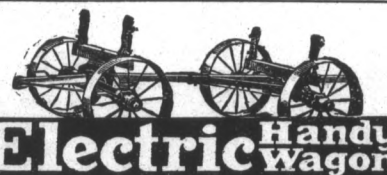
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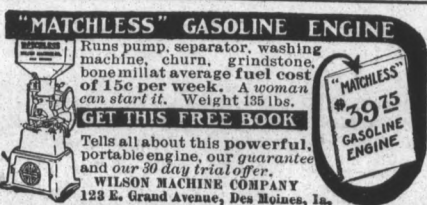
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THE MILK PAIL AND BETTER MILK.

Consumers are insistent upon a cleaner milk and those who own cows agree that it would be better to have a more ideal product. But consumers seem unwilling to stand the additional expense required to produce the better article; hence, if dairymen wish to meet the demand for the better quality, or if they should be so fortunate as to have customers who appreciate the clearer milk and stand ready to give a premium for it, they, the dairymen, must seek to take advantage of inexpensive chances to reduce the amount of dirt and bacteria.

Remarkable revelations were secured by carefully conducted work at the Geneva experiment station of New York, where the purpose was to determine how much the covered pail would reduce the number of bacteria in milk. Different types of pails were tried and it was shown by count that the number of bacteria in the milk drawn in covered pails was from 50 to 70 per cent less than in the open pails.

These differences should commend the attention of our dairymen. If the bacterial content of the milk can be cut in half by a change of milk pails it would seem that here is a place where the farmer and dairymen can, at a very small expense, satisfy appreciative customers and supply the demands of our city health boards.

The original idea regarding covered pails was to have a screen through which to strain the milk as it went into the receptacle, and thus exclude dirt. This idea was developed before bacteria were so well understood. The scheme kept larger pieces of dirt from entering the pail, but it developed two faults which became apparent with the advanced knowledge of bacteria. The first of these was the necessity of daily sterilization of the strainer. Upon the ordinary farm this attention was not easy to give, with the result that it was neglected and milk became greatly contaminated by bacteria developing in the strainer and being washed into the milk at the next milking. The second objection was that dirt would collect on the strainer and when the streams of milk were forced through the mesh it would dissolve the dirt and carry the bacteria through the strainer into the body of milk in a much better condition for multiplying than if the solid piece of earth had fallen in as a lump. These objections have discredited the strainer type of pail and failing to discriminate between the strainer type and simple cover type, both have suffered.

Another factor has opposed the introduction of these pails and that is the increased difficulty in washing. This is an objection, yet the care with which they are now being made of soldering all cracks so they are smooth and avoiding unnecessary difficult places to reach with the washing implements have reduced the objection to a minimum, and the added work required is no reasonable barrier to their use.

A more stubborn reason for not accepting the pails was their forms. Some cows are low and require a shallow pail, others have large udders with teats set well apart and demand a large opening to easily direct the milk into the receptacle. The addition of a cover complicated these demands. But careful attention and study have produced types that are giving good satisfaction. Considering the amount of bacteria and dirt kept from the product the little extra care required in their use over that demanded by the open pail is small and after a few milkings the men become accustomed to the pails and get on quite as satisfactorily as with the open kind.

DAIRY PARAGRAPHS.

Experiment has demonstrated that a superior curd and cheese are made from milk cooled immediately after being drawn from the cow's udder, without aeration than by allowing the milk to be exposed to the atmosphere.

It is often a mooted question as to when a dairy cow is likely to produce her maximum flow of milk. Some of our stations have kept record of animals and shown that cows usually gain in their milk flow until about the seventh year when the amount remains constant until the twelfth year, after which there is a decline. After the twelfth year the de-

mal is of less value as a yielder than a heifer. Dairymen usually consider the cow to be at her best between the ages of seven and ten.

"Did it cost twenty dollars or fifty dollars a year to keep the cow?" That is as important a question, when seeking with brain and pencil to determine profits, as knowing how many pounds of butter-fat the animal produced. The cost of production is decreased by properly balancing the ration for the cow. Balancing the ration reduces waste to a minimum. Effort should be made to grow upon the farm such crops as will mix to advantage. The high protein content of alfalfa commends it to all who can grow it, as a desirable forage crop for the dairymen.

The capacities of our dairies are being limited by summer accommodations instead of the lack of stable room and stored feed, as was commonly the case a decade ago. To increase the possibilities of our farms we must resort to the silo and soiling crops.

Summer silage feeding is increasing. Its advantages recommend it over the system of soiling since it is cheaper and more convenient, and over the pasture method for the reason that at the present price of land dairymen cannot afford to have large areas left in pastures.

COW-TESTING ASSOCIATIONS.

There are now in the United States 55 cow-testing associations. Their effectiveness in promoting better dairying is being testified to by the many reports coming to the department of agriculture. That department now has two men aiding in the organization of new associations. During the past year 28 new societies have come into being. As an example of the value of the work done by the co-operative organizations, the records of one of them show that in four years the average annual profit on each cow has been nearly doubled, having been raised from \$21.43 per cow per year to \$42.82, while the average return for each dollar spent in feed has increased from \$1.64 to \$1.98.

Some men see in these associations the coming of an effective organization of dairymen. The fact that the associations have confined their investigations to a line of work that can be readily carried on through a simple organization will teach and train them to become accustomed to organized effort without starting dissensions and when they have discovered that business can be done co-operatively then they can and will extend their organization to other lines of effort, gradually growing until much of the waste of independent work is eliminated. If the success of the organizations have anything to do with the prophecy, there is every assurance that the effective getting together of dairymen is not impossible nor improbable.

THE GENUINE AND THE SUBSTITUTE DO NOT ENJOY EQUAL RIGHTS.

The person who really wishes to see such legislation enacted as will protect the consumers of butter against a fraudulent substitute and the butter producers of the country against illegitimate competition must not lose sight of the fact that a genuine food product has rights which the substitute has not. This is one of the fundamental principles of pure food legislation.

The efforts of some of the oleomargarine witnesses at Washington to make it appear that the substitute in this case is not only equal to the genuine as a food product but is really far superior, were very amusing indeed. They were really ludicrous and provoked a great deal of merriment in spite of their seriousness. H. C. Pirrung, of the Capital City Dairy Co., Ohio, was perhaps the worst offender in this respect. After reciting at length the methods followed in his factory to insure a product better than butter in every respect, he testified that his employees were not allowed to use profane language in the factory. In spite of his attempt to throw a halo of sanctimoniousness about his product no one took him seriously and oleomargarine is still oleomargarine.

Hon. E. J. Hainer, of Nebraska, in an extended argument before the committee, used these words:

"It is made as nearly as possible in imitation of butter, in texture, form, color, taste, aroma, form of package, nomenclature, and every detail, particular, and attending circumstance, except label on packages. Butter and milk of the best

quality are used to heighten the similitude. All this is done to appeal to patronage. At the table, the point of consumption, it is only on the rarest of occasions that the consumer is advised that he is being served with oleo, and not with butter. Does he ask the waiter to help him to butter? Oleo is handed him. Why all this effort to simulate butter? It certainly is not due to philanthropic intentions and purposes. It is solely for the profit there is in it. The credit balance appearing after the account is cast up. The appeal is made to the general desire for butter. In imitation appears the unconscious homage which the inferior always pays to the superior—the sincerest flattery. It is the case of pewter and lead counterfeiting silver, and glass counterfeiting diamond. Whoever heard of silver attempting to counterfeit lead, or diamond, glass? Never until a few days ago in this presence, by a manufacturer of oleo from an Ohio city, I believe, was it seriously insisted that oleo was better than butter, that butter making was obsolete, and should be abandoned, while the cow should be abolished except for beef purposes. He proved his sincerity by telling us he named his oleo factory and business, 'The Capital City Dairy Company.'"

Minn.

E. K. SLATER.

SELECTING FEEDS FOR THE COWS.

In earlier days corn was the universal feed for stock, and it mattered little whether feeding was done for making beef or for securing milk. With broader experience under conditions more exacting than prevailed during the years of pioneer life, and with the advantage of valuable results obtained from extensive experimentation by American and foreign experiment stations, we have come to learn that feeding animals can be done best when we have in mind the products we wish to produce and when we know the capacity and nature of the particular animal feeding. The dairymen of today gives his cows different rations than the man who feeds for beef. Even the dairymen differentiates between the feed for his growing calves and that for the milch cows, and also between that for milkers and for the dry animals. Animals producing large amounts of milk and those giving but small "messes" are also handled in a different manner by the most experienced men. We have, in other words, gone from the one extreme where all animals looked alike, so far as providing feed is concerned, to where the giving of feed is adapted to the individual needs and requirements of the particular "critter." The Wisconsin experiment station has furnished us with a fund of information relating to feeding dairy animals. The same institution has recently collaborated, from careful work extending over a number of years additional information relating to this vital phase of dairy work, a digest of which is given herewith:

The selection of food is of prime importance in the profitable management of a herd of dairy cows and, next to the selection of cows of the proper type and breeding, is the factor of greatest importance in profitable dairying. By weighing and testing the milk the production of each animal may be determined, and by comparing the cost of the feed eaten by the cows with the value of their production the net profit yielded by each cow is obtained. The use of such feeds as will give the maximum yield from each particular cow is necessary, if the greatest profits are to be secured regularly.

The proper proportion of protein, carbohydrates and fat in the ration have been studied by many investigators with varying results. All feeds grown on the farm, except clovers and other legumes, are low in protein and such farm grown feeds must be supplemented by the purchase of feeds rich in protein. An extensive investigation with the University dairy herd has shown that nutritive ratios 1:6 or 1:7 can be used successfully.

A rule for feeding cows generally practiced at the experiment station is to feed as many pounds of grain per day to each cow as she produces pounds of butter-fat per week, or one-fourth to one-third as much grain as she gives pounds of milk daily. No two cows can be fed exactly alike; each must receive individual attention according to her requirements. A general grain mixture may be used, however, which will meet the needs of most of the cows in the herd. The amount of this mixture to be given may then be varied according to the production of the cow.

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milk and butter-fat. The amount of feed used by cows depends also upon their body weight, larger cows requiring more feed for maintenance. The amounts of dry matter, digestible matter and digestible protein to be furnished must be varied.

The composition of feeding stuffs should receive close study by dairy farmers. They should plan to grow a sufficient supply of roughage and some of the grains needed to feed the herd. The purchased feeds, which are needed to supplement these feeds should be selected after a careful study of their chemical composition and digestible components as well as their cost.

BREEDING DAIRY CATTLE.

In herds where a large milk yield is desired, special attention must be paid to using only those heifers that have come from the best cows. The heifers from poor milkers with badly formed udders should on no account be retained; they are likely to inherit the qualities of their mothers. When it is considered that many of the dairy cows yield only 190 pounds of commercial butter, while others on the same pasture yield up to 400 pounds, the need for grading up will be readily understood. In this matter, one should be guided by local and climatic conditions. The dairyman should consider well before making a selection, and especially in new districts, for how often do we find a man breeding in a certain line for years and then finding out he has made an improper choice, with the result that the years have been wasted and he must make a fresh start.

Select heifers from deep milking cows and by continuing this process for a sufficient length of time the average milk yield will be considerably increased.

I think a great fault with the average dairy farmer is that he stints the feed. If the best results to be obtained are desired, the cows must be well fed. The original cow was not an ideal dairy animal. She has been made one by selecting and feeding. If we neglect these two things, how can we hope to improve the herds.

Breeding from good milkers will produce calves which will give a larger milk yield. Breeding from animals whose parentage is unknown, and which are cross-bred, must, at the best, be only guess work—uncertain and unsatisfactory in its results. We may possess cows which are heavy milkers, yet their calves may not possess the same desirable qualities. As a rule, however, it will be found that good milking cows produce equally good milking heifers, provided they have been bred from a suitable bull. This is due to the fact that deep milkers generally come from good milking families, and their milk yielding is an inherited quality, and not an accident.

Earnest attention should be paid to the class of sire used in the dairy herd. If possible, he should be pure-bred, and a descendant from a deep milking strain. This point is of very great importance, but it is often entirely neglected. Many pay but little attention to this matter and use any kind of animal. It is a mistake, however, to suppose that every pure-bred bull is a good dairy sire. Every sire that heads the herd should be there because he is known to be from the best strains available. The bull influences the milking qualities of all the heifers in the herd; unless, therefore, the breeding of the bull is good, little and uncertain progress can be made in the improvement of the milking capacities of the heifers. Only if both parents are descended from great milking strains can it be expected that the progeny will be good dairy cattle.

Many farmers act unwisely in disposing of their aged bulls just at the time when the owners are able to form an accurate opinion of their value as sires. It is an old and wise saying: "Judge a bull by the heifers he produces." If the progeny are up to expectations or beyond them, why dispose of such a sire? The answer is invariably that his heifers are coming in, and he must be disposed of. It would pay four-fold to keep this proved sire for the old cows, and purchase and use a young bull for the heifers. The best plan when dairying is to purchase tried sires, judging them through their heifers.

Illinois. W. H. UNDERWOOD.

Wisconsin dairy regions have marketed the largest numbers of calves at Chicago this spring ever known, and prices have had an enormous decline. Veal was never before so plentiful. A small percentage of the best calves are going to stock feeding districts for fattening, but most of the calves are not desirable for feeding purposes.

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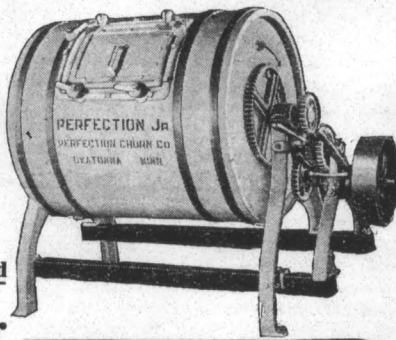
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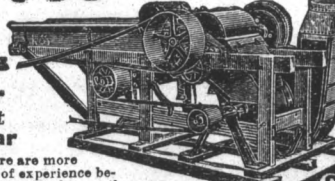
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The Lawrence Pub. Co.,
Detroit, Mich.

DETROIT, MAY 27, 1911.

CURRENT COMMENT.

Of all the days set apart for national observation none is more worthy of general observance by all our people than is Memorial Day. As the years pass in peaceful succession, the ranks of the heroic veterans who defended the country's honor and integrity in her hour of great need are being rapidly thinned by the grim reaper, who cut off the bright careers of many of their comrades in the hour of their youth, either on the fire-swept battlefield or in the lonely confines of unsanitary and pestilence stricken prisons. It is vain to recount the hardships and privations endured by those who shouldered arms and gave the best years of their lives to the preservation of the country which they loved; vain because we could not adequately describe them, and vain as well because of the fact that the average reader has never encountered experiences which would enable him to rightly and fully comprehend them. But notwithstanding the fact that we cannot do them full justice in this regard, each and everyone of us, if he will but pause to think, will have a sufficient comprehension of the sacrifice which they made, of the privations and suffering which they endured and of the sorrow and grief which their service entailed upon those who were near and dear to them and in very many cases dependent upon them for the ordinary comforts of life, to place us in a proper frame of mind for the observation of Memorial Day in a manner which will be both fitting to the occasion and creditable to our human instincts.

There is a growing tendency to make May 30 a sort of gala day, with an accompaniment of athletic sports which give young America an opportunity to work off some surplus energy. This tendency is perhaps harmless in itself and even beneficial in its influence, but it should not be allowed to supplant or divert the rightful observance of the day, nor detract from its significant and proper spirit. All should first join in the more serious and solemn rites of the occasion, while the children decorate the graves of the departed heroes with garlands of beautiful flowers. It is a small service to render in honor of their sacred memory, and participation in or observance of its accomplishment should be a pleasure to every thoughtful person.

At the same time it will prove a wholesome influence in the lives of both young and old who have profited so greatly through the sacrifices of those in the honor of whose memory the day has been set apart. So let us one and all observe the day in a fitting manner, to the end that due honor may be accorded to the memory of that great "Army of the Dead," who gave their lives or their best years for their country, and that we may be strengthened in the better and higher purposes of our lives by the wholesome reflections which will result from such an observance of Memorial Day.

Following the hearing of representative Michigan farmers before the Finance Committee of the U. S. senate, as reported in the last issue, the leading advocates of the pact in Michigan immediately got very busy. The first of these to be heard from was Gov. Osborn, who made public the following telegram to President Taft:

Hon. William Howard Taft, President of the United States, Washington, D. C. "When will the vote on reciprocity probably be taken in the senate? If I can be of slightest service in favor of the treaty I will go to Washington. The alleged representatives of the farmers of Michigan, who have been in Washington, giving their views, do not reflect, in my opinion, the dominant sentiment of Michigan, and do not represent all of the farmers, by any means. I am a full member of the Michigan Grange, and know something of the farmer sentiment. The Michigan farmers are patriotic, and hold national welfare above dollars, as has been often proven. In this instance there is no evidence that there are dollars at stake, and the national welfare is unquestionably involved."

"CHASE S. OSBORN." In response to President Taft's reply Gov. Osborn went to Washington and appeared before the committee and, notwithstanding the fact that the gentlemen to whom he referred in his telegram as "the alleged representatives of the farmers of Michigan" included officers of practically every farmers' organization of the state, as well as representative farmers engaged in special as well as general lines of production and prominent agricultural educators, institute workers and writers who are in the closest possible touch with the sentiment of the thinking farmers of the state upon this question, he is reported as having made the astonishing statement that he believed 40 per cent of the farmers of Michigan were in favor of the pact, and that 60 per cent of the farmers would favor it on a campaign of education. Fortunately, however, he did not claim to represent the farmers or any other interest, except himself. Had he appeared as a representative of the newspaper publishers who have been making such a strenuous fight for this pact, we would have willingly conceded that he possessed the proper credentials for an accredited representative of that interest, but inasmuch as he appeared as a private citizen, and without other than assumed authority to speak for the farmers of Michigan, we gladly leave it to our readers to decide whether he interpreted their sentiment aright on this vital question. In the published reports of his arguments before the committee he is reported as having claimed that Saskatchewan and the Canadian Northwest cannot compete with Michigan for the reason that very little of their wheat grades No. 1, owing to the prevalence of untimely frosts which interfere with its proper ripening. In the reported answers to questions interjected by members of the committee, Gov. Osborn is made to say that most of their wheat product is No. 4, and that that is about all the Canadian farmers are able to raise. Thereupon Senator McCumber read from statistics showing that Saskatchewan was producing 90,000,000 bushels of wheat, 105,000,000 bushels of oats, 7,000,000 bushels of barley and nearly 5,000,000 bushels of flax, and asked if that did not mean competition with the United States, whereupon Gov. Osborn is reported to have explained that he had had corn in mind, chiefly as the article on which Canada could not compete.

In connection with Gov. Osborn's statement regarding the poor quality of Canadian wheat, the later testimony of Prof. Boyle, of the University of North Dakota is interesting. Prof. Boyle said: "The Canadian yield, as a whole, will run on an average 1 1/4 per cent No. 1 hard; 37 1/2 per cent No. 1 Northern. These two are the perfect grades; 50 1/2 per cent of their wheat is numbers two and three, while about 12 per cent is what might be called No. 4 or unmerchantable."

