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FARM NOTES.

Care of the Cultivated Crops.

With corn planting out of the way, and the other spring crops in, or preparations for them well under way, the question of the proper care of the crops is one which interests every farmer. It is a regrettable fact that in many cases the preparation of the soil for the corn and other spring crops is slighted in order that they may be gotten in on time, and where this has been the case the question of their proper care is a more serious problem than is the case where the preparatory work has been well done. But, as with most of the other work on the farm no set rule can be laid down for the cultivation of the corn or other crops. Much depends upon weather conditions, and one must be guided to some extent by the amount of work which is pressing for attention and the available supply of labor with which to accomplish it. However, it is always poor economy to plan more work than can be reasonably well done with the available supply of labor, and if this has been done it is important that the available help be adjusted to the conditions which prevail rather than to allow the crops to suffer for timely attention. But, aside from these contingencies, we may, in a general way, consider the needs of the cultivated crops and the best method of caring for them under normal conditions.

In the first place, all will agree that the cultivation should be of a nature, and done at a time, which will prevent the serious encroachments of weeds upon the growing crop. In many seasons this will keep the farmer busy and in many cases it will include all the care that it will be profitable to give the cultivated crops. But this will only be true in seasons when there is a normal rainfall so well distributed as to leave little danger that the growing crops will suffer from drought at any season of their growth. The action of the soil water is no longer a theory; it is well understood. No sooner does the soil become well soaked with water from the rains that fall, than it begins to evaporate from the surface. As the water evaporates from the surface of the soil, the supply is replenished from the water stored in the lower strata of soil by capillary attraction, the moisture coming to the surface in the same manner that the oil from a lamp is fed to the flame through the wick. But by breaking up the soil particles at the surface and forming a mulch of loose earth this process of evaporation from the surface is greatly retarded, thus greatly lengthening the time during which the water stored in the soil in the form of a thin film about the soil particles will serve the needs of the growing crops. This action of the soil water and the earth mulch is very nicely illustrated by covering a piece of loaf sugar with a moderately thick layer of powdered sugar, touching the bottom of the lump of loaf sugar to the surface of a cup of coffee. Upon its contact with

the coffee the lump of loaf sugar will be almost immediately saturated with the fluid, while the coffee will penetrate the loose powdered sugar at the surface slowly. In this manner any farmer can demonstrate for himself the value of the earth mulch as a means of conserving soil moisture for the benefit of growing crops while sitting at his breakfast table, and the chances are that it will make him more appreciative of the importance of thus conserving the soil moisture in the fields where cultivated crops are growing on his farm, against the danger of a possible drought.

Of course, if we could know in advance when a drought was coming this problem would be greatly simplified, but as that is impossible the only logical course to pursue is to be as well prepared for such an event as possible at all times. This makes it important that the work of conserving the soil moisture should be commenced as soon as possible after the crops are planted. The soil needs stirring frequently anyhow, at this season to prevent the encroachment of weeds, and it is good policy to do the stirring

later in the season than many farmers appreciate. This fact is well illustrated by the methods followed by the dry farming specialists in the west, who use the harrow on the small grain crops as well as cultivated crops as a means of conserving moisture until the crops attain a very considerable growth. Thus, if a heavy shower occurs just after the corn has been cultivated, the field can profitably be gone over with the weeder to preserve the earth mulch on the surface after the corn gets quite large. The corn will be little injured by the weeder, and the benefits will more than offset any fancied injury. The potatoes can be similarly treated with the harrow without injury when they are of considerable size, and needed moisture thus conserved for the future use of the crop.

Just how deeply the corn and other spring crops should be cultivated and just how long the cultivation should be continued is a matter upon which farmers differ widely in opinion. But it is a safe practice to follow, to cultivate deeply at first, if at all, as is sometimes necessary where the ground has not been well fit-

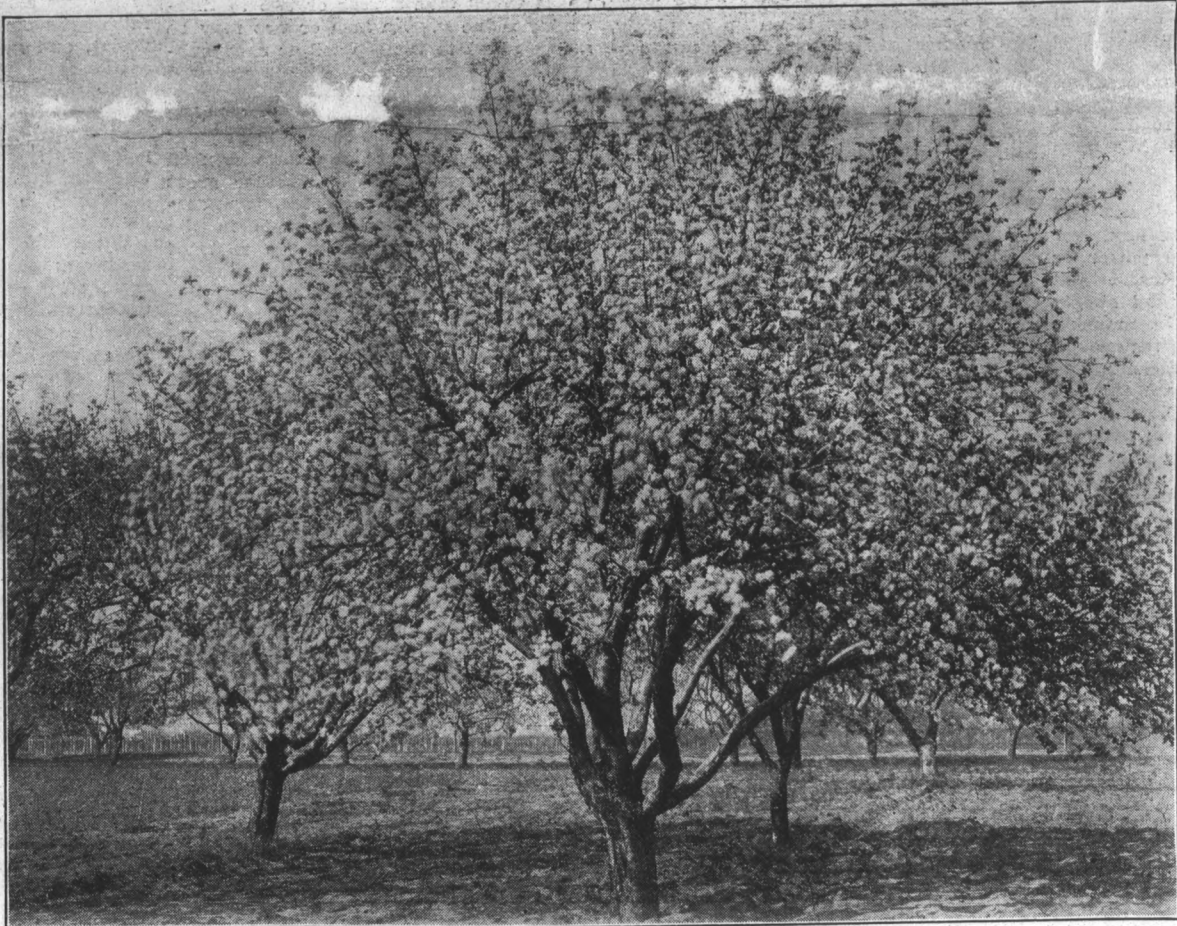
good results may be attained with a minimum expenditure of time and labor.