Possibly Gov. Osborn would be surprised to learn that nowhere near all of the

Michigan wheat crop will grade No. 1. We have just secured an estimate from a competent authority, long engaged in the grain trade, that about 80 per cent of our last crop would grade No. 1 white and No. 2 red, which are our top grades. He might be further surprised to learn that the lower grades of northern wheat bring a better price than our best quality. The Detroit market for No. 2 red wheat on Monday of this week was 91 1/2c and for No. 1 white 90c. On the same day No. 1 northern wheat was quoted at 99c per bushel in Minneapolis, while No. 2 northern was 94 1/2c and No. 3 northern 92 1/2c, the difference in price being due to the fact that these grades, in which all but 12 per cent of the Canadian product are included, are hard wheat of better milling quality than our best grades, which include only about 80 per cent of our product.

The balance of Gov. Osborn's argument as reported was from what he termed the world viewpoint, in which he dwelt upon the advantage which would accrue to our country from the operation of this pact in case of war with a foreign nation, with only occasional brief recurrence to the economic phase of the question which is of primary interest to our readers.

A delegation representing the Detroit Board of Commerce also appeared before the committee last week, with President McRae, of that body, acting as spokesman. To show how astonishingly erroneous were the premises upon which Mr. McRae based his arguments that this pact would not hurt the farmers of Michigan or the United States, we quote the opening paragraphs of his address as follows:

"The farmer is opposed to reciprocity with Canada because he believes the agreement will reduce the price of his product. From the tables compiled by the bureau of trade relations of the state department it appears that the United States will remit duties to the amount of \$4,850,000 by the reciprocity agreement, and Canada will remit duties to the amount of \$2,560,000. It is certain that the farmers cannot be injured to any greater extent than the amount of the duties which will be abolished, i. e., \$4,850,000 a year. This is obvious since the tariff cannot affect home prices any more than the tariff itself amounts to."

"Yet of this \$4,850,000, more than \$1,600,000 comes from duties on lumber, and nearly \$500,000 accrues from duties levied on imports of fish. These two sums aggregate \$2,100,000. This leaves a balance of \$2,750,000 which the farmers might allege would be taken out of their pockets."

"As a matter of fact, there must be subtracted from this \$2,750,000, the duties levied on pulp, fertilizers, whiskeys, tobacco, salt, railroad ties, wooden staves, cedar posts, mica and coke."

"The pitifully small amount left, when compared to the great agricultural communities of the United States, leads one to ask, 'Why all the opposition?'"

It is indeed astonishing that a man in Mr. McRae's official position or private station should make the assertion that no class of producers could suffer a greater loss from tariff reductions than the amount of the duties remitted, when imports under present tariff schedules are restricted by duties which are all but prohibitive under normal conditions. As well say that American manufacturers of stoves, which are an important Detroit product, would lose no more from the placing of stoves on the free list than the amount of the duty which would thus be remitted, and we believe that Mr. McRae would have a hard time in convincing Detroit stove manufacturers that such would be the case. But why not the same application? If Detroit people should have cheaper food at the expense of the farmers of Michigan, why not cheaper stoves to cook it on at the expense of the producers in this line? But we maintain that there is no occasion for either, which the people cannot remedy for themselves. Certainly no well informed man will contend that farm prices for agricultural products are now too high, notwithstanding the fact that the distributors and middlemen are making the consumers pay practically the same prices for these products as when farm prices were at a much higher level. Yet it would appear that the people of Detroit are especially favored in this connection, since a foreign commission which has been making extensive investigations has recently reported that the cost of living is lower in Detroit than in any other city of similar size to which its investigations have extended.

HAPPENINGS OF THE WEEK.

National.

Secretary of State Knox has drafted plans for an arbitration agreement between the United States and France, with provisions similar to the scheme submit-

ted to England providing for peaceful settlement of differences between the countries, even to questions involving national honor.

Miss Laura Robinson, a 12-year-old girl, was declared to be the best speller in Oklahoma after a contest lasting over twelve hours and thirty minutes.

In an address before the Brotherhood of Railroad Engineers at Harrisburg, Pa., President Taft stated that it was contrary to public policy to permit the post office employees to affiliate with the American Federation of Labor. To allow otherwise would invite revolution against the government, since it would be expected that if thus affiliated the same means would be used to gain additional wages and other privileges from the government that the federation now uses.

A provision allowing women suffrage privileges was defeated in the Illinois legislature after the measure had been passed by the senate.

The deep waterways bill carrying an appropriation of \$20,000,000 was defeated in the house of representatives at Springfield, Ill., after a hot arrangement of each other by Gov. Dineen and Speaker Adkins.

The decision dissolving the Standard Oil Company has, from all appearances in business circles, steadied financial conditions. Everywhere comments by business men appear to confirm public opinion that the people's interests are being protected in measure by the Sherman anti-trust law.

A long list of corporations have failed to make reports to the federal government of their assets and liabilities so that the government can get data for assessing the federal tax provided by the Payne-Aldrich bill. Heavy fines are to be imposed against those not complying with the statute.

The "grandfather" clause amendment to the state constitution of Oklahoma has been declared unconstitutional by the United States circuit court for that district upon the ground that it contravenes the 15th amendment to the federal constitution.

Unless congress declares to the contrary, the hulk of the battleship Maine which is being raised from the Havana harbor will be towed out to sea and sunk. The pumping of the water from the cofferdam erected about the sunken ship will be resumed soon.

In a contest between 21 battleships against attacks by torpedo boats the battleship Michigan was awarded first honors, her gunners destroying, theoretically, all torpedo boats that approached her. The South Dakota took second prize.

The committee on pensions of the house of representatives will report favorably on the dollar-a-day pension plan for aged soldiers. The scheme is along entirely new lines and involves a cost of approximately \$38,000,000.

Three independent resolutions are now before the house of representatives asking President Taft to give political freedom to the Filipinos.

Six negroes were mobbed at Lake City, Florida. They were being held to stand trial for the murder of a prominent citizen.

Henry L. Stimson, candidate for governor of New York in the last campaign, has been appointed by President Taft as Secretary of War. He begins his new duties this week.

Foreign.

In a preliminary test the balloon Pegnitz, of Germany, qualified for the Gordon Bennett trophy contest to be held at Kansas City this year.

Chauffeurs of Paris have gone on a strike because the authorities increased duties upon benzol.

Ten thousand textile workers have been thrown out of employment in Munster, Prussia.

Canada has provided for the building of ten warships. The fighters are to be built by Canadian firms and of Canadian material.

The new dirigible balloon of Count Zeppelin, of Germany, was wrecked when forced against her housings while removing it for a trip. The air craft had been in commission for six weeks.

The substitute bill offered by the house of lords of the British parliament, which provides for the reorganization of the upper body but with less violent changes than those demanded by the house of commons, has passed the second reading of that body.

An aeroplane, in plunging to the ground at the beginning of a race from Paris to Madrid, resulted in the death of Henri Maurice Bertheaux, minister of war, and the injury of Antoine Emmanuel Ernest Monis, premier and minister of the interior, his son, and Henri Deutsch de la Meurthe, patron of aeronautics.

A peace agreement has been signed by the parties to the revolution in Mexico and the general trend of reports shows that the Diaz administration is at an end, and that the provisional government, with Medero at the head, will take up the duties of administration during the present week. All over the northern states where the news of the signing of the agreement has spread peace reigns. On the 13th to 15th a stubborn battle was fought at Torreón where it is reported that 100 soldiers were killed and 300 wounded. After the battle and before the rebel army entered, a mob formed and began murdering Chinese residents, of which the place has many. Order was afterward restored. In other towns of the troubled nation the Chinese have suffered from the lack of police power to stay the mobs.

Results Satisfactory.

J. Gordon Drake, of Port Huron, Mich., who has been advertising in the Michigan Farmer, writes: "Results from your paper are very satisfactory."

MORE ABOUT THE COMSTOCK CENTRALIZED SCHOOL.

BY PROF. A. M. NUTTEN.

A number of weeks ago, your valuable paper asked me to write a statement of the results of consolidation of schools as gleaned from our experiences at Comstock. I prepared a short article as honestly and fairly as possible, setting forth what were, to me, the most important features. Some time after, my attention was called to an article written by a Mrs. Brownell, of Lapeer county, answering the article, making statements and charges which I am again confronted with, and have a desire to say something about, not entirely for the sake of answering the woman's arguments but that the people of the grand old state may have an opportunity to know more about a system which has come among us to stay. After some delay in getting material with which I desired to acquaint your readers, I am glad to submit some of the opinions and experiences of men of national reputation.

There is not one word of the former article which I wish to retract or which I do not consider correct. However, I do not wish it understood that I prefer consolidation of schools to all other systems. Any system which offers the best advantage to the country children will have my support, but until some sort of township unit or some unit equally as good is adopted for universal use I shall support consolidation.

Wherever I have observed the various forms of consolidation there has been a decided change in the culture and progress of the country affected. The talking against and voting down propositions for advanced culture and civilization belongs to the class who have for one reason or another lost their interest and faith in and love for humanity. We want a system of education which emphasizes character. Character must be a foundation of the whole cultural structure or it amounts to naught. Character cannot be built except where we have a teaching force large enough and with the disposition to supervise the hours of play and the tramps to and from the school. I care not what Mrs. Brownell says, in such a facetious manner, about her sorrow that I was such a bad little boy. Mr. Editor, I want to say that I am glad that, with the arrival of maturer years I have not degenerated to that extent that I overlook the dangers and misconducts of childhood or place dollars ahead of decency. I know a man who always turned his colts out in the back lot where their shelter and food for the long severe winter was a large straw stack. He always said that it made them tough if not thrifty. So this woman, I conclude, would expose our pure, tender lives to the vicious and degraded, to keep them pure and wholesome. I suppose I was no better than the average boy. I think I was as good. I know I was better than some boys and I also know equally as well that I did not profit any more than the rest by some of the things that happened along the road home from school. If all were of the same opinion as the woman from Lapeer county, our teachers would not be expected to converse or correct the morals of the children under our charge. Men and women with character should be the product of our schools and I want to resent the insult to decency of our advanced civilization. In short, Mrs. Brownell's whole article is an argument for a cheaper man and a cheaper woman and a meaner civilization. It is an argument for a system which has driven much of the best blood from the farm to become consumers instead of producers, the very system which inaugurates a period of decay on the farm.

It certainly takes a great deal of presumption for one to assail as great a personality as Prof. Burnham. He has spent a lifetime studying and investigating the rural school question, and is considered as authority on all such questions, not alone at home where he is much loved, but Prof. Ernest Burnham is a national figure and his figures and conclusions are taken for granted. It needs no comment to have the public know that the tabulation which he was kind enough to allow us to use is absolutely correct.

I know the work is correct and the attempted distortion does not in the least alter the correctness, neither as to facts or in the minds of the public.

It is a most singular and unfortunate thing that all people are not willing to give a person the credit of being honest when there seems to them to be a difference of opinion.

Again, Mrs. Brownell has expressed more criticism in speaking of the cost per capita question, and reaches a sort of climax when she accuses me of acting in conjunction with, and as a servant of, the big schools to that extent that I have falsified statements. I am astounded at the woman's lack of information. She says I reported our tax levy too low by \$5,000. This \$5,000 was an amount authorized by the district meeting to be borrowed to pay for the new building and which was actually borrowed on the district's notes and reported to the Superintendent of Public Instruction as money paid out. Each year a good portion of this amount, together with six per cent interest, has been the fruitful cause of comment on high taxes. Also, where does the woman think our share of the primary school money has gone? Does she presume that we did not get any? She puts our rate of school tax as \$19.70 on the \$1,000 valuation, which is ridiculously false. The entire state, county, township, highway and school tax that year (1908) was only \$15.87 on \$1,000 valuation, the school tax for maintenance and indebtedness being only \$6.93 on \$1,000 valuation. People who hold the tax receipts know the truth of the matter and for them this gross ignorance of the matter amounts to nothing, but the iniquity of the matter is, that people who do not know may be misled by such statements.

Mr. Editor, all these statements count for nothing were they true. Your own sane comments on the subject are the only ones that are rational enough to express. I have no patience with the fossil idea of trying to cheapen the character of a human being just to save taxes. To the average citizen of today it is a farce.

The "Little Red Schoolhouse" has been a Godsend to the people of its day. It has served its purpose and served it well and its career is by no means ended. We need them, and perhaps always shall, but a high school in the reach of every boy and girl is the watchword of the present and must be of the future. A better education for every citizen is a requirement of our civilization and it takes money to pay for it. I might say in this connection that the tax rate in the Comstock District this year is \$14.06 on the \$1,000 valuation. This, however, pays for the running expenses, a part of the district's indebtedness, water works, an extra room, electric lights and an addition to the school property.

Editor's Note.—The publication of the above has been delayed for several weeks for lack of space. Prof. Nutten also submitted additional proof of the success of consolidated schools, which will be published in a future issue.

DELIGHTFUL AND RESTFUL VACATION TRIPS.

More farmers are each year appreciate the absolute necessity for and benefit of an occasional brief vacation from the busy cares of the farm. Generally these little vacation periods are spent in taking inexpensive trips which every member of the family can enjoy, and wisely so, for the change of scene and environment will prove beneficial in many ways, and the more radical the change the more beneficial will be the results. Michigan is fortunately situated to afford a variety of such trips at small cost. There is nothing more delightful in the summer season than to take a lake trip. This is also an inexpensive way of giving the entire family an outing, and the opportunities offered are such as to suit the time and means of all. For those who can take a week's vacation to go up the lakes to Mackinac Island, the Detroit & Cleveland Navigation Company's boats will afford every comfort and accommodation at small cost. For those who must limit their expenditure of time to a week-end trip, the D. & C. boats to Cleveland and Buffalo will afford even more luxurious accommodations at an equally reasonable cost. This company's schedule offers both day and night trips to the points named. Nothing could be more restful and enjoyable to the farmer and his family than one of these trips, which will bring the reader to Detroit and then out on one of these delightful and exhilarating water trips. For full information regarding these waterway trips address L. G. Lewis, G. P. A. D. & C. Navigation Company, Detroit, Mich. You will get in return full directions and prices for any such trip you may desire to take.

CROP AND MARKET NOTES.

Genesee Co., May 20.—Fine showers today relieved the oppressive heat of the early part of the week. Vegetation making marvelous growth. Farmers busy

getting in sugar beets and giving the final fitting to corn ground. Not much corn planted as yet. Bulk of acreage will be put in the coming week. All conditions at present indicate bumper crops for this county. Beans and beets divide the honors in favor as a cash crop. Potatoes continue in favor with those who do not shift from one thing to another but hold this crop in the regular rotation. Low prices of one year are usually indicative of better results the following season and experienced growers are not looking for a repetition of recent experiences in that direction.

Ottawa Co., May 18.—The heavy rains just after oats were sown washed and packed the soil so badly that many oats rotted, and those that did come up are not doing well, so the prospect for a crop at the present time does not look very flattering. Some have harrowed and sown their oats over during the past week, but it is so late in the season that they probably will not amount to much. A few weeks ago the prospect for a good apple crop looked very favorable, but now nearly all late varieties, such as the Spy, etc., are not blooming at all. Early varieties are blooming quite well. Late heavy rains have delayed plowing for corn, so this crop will not be planted very early in this section. Wheat and grass are growing rapidly, and pastures are getting good.

Washtenaw Co., May 17.—The weather at this date is extremely hot and dry and most unfavorable for sod plowing and working down the ground for corn. It is also having a very unfavorable effect on clover and wheat and if it continues much longer will cause extensive damage; but a farmer must, in the nature of the case, become a good deal of a philosopher or quit the business, so if the season is unfavorable there will be less bushels and a better price. Prices have reached the old time level, especially so in butter, pork and dressed calves. Even our city friends should now be happy.

Lapeer Co., May 19.—Weather is very warm. Wheat and meadows looking fine. Oats are coming on well, although rain is needed badly. We have had only a few very light showers for some time. Clay ground getting too hard to plow. Farmers all hurrying corn ground. A few are planting, but the majority are plowing and fitting yet. Potatoes have gone down and dealers are offering 25c, but none seem to be moving; wheat, 83c; beans, \$1.70; butter-fat, 21c. There will be about the usual acreage of beans and potatoes planted this spring.

Mecosta Co., May 11.—With cold weather up to April 24 the fruit was held back until late and warm weather since, with the exception of two or three days, so that we will no doubt have a good fruit crop. Indications point toward a good season this year. Oats look good, also wheat and rye. Some corn is planted. Hay looks fairly good. The pasture is good. Butter, eggs, and cream quite low in price, 14c to 16c and 15c to 20c respectively. No horses for sale now. Cattle, hogs and sheep are lower than usual in price.

Emmet Co., May 1.—Weather for the month of April cool with sufficient precipitation to maintain good conditions in soil moisture. May was ushered in by a snow storm, with a freezing temperature. Fruit buds have scarcely begun to swell so it is not probable that there will be any damage to fruit. There appears to be an increased interest in spraying, a considerable amount of the commercial article of lime and sulphur solution being used. Farm work is progressing nicely.

Wayne Co., May 15.—The weather has been very wet and cold nearly the whole month of April. Most of the oats were sown in May. Better weather for the last two weeks; corn ground being fitted for planting and planting is now in progress. Wheat looking good and good prospects for hay. On account of cool weather pastures were very backward and farmers have just turned stock to pasture. Wheat, 87c; oats, 33c; corn, 50c; butter, 18c; eggs, 14c.

Carroll Co., May 10.—The weather has been warm for the past two weeks and we had a few warm showers lately. Nearly all the barley is sown. Farmers are very busy and some corn is planted. Early potatoes are planted. Most of the fields for buckwheat are not plowed yet. Wheat looks pretty good, also rye. Grass growing nicely. Sheep went out on grass in good order.

Indiana. Clinton Co., May 19.—This week finishes our corn planting here, one of the busiest times of the year. Although we have had no rains to delay us in fitting the ground it was so dry it took a good deal of work to get the hard clay lumps pulverized. Now it is feared there is not enough moisture in the ground to germinate our last plantings. Oat crop is suffering badly from the drought, having had only one shower since sown. Unless rain comes soon, clover seeding will also be seriously hurt. Wheat started well in April, but this month has checked the growth, and we look for an early harvest and light crop. Frosts of May 3 and 6 did not hurt fruit in this locality, and we look for a good crop of all kinds of tree fruit. Drought is shortening our strawberry crop. Early potatoes and gardens are also suffering. Michigan potatoes are selling here out of store for \$1 per bu. Butter, 25c; eggs, 14c.

Laporte Co., May 20.—Fine growing weather the past two weeks. Fruit buds and blossoms came out with a rush and no frost to injure them. Strawberries in market (home grown) but the early blossoms were killed. A fair crop is expected if it rains soon. Very dry now; no rain for 18 days. Pasture is getting short. Stock is doing well and plenty of butter on the market at 20¢ to 22¢. Some corn planted this week, but cannot grow until it rains. Wheat and rye generally good.

One Cook

May make a cake "fit for the Queen," while another only succeeds in making a "pretty good cake" from the same materials.

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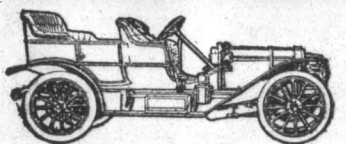
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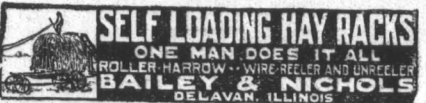
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HORTICULTURE

RAISE SOME POP CORN.

The pop corn crop is usually thought of as belonging to the boys and girls upon the farm, which it generally does, as the tending and harvesting of it are nearly always left to them, and if there is any surplus corn to sell they usually receive the money. But pop corn can be made profitable as a field crop for stock feed and will also prove profitable when raised in large quantities for market. The yield will compare favorably with common field corn, as it bears two or three ears per stalk and develops a good crop of grain when properly planted and given good culture. There is always a market for this cereal at good prices, especially during the holiday and winter season. Most storekeepers handle some pop corn and no town is so small as not to have one or more pop corn stands, while in the large cities thousands of pounds of this popular cereal are used every day in the year.

Therefore, raise some pop corn. At least, have a patch large enough to supply all that will be wanted for home use. A small plot of ground will produce several bushels of this cereal and during the long evenings next winter the children can spend many pleasant hours while employed in popping and eating the corn. If there is more than can be used they can easily convert the surplus corn into spending money.

There are a number of good varieties, there being white, yellow, red and black varieties of pop corn, but I would recommend the white rice or squirrel tooth varieties. Both are good producers and there is always a demand in the market for them.

A fertile patch, one that has been well fertilized with fine manure, should be selected for the pop corn. Pop corn should be planted early in the season in order that it may have a long growing season and plenty of time in which to mature. If it is planted late much of the crop may not mature, and unless it does this it is worth but little for popping purposes.

If the corn is planted in hills care must be taken not to place too many of the little grains in one hill. Not more than four grains should be planted in each hill and the hills should be three feet apart. As with field corn, good seed should be selected.

When the corn is ready to harvest in the fall husk the ears clean and place them upon racks in the barn or in the loft over the kitchen where they will cure out evenly. A place free from moisture is required and be sure that the rats and mice cannot get to them. As it will take the corn a long time to properly cure, a supply sufficient for home use during the holidays can be placed in a sack and hung behind the kitchen stove where it will cure much more quickly.

The corn ought to be well cured before any of it is offered for sale if it is desired to obtain the best prices. For that raised this fall the best prices cannot be obtained until next fall, when the kernels will pop briskly and brittle. To get the best market the corn must be shelled.

The fodder from pop corn is fine for feeding the calves and colts. The calves will also eat the small ears of corn readily when they will refuse to eat the larger varieties of corn.

How many boys know the scientific reason why pop corn pops and other corn does not? The explanation is found in the fact that the oil contained in the kernel is volatilized, or turned to gas, by heat. Field corn does not pop because the outer portion of the kernel is more porous, permitting the escape of the oil as it volatilizes, while in the case of pop corn a great pressure is developed in the kernel by the confined oil, and the kernel is suddenly exploded and turned wrong side out.

W. F. PURDUE.

MUSHROOM CULTURE.

Would you please give information on how to grow mushrooms?
Kent Co. Mrs. D. C. L.

From September to March is the active season for the mushroom grower. The crop can be grown either out doors or in doors, and the conditions required are that there be a dry bottom on which to set the beds, a constant, uniform and moderate temperature, and a situation protected from draughts, winds, direct sunshine and from drip overhead. It is not necessary to have total darkness, just so the rays of sun are kept from the bed

the plants will thrive, but as other conditions are usually more easily attained in dark places, such a location is advised. Barns, cellars, pits, greenhouses, caves, old closed tunnels, sheds, and regular mushroom houses have been used for the purpose.

Fresh horse manure is the universal medium for filling the beds. Some use straw horse manure but a majority of growers prefer to have short manure, i. e., manure with little or no straw material. Secure a good supply and pile into a heap. When it begins to heat turn it over and pile again. Repeat the process several times, watching that the heat does not become so intense that the material burns. Many mix loam when the manure is turned the second or third time to prevent its heating too much. This material is finally put into the bed by first placing in the bottom a layer and then packing it firmly, after which another layer is placed and again packed, the process being repeated until the bed is about eight or ten inches deep. A mat, some straw or hay is then put over the bed. When the temperature goes down below 100 degrees F., spawning can be done. Remove the mat, or straw and start some six or eight inches from the edge of the bed, making a hole in the manure about two or three inches deep; in this hole drop a piece of the brick spawn, which can be obtained of any large seed house. The brick should be broken in perhaps a dozen or more pieces. Pack the manure firmly over the spawn, continue to plant, keeping the plants from six to eight inches away from the edge of the bed and about a foot apart from each other. Replace the mat or straw after the spawn is in and leave for about eight days, when it should be removed and a couple of inches of loam added through which the mushrooms will grow. Pack this soil firmly and if it should become dry, sprinkle a little water over the surface. To aid in keeping the atmosphere damp the walks about the bed and walls of the cellar or building can be sprinkled. It is usually not necessary to water the bed sufficient so that the soil will become moist if the proper conditions are had, but should it be found that the soil and material in which the plants are growing are becoming dried out, then watering should be done. Mushroom growing has not been reduced to a science and there are many who are disappointed in the outcome of their venture, but the number of successful growers are increasing and many of these are novices who are attracted by the unusual conditions to be met in growing the crop or who are fond of the product after grown. Our large cities furnish a good market for all that is grown and much more would be consumed if it was available.

SUGGESTIONS ON WATERING THE LAWNS.

Watering the lawn may appear to the novice to be an operation demanding no skill or intelligence, and yet we find that much of the watering done on country, as well as on city and village lawns, not only serves no good but often actually damages the grass. The methods practiced are wrong for accomplishing the good sought. The usual manner is to spray the water over the grass two or three times each week or perhaps once a day, nicely wetting the blades but not providing enough moisture to get it down to the roots. The result is that no water gets to where it can aid the plants to gather and transmit plant food through the roots but simply wets the immediate surface of the ground to stimulate capillary attraction of moisture already stored, thus ridding the soil of water that would aid the plants if nothing had been done. In most instances the practice is more detrimental than beneficial, and the cause is that too little water is applied at a time. It would accomplish benefit if the water used at the several times during the week were run on once a week or ten days, i. e., the lawn should be drenched, allowing the water to saturate the soil thoroughly down to the roots. Then the plants can drink before the moisture has opportunity to evaporate.

Another matter besides watering less frequently and more thoroughly when it is done, is to put the water on in the evening. This is the usual practice, but we find often that it is done in the morning. Morning watering is detrimental to the grass on account of the effect of the sun's rays on the blades and the immediate evaporation of the water. Of course, on a cloudy day the damage would be minimized but the watering is seldom done on such a day. Owners are impor-

tuned to do the watering when the sun is hot and the soil parched. It should on such days and at such times be done in the evening.

The same principles hold for the watering of the plants in the garden and of the flowers and shrubs about the house. Water them less frequently, but be sure when it is done that the water thoroughly saturates the soil.

BRUSSELS SPROUTS IN AMERICA.

Are brussels sprouts a vegetable? If so, please tell me how to raise and prepare it.
Kent Co. Mrs. C. L. F.

This garden plant of the cabbage family has a central stem around which grow numerous little heads about the size of a walnut but otherwise not unlike a cabbage head. In European countries the crop is popular, but it has never attained to general acceptance by real Americans, for the probable reason that they are not acquainted with the choice quality of the "buttons," as they are called. The plant is quite as easily grown as cabbage. Sow seed in April or May in boxes, or a seed bed to develop plants which are set in permanent places in July. If the larger varieties are used plant about two by three feet, while with the dwarf varieties two feet each way is sufficient. Give about the same cultivation as is given the cabbage patch and allow the plants to grow until severe freezing. The early frosts add to the quality of the sprouts. When gathering, the sprouts should not be broken off but should be cut with a sharp knife, leaving as much of the spur from which the sprouts grew, as possible, to give a chance for successive buds to develop. The variety most commonly grown in this country is the Dwarf Brussels Sprouts. It is certain that a start with this plant will encourage its general introduction in American gardens, which will add to our too small variety of garden crops, a point wherein the gardens on this side of the Atlantic are lacking when compared with the gardens abroad.

STRAWBERRIES.

There is nothing that comes from our garden that we prize as highly as our strawberries. Being the earliest of all berries they come at a time when the palate is in just the right condition to enjoy them. There are several modes of growing them, each mode having its advocates. They will grow well on almost any soil that will grow corn or potatoes.

Our soil is a gravel loam underlaid with a gravel subsoil but holds moisture well if kept well cultivated. We have had the best luck with plants set in spring, April or May. We see no advantage in fall-set plants as, thus set, they require not only the fall cultivation, but also the entire season following, as fall-set plants should not be allowed to bear the next season, whereas, if set in the spring and the blossoms kept cut off, they will do their best the summer following. In our section we find the Brandywine as good as any. They are medium early, are of good size, solid, and of good flavor. Our plan has been to grow them in matted rows, though last season we started a bed in hills and they looked well in the fall, some of the plants measuring 18 inches across and should give a good crop the coming June. Last spring, on account of a warm March they blossomed unusually early and some of the early bloom were caught by frost, but we had a fine crop of large berries. They sold here as low as six cents per quart, but we had a good demand for them and sold none for less than ten cents per quart. This year we are trying to hold them back, to avoid the frost, when in bloom. They are under a good coat of oat straw, put on during the winter when the ground was deeply frozen.

New York.

JENNIE A. MACK.

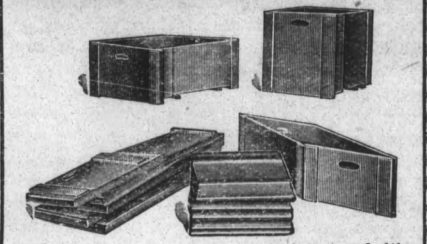
Red raspberries came through the winter in excellent shape, there being less winter-killing than usual, and there should be a good crop. Blackberries also stood the winter well. We are getting these patches pretty well cleaned up and cultivated. Strawberries are looking as well as can be expected considering the spring. The newly set plants, however, make little growth, and have about all they can do to hold their own as there has been but a light shower for over two weeks. The newly set orchard of apple, peach and cherry trees may have a hard time if the drought continues. The trees were late in arriving, and we were late in getting at them, but if we get rain soon I think they will be all right.

Calhoun Co.

S. B. HARTMAN.

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The Hinge-Corner Collapsible Box or Crate in the form of a market box or otherwise as desired, with loose bottom and no cover, or with self-fastening top and bottom.



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IRON AGE POTATO DIGGERS

are not experiments—years of actual use in all sorts of conditions have proved their worth. Write to-day for Anniversary Catalog—complete line of potato machinery, garden wheel hoes and drills, orchard tools, etc.
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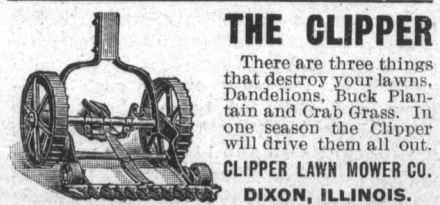
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No. 1, shown here, is fitted with Auto-Pop Nozzle—does work of 3 ordinary sprayers. Endorsed by Experiment Stations and 300,000 others. 40 styles and sizes of hand and power sprayers—also prices and valuable spraying guide in our Free Book. Write postal now.
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GRANGE

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

THE JUNE PROGRAMS.

State Lecturer's Suggestions for First Meeting.

"All green and fair the summer lies,
Just budded from the bud of spring,
With tender blue of wistful skies,
And winds which softly sing."

Recitation.

A good garden lowers high cost of living.

Discoveries, given by five women.
Reading, "The Unnamed Saints."
Preparations for hot weather.—1. On the farm. 2. In the house. 3. In the dooryard.

Music to intersperse in this program, in charge of lecturer.

Suggestions for Second Meeting.

"A merry heart, a merry laugh,
A face with lots of sun in it,
A merry tongue with merry chaff,
And quip with lots of fun in it."

Smile provokers.

Notes of progress.—1. In inventions. 2. In farm crops and animals. 3. In laws and public matters.

Recitation, "Jes' Plain Torpedoes," by a boy.

Labor-savers for making women's work easier. Discussion, led by Woman's Work Committee.

Report of "The One Improvement Club."

Music to intersperse in this program, in charge of Pomona.

EDUCATING FARM BOYS THROUGH OBSERVATION.

A new and unusual means of bringing farm boys in touch with the best things in agriculture has been promulgated in New York state and has received the endorsement of New York State Grange. In fact, the State Grange will co-operate with the commissioner of the state department of agriculture in carrying out the plan.

It is proposed to have 100 boys visit the state fair at Syracuse in order that they may learn, by practical observation, many things that farm boys should know and yet, in most cases, do not know. The plan is to select boys from fifteen to nineteen years of age from each county in the state, boys who are living on farms, to the number of not more than 100, who shall attend the fair during the entire week. The boys pay their own expenses, and if they comply with all the regulations the expenses will be refunded. Their sleeping places and meals will be furnished free, but each boy is to take the necessary bedding. A competent person will be in charge of them at all times. A lecture each day will be given to the entire company. The boys will attend in squads, and they will assist in turn at the fair morning or afternoon and the balance of the time will be theirs. They may assist in the stock judging rings, in the live stock parade, ticket taking, etc.

After they have returned home each may write an essay of not over 1,000 words and submit the same for prizes, the best four to receive a pair of calves each (all of the same breed); next best four to receive a pair of sheep each; next four to receive a pair of hogs each; the next best four to receive one bushel of seed corn each and the next best four to receive one-half bushel of seed corn. Prizes will also be offered at the fair a year later for the best results these boys can show from their prizes for 1911. A circular letter to the boys appointed will give all details as to what they should bring to the fair, etc. The practical working out of the plan will be watched with considerable interest by those who believe in giving farm boys the benefits of such practical observation and education.

A PROGRAM SUGGESTION.

The National Lecturer offers a suggestion for the preparation of what is termed a "commodity" program, which, obviously, can be made to furnish a lot of information, in concise form, and still be far from uninteresting. Select a dozen vegetable products in common use—wheat, sugar, coffee, tea, oranges, rice, bananas, etc., and ask for three to five minutes on each by some member who should look up his subject carefully and be prepared to tell all he can in a short space of time. A great many of the most common articles of household consumption are an absolute mystery in the minds of most people, so far as really knowing where and how they grow. These brief, spicy papers will tell the story and in

such illuminating form as to have great value.

The same idea might furnish another valuable evening by taking up the different articles of common personal wear, bringing out where different materials come from, the processes through which they pass to fit them for our use, as well as many interesting incidents connected with those varied processes. All these topics come close home to the every-day life of people, which are always sure to be topics that catch and hold the interest.

AMONG THE LIVE GRANGES.

Another U. P. Grange.—Rockland Grange was recently organized at Rockland, Ontonagon county, by Deputy State Master Seward. The new organization starts off with about 20 members and a vigorous effort will be made to include in its membership not only every farmer in the township but every person in any way interested in the many allied branches of agriculture. The principal officers elected at time of organization are: Master, Jos. Bebeau; lecturer, A. C. Adair; secretary, Geo. McCracken.

A Tree and Bird Program.—The program enjoyed by the members of Arcadia Grange, of Gratiot Co., at their first May meeting was made up of topics appropriate to Arbor Day and Bird Day. Trees adapted to warm and also to cold climates were named and described. A number of members showed a surprising familiarity with birds. C. H. Smith gave a good talk on the protection of birds that are beneficial to the farmer. Ray Keefer named and discussed the grain eating varieties while Harold Wood treated the insect eating varieties in a similar manner.

Partello Grange Organized.—National Deputy John F. Wilde organized a Grange at Partello, Calhoun Co., with 45 charter members, Friday evening, May 12. The following are the officers: Master, Vergue Iden; overseer, Scott Keating; lecturer, Lodessie Bair; steward, B. J. Milburn; assistant steward, Frank Cox; lady assistant steward, Ethel Tucker; chaplain, Lorin Dunlap; treasurer, W. C. Butterfield; secretary, Burt Oxy; gate keeper, Shakespeare Vangelsen; Ceres, Mrs. C. E. Murry; Pomona, Alma Bohmer; Flora, Nettie Allen.

A Revival of Grange Interest among farmers in the vicinity of Galesburg, Kalamazoo Co., has resulted in the organization of Galesburg Grange, the charter being closed recently. The Grange has chosen the following officers: Master, O. F. McClary; lecturer, Mrs. H. Dale Adams; overseer, J. J. Campbell; secretary, Charles Curtis; treasurer, Seymour Olin; chaplain, Mrs. George Burroughs; steward, John Vosburg; assistant steward, Elbert Backus; lady assistant steward, Mrs. Charles Curtis; gatekeeper, Frank Tobey; Pomona, Miss Leila DeLong; Ceres, Mrs. John Vosburg; Flora, Mrs. Elbert Backus.

Another Attractive Year Book.—Gratiot Co. Pomona Grange is sending out a year book which reflects great credit upon that organization as well as upon the committee having the actual work in charge. In addition to programs for Pomona meetings to be held during the year it contains much interesting information of a local nature—brief historical sketches of the county's leading Granges, its schools and its rapid advancement in many lines, while the numerous photographic reproductions of the country's leading Patrons, of its substantial and commodious Grange halls, and of some of homes of Patrons, serve to make the book not only an excellent advertisement for the Grange but for the county as well.

A Very Live Meeting was held by Star Grange, of Gratiot Co., early in May. After a candidate had been elected to membership the program was taken up. The discussion of the topic, "Is the Distribution of Seeds by the Government a Gift?" was led by Messrs. Hale and Bailey, a number of other members participating. There was a wide difference of opinion, some reporting good results from the use of such seeds while others declared that they had grown nothing from them but grass and weeds. The report of the "One Improvement Club" brought out the fact that some members had made some small improvements. "The Feed and Care of Young Chickens," was led by Mrs. Bailey and generally discussed by all. Some have had better luck with slightly moistened feed and others prefer dry feed. It was the general opinion that it does not pay to hatch chickens after August 1.

COMING EVENTS.

Pomona Meetings.

Barry Co., with Irving Grange, Wednesday, May 31. State Deputy D. E. McClure, speaker.

Lenawee Co., with South Dover Grange, Thursday, June 1. Lecturers' conference conducted by State Lecturer.

Eaton Co., with Needmore Grange, Wednesday, June 7.

Kent Co., with Thornapple Valley Grange, Wednesday, June 7. State speaker, Mrs. E. J. Creyts.

Newaygo Co., with Lincoln Grange, Wednesday and Thursday, June 14 and 15. Calhoun Pomona and Lecturers' Conference, at Battle Creek, Thursday, June 8.

Allegan Pomona and Lecturers' Conference, at Otsego, Thursday, June 15.

Osceola Pomona and Lecturers' Conference, at Reed City, Friday, June 16.

Western (Ottawa Co.) Pomona, with Ottawa Grange, Friday and Saturday, June 16 and 17. Chas. W. Garfield, state speaker.

FARMERS' CLUBS

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

Associational Motto.—

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

Associational Sentiment.—

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

CLUB DISCUSSIONS.

Discuss State Problems.—On May 10th "Shady Lawn," the pleasant home of Representative and Mrs. D. S. Morrison, welcomed the Essex Farmers' Club and several invited guests. Following the opening exercises, C. A. Matthews opened the discussion of the question, "Who is responsible for the condition of the government?" Conceding the question to be a difficult one, and, as yet unsettled, he said in part: The politician usually places all blame on the "other party" regardless of facts and conditions. The farmer realizes that present prices of farm products are too low—that too many "middle-men" are living on the toil of the farmer, who receives but 35 per cent of the price paid by the consumer, and this being the situation, a readjustment is called for. There is too much "speculation" in the staple commodities, and this is little less than a crime. In the general discussion of the question, S. T. Gilson said the "middle-men" are chiefly the disturbing element. D. S. Morrison saw many reasons—the uncertainty regarding the much mooted question of reciprocity—is one leading factor. Both of the present political parties are faced towards "free trade" and it would seem that the time is about ripe for a new party. The professional politician is the one chiefly responsible for unfavorable conditions. F. Harvey said, "party spirit" is often antagonistic to the best interests of the government. Political leaders are often a menace and harm. The "square deal" so earnestly advocated by Ex-President Roosevelt is often not relished by the politician. S. G. Loomis deemed that no man need be idle at the present time; then why this unrest? Ambitious men, but lacking in integrity, seeking and obtaining public preferment, is one principal cause of ill conditions.

Education.—At this point adjournment for dinner and the social enjoyment which always accompany a session of the Farmers' Club, was welcomed. In the afternoon roll call was followed by a selection read by Mrs. G. J. Jewett. "How can one improve his education late in life?" was treated in a paper by J. T. Daniels, who deemed the important requisite to be the possession of an earnest and lasting desire for increased knowledge. This being possessed, then the use of every and all opportunities coming within one's reach, will bring the desired result. The reading of good books and the conversing with people of cultured minds will prove very helpful. The "School of Life" offers its valuable opportunities to all and he is on the road to wisdom who avails himself thereof. An earnest general discussion of the theme of the paper followed. Mrs. C. A. Matthews recited, very acceptably, "The Village Choir," and the Club adjourned. Selections of music enlivened the session.—J. T. Daniels, Cor. Sec.

Favor Change in Distributing Primary Money.—The Wixom Farmers' Club was entertained at the Maccabee Hall in Wixom, May 10, by Mr. and Mrs. David Gage and Mr. and Mrs. Eugene Furman. It was a busy time of the year but a good number were there. The program was very interesting. The question discussed was, "Resolved, that the proposed distribution of the primary school fund is more equitable than the present system." After being freely discussed by several of the Club members, a resolution was adopted in favor of the proposed plan of distributing the primary money, though hating to destroy the foundation which had been good so long.—Mrs. R. D. Stephens, Cor. Sec.

Commercial Fertilizers.—The Salem Farmers' Club held its May meeting at the pleasant home of Mr. and Mrs. Edwin Smith. A large number of the men were detained at home by the pressure of the busy season, but a good number were also in attendance, also guests from Ann Arbor. After the usual bountiful dinner, a good program was rendered. Robert Ross read a very able and timely paper on the subject of "Fertilizers." He gave some formulas, stating what the commercial fertilizer should contain, namely, nitrogen, potash and phosphoric acid—different soils requiring different proportions of these ingredients. The barnyard manure is almost invaluable on account of conserving the humus in the soil. His experience had shown him the great value of the commercial fertilizer. He said in Florida, where he resided for five years, the commercial fertilizer is as necessary to the farmer as tools or seed. During his five years' stay in the

south he had purchased and used 30 tons of fertilizer on his fruit farm, and always with the greatest success. He was convinced that farmers might double the crops they are raising, by an intelligent use of commercial fertilizer, of course, not neglecting turning in the clover sod and using some barnyard manure to retain humus of the soil.

Potato Culture.—Chas. Ross then read a paper on potatoes. The first essential for the potato crop is the right kind of soil. Second, fertility of soil. After that harrow every week and fight the bugs. Be ready for the blight, spray before it gets started so as to be sure to be in time; in planting cut potatoes to two eyes. Mr. Ross was followed by Herbert Smith. He referred to Mr. Woodman as advocating using seed potatoes the size of a hen's egg, cut in two. An animated discussion followed. Subject for next meeting, "How most successfully to conserve and increase our soil fertility." Club voted to celebrate the Fourth of July, details to be arranged next meeting, which will be held at the home of Doctor Peebles.

Ingham County Farmers' Club.—It is well that the second Saturday of each month is Club day and the farmer and his family are all better for the day's outing, and the second Saturday in May was no exception. It was an ideal day, fruit trees in blossom, all nature clothed in her fresh, green garb, and members and friends of the Club 100 strong met with President Ives at Sunnyside, a place rightly named, and there are few, if any, better farm houses in Michigan. Much might be said about this place and yet not half be told, but it would take too long and those that were there will always remember the log cabin and adjacent curios, while many of the men walked back over the farm and to the woodlot. Since our last meeting President Ives surprised us all by going to Wisconsin and uniting in marriage to an honorary member of our Club, Mrs. Edna Hawley, who will come to her Michigan home in about a month and be an active member, and those who know her, know there will be nothing lacking, nothing wanting in doing what falls her way. In welcoming the members President Ives referred to his new relations and stated in part that he was glad of so universal good wishes as had been expressed and that later in life one needed a companion more than ever and that one was a good deal less than half of two.

Flowers in the House.—After several musical and literary numbers had been rendered, Mrs. E. P. Rowe presented the subject, "Flowers in the home," in a condensed, concise way. She finds the kernel and lets the husks take care of themselves. In part she said: "Everybody was glad to welcome the first wild flowers, the fruit blossoms and annuals, and were equally sorry to have the frost come in the fall. If not convenient elsewhere, put your annuals in the garden and have plenty of bouquets for your own table and to give to your friends and while it is nice to have plants in winter, do not devote the most sunny and best window for reading or working, to them." Mrs. Haskell led in the discussion, saying flowers were always pleasant companions. President Ives spoke of their use upon the table—no meal was complete without their beauty and fragrance. Rev. Ellett spoke of the influence of a single plant, as set forth in Picciola. Revs. Beebe, Simmons and Catrall added their testimony and all joined in singing, "Sowing Seeds."

Making and Probating Wills.—The second subject of the afternoon was the "Transfer of Property," by Judge Gardner, who changed the subject at the suggestion of a member, to the "Making and Probating of Wills." He said in part: "Anyone 21 years of age, sane and sound in mind, could make a will. A certain form was customary and two witnesses to the signature necessary. After it is made it can be filed with the judge of probate. The county has provided a place for safe keeping, and the making of a will is simply a business proposition and ought to be attended to. A codicil can be added at any time. After a person's death a relative files a petition to have a certain instrument on file probated, and the wheels are set in motion. First follows the printing of the hearing for three weeks, the appointment of administrator, filing bonds for security, appointment of commissioners and appraisers; four months is the shortest time for claims to be presented, six months may be given. He spoke briefly of the inheritance tax, where five per cent goes to the state when an estate is given to collateral kindred, but no tax is made when the property goes to direct heirs or to benevolences. Recording a will and settlement of same is the same as a deed and makes the title to your property good. Some claim wills are dangerous, but there are 25 deeds set aside to one will being broken or contested, and while he had been in office only two wills had been set aside, and those for reasons satisfactory to all concerned. He urged all not to procrastinate. A will was not a death warrant, and does not interfere in any way with your business. On the other hand, it is a safeguard. After a will is probated it cannot be set aside and probate acts as a deed and keeps the title clear. Judge Bristol, who has probably settled more estates than any other man in Ingham county, spoke of the formalities that must be carried out—one must not be careless. In this state a widow can elect whether to settle her husband's estate by the will or statute, and emphasized the necessity of commissioners. If they are appointed no claim can ever be presented against the estate after the expiration of the time specified, and when not appointed, there is no record and so the title is not complete.—Mrs. J. E. Tanswell, Cor. Sec.

MARKETS

DETROIT WHOLESALE MARKETS.

May 24, 1911.
Grains and Seeds.

Wheat.—The market has been affected to an unusual degree during the past week by operations in futures, and this will probably remain true until the May deal is closed. Receipts of wheat in Chicago have been unusually large during recent days, the grain having been rushed to market for delivery on May options. These large deliveries have, however, had no permanent effect in lowering cash prices, and futures were marked up quite sharply during the early days of this week, and all indications point to a strongly speculative market during the remaining days in which the May deal will hold interest. Crop news has been a small factor in the market during recent days, notwithstanding the fact that the visible supply is now nearly 16,000,000 bushels larger than a year ago. The price for No. 2 red wheat in this market one year ago was \$1.08½. Quotations for the week follow:

	No. 2 Red.	No. 1 White.	July.	Sept.
Thursday	.92	.90	.89½	.89
Friday	.92	.90	.88¾	.88½
Saturday	.91½	.90	.88¾	.88½
Monday	.91½	.90	.88¾	.87¾
Tuesday	.92	.91	.89¼	.88¾
Wednesday	.91	.90	.88¾	.88¾

Corn.—This market has strengthened under a better eastern and export demand, coupled with light sales in the country. In addition to this factor there was a good demand for futures. Planting is progressing under rather unfavorable conditions as to moisture in parts of Michigan and Indiana. One year ago No. 3 corn sold at 62c in this market. Quotations for the week are:

	No. 3 Corn.	No. 3 Yellow.
Thursday	55½	56½
Friday	55½	56½
Saturday	55	56
Monday	55	56
Tuesday	55	56
Wednesday	55	56

Oats.—Reports of damage to the crop in Texas had a bullish effect on the oat market during the early days of this week. Under this influence futures made a net advance of half a cent. Standard oats sold at 44c per bushel in this market one year ago. Quotations for the week follow:

	Standard No. 3 White.
Thursday	38
Friday	38
Saturday	38
Monday	38
Tuesday	38
Wednesday	38

Beans.—A further advance in the nominal quotations for beans has occurred during the past week. Offerings are not increasing, however, growers apparently holding to their determination to keep stocks in hand for the \$2 mark at shipping stations. Quotations for the week are:

	Cash.	Oct.
Thursday	\$2.04	\$1.97
Friday	2.04	1.97
Saturday	2.04	1.97
Monday	2.04	1.97
Tuesday	2.04	1.97
Wednesday	2.04	1.97

Clover Seed.—Nominal quotations are unchanged since last week. No transactions of note have occurred, the season for activity in the market having passed for the present. Futures have, however, been marked up on account of weather conditions. Quotations for the week follow:

	Prime.	Oct.	Alsike.
Thursday	\$9.00	\$7.65	\$8.75
Friday	9.00	7.85	8.75
Saturday	9.00	7.95	8.75
Monday	9.00	7.95	8.75
Tuesday	9.00	7.95	8.75
Wednesday	9.00	7.95	8.75

Timothy Seed.—Market inactive but quoted steady with the recently established high figure still offered. The quotation is \$5.60 per bu.

Flour, Feed, Provisions, Etc.

Flour.—Market is fair with prices steady. Quotations are:

Clear	\$4.75
Straight	4.65
Patent Michigan	4.90
Ordinary Patent	4.90

Hay and Straw.—Market steady at last week's higher range. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$22@23; No. 2 timothy, \$19@20; clover, mixed, \$19@20; rye straw, \$7; wheat and oat straw, \$6.50 per ton.

Feed.—Prices are steady with a week ago. Carlot prices on track are: Bran, \$27 per ton; coarse middlings, \$26; fine middlings, \$28; cracked corn, \$22; coarse corn meal, \$22; corn and oat chop, \$20 per ton.

Potatoes.—Offerings of old stock are in advance of the demand. Prices have declined 10c since this time last week and the market is quiet and easy. In car lots Michigan potatoes are selling at 35¢ 40¢ per bushel.

Provisions.—Family pork, \$18@19; mess pork, \$16.50; medium clear, \$16@17; smoked hams, 14@14½¢; briskets, 10¢ 10½¢; shoulders, 10¢; picnic hams, 9½¢; bacon, 14@15½¢; pure lard in tierces, 9½¢; kettle rendered lard, 9½¢.

Hides.—No. 1 cured, 11c; No. 1 green, 8½¢; No. 1 cured bulls, 9c; No. 1 green bulls, 7½¢; No. 1 cured veal kip, 11½¢; No. 1 green veal kip, 10c; No. 1 cured murrain, 9c; No. 1 green murrain, 7½¢; No. 1 cured calf, 16c; No. 1 green calf, 14c; No. 2 kip and calf, 1½¢ off; No. 2

hides 1c off; No. 1 horsehides, \$3.75; No. 2 horsehides, \$2.75; sheepskins, depending on wool, 20@50c.

Dairy and Poultry Products.

Butter.—Last week's figures have been steadily maintained on creamery grades; dairy goods and packing stock are off 1c. Quotations are: Extra creamery, 21c; do., firsts, 19c; dairy, 15c; packing stock, 13c per lb.

Eggs.—The demand remains sufficient to take care of the rather liberal offerings at the lower range of values established last week. Fresh receipts, case count, cases included, are quoted at 15½¢ per dozen.

Poultry.—Nothing doing in dressed stock; business in live confined largely to chickens and fowls. Market easy with most kinds quoted lower. Live—Spring chickens, 15c; hens, 15c; old roosters, 9¢ 10c; turkeys, 14¢ 16c; geese, 8¢ 9c; ducks, young, 14¢ 15c; broilers, 25¢ 28c per lb.

Cheese.—Michigan, old, 17c; Michigan, late, 13¢ 14c. York stock, old, 17c; do. late made, 12¢ 13½¢; limburger, early, 14¢ 15c; Swiss domestic block, 16¢ 18c; cream brick, 14¢ 15c.

Veal.—Market higher. Fancy, 9¢ 9½¢; choice, 7¢ 7½¢ per lb.

Fruits and Vegetables.

Cabbage.—Lower. Selling at \$2.25@2.50 per crate.

Onions.—Steady. Quoted at \$1.50@1.75 per bushel.

Strawberries.—Quoted at \$3.25@3.50 per 24-qt. case.

Pineapples.—\$2@2.50 per dozen.

Apples.—Becoming scarce; only a few varieties on the market and very firm. Baldwins, \$6.50@7; Steel reds, \$6.50@7; ordinary grades, \$4.50@5 per bbl; Western apples, \$2.75@3 per box.

OTHER MARKETS.

Grand Rapids.

The potato market is indeed in the dumps with but slight prospects of recovery this season. Dealers attribute the slump to the unseasonably hot weather; many of them have stopped buying entirely and while some sections of the state are pretty well cleaned up other places report lots of potatoes and the aggregate of stock in growers' hands will reach into the thousands of bushels. Tuesday's market on potatoes was not above 25c, and at some loading stations 20c was the top price. White pea beans are quoted on \$1.60@1.70 basis to farmers, red kidneys at \$3. Excessive rains have interfered with corn planting and indications point to an increased acreage of beans. On account of difficulties in raising No. 1 red kidneys in Michigan the acreage of this variety is likely to be reduced this year. Eggs are off again, dealers quoting 14¢ 14½¢ to the shipping trade. Dairy butter holds at 16c and creamery is unchanged. Dressed hogs are worth 7¢ 7½¢.

Chicago.

Wheat.—No. 2 red, 96½¢@98½¢; July, 88½¢; Sept., 87½¢ per bu.

Corn.—No. 2, 53¢@53½¢; July, 52½¢; Sept., 53c per bu.

Oats.—No. 2 white, 35¢@35½¢; July, 24c; Sept., 33½¢.

Barley.—Malting grades, 85¢@1.03 per bu; feeding, 65¢@80c.

Butter.—The outlook seems improved as buyers are giving the market better support. Creamery goods are moving more freely at firm prices, while the best grade of dairy butter has advanced a full cent. Quotations are: Creameries, 16¢ 21c; dairies, extra, 19c per lb.

Eggs.—This market continues slow and rather unsettled under liberal receipts and unmistakable timidity on the part of buyers for storage purposes. Prices unchanged except on top grades which are ½c lower. Quotations are: Prime firsts, 15c; firsts, 14½¢ per doz; at mark, cases included, 12½¢@13c per dozen.

Potatoes.—Offerings are in excess of requirements and prices are again lower. A decline of 5c in new stock has stimulated the demand in that direction and in consequence the market for old stock is weak and rather quiet. New stock is quoted at 85¢@95c per bu. Quotations on old potatoes are: Choice to fancy, 38¢ 40c per bu; fair to good, 35¢@37c.

Beans.—The supply appears to be limited and the market holds very firm. Hand-picked pea beans are higher. Choice hand-picked pea beans quoted at \$2.13@2.18 per bu; prime, \$1.95@2.05; red kidneys, \$4 per bu.

Hay and Straw.—Hay values have moved up 50c per ton and the market continues firm. Little activity in straw and all kinds are quoted 50c lower. Quotations: Choice timothy, \$22@23; No. 1 timothy, \$20.50@21.50; No. 2 do. and No. 1 mixed, \$19@20; No. 3 do. and No. 2 mixed, \$15.50@17.50; rye straw, \$8.50@9; oat straw, \$7@7.50; wheat straw, \$6@6.50 per ton.

New York.

Butter.—Market steady under moderate receipts and a fair demand. Creamery specials are quoted at 22c; extras, 21c per lb.

Eggs.—Market somewhat irregular, with last week's reduced quotations ruling in the main. Fresh gathered extras, 19c; firsts, 16¢ 17c; seconds, 15½¢@15¼¢; storage packed, firsts, 17¢ 18c.

Poultry.—Live. Western spring chickens, 24c; fowls, 14½¢@15c; turkeys, 12c. Dressed—Fresh killed turkeys, 13¢ 16c; fowls, 12½¢@15½¢.

Boston.

Wool.—The London sales continue active at steady prices, with liberal offerings. In this market interest is centered entirely in the west, where bidding for the new clip is reported to be very active. Heavy purchases of Utah and Wyoming stock have been made at about 16c, which is approximately the price paid last year; the landed cost clean is estimated at 48¢@50c. The movement to the

mills of old stock is very light, although some demand is reported in Ohio quarter fleeces. The uncertainty regarding congressional action is still influencing buyers. The leading domestic quotations range as follows: Ohio and Pennsylvania fleeces—Delaine washed, 29¢@30c; XX, 27¢@28c; fine unmerchantable, 22c; ½-blood combing, 25c; ¾-blood combing, 24½¢@25c; ¼-blood combing, 23¢@24c; delaine unwashed, 23¢@24c; fine unwashed, 18¢@19½¢. Michigan, Wisconsin and New York fleeces—Fine unwashed, 17½¢@17¼¢; delaine unwashed, 23c; ½-blood unwashed, 24c. Kentucky, Indiana and Missouri—¾-blood, 22½¢; ¼-blood, 22c. Scoured basis: Texas—Fine 12 months, 46¢@48c; fine 6 to 8 months, 43¢@44c.

Elgin.

Butter.—Market firm at 21c per lb., which is the quotation of last week. Output for the week, 839,700 lbs., as compared with 687,300 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

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

Receipts of stock here today as follows: Cattle, 120 cars; hogs, 11,200; sheep and lambs, 15,000; calves, 2,500.

Chicago reports 25,000 and lower, but with only 120 cars on our market, the cattle all sold strong and from 10¢ 15¢ per cwt. higher than last week, quality considered.

We quote: Best 1,350 to 1,500-lb. steers, \$6.25@6.50; good prime 1,200 to 1,300-lb. steers, \$6.10@6.30; best 1,100 to 1,200-lb. shipping steers, \$5.65@6.10; medium butcher steers, 1,000 to 1,100, \$5.40@5.65; light butcher steers, \$5@5.25; best fat cows, \$4.60@5.35; fair to good do., \$3.75@4.50; common to medium do., \$3.40@4; trimmers, \$2.75@3.25; best fat heifers, \$5.50@6; good do., \$5.15@5.50; fair to good do., \$4.25@4.75; stock heifers, \$4@4.25; stockers, all grades, \$4@4.25; best feeding steers, dehorned, \$5.25@5.50; common feeding steers, \$4.25@4.50; best bulls, \$5@5.50; bologna bulls, \$4@4.75; stock bulls, common to good, \$3.50@4; best milkers and springers, \$50@60; common to good do., \$25@40.

The hog market opened generally about a nickel lower on the mixed and york weights, and from 5¢ 10¢ higher on strictly pig weights. Local packers bought the bulk of the good quality mixed hogs running to the lighter weights at \$6.45@6.50, while the bulk of the yorkers went to the eastern shippers at \$6.50, with a few selected at \$6.55. The bulk of the choice quality pigs sold at \$6.50. Heavier weights ranged from \$6.10@6.40, according to weight and quality. Rough sows sold from \$5.35@5.40; stags generally from \$4.25@4.75. Everything is cleaned up except a few late arrivals; market is closing steady.

Lamb market opened active today; most of the choice handy lambs selling at \$7.40@7.50. Look for about steady prices on handy dry-fed lambs the balance of the week, but look for lower prices after next Monday. Sheep market was active today; most of the choice ewes selling at \$4.25@4.50; wethers, \$4.85@5. Look for about steady prices on sheep balance of the week.

We quote: Best handy lambs, \$7.40@7.50; heavy lambs, \$6@6.25; bucks, \$3@3.50; cull sheep, \$2@3.50; yearlings, \$5.50@5.75; wethers, \$4.85@5; ewes, \$4.25@4.50; cull sheep, \$2@3.50; veals, choice to extra, \$7.50@7.75; fair to good do., \$5.50@7.25; heavy calves, \$3.50@4.50.

Chicago.

May 22, 1911.
Cattle. Hogs. Sheep.
Received today

This is a Monday when sellers of cattle are taken by surprise by the way their offerings are selling. Only a few weeks ago today's "run" would have caused a decline for the greater part of the cattle, but the demand is very good, and sales are generally at steady prices. This follows last week's decline of 15¢ 25c in heavy beefs, medium and handy weights having declined in that time only a dime, while choice yearlings were steady and fat cows and heifers advanced 10¢ 15c. Hogs are fairly active, with declines of 5c for light and 10c for heavy from last week's closing figures, the receipts being extremely large. Sales are at a range of \$5.50@6.10, with bacon hogs going at the top and pigs bringing \$5.50@6. Small lots of coarse heavy hogs sold at \$5.30@5.45, such transactions embracing lots of a few head. The hogs received last week averaged in weight 240 lbs., or one pound more than a week earlier, comparing with 241 lbs. a year ago and 215 lbs. two years ago. A week ago hogs sold at \$5.85@6.50, while two years ago sales ranged at \$6.80@7.50 and three years ago at \$5.20@5.70. The sheep and lambs on sale were taken quickly at further sharp advances that followed last week's boom of 75¢ 90c for lambs and 25c for sheep. Woolled lambs were scarce and sold up to \$7.50, while clipped lots sold as follows: Lambs, \$5@7.15; wethers, \$4.50@5; ewes, \$2.50@4.75. Yearlings of the best kind would have brought \$6 had any been offered. Spring lambs were salable at \$5.50@7.75.

Cattle were not in particularly large demand last week, although the general trade was better than a short time ago, the call continuing to center on fat, little yearling steers and heifers. These cattle are the last to decline in value as a rule, and the first to show improvement, while heavy, long-fed beefs are usually slow of sale and quick to sell down. All that has stood in the way of a larger decline

in prices for heavy steers was their smaller number, stockmen in the middle west having shipped in most of their holdings some time ago. The bulk of the steers went at \$5.50@6.15, with the poorer light weights going at \$5.10@5.60 and the better class of finished cattle at \$6@6.45. The extreme range of prices has narrowed a good deal since the early part of the year, with recent sales of export steers at \$5.60@6.20, while good to best yearlings brought \$5.75@6.40. Hot weather has held down the demand for cattle by curtailing consumption of beef, but butcher stock has sold relatively well, cows and heifers going at \$3.40@6.25, while cutters sold at \$3.10@3.35, canners at \$2.10@3 and bulls at \$3.50@5.50. Calves have been in lively demand so far as the better class of vealers are concerned, these being still higher and fetching \$6.75@7.50 per 100 lbs., while the coarse, heavy lots sold at \$3@5. The stocker and feeder trade has shown considerable animation, the former selling at \$4@5.70 and the latter at \$5@5.75, but not many of these cattle went to the country around the highest figures. Good 800 to 1,000-lb. feeders sold at \$5.35@5.50 and good 550 to 760-lb. stockers at \$5.25@5.40, while feeding cows and heifers brought \$4.25@4.75 and trashy light stock heifers as low as \$3.40@4. Milk and springers had a moderate outlet at \$30@65 per head, demand being partial for good backward springers. Common cows had to be sold to killers at inside figures.

Hogs have suffered several declines in prices recently, more because of smaller purchases by eastern shippers than on account of particularly large supplies, although the Monday receipts exceeded 40,000 head. Quality, while still good, was hardly up to the recent standard, there being a larger showing of ordinary mixed, staggy and rough lots. There was also quite a showing of big sows weighing around 500 lbs., and these offerings had to be sold at low prices, bringing around \$5.50@5.75 on days when the better class of hogs sold for \$6@6.35. Not enough light bacon hogs and pigs arrived to satisfy the demand, and these continued market-toppers, bringing a good premium. The remarkably hot weather for so early in the year was extremely trying on hogs in transit, especially on the extremely heavy hogs, and as many as eight or ten dead hogs were taken from cars arriving here. Careless loading was largely responsible for such losses, cars being loaded too full for such hot weather.

Sheep and lambs made a fine record last week, lambs selling at the highest prices touched since last October. Of late the markets have been getting smaller supplies than several weeks ago, as sheepmen generally have marketed the greater part of their holdings, and the past week saw some light runs in the east and at Missouri river points and sharp advances in values. The packers complained at times of the poor dressing quality of a considerable share of the offerings, but in the absence of sufficient numbers of live muttons, they took everything offered at firm values. Exporters were in the market and bought several loads of heavy lambs at \$5.50. Native and southern spring lambs arrived more freely and had a fair sale, although many were not choice in quality and sold accordingly. Woolled lambs arrived sparingly, the hot weather being unfavorable for the sale of any but clipped stock.

Horses were in much improved general demand last week, and while the receipts were several hundred head larger, prices advanced \$5@10 per head and in some instances even more. Quite a number of good to choice heavy drafters sold at \$220@260 per head, their weights ranging at 1,500 lbs. and upward, while several pairs of well-matched heavy drafters brought \$470@530. Wagon horses weighing 1,200 to 1,300 lbs., were in active demand at \$175@200 and upward, and fair grade light drivers went at \$165@185, expressers going at the same figures. Some speedy little mares brought \$220@235, and common animals went at \$150 down to \$85. At a special sale of prime horses fattened in Ohio a pair of grey, grade Percherons that aggregated 3,780 lbs. brought \$800, and a roan Belgian sold at \$400.

LIVE STOCK NOTES.

There are reported to be a great many fall farrowed pigs in the corn belt states, the high prices paid for matured hogs and the superabundance of cheap corn and other feed having encouraged their production.

Lambing is going on in the western ranges, and a big lamb "crop" is promised, ewes having come through the winter in much better condition than usual. Rains have fallen in most sections, and pasturage is excellent.

Owing to the drought, the Texas Panhandle country has shipped out most of the cattle held there, and now the stockmen down there are forced to bring in cattle to graze from the southern part of Texas. A drought lasting for two years cut down the Panhandle calf crop and stood in the way of a normal increase in the cattle supply.

An order buyer in the Chicago stocker and feeder cattle market sums up the situation as follows: "Owing to the excellent condition of pastures and the abundance of cheap feed available, cattle feeders are keeping the best of their cattle to finish off for later marketings, and are sending to market only such steers as they don't fancy themselves. This is reflected in a lower standard of quality in the stockers and feeders on the open market here, and dealers who have country orders calling for a desirable class of stockers and feeders are having the time of their life in trying to get desirable stock at the prices country buyers want to pay."

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

May 25, 1911.

Cattle.

Receipts, 925. Market on cattle selling around \$5.25, 10@15c higher; cow stuff stronger; best grades heavy, barely steady.

We quote: Extra dry-fed steers and heifers, \$6.10; steers and heifers, 1,000 to 1,200, \$5.65@5.90; steers and heifers, 800 to 1,000, \$5.25@5.60; grass steers and heifers that are fat, 800 to 1,000, \$5@5.25; grass steers and heifers that are fat, 500 to 700, \$4.50@5.25; choice fat cows, \$4.75; good fat cows, \$4.25@4.50; common cows, \$3.50@3.75; canners, \$2.50@3.25; choice heavy bulls, \$4.50@4.75; fair to good bolognas, \$4@4.50; stock bulls, \$3.50@4.25; choice feeding steers, 800 to 1,000, \$5@5.25; fair feeding steers, 800 to 1,000, \$4.50@4.85; choice stockers, 500 to 700, \$4.50@4.75; fair stockers, 500 to 700, \$4@4.50; stock heifers, \$3.50@4.25; milkers, large, young, medium age, \$4@60; common milkers, \$25@35.

Roe Com. Co. sold Kamman B. Co. 3 cows av 1,023 at \$4.75, 2 steers av 975 at \$6; to Sullivan P. Co. 1 cow weighing 800 at \$3; to B. S. & Co. 2 do av 675 at \$3.25; to Hammond, S. & Co. 1 bull weighing 1,370 at \$4.60, 1 do weighing 1,420 at \$4.50, 22 steers av 1,005 at \$6.15; to Regan 1 bull weighing 650 at \$4.25; to Mich. B. Co. 1 do weighing 1,340 at \$4.65; to Breitenbeck 24 steers av 990 at \$5.75; to Cooke 16 do av 1,024 at \$5.85; to Rattkowsky 1 bull weighing 750 at \$4.75, 2 cows av 1,030 at \$4.25, 1 do weighing 900 at \$3.75, to Bresnahan 2 do av 840 at \$3.50; to Newton B. Co. 12 steers av 920 at \$5.25, 1 bull weighing 880 at \$4.50, 7 steers av 960 at \$5.70; to Mich. B. Co. 2 bulls av 1,000 at \$4.75; to Newton B. Co. 2 steers av 1,015 at \$6, 2 cows av 1,010 at \$5.25; to Thompson Bros. 7 cows av 940 at \$4.50, 1 heifer weighing 940 at \$5.50, 3 cows av 1,000 at \$3.50.

Bishop, B. & H. sold Regan 1 bull weighing 560 at \$4.50; to Mich. B. Co. 1 do weighing 1,000 at \$4.50, 1 do weighing 1,150 at \$4.65, 7 butchers av 866 at \$5.30; to B. S. & Co. 3 cows av 883 at \$4; to Hammond, S. & Co. 3 steers av 1,257 at \$5.80, 2 bulls av 1,620 at \$4.80; to Kamman B. Co. 17 butchers av 852 at \$5.30; to Austin 2 cows av 870 at \$3.15, 1 do weighing 1,100 at \$3.60; to Hammond, S. & Co. 1 bull weighing 1,780 at \$4.50, 5 butchers av 950 at \$5; to Parker, W. & Co. 2 cows av 825 at \$3; to Newton B. Co. 1 bull weighing 720 at \$4; to Mich. B. Co. 13 steers av 1,015 at \$5.55, 1 bull weighing 1,480 at \$4.50; to Kamman 4 cows av 900 at \$3.75, 2 heifers av 700 at \$5; to Fromm 2 cow and bull av 1,330 at \$4.65, 5 butchers av 892 at \$4.90, 1 cow weighing 800 at \$3, 2 do av 980 at \$4; to Breitenbeck 2 bulls av 1,275 at \$4.50; to Laboe 4 steers av 717 at \$5.10; to Newton B. Co. 7 steers av 1,047 at \$5, 4 do av 982 at \$4.50, 1 bull weighing 700 at \$4; to Newton B. Co. 21 steers av 1,215 at \$6.10.

Spicer & R. sold Bresnahan, Jr. 4 bulls av 390 at \$3.75, 1 do weighing 650 at \$4, 3 steers av 423 at \$4.50; to Kamman B. Co. 12 heifers av 654 at \$5.75; to Mich. B. Co. 1 bull weighing 1,270 at \$4.50, 35 butchers av 816 at \$5.65, 31 do av 914 at \$5.65, 22 cows av 993 at \$4.40; to B. S. & Co. 2 do av 775 at \$3.75, 1 heifer weighing 630 at \$4, 2 do av 505 at \$4.50, 1 cow weighing 1,000 at \$3.75, 1 do weighing 770 at \$3.50; to Sullivan P. Co. 24 steers av 880 at \$5.85, 4 do av 825 at \$5.25, 11 cows av 1,053 at \$4, 2 bulls av 1,520 at \$4.50, 4 do av 1,207 at \$4.50, 1 cow weighing 900 at \$2.50, 1 steer weighing 1,000 at \$5.75; to Fry 5 butchers av 976 at \$5.30, 1 heifer weighing 750 at \$5.30; to McDonald 1 bull weighing 810 at \$4.25; to Lachalt 8 butchers av 880 at \$5.60; to B. S. & Co. 2 cows av 710 at \$3.50, 1 do weighing 1,010 at \$3.75; to Fry 7 steers av 706 at \$5.30; to Mich. B. Co. 2 do av 1,075 at \$5.75, 1 bull weighing 880 at \$4.25; to Newton B. Co. 5 cows av 1,120 at \$4.75, 1 do weighing 980 at \$4; to Sullivan P. Co. 1 do weighing 780 at \$4.25, 1 do weighing 1,380 at \$4.25.

Haley & M. sold Hammond, S. & Co. 15 steers av 966 at \$5.85; to Kamman 9 butchers av 684 at \$5.15, 10 do av 920 at \$5.75; to Kamman B. Co. 4 cows av 1,025 at \$4.15, 1 do weighing 1,010 at \$4.50; to Regan 3 heifers av 607 at \$4.80, 1 bull weighing 710 at \$4.35; to Sullivan P. Co. 2 cow and bull av 890 at \$5, 1 bull weighing 760 at \$4.35; to B. S. & Co. 1 cow weighing 1,130 at \$3.75; to Austin 1 do weighing 940 at \$3; to Thompson Bros. 1 bull weighing 1,160 at \$4.50, 1 cow weighing 880 at \$4.25; to Schlischer 21 butchers av 918 at \$5.35.

Kendall sold Bresnahan 22 steers av 905 at \$5.25, 1 do weighing 610 at \$4.50, 23 do av 860 at \$5.25, 5 cows av 1,056 at \$3.85, 3 stockers av 610 at \$4.50, 1 bull weighing 1,030 at \$4.25.

Jedler sold same 7 butchers av 821 at \$5.35, 1 cow weighing 1,050 at \$4, 1 do weighing 1,280 at \$5.

Groff sold same 6 cows av 910 at \$4.

Groff sold Mich. B. Co. 23 steers av 1,052 at \$5.90, 5 cows av 1,092 at \$4.25.

Lowenstein sold Lingeman 5 steers av 1,266 at \$5.35, 2 cows av 1,035 at \$3.50.

Jones sold Parker, W. & Co. 26 steers av 951 at \$5.75.

Lewis sold Sullivan P. Co. 7 butchers av 926 at \$5.10, 8 steers av 1,170 at \$5.80.

Stephens sold same 2 do av 1,200 at \$5.

Heeney sold same 4 cows av 1,102 at \$4, 1 do weighing 1,050 at \$3.25. Weeks sold same 7 steers av 873 at \$5.65, 2 do av 810 at \$5.10. Stephens sold Austin 2 cows av 1,060 at \$3.75. Torrey sold Fromm 4 steers av 837 at \$5.45.

Veal Calves.

Receipts, 1,081. Market 25@50c lower than last week; few choice at \$7.25 at opening. Best, \$7@7.25; others, \$4@6.75; milch cows and springers, steady.

Bishop, B. & H. sold Sullivan P. Co. 1 weighing 120 at \$7, 3 av 95 at \$5.50, 3 av 140 at \$7.25, 8 av 150 at \$7.25; to Parker, W. & Co. 8 av 155 at \$7.25, 4 av 175 at \$7, 23 av 160 at \$7, 4 av 135 at \$7.25; to Thompson Bros. 5 av 165 at \$6.50, 12 av 140 at \$6.75; to Parker, W. & Co. 55 av 135 at \$6.50; to Rattkowsky 10 av 146 at \$6.75.

Roe Com. Co. sold Hammond, S. & Co. 50 av 145 at \$7, 18 av 115 at \$5.50, 10 av 150 at \$7.25, 3 av 155 at \$7.25; to Applebaum 9 av 150 at \$6; to Rattkowsky 17 av 150 at \$7, 3 av 125 at \$6, 7 av 140 at \$7. Haley & M. sold Parker, W. & Co. 26 av 150 at \$6.50, 10 av 152 at \$7.15, 18 av 145 at \$7.15.

Spicer & R. sold Mich. B. Co. 2 av 150 at \$6.50, 12 av 135 at \$7.25, 12 av 150 at \$7.35, 16 av 155 at \$7.25, 5 av 125 at \$6.75; to Goose 2 av 120 at \$5, 14 av 145 at \$7, 16 av 135 at \$7, 2 av 145 at \$7, 16 av 115 at \$5.50; to Rattkowsky 16 av 125 at \$6.80; to Sullivan P. Co. 39 av 130 at \$6.50, 1 weighing 190 at \$4.50, 10 av 107 at \$5.60; to Newton B. Co. 5 av 145 at \$6.75, 6 av 170 at \$7.

Dwelle sold Burnstine 12 av 145 at \$7, 4 av 110 at \$5.

Sharp sold Mich. B. Co. 6 av 140 at \$6.50.

Stephens sold Newton B. Co. 19 av 135 at \$6.50.

Axtel sold same 11 av 160 at \$6.50, 2 av 125 at \$5.

Johnson sold Goose 13 av 135 at \$6.50.

Sheep and Lambs.

Receipts, 2,169. Market 10c lower than Wednesday; 50@60c higher than last week. Best lambs, \$7.10@7.15; fair to good lambs, \$6@6.50; light to common lambs, \$4@4.50; spring lambs, \$7@8; fair to good sheep, \$3.75@4.15; culls and common, \$2.50@3.

Bishop, B. & H. sold Newton B. Co. 11 spring lambs av 43 at \$7.40, 3 do av 40 at \$7.40; to Nagle P. Co. 554 lambs av 76 at \$7; to Sullivan P. Co. 4 sheep av 115 at \$3, 9 do av 135 at \$3.25, 19 lambs av 105 at \$6.75, 7 do av 68 at \$6.50, 4 do av 95 at \$3.50, 47 do av 80 at \$7; to Mich. B. Co. 68 do av 83 at \$7, 11 sheep av 120 at \$3.75; to Bray 5 do av 120 at \$3, 40 do av 95 at \$4.15; to Parker, W. & Co. 96 lambs av 69 at \$7.25, 4 sheep av 107 at \$3.50; to Newton B. Co. 42 lambs av 65 at \$7, 6 sheep av 90 at \$3.75; to Bray 14 do av 92 at \$4; to Mich. B. Co. 124 lambs av 65 at \$7.15, 24 sheep av 80 at \$3.50.

Spicer & R. sold Sullivan P. Co. 26 lambs av 75 at \$6, 1 sheep weighing 90 at \$4.50, 1 do weighing 130 at \$3.50; to Mich. B. Co. 9 spring lambs av 50 at \$3.35; to Hayes 2 lambs av 60 at \$5; to Fitzpatrick Bros. 91 do av 73 at \$6.60; to Young 49 do av 50 at \$6; to Eschrich 20 sheep av 95 at \$4; to Barlage 49 do av 73 at \$4.

Haley & M. sold Breitenbeck 49 lambs av 85 at \$6.

Sharp sold Mich. B. Co. 42 lambs av 80 at \$6.50.

Stephens sold Newton B. Co. 19 spring lambs av 48 at \$7.50.

Bennett & S. sold same 109 lambs av 75 at \$7.10.

Dancer & K. sold Thompson 16 sheep av 80 at \$3.75, 38 lambs av 75 at \$6.25.

Hogs.

Receipts, 4,713. Market 5@10c higher than last Thursday.

Range of prices: Light to good butchers, \$6@6.05; pigs, \$6.05@6.10; light yorkers, \$6@6.05; heavy, \$5.85@6.

Spicer & R. sold Parker, W. & Co. 830 av 180 at \$6.05.

Haley & M. sold same 715 av 180 at \$6.05.

Sundry shippers sold same 275 av 190 at \$6.05.

Roe Com. Co. sold Sullivan P. Co. 555 av 190 at \$6.05, 325 av 210 at \$6.

Bishop, B. & H. sold Hammond, S. & Co. 1,173 av 160 at \$6, 1,020 av 180 at \$6.05, 315 av 210 at \$6.

Friday's Market.

Ma 19, 1911.

Cattle.

Receipts this week, 841; last week, 1,435. Market steady at Thursday's prices.

We quote: Best steers and heifers, \$5.75@6; steers and heifers, 1,000 to 1,200, \$5.25@5.50; steers and heifers, 800 to 1,000, \$4.75@5.25; steers and heifers that are fat, 500 to 700, \$4.50@5.15; choice fat cows, \$4.50@4.75; good fat cows, \$3.75@4.25; common cows, \$3@3.50; canners, \$2.50@3; choice heavy bulls, \$4.50@4.85; fair to good bolognas, \$4@4.25; stock bulls, \$3@3.75; choice feeding steers, 800 to 1,000, \$4.50@5.25; fair feeding steers, 800 to 1,000, \$4@4.50; choice stockers, 500 to 700, \$4@4.60; fair stockers, 500 to 700, \$3.50@4; stock heifers, \$3@3.25; milkers, large, young, medium age, \$4@55; common milkers, \$25@35.

Veal Calves.

Receipts this week, 1,626; last week, 1,658. Market 25c lower than on Thursday. Best, \$7; others, \$4.50@6.50.

Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 2,846; last week, 2,864. Lambs were 25c higher; others steady. Best lambs, \$6.50; fair to good lambs, \$5.75@6.25; light to common lambs, \$3.50@4.75; spring lambs, \$6.50@8; fair to good sheep, \$3.75@4.25; culls and common, \$2.50@3.

Hogs.

Receipts this week, 6,640; last week, 8,044. Market steady to 5c lower than on Thursday. Range of prices: Light to good butchers, \$6.20@6.25; pigs, \$6.25; light yorkers, \$6.20@6.25; heavy, \$6.15@6.20.

Colorado expects to show a wool clip of more than 25,000,000 pounds this season, while Utah will have about that amount. Wyoming and Montana will double that amount, and Idaho will have a large clip to sell. Most of the clip, it is understood, will be sent out on consignment.

VETERINARY.

(Continued from page 578).

later relapsed and after lingering for several weeks died. Now this spring one of my cows passed bloody urine soon after a run in pasture, but she seems to be recovering nicely. If you can tell what will prevent the other cattle from taking this disease, please do so. M. J. M., Mio, Mich.—Red water is a condition where either blood or the coloring of the blood passes through the kidneys. It is often the result of an injury, eating poor feed, poisonous plants, calculi in either kidney or bladder, or it may result from eating poisonous plants or taking irritating drugs. W. H. P., Springfield.—If red water is caused from eating poor food, give the animal plenty of rich food; if caused by calculi, crush it, or it may be caused by Texas fever. When an animal commences to pass red water try to study out the cause and if possible remove it.

Bruised Udder—Mammitis.—I have a cow that is an extra good milker and most of the time gives large mess of milk, but her yield is not always regular. Our local Vet. removed a portion of her udder and she healed up nicely. A. S., Morley, Mich.—Your cow bruises her udder occasionally and if avoided she will have no more trouble. Hot or cold applications give the best results in cases of that kind; salt her food well and give her two tablespoonfuls of powdered charcoal at a dose in feed twice daily.

Poor Milk.—My cow calved April 17th and before then her milk was seemingly rich; since then she gives plenty, but it appears to contain less butter-fat and I would like to know what to give her. F. O. H., Grand Rapids, Mich.—The quality of milk a well cow gives cannot be changed much. However, I suggest a change of feed and salting her well.

Liver Disease—Goitre.—I have a flock of 50 ewes which were bred to registered Shropshire buck last fall; the first lambs came April 1 and some 60 in all from the 50 ewes were born during this month; only 13 are now living. These lambs lived from two to 12 hours each. I had a local Vet. make an examination after death; he found a spot or small abscess on their liver and on some a bunch on lower part of neck (the size of an apple) but no pus in it. In former years I have seldom lost more than two or three lambs in one season. My ewes have had good care and were well fed; they seemed to be in good health. My neighbors tell me the lambs died the result of their mothers eating acorns, which may be true, for these ewes ran on "oak grub" pasture all winter; however, my flock have had the run of this pasture before. C. E. C., Whitehall, Mich.—I do not believe that eating acorns caused the death of your lambs and they may have died from liver disease; however, I doubt it. The cold, damp weather was responsible for their death. Had you kept the lambs warm and dry for a few days after birth fewer of them would have died. Your experience corresponds with other sheep breeders this last spring. They do not die from goitre.

Turkeys Have Bowel Trouble.—My turkeys are having bowel trouble; their movements are green and thin; they become droopy and very weak, also lose their appetite. I have fed them cracked corn and other feed. Mrs. A. McC., So. Branch, Mich.—Dissolve a dessertspoonful of citrate of iron in one gallon of water and allow them to drink from it when they are thirsty; also give each bird one grain subnitrate of bismuth at a dose once or twice a day. Lime water will help them; it is made by dissolving lime in water and as the water absorbs only so much and no more of the lime it cannot be made too strong. A teaspoonful is a dose for one bird and it should be given twice daily.

Knuckling—Curb.—I have a horse that knuckles on fetlock joint and I would also like to know what a curb is and where it is usually situated. W. J. B., Otia, Mich.—A weak condition of ligaments of fetlock joints is what causes knuckling; however, conformation has a whole lot to do with it. A straight upright pastern always predisposes a horse to cock ankles. A curb is a sprain of a short ligament situated on back part of hock joint. Apply a light blister composed of one part red iodide mercury and ten parts cerate of cantharides; this will help both cases.

Sand Crack.—I have a seven-year-old mare that is lame in both front feet. Last summer she was lame for six weeks; our Vet. treated her and had horseshoer relieve heels of pressure and she went sound. This spring she is lame again and travels tender when shod same as last year. She is sound with the exception of cracks between hoof and hair on both sides of hoof. M. S. E., Schoolcraft, Mich.—Apply one part carbolic acid and ten parts vaseline to cracks once a day; cover cracks with oakum and light bandage while horse is in stable.

Colt Chews Mother's Mane and Tail.—I have a colt one month old that seems hearty, in good flesh, growing nicely, but has commenced to chew the mane and tail of his mother. I am working the mother every day, she is fed ground oats, cottonseed meal, oil meal and ear corn, with a good allowance of mixed hay. The colt this mare had last year ate quite a portion of the mother's mane and tail, and did not thrive afterwards until it was weaned. G. D. M., Charlevoix, Mich.—If you will apply one part kerosene and six parts soapuds, or one part coal tar disinfectant and 15 parts water, leaving it on hair of mane and tail, your

colt will perhaps leave the hair of mane and tail alone. One part fluid extract capsicum and four parts sweet oil applied occasionally will prevent him from chewing hair off mane and tail.

Nasal Catarrh.—I have a 12-year-old mare that has had nasal trouble ever since I clipped her in March. She showed some sickness soon after I took her coat off, was very chilly during cool, damp weather after clipping and breathes hard, has a cough which has not yielded to treatment. B. F., Milford, Mich.—Give two tablespoonfuls powdered licorice, a teaspoonful of muriate ammonia and a teaspoonful of ground nux vomica at a dose in feed two or three times a day.

Suppurating Head.—My 11-year-old horse had a gathering in head last winter; blood and matter came from left nostril for about a week or ten days. The discharge comes mostly from left nostril; however, there is some from right. I might add that the discharge is odorless. There is some discharge from his ears. This horse has a good appetite and appears to be in a thrifty condition. D. O., Elmira, Mich.—Give 15 grs. quinine and 1 oz. hyposulphite soda at a dose twice a day. Also give a teaspoonful of powdered sulphate iron in feed two or three times a day. The discharge will perhaps cease after he has run on grass a few weeks.

Shoulder Lameness—Heifer Does Not Come in Heat.—I come to you again for advice regarding one of my horses that is lame in right shoulder; when walking he drags toe and is altogether too lame to be used. Also have a fine two-year-old heifer that has not yet come in heat but she seems healthy every other way. R. W. D., Honor, Mich.—Apply cerate of cantharides to shoulder once a week; this will blister lightly and make the shoulder muscles stronger. Give your heifer 15 grains powdered cantharides at a dose in feed twice a day.

Garret.—A two-year-old heifer came fresh the latter part of March; had caked bag and two teats became blocked. I applied turpentine and lard, which reduced cake and I opened two front teats with a knitting needle. The calf sucked her for a few weeks which I think did her udder no harm. M. K. C., Bay Shore, Mich.—Use a milking tube, instead of needle and apply iodine ointment to udder three times a week. Also give her 1 dr. iodide potassium at a dose in feed night and morning. Also give 1 oz. powdered nitrate potash at a dose once a day for four or five days. Your other cow that has caked bag which has not yet come fresh will be relieved by milking the udder one-quarter empty twice daily until she comes fresh, then milk her three times a day.

Bleeding Polypos.—Every time my cow is served she discharges blood and fails to get with calf and I would like to know how to treat her. M. S., Rosebush, Mich.—Dissolve 3 ozs. of alum in half gallon of water and wash out vagina thoroughly once a day for a few days, then weaken this lotion by adding double quantity of water and continue using it daily.

Parasitic Bowel Trouble.—One-fourth of my chickens died after a sickness lasting from one to three weeks; the bowel movements are yellow, and the chickens appear to be too weak to walk. C. G., Saline, Mich.—Give each chicken one grain of powdered sulphate iron at a dose daily. Their food should be well salted. I suggest that you clean and disinfect your hen coops, using whitewash freely and kerosene to roosting poles. Their drinking water should be clean and food supply as wholesome as possible.

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Woman and Her Needs

At Home and Elsewhere



ON THE YOUTHFULNESS OF OLD FOLKS.

HAVE you noticed the great development of the quality of "holding on" which our modern old men and women possess? It is awfully trying to some of the younger ones, who want to get the fat places themselves, to see some old person calmly keep right on working and enjoying life, but after all, isn't it a most worthy trait in the worker? For my part, while I grit my teeth every time I see some of the writings of the women who were famous when I stepped out of the cradle, but who still keep right on sending out manuscripts and getting back checks, I can't help admiring the pluck and perseverance which keeps them young at an age when their mothers would have been dozing in a chimney corner, with no interest in life aside from counting their grandchildren's toes.

Three cheers for the modern old folks, I say. What if the women do overdo it sometimes by wearing over much false hair and too little skirt? At least, the spirit of keeping alive and abreast with modern progress is there, and that is of itself worthy of praise.

The grandmothers and grandfathers now are so different, from the ones I remember as a child. I have in mind one of the old sort, a man, who, when I was ten years old, I thought must be 150 or so. Looking back now, I suppose he was not more than 65 years old, but he had all the earmarks of a couple of centuries. His beard was of the patriarchal variety, his back was bent, his walk a shuffle and his speech an inarticulate mumble. Indeed, by means of disuse, he had almost lost the faculty of speech and often simply pointed at things to which he wished to call attention.

Do not make the mistake of thinking it was hard work that aged him. It was no work at all which brought about his decay, mental and physical. When about 50 years old he retired in favor of his son. He not only gave up all financial interest in everything, but all personal interest as well, and stating that he had earned a rest, he proceeded to take it. From that time on he did nothing, absolutely nothing. He sat on the sunny porch in summer, and by the warm fire-side in winter, from morn until night, and didn't even shuffle out to meals unless he felt so disposed. The result, of course, was senility.

Of course, he was exceptional even in those days, for very few people in any period of time want to get out of life while still living. But the tendency of a generation ago was to stop work when the grandchildren appeared on the scene. Grandmother might wash the dishes and grandfather bring in the wood, but they were popularly supposed to be too antiquated for any further use or helpfulness.

Thank God, grandfather and grandmother in this new century have different ideas. They insist on living as long as they are above ground and they are shrewd enough to know that the only way to do it is to keep hold of things themselves. And how they do hold on, and how wise they are to do it! They seem to realize that "Satan finds some mischief still, for idle hands to do," applies just as well to old hands as to young ones, so they keep busy. And it is that which keeps them young and well and happy, and, best of all, keeps them with us. If you are just itching to have father step down and let you step up, pause, reflect that, after all, he made that place and it belongs to him. He is just as much a factor in the scheme of things in the eyes of the One who created him as you are, and he has every right to stick tight as long as he lives. If you want a place in the world, get out and make one for yourself. Don't sit around home

and hint to father about his increasing years and need of a rest.

DEBORAH.

DOILY IN RUSSIAN SPOKE STITCH.

BY ELLA IONA LOCKE.

Begin with the curved-spoke wheel in the center. Wind the thread ten times around the fore-finger, work on the ring thus formed, 24 double crochets. Now, make a curved spoke, as follows:

Chain 12, take a loop around the chain close to the needle, thread over, draw through the loop (but not through the stitch on the needle), make 24 loops over the chain, draw the thread through next double crochet of ring, thread over, draw through all the stitches on the needle. This makes one spoke. Draw up the thread to curve the spoke slightly, and keep the stitch on the needle idle until called for.

Draw the thread through the next double crochet and make six chain, draw the last chain through the idle stitch on the needle, chain six again. Now, fill up this chain as directed for the first spoke, making 12 loops around each six chain. Repeat the directions for this second

down tight, so that the spoke bends down to the foundation, draw thread through next space of arm and through the stitch on the needle, remove the needle from the last stitch and insert it in the end of spoke, at the corner, take up the stitch again and draw it through there, this rounds off the corner.

Repeat around the arm, a picot for each two spaces (lacking one in inner curve), 12 in all, for each arm. In making the second and succeeding arms, in the middle of the second picot, catch into the middle of the fourth picot of the preceding arm.

CARE OF THE WINTER CLOTHING.

BY MRS. N. M. RUSHING.

The time to pack away our winter clothing is at last at hand, and the care with which this is done will make all the difference in the world in their appearance when we come to bring them forth for wear another winter.

Winter hats need special care. They should be well brushed of all dirt, wrapped and pinned neatly and closely in tissue paper, care being taken that the plumes lie naturally and not twisted out of shape, and that the trimming is not wrinkled or mussed. Place a quantity of black pepper in the bottom of the box,

the odor until they were unfit to eat. But we made use of these eggs in our packing cases in the place of moth balls, and found them to answer every purpose except that they were rather too odoriferous.

Winter underwear and woolen clothing should be thoroughly cleaned, mended, aired and packed in boxes and covered with papers before the box is closed, and if black pepper has been scattered in the bottom of the box and between the garments they will always be found in good condition when they are wanted for use again.

Of course, some women may not wish to preserve these older clothes, but I learned when I was first married that it was worth money to save all such clothing, and make it go as far as possible. Not every farm woman can get a new hat every fall, therefore, the old one must be preserved, and it can be done and will look just about as well the second winter as it did the first.

The husband will also have his winter hat to be stored away and the last summer straw hat to be got out, and if too soiled for Sunday use, brushed up for every day use. With the proper care they will go much farther than when they are just hung up somewhere. The winter pants, winter coats, shirts, etc., must all be looked after. It is much nicer to have all the winter wear stored away where the moths will not bother than to have them hanging on the walls where they are catching all the dust that is flying, and hanging on a nail draws them out of shape. Let a heavy winter coat hang up on a nail all summer, and it will never look real tidy again, even though it be of good material. It will draw out of shape and will not look nice. For instance, take a nice heavy winter skirt, and every housewife surely knows how much nicer it is to have it nicely folded and packed away, than to have it hanging on the wall.

HOW MEN MAY HELP.

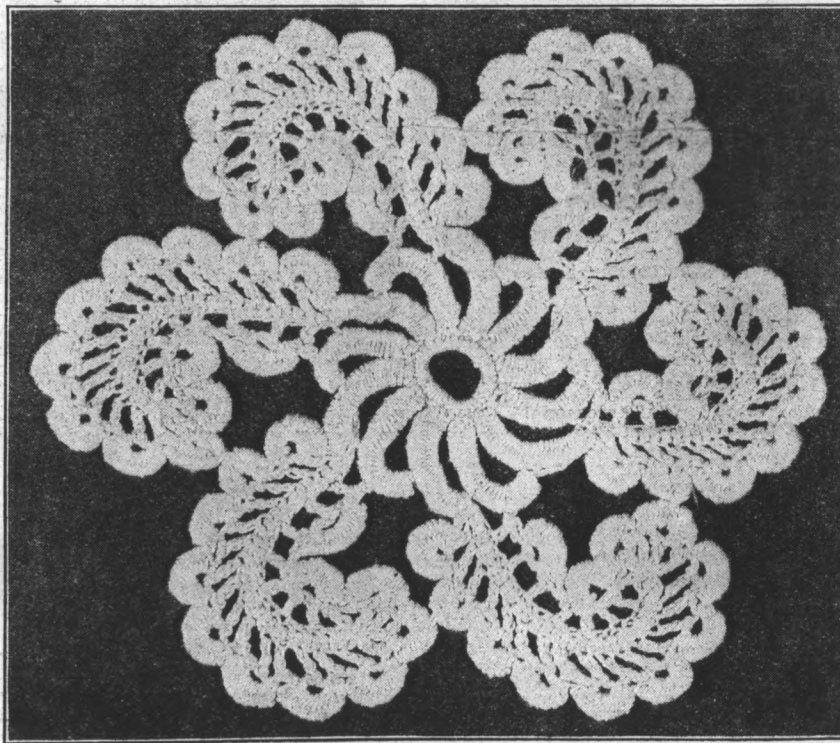
BY ELLA E. ROCKWOOD.

No self-respecting woman possessed of good health wishes to be waited on hand and foot by her husband, or her sons. When a man comes in, tired from his day's work, he doesn't like to be asked to add to his labors by doing the housework, any more than a woman would like such an addition to her portion. To occasionally ask for assistance is well enough, and no reasonable man will object. Such jobs as bringing water from the well and keeping the hot water tank and the woodbox filled certainly fall within the bounds of such a ruling. If there is no one to assist the house-mother, she will appreciate even further assistance and should receive it.

There are, however, a number of ways sometimes overlooked, by which the men folks may help to save steps and lighten the housewife's duties. For example, a thoughtful man on entering the house, will not fail to stop outside the door to remove from his shoes as much as possible of the adhering dirt. A little thing, to be sure, yet how it saves in the use of broom and dustpan, especially when there are two or three men or boys in the family.

Another way careful men help is by picking up their belongings instead of leaving them strewn about the room after the manner of some unthinking ones. To hang articles of clothing where they belong, to put away others in drawers, to place shoes where they should go instead of leaving them where they were taken off, how much this helps the busy house-mother.

If every man and boy would stop one moment on rising in the morning to open the window of his sleeping room and throw the bedclothes over the foot of the bed it would be another move in the right direction. Then, when the time comes to make the beds they would be already



Russian Spoke Stitch Doily.

spoke until there are twelve spokes in the wheel, make six chain up the back of first spoke, and draw through idle stitch to fasten.

Do not cut the thread, but chain 25, turn, and work on the back of chain, two double crochets in each of nine stitches, one double crochet in each of the remaining stitches of chain; fasten at the base of the chain. Slip stitch in outer point of end of spoke, one chain, turn, one treble, two chain, in every second stitch of arm (1 treble, 2 chain), five times in the end (miss two stitches one treble in the next), four times, without any chain between trebles; (two chain, miss two, one treble in the next), three times, fasten to the center of outer part of next spoke, three chain, fasten between spokes (leaving chain on the wrong side), five chain, fasten between next two spokes, 25 chain, and proceed as for first arm. There should be six arms around wheel.

Work around arms with picot-spoke stitch, as follows: Make a spoke of seven chain, with 12 loops around chain, draw thread through the first space of arm, thread over, draw thread through all the loops on the needle, and draw

cover with paper, and after placing the hat carefully in the box, cover, wrap up in paper and put away on a shelf in the closet, or some other place where nothing can bother. Hats cared for in this way will be fresh and nice for another winter, while one stored away in a drawer, to be handled and crushed, will not be fit to wear.

Furs should never be packed away in a warm place. The cooler they are kept the better for them. All the large fur houses keep their fur rooms almost at freezing temperature all summer. Furs simply shaken and whipped and then hung away in some cool closet, where they may be taken down, shaken and whipped and examined during the summer, will look much better than when packed away.

With only a little precaution one can keep the closets and packing cases clear of moths. The free use of black pepper, turpentine and cedar boughs soon exterminates these pests. Last summer I bought one dozen antiseptic nest eggs, which were warranted to kill mites, lice and other vermin, and keep the hens in good condition. They did more than this, for we found that the eggs laid, absorbed

aired and save the housemother one trip upstairs.

In some families the men and boys require a great deal of waiting on. If they are getting ready to go away any place mother is called to lend assistance a dozen times before they get started. She must button a collar or fasten a tie. She it is who is expected to locate stray handkerchiefs, socks and shirts which other hands than hers have mislaid, or which are not mislaid at all. This, from strong, able-bodied men who ought to be able to dress themselves. I have known women who had to half dress their husbands, aside from getting themselves ready when making a trip to town or preparing for a visit to a neighbor's home. Possibly there are one or more little folks to be made ready also. Of course, these women have only themselves to blame for such a state of affairs. In their efforts to assist they have unconsciously gotten the men folks into a very bad habit, while, as a matter of fact, they are perfectly able to dress without assistance if left to themselves.

THE SUNDAY DINNER.

Cream of Almond Soup
Hanoverian Steak
Potato Puff
Creamed Onions
Lettuce Salad
Strawberry Pie

Cream of Almond Soup.—Add one cup of blanched almonds to one quart of scalded cream and let simmer a half hour. Strain and serve. Salt to suit. To blanch the almonds, drop first in hot water, then in cold. If the skins do not come off easily, repeat the process until they can be removed.

Hanoverian Steak.—Chop a piece of lean beef, about a pound and a half, off the sirloin, if convenient, fine in a meat grinder. Add a tablespoonful of salt and half a teaspoonful of pepper. Form the meat into flat cakes, rub them with melted butter and broil four minutes on each side. Put one ounce of butter in a frying pan on the stove, add half a cupful of finely chopped onion and cook without browning for six minutes. Then add four large tomatoes peeled and cut into small pieces. Season highly with salt and pepper, using about one-half teaspoonful of salt and one-fourth teaspoonful of pepper. Add also half a teaspoonful of sugar and cook ten minutes. After arranging the steak on a platter, pour the sauce over them and serve.

Potato Puff.—Beat until creamy two cups of mashed potatoes, a little salt, two tablespoons of melted butter. Stir into this two eggs, well beaten, and six tablespoons of cream. Pile lightly on a baking dish and bake until light brown in color.

Creamed Onions.—Select small onions of uniform size and boil until tender in salted, boiling water to cover, with the cover of the saucepan removed. When tender, pour off the water and pour over the onions a white sauce made after the usual method.

Lettuce Salad.—Wash and drain the lettuce and chill thoroughly. If you have no ice, chill by leaving a half-hour in cold water, then dry quickly between two towels, lay two or three leaves on top of one another, roll them up and cut in shreds with a sharp knife or scissors. Blend olive oil and lemon juice in the proportion of one tablespoonful of olive oil to two of lemon juice, and salt and pepper to taste, and toss the lettuce in this until every bit is touched with the dressing. Heap in little mounds on the salad plates and garnish with rings of hard-boiled egg.

Strawberry Pie.—Bake a shell as for lemon or cream pie. Heap with freshly picked and washed berries, cover with a meringue and brown slightly.

OUR LETTER BOX.

Make Work Easy by Songs.

Editor Household Department:—In answer to Mrs. F. L. S.'s query, concerning what to do about dishwashing, would advise her to be persistent with her little girls but not to punish nor force them. There is where I believe the trouble comes in that the majority of girls despise dishwashing so much. Rather help them along, teach them by example. Children generally like to imitate their elders. Draw their attention to the difference in dishes that are clean and shiny and those that are rough and sticky when put on the table. Remember, we are teachers.

Take, for instance, the pupil in the

schoolroom, he does not expect to become perfect in reading or writing in one day nor one week. But keep steadily at it. The teacher must have a great deal of patience and show the pupils over and over again. So we, as mothers, have to exercise patience in teaching our children, especially dishwashing, the much despised art that is looked upon by most girls as the most disagreeable task in the list of household duties.

I knew two girls, who, when they began to wash dishes, began to sing some cheerful songs and thus enliven the work and also shorten it. The mother was always on hand to help gather the dishes; the cups and saucers, knives and forks and teaspoons were gathered by themselves; all leavings cleaned off the plates and dishes, then a pan of good hot water and soap, a rinsing pan and, above all, clean dish towels, were brought. One can not do a good job at dishwashing with dirty towels. Those girls have grown up and really love the task, but under no consideration could you get them to put their hands into a pan of cold, greasy dish water. So I would say again, to Mrs. F. L. S., be persistent, but in kindness, and I am sure you will be well repaid.—From a Mother Who Knows.

P. S.—Would like to know if any of the readers of the Michigan Farmer know how to treat Chinese sacred lilies after blooming?

Editor Household Department:—I am a reader of the Michigan Farmer and enjoy it very much. I have been anxious to see if some of the Sister Farmers would not tell me how to clean stove pipes after burning soft coal. What can I burn in them to take out the sticky soot?—A Subscriber.

Two Little Love and Too Much Scold.

Editor Household Department:—Just recently the article in March 4 Farmer, signed by M. N. E., has come to my notice. The title was, "Train Children to Assume Responsibility," and while there is a deal of truth in the writer's sentiments there is a paragraph or two I would criticize, if you will allow me space, hoping he may still be reading the household department. Being personally acquainted with a family he alludes to, of "spoiled, selfish" children, I can say they have now grown to be men and women of the true industrious stamp that make the best citizens and happiest home. of our great commonwealth.

There is a happy medium which, when found, is the blessed state of perfect love, obedience, authority, trust, responsibility, etc., all pressed together to make the model home, but where one such exists, how vastly many more do we find where either too much indulgence reigns or too much severity.

What I want to say is, of the two evils choose the less which, in my opinion, is too much love rather than not enough.

To return to the family in question. I would like you all to be acquainted with the dear, loving and lovable old lady whose heart is full of sympathy and charity for all, whose smile warms all the world about her, and whose character, principles and religious experiences are beyond criticism. Her eight children still feel as in childhood, that to injure the sensitive feelings of the little mother would be a greater disgrace than many a more public offence. So much is this mother alive (wonder that it is), that even yet if she can escape the eyes of others she brings a small pail of water or a few sticks of wood, and be proud of her ability to do so at the age of seventy-seven.

I do not say that a mother cannot be too unselfish, but I personally know many are not unselfish enough. The effect of true mother love cannot be overestimated and it is doing more toward elevating the lives of America's men and women than the rod and scold have ever done. And as for the dear father of this family, I just want to say he did not "jaw," but kindly called the attention of his children to the right path—the one he trod—and simply expected them to walk therein.

Many have no such rich inheritance as these children have, who would gladly exchange fame or fortune for such a golden memory.—M. L. C.

FASHION'S FANCIES.

Elastic belts are quite in favor, as are belts of suede and satin. The suede comes in black or tan, while black satin is principally shown.

The old-fashioned "circular comb" of our childhood is back, only instead of being a comb it is simply a fillet to be

worn back of the pompadour. A popular style is a narrow band set with imitation gems, brilliants and corals being much used. Holes are in the ends of the band, through which hairpins are slipped and the band pinned to the hair.

The new bags are shaped like those we wore a decade ago, fastened to our belt, but very much larger. They are of brown and black suede, black satin, or satin of any color. A heavy cord with tassels is provided for carrying them.

Bordered muslins and foulards are still popular.

Advance fashion notes from the east predict that the fall skirts will be pleated again, so beware of getting too many tight skirts. The gowns for this summer with overskirts, show a pleated skirt beneath. One authority claims that a skirt 13 yards around the bottom is about to be forced upon suffering femininity.

GET RID OF FLIES.

Children may help to keep flies from swarming in and around houses, and from carrying germs of sickness from one person to another. In the first place, they should not buy candy, fruit or other food which is left in front of stores or anywhere else where flies may feed and walk on it. Flies lay their eggs chiefly in stable manure, and if this is left without screens or other covers to keep the flies away, great numbers will be hatched in every stable. If you know of stores where food is not covered from flies, or of stables that have swarms of them around, write to the board of health about them, and the board will make the store-keepers or stablemen obey its rules. But before you report other people for being careless and dirty and so making it possible for flies to become a nuisance, be sure that your own house is clean, and that no garbage-cans or boxes are left uncovered to attract flies.—The Merchants' Association's Committee of New York.

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These patterns may be obtained from the Michigan Farmer office at the price named. Be sure to give pattern number and size.



No. 5359—Ladies' Yoke Waist.—Cut in six sizes, 32 to 42 inches bust measure. Size 36 requires 2½ yards 36 inches wide; ½ yard 18-inch all-over. Price, 10 cents.

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No. 4531—Ladies' Combination.—Six sizes, 32 to 42 inches bust measure. For 36 bust it requires 1½ yards of 15-inch flouncing for corsetcover, 2¼ yards 24-inch flouncing for petticoat, with ¾ yard material 36 inches wide for yoke. Price, 10 cents.

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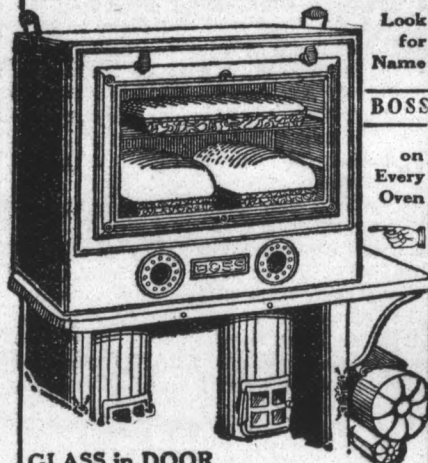
She Cans Beet Greens.

Has anyone ever tried canning beet greens? It would be impossible to tell the difference between canned and fresh cooked ones.—Mrs. S. C. (Could you send in your method?—Ed.)

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HOME AND YOUTH

GRANDMOTHER'S LANTERNS.

BY FLOY S. ARMSTRONG.

It was a red-letter evening in the House of VanLeuven and the entire family—grandfather, father, mother and several younger VanLeuven—had gathered before the open wood fire in the library to enjoy the occasion. Margaret, the vivacious, sunny-faced girl of eighteen, had that day returned from a long visit to the old VanLeuven homestead, situated in a distant part of the state, and—it may as well be told—the family was assembled to hear Margaret talk. "The next best thing to taking a pleasure trip yourself, is to let Margaret take it," Fred VanLeuven was wont to declare, and everyone who knew his sister agreed with him.

The girl possessed the happy faculty of being able to extract much wholesome pleasure from little things, and could recount experiences and describe places and people most entertainingly.

She was at her best tonight, since the subject in hand was of great interest to everyone present.

"Yes, everything is the same," Margaret was saying in answer to a question from Grandfather VanLeuven. "I've never seen a place like it. Nothing changes, nothing wears out, nothing gets shabby there; time seems to pass it by without a glance. As true as I am telling you, Aunt Martha is using the same draining pan for her dishes that grandmother used when I was a little girl; and the old cocoanutshell soap dish stands in the left hand corner of the kitchen sink, just as it has for—how many years, grandfather? Aunt Martha says that you made the dish."

"Nigh onto forty years," answered the old gentleman, with a sigh of something between satisfaction and homesickness. "I used to put in rainy days tinkering at handy things for the house and barn."

"How did you put in rainy days, Peggy?" asked Fred, who, as a boy, had spent his vacations at the old homestead and was interested in every detail of Margaret's visit there.

"Oh, the rainy days were the jolliest days of all. I had the neighborhood girls in for company, and Aunt Martha let us pop corn and make fudge in the kitchen, and gave us the run of the garret and—O, that reminds me! I found some real heirlooms there; the queerest, dearest old things you ever saw. They had been tucked back under the rafters for ages, I imagine, because Aunt Martha didn't know a thing about them."

"What are they?" flashed several voices in unison.

"Wait until you see them. Aunt Martha gave them to me and I brought them home. She is certain that grandfather knows where they came from and all about them. You see, she isn't a born VanLeuven, so isn't wise concerning our ancestors and their belongings. I'm going to have them enameled green at the Art and Craft school, and use them for incense burners. Wait! I'll dig them out of my trunk in a minute."

"Which, the ancestors or the heirlooms?" shouted Fred, above the hilarious laughter of the party. But the enthusiastic Margaret did not hear; she was already half way up the stairs. She returned presently, bearing in each hand a round tin object about a foot and a half in length, a foot and a half in circumference, with perforated sides and conical tops. She flaunted the rude relics before the astonished eyes of the waiting family; then a medley of exclamations greeted her find.

"Pretty heirlooms! Overgrown pepper shakers!" railed Fred, with the liberty of an elder brother.

"Revolving horseradish graters!" suggested ten-year-old Jimmy, while Margaret's father added to the mirth with: "Behold the illuminators of the eighteenth century!"

But Grandfather VanLeuven did not join the good-natured banter that greeted Margaret's captured prizes. "Why, bless the child!" exclaimed the old gentleman, tottering to his feet. "She has found Grandmother VanLeuven's lanterns; I haven't seen them in years, and thought they were lost long ago. Well, well, I'm glad you found them, Margaret, and hope you'll hang on to them now. Your great-grandmother found them, too, nigh onto eighty years ago," and the old man chuckled reminiscently.

After everyone had examined the lan-

terns which had been rudely constructed for carrying lighted candles, long before the days of kerosene and modern lighting conveniences, Mr. VanLeuven motioned his hilarious youngsters to silence and their chairs. Turning to the old gentleman beside him, he said: "Please tell us the story of the lanterns, father. I've nearly forgotten it, and the children have never heard it, I am sure."

An expectant hush fell upon the little company, and everyone looked at Grandfather VanLeuven who sat smiling at the lanterns which stood side by side on the center table, like stout old soldiers drawn up at attention.

"I was too young to remember much about the hardships of that winter 'way back in the twenties, but later on, we children heard so much about it that we learned the story by heart." The narrator spoke slowly and thoughtfully, as if feeling his way back through the years.

"The snow came about Thanksgiving time and kept piling up until April. Everyone was short of grain and fodder, for the summer had been hot and dry, and the crops had nigh all burned out. Father kept a yoke of oxen, four cows, and a few head of young stock, and when February came there wasn't a wisp of hay left in the old log barn."

"Then father and the big boys used to break roads through the snow to the woods and drive the cattle there to browse. Sometimes they cut down young birch and other edible trees that the cattle would trim up in short order."

"When the corn got low, mother baked great loaves of rye bread in the old stone oven, and each critter got a slice—great thick ones for the cows and oxen, and little thin ones for the young stock."

The speaker paused and smiled reflectively at something he seemed to see in the fire before him. Seizing the opportunity, Jimmy prompted: "But where do the lanterns come in, grandfather?"

"I'm coming to them, son," replied the old man, patting the head of his namesake who had crept close beside him. "You see, grandmother did not find them until later—not until starvation began to threaten the stock. For the time came when the slices of bread grew very thin and small; when only one ear of corn was given to each critter, and they browsed in the woods all day long. At night they would low and cry with hunger, and my mother, who was tender-hearted, as well as brave, used to steal out of bed and go to the barn with her rye loaf and big knife and give them all a slice—as thick as she dared make it—and it would seem to satisfy them for a while."

"About this time the neighboring farmers began to miss corn, rye and chickens from their scanty stores, and it became known that there were thieves in the vicinity. The settlers were few and there were no strangers among them, so everyone began to suspect his neighbor, and every man slept lightly; that is, every man except your Grandfather VanLeuven. He was a famous sleeper. All day he worked hard in the cold and snow, and at night he slept like a log."

"Mother was different. She heard every noise, every cry of the hungry cattle. One night, just before the spring break-up, she was awakened by an unusual amount of bawling from the stock, and knowing that they always greeted the opening of the barn door with just such a racket, she suspected someone had gone into the barn. She tried to rouse father, but he was in one of his fast sleeps and she knew it would take time to waken him, so, leaving that job to the boys whom she called, she lighted the tin lantern—it was much like Margaret's lanterns, only smaller—and ran out alone."

"She was just opening the stable door when someone inside gave it such a violent shove that she was knocked over in the snow."

"When she picked herself up, she saw two men running down the road for dear life, and she knew that she had routed the neighborhood thieves."

"Sure enough. The men had broken open the feed bin and bagged the two bushels of corn that father had been hoarding against a time of emergency. The bags stood against the bin, tied and ready for removal, and beside them stood a third bag in which were three of mother's largest, fattest hens whose necks had been wrung. Evidently, the robbers were just ready for flight when mother surprised them, and in their haste to escape they left, not only their plunder but their lighted lanterns—these heirlooms of Margaret's."

In answer to the eager questions now

aimed at him Grandfather VanLeuven continued: "Yes, both father and mother knew the lanterns. Lanterns, like neighbors, were few in those days, and everybody knew the belongings of everybody else; but the thieves were never caught."

"Mother hid the lanterns away in the garret and would not let father and the boys mention the affair to a soul. We little shavers never heard of it, nor got sight of the lanterns until years after."

At this point the old gentleman unconsciously lowered his voice, as if fearing some outsider might catch, and carry

this almost forgotten story into mischief.

"The thieves, who were brothers and lived not far from our house, sold their farm that same spring, and, with their families, moved back down east where they had come from. Father used to say it was a lucky attempt at robbery, for us. Mother got a pair of good lanterns, we all got a good chicken dinner, and, best of all, the neighborhood got rid of its thieves."

"And the end is not yet," cried Margaret. "The House of VanLeuven is to have a pair of brave, heir-loomic incense burners."

ONCE A MORMON.

By IRMA B. MATTHEWS.

When safe from the hated presence Robert walked rapidly along the shore. The water he loved rippled and called to him in the old way but he heeded it not. His brain could receive no impression. Nothing was in his mind but the hideous fate mapped out for the woman he loved. He paced the shore until the stars came out, thinking, thinking, trying to devise some way whereby she might be saved. All at once Mormonism in all its hideousness had been revealed to him and he shuddered at the sight. He looked up at the stars above him. Somewhere beyond them God lived and reigned. The thought brought him comfort. Elinor had always trusted God. Surely, surely, He would not allow this thing to happen. He stretched up his hands. "Oh, God," he cried, "help me, show me the way." Over and over he repeated the words until a sweet peace stole into his heart and he entered his cabin. He lighted a lamp and locked the door. It was past two o'clock and he had eaten nothing since the noon before. He did not want food but he knew that he must keep up his strength. He ate a bite; then from its hiding place he brought out a box and counted the contents. Nearly a thousand dollars. It was quite a bit of money for a young man to have saved, and he was glad now that he had not invested it on the island as he had at times been minded to do.

Then he replaced the box in its hiding place and brought out something else. He smiled grimly as he looked at this other thing. He examined it carefully and oiled it and saw that it was in perfect working order. He had never cared for the thing, but it had been given him and he was glad now that he had kept it. He gazed at the shining barrel, then carefully loading it from a box of cartridges he thrust it into his pocket.

"God help me," he muttered, "but if everything else fails—well—King Strang shall never have her, that is all." Then, still dressed, he threw himself on the bed and slept. The sun was high in the sky when he awoke, for the strain under which he had been had exhausted him and even now he hardly felt refreshed. One thing was clear in his mind. If he was not to excite suspicion he must act the same as ever and go about his accustomed tasks the same as he had, for he felt sure that the king would hear of his behavior, if it was different than usual. So he made his breakfast and went out with his boat, whistling a gay tune as was his wont. He was right about being watched, but at the end of two days, as he showed no disposition to do otherwise than he had, and remained apparently as cheerful, the word was passed to the king, who laughed and said, "I really expected more of a fight from him but I dare say he sees the folly of attempting to disobey me and is resigned."

CHAPTER XVII.

The nights were very dark, a thing for which Robert Stuart was very thankful as he stole softly from his cottage late one evening, several days after his visit to Strang, and started for the Brandon home.

He had to almost feel his way, but he knew the trail well and he walked quite swiftly, taking care, however, to make no noise, pausing now and then to listen.

At length he reached the house he was bound for but he did not walk to the door and demand entrance. On the contrary he was very careful that no one should hear him. He passed quickly around the house and paused outside the window that he knew to be the one in the room Elinor occupied. The night was warm and the window was wide open to admit the air. He listened and the quiet breathing told him that Elinor was asleep; he

could just make out the position of the bed. He leaned far in the window and threw something upon the bed. Then he turned and went away into the night the way he had come. Thus far he had been favored, but how would it end? Surely he was doing what was for the best.

When Elinor awoke in the morning she was surprised to see a package on her bed. "Why, what can that be?" she exclaimed. "I am sure that was not there when I went to bed." She untied the cord that bound it and took out a letter, but when she read it her face went white with fear and horror.

"Dear Elinor," the letter ran, "I dare not come to see you for I fear I am being watched, but I have news that I must communicate to you. Thursday you are to be sealed at the Tabernacle to the Mormon King Strang, and at the same time I am to receive a wife of his choosing. At least, so the king chooses to think. I think otherwise. I promise you, Elinor, it shall never be, for if my plan fails I still have another in reserve, but God forbid that I should have to use it. Never mind now what that is, but from the day I learned of his hideous plan I ceased to be a Mormon in any way and God has opened my eyes to the truth. Now listen to my plan and follow it faithfully, destroying this letter after you have read it. At ten o'clock tonight meet me at the old house. Get out somehow without anyone knowing it and I will be waiting for you there. We will take my boat and make for Mackinac Island. I can get help once we get there. You have told me of the sister in the old home. I will take you to her. Do not fail me and God help us both. Robert."

Elinor read the letter again and again until every word was graven in her memory, then she destroyed it. She struggled to compose herself, for she knew she must not allow the family to see her agitation. She dropped on her knees beside the bed and invoked aid from the one source that had never failed her. When she arose she was calm but still pale.

Clara's observant eyes noted the paleness and after the morning work was done she tried to prevail on her to lie down, but Elinor only laughed, telling her she was not sick but said she guessed she would take a little walk.

"Do! the fresh air will do you good; you have staid in rather closely lately, but do not go far away."

Elinor promised, but, indeed, she had no idea of going far. She was going to say goodbye to her mother. She walked rapidly until she reached the spot and sat down beside it. Robert had built a fence around the place and painted it white—another one of his thoughtful acts—that nothing might disturb the place. She thought of this and a tender smile played about her lips. In spite of her sorrow and her fright her heart was singing a glad song. Robert had renounced Mormonism, and once away from this dreadful place she would be able to love and trust him as she had been longing to do for so long.

Yet tears filled her eyes as she bent over the grave of her mother. It was hard to leave that behind and never see it again. So intent was she that she did not hear footsteps nor see a man approach until she heard a deep sigh and looked up to see James Baldwin leaning against the fence that enclosed the place. She arose to her feet and faced him. "You here!" was what she said.

"Yes, I come often, but never when anyone else is here. Why should I not come. All my hopes of happiness in this world or the next are buried here," he answered, bitterly.

Elinor looked at him closely and was startled by the change in the man. His face was seamed and aged, and bitter lines were engraven in it. It was the

face of a man who had tasted the bitterness of death and found no relief, though he drained the cup to the dregs. In spite of what he had done, pity stirred her heart. After all, was the man to blame? It was his nature. She remembered how many times she had warned Myra of his weakness, but Myra had only laughed at her and fostered, rather than tried to strengthen, his will. Well, it was no matter now, but she answered slowly: "It is too bad you did not realize this before, James."

"I know. It does not matter about me now," he answered; "it is of you I wished to talk. I came on purpose today, hoping to find you here. I want you to escape." Elinor looked up, startled. Was it possible James knew of the attempt that was to be made? But no, his next words relieved her. "I do not want the ruin that has fallen on the rest to envelop you. You are too brave and true, and so I came to warn you. I cannot see any way myself, but I can at least put you on your guard. Today is Tuesday, and on Thursday the king intends to make you his wife."

"But if I will not consent."

"What will that matter? One of his own elders will perform the ceremony and he will pay no attention to anything you can say."

"But I will not go to the tabernacle."

"I could not find out all of his plans but I believe you are to be taken from your home tomorrow night in some way by strategy, so I thought I would warn you to look yourself in. My life will be the penalty if it is known I warned you, but it does not matter. It is nothing to me."

Tomorrow night! And tonight Robert was to make the attempt to save her. It was none too soon. She shuddered as though from a sudden chill. If he did not succeed, what then?

"I wish I could help you," said James, wistfully; "maybe when I meet her in the next world she would forgive me if I did."

"There will be no resentment in the world to come, James," Elinor answered quietly.

"Thank you and goodbye. I must not stay longer; it would not do for me to be seen with you."

"Goodbye, and God help you, James." The next minute he was gone.

Elinor stayed for a time longer, then she also made her way home. She retired early. "Do not call me in the morning," she said to Clara, and the other answered, "I will not; sleep as long as you wish. You do not look well."

Moved by a sudden impulse Elinor came back and said, "Whatever happens, Clara, I shall always remember how kind you have been to me." Then she went into her room and closed the door.

"Elinor is not well, I fear," Clara said to her husband. "She has appeared pale and not at all like herself today."

"It is fate. I shall probably lose her like the rest," he answered, gloomily.

Meanwhile Elinor had arrayed herself in a dark woollen dress and made a small bundle of other clothes to take with her. Then she went to a drawer and took from it a well-worn book and placed it with the rest. It was her mother's Bible. Then she sat down to wait until it was late enough to make the attempt.

Chapter XVIII.

The hours ticked themselves away very slowly to the waiting girl, but at length she heard the clock strike ten. It was the appointed time. Her heart beat so it seemed as though anyone near must hear it, but with a prayer for help she carefully climbed through the open window. She listened; it was very still and so dark that she wondered if she could find her way to the old house. She started bravely, stopping every now and then to listen. At length she reached the step and sank upon it almost fainting with excitement.

Then a wild idea surged through her brain. Supposing Robert would not be here to meet her! Supposing, after all, this was but a plan of King Strang's to get her in his power. At the thought she hardly repressed a shriek, but the next moment a voice said softly, "I am here, Elinor," and Robert was beside her.

She arose to her feet, unsteadily, and he felt her tremble as she pressed close to him. "Do not fear," he breathed; "just hold tight to me. We must not talk but do not be afraid. I will protect you with my life."

Then they took up their walk toward the place where Robert had left his boat. Not a word was spoken as, like two shadows, they glided through the night. Robert listened, every sense on

the alert. At last Elinor heard the rippling of the water as they neared the beach. Carefully Robert lifted her into the waiting boat and she sank down in the bottom while he shoved it off and took the oars. Still not a word passed their lips for, although it was so dark one could not see a foot from them, sound carries on the water. Elinor feared lest the dip of the oars be heard.

At last they were far enough so that they might converse in guarded tones. Then Robert turned his attention to reassuring the frightened girl.

"I do not think there is any danger of our being found now," he said, quietly. "Even were we missed they would not be able to follow us in the night and we will be beyond pursuit in the morning. Once at Mackinac I know people who will gladly conceal us until we can catch a steamer to Detroit. From there it will be an easy matter to take you to your sister." Thus he talked until she became encouraged; then he tried to get her to lie down and sleep, but this she declared would be impossible. So the night wore away.

Robert was right in his belief that there would be many willing to help them at Mackinac. They listened to the story with interest and one kindly woman at once offered Elinor a home until they could leave the island.

Elinor went gladly, leaving Robert to sell his boat and see what arrangements could be made for continuing their journey. She ate some breakfast that her kind friend prepared, then obeyed her and tried to rest. She did not expect to sleep but she did, and it was afternoon before she awoke.

"You had a good rest," said her new friend, "and you look refreshed." A little later Robert came.

"There will be a boat to Detroit in two days," he said, and we must wait for that. Meanwhile, Elinor, I wish you would give me the right to protect you no matter what comes. There is a chaplain at the fort. May I ask him to come down here?"

Elinor did not answer at first.

"I do not wish to urge you or trouble you, Elinor, and if you had rather wait until we get to your friends I will, of course, submit to your wishes, but I believe it would be best."

"It does not matter, it shall be as you say," she answered quietly, so that evening the chaplain at the fort married them in the presence of their new friends, and Elinor thought tearfully that hers was a strange wedding.

Two days later the steamer arrived. Friends ascertained that there was no one of the Mormon faith on board and engaged passage for Robert Stuart and his wife, but it was not until the island was left far behind that Elinor really felt safe. The journey was performed without incident worthy of mention, but who can picture the meeting when Robert placed his wife in the arms of the sister, and the latter heard, for the first time, what her family had endured on the island.

"Why did you not try and let us know?" she questioned when she could trust herself to talk, "if Sam had known—"

"Dear Rosetta, if Sam had known it is doubtful if he could have done anything but get himself into trouble. That is why I kept silent. I had seen too many try it."

"But there must be some way, some law that will reach and punish that wicked man."

"There is, sister, but it will be God's way and God's law I fear, and He must take His own time. Do not fear, he will reap what he has sown."

In the home of Amos Brandon things went on as usual the morning after Elinor's flight. True to her promise, Clara did not call Elinor. The morning work was done and still she was not disturbed. Then Clara took her little one and went outdoors that his noise might not awaken her. But when dinner time came and Elinor had not appeared she remembered her looks the day before and became alarmed. She opened the door to the room softly. There was no one there. The bed had not been slept in, but pinned to the pillow she found a note. She opened it hastily and read:

"Dear Clara, goodbye. I have found, no matter how, that tomorrow I was to be married to the king and I have gone away. Do not worry. I shall be safe when this comes to you. I would have liked to have told you, but I did not want to implicate anyone in my flight. God bless you, and again, goodbye."

Silently Clara went and placed the note in her husband's hand. "Did you know the king's intentions?" she asked.

"No, before heaven, I did not. I am glad she has gone, but I wonder how and where."

They soon learned, for during the afternoon the king came in haste to the house. "I want to see your daughter Elinor," he ordered.

"I do not know where she is," was the answer.

"Not know where she is! Where should she be but in her father's house. Better be careful, Brandon."

"I have told you the truth. She went to her room as usual last night and this morning she was gone. She left a note saying she was going away."

"Let me see it."

It was shown him. "It is as I thought," he fumed; "the rascals I set to watch that Stuart have not done their duty; they have let him get away, that is plain, and he has taken her with him. A nice state of things. Oh, but they shall suffer for it."

"How is that?" asked Mr. Brandon. "Why was Stuart watched and what has he to do with this?"

The king explained. Whatever Amos Brandon thought, he said nothing, but it was evident that for once Strang had overreached himself. He was, however, convinced that Mr. Brandon knew nothing of the matter, but the same day two men were tied and whipped with blue beaches for disobeying the orders of the king, and he had made two more enemies.

Chapter XIX.

It is a truth that justice may not be forever delayed, and it is also true that a tyrant will usually press the bonds too closely, and this is what King Strang did. He had been successful in eluding the laws when he was first arrested and he thought he might continue to break every law of the United States with impunity.

But the people were getting more and more wrought up, and added to the indignation of the fishermen and merchants that their rights were in no way respected, was the discontent of many of his own people. Some of them, to be sure, still trusted him blindly and believed all that he said, but others were coming to the island every year and they refused to obey some of his absurd commands. The women would not cut their hair short or wear the costume he had devised for them, and they were fighting his polygamous law. Slowly but surely he saw his hold upon the people diminishing. He might have taken warning and mended his ways, but he did not. He was too thoroughly an autocrat for that.

At length a strong appeal was made to the government, asking protection from Strang and the lawless gang that he had educated and kept around him. This gang was a sort of secret society under command of the king and pledged to carry out his orders no matter what they might be. Of the inside workings nothing much has ever been learned, for even after they were disbanded the members did not care to incriminate themselves, but certain it was that some of them were ever afterwards victims of remorse.

The government awoke at last to what was going on and sent the steamer Michigan to investigate the matter. Strang met this boat at Mackinac and tried to prevent its coming to the island but was not successful. The captain soon sent for Strang. When he received the summons he started for the boat but he was not to reach it. The days of King Strang were numbered. As he neared the landing several shots were fired and he fell. The two men who had fired upon him he recognized—one was Thomas Bedford who had sworn to have revenge for his being whipped in public, the other was Wentworth. They went on board the steamer, gave themselves up and were taken to Mackinac Island, but neither of them was ever tried for the crime.

From the first, Strang knew that he could not live and, after giving directions to some of the elders in regard to running the kingdom, he asked to be taken to his wife. On being asked what he meant he said he wanted to be taken to his true wife. He wanted her forgiveness. There were no marks of tenderness now toward the other women he had called by that name—his thoughts were all for the one who had been noble and true, the wife of his early manhood. "Oh, if I had only listened to her," was his constant cry.

His wish was granted and he died in her home eleven days after the fatal shot was fired.

But who can picture the sorrow and terror of his dependent people? He had taught them that his life was charmed, that he could not be harmed, and now it had been proved untrue and they no

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longer knew what to do. The Gentiles, meanwhile, were not idle. They did not intend to be longer cheated out of what they thought were their rights and, although what they did might not be called exactly right, it was no more than was to be expected. They invaded the island, burned the tabernacle and sacked the printing office. The Mormons were driven from the island. Those people who had been obliged to leave their homes before on account of the Mormons now returned and helped to drive the latter away, but they were allowed to take their goods and dispose of their property, although many of them were so frightened that they did not dare do either. They expected no more mercy than they had shown. They fled, leaving even their household goods in their homes.

But there were some who refused to go, who declared they had had enough of Mormonism, and these, after some parleying, were allowed to remain. Of this number was Amos Brandon and James Baldwin. They had seen their happiness blasted and their lives made desolate, and neither of them mourned the death of Strang.

Mr. Brandon set to work feverishly to amend his fortunes and to collect the money that had belonged to his wife that it might be given to her children, as it was willed, and in this his young wife tried to help him. "It is rightfully theirs," she said, "and there will be enough for us."

Amos Brandon realized that his life lay in the past but he could not help feeling a certain affection for the sweet girl who was his wife, and he adored his son. He was doing the best he could for them, but there were days when he wandered restlessly, pursued by memories of the past that almost crazed him. Yet the years, with their gentle touch, brought a certain amount of peace, if not exactly happiness. "More than I deserve," he would often mutter as he watched Clara about her work or taught his infant son to walk.

Meanwhile, in her far-off sheltered home Elinor Stuart heard of Strang's tragic death.

"Ah, I thought it would be so," she said to her husband; "the prophecy came true, then."

"What prophecy?" asked her husband.

"Why, surely you remember, Robert, the day the women met to try and dissuade him from ordering plural marriages, and when he laughed at them how the spirited leader saw a vision and sank unconscious. You know she told him he would be honored with an office of trust and then his end would come with a bullet and that it would come speedily. I wonder if she is alive and knows? I have always wondered what her fate was. You know she and her husband disappeared very mysteriously and, Robert, I mistrust some of the mysterious things that happened on the island."

"So do I, Elinor, but thank God He led us away from there in safety."

"Yes, we have much to be thankful for, but I can never forget what that man has made me suffer."

Robert soothed her as he always did when any mention was made of that terrible time.

It was years before Elinor could bring herself to visit the island and she had a daughter nearly as tall as herself. The longing to visit her mother's grave at last conquered her repugnance and together she and Robert made the pilgrimage.

In many ways the island was greatly changed, but some of the old landmarks remained. The king's palace was gone but some of the other houses were still there. Mr. Brandon was older but not greatly changed after all, and Elinor came to love the stalwart boy she had played with as a baby. He was more like his mother than his father and for some reason Elinor was glad. Clara was the same Clara, only older, and there was a sad look in her face when in repose as though in some way she had missed the best of life.

But when Elinor visited her mother's grave she knew she had much to thank Clara for, for it had been kept as fresh and well as Elinor herself would have kept it, and fresh flowers were blooming there.

Beaver Island is a beautiful spot today, and visitors there can hardly realize that it was the scene of such tragedy or that it was once ruled by a king.

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(THE END).

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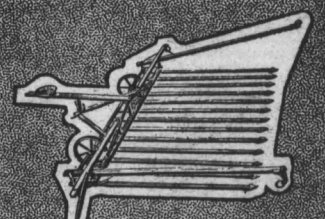
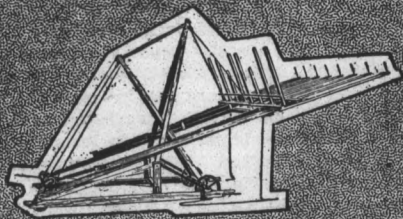
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