FARM POWER AND TRANSPORTATION.

The question of farm power and farm transportation is one of the most important questions connected with farming and with farm management. As a matter of fact, it is one of the questions that bothers the farm manager as much as any other question that comes up in his business. Every country or section passes through various stages in the use of farm power. The pioneer, for instance, invariably uses oxen for farm power because oxen will work in yoke without a whippetree and can be relied upon to work among stumps, stones, and under various adverse conditions better than horses. There are no whippetrees to bother. Then again, with the pioneer the question of feeding is an important one and people usually haven't an abundance of the proper kind of a ration for horses. Oxen will largely take care of themselves.

But as the stumps are cleaned from the land and it is in better shape for the growing of crops, the horse always has gradually taken the place of the ox as the motive power on the farm, and the horse is today the great source of farm power. I am inclined to believe that the horse always will be the great source of farm power. It may be that the gasoline engine and the electric motor will in time be so modified, adjusted and perfected, that they can be used as a source of farm power, but I doubt this form of power ever being very practical on the average farm. I have hopes that I will live long enough to see a practical motor plow, one either driven by gasoline or by electricity, one that a man can operate and run the power himself. Of course, in Michigan it never will be practical to use the great gasoline engines that haul the gang plows in the great northwest. That will be entirely out of the question. Our land is too uneven. Our farms and fields are too small. It would certainly be amusing to see one of those big engines with its gang plows try to get up some of our side hills. It would be practically impossible. But it does seem to me that somebody can invent a power plow so that a man can operate it as he would an auto wagon or an auto truck. Get power enough so that it would not be too large and cumbersome and yet have sufficient power to plow. But I am a little skeptical, even, as to this. The great trouble here is going to be the variety of soil in the same field and the unevenness in the soil. Much of our land in Michigan is hilly. Gasoline plows or electric plows I don't believe ever will be successful on such kind of land. As for general farm tillage, I doubt if we will ever have any kind of motor power except horses that will properly handle cultivators, harrows, mowing machines, and that sort of farm tools.

Now, one great reason why the horse



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at just as nearly the right time as possible after each rain. This stirring of the soil, particularly after every shower, can profitably commence right after planting, by the use of the weeder or spike-tooth harrow. These implements are especially valuable in the conservation of moisture at this time, as well as of great aid in the killing of weeds that are just starting, since they are wide and enable the operator to get over the ground rapidly. Whether the weeder or the harrow will accomplish this end to the best advantage will depend upon the condition of the soil. If there has been a hard rain to form a heavy crust on the surface the harrow will do the better job, while the weeder will do excellent work after the lighter showers. The use of these implements can often be profitably continued

ted or where the weeds have been allowed to get a good start. Later cultivations should be comparatively shallow to avoid deleterious root pruning, and where it is thought advisable to continue the cultivation very late for the purpose of conserving soil moisture especial care should be exercised in this regard, else the cultivation may do more harm than good. Also, the cultivation of the corn should be fairly continuous if it is to be continued late in the season. It is a mistake to allow it to go without cultivation for several weeks during haying and harvest, and then commence again when that work is out of the way. This question of the cultivation of the corn and other spring crops is one which every farmer should give especial thought and study, to the end that a maximum of

will always be used is because the horse has so much reserve power. For a moment or two a horse, like a man, can exert a force or power that is far beyond normal, and this power to exert its force at the proper time will get a man out of a bad hole or pull his machine through a soft spot while the gasoline motor power or electric motor power would sink into the soft ground and you would have to have another machine fastened on hard ground in order to get it out.

Of course, for doing certain kinds of farm work, where the gasoline engines can be stationary, they do better and more effective work than the horse, for running a feed grinder, or a cream separator, a milking machine, and many other things where uniform speed is required, of course, the horse cannot very well take the place of a gasoline engine.

In farm work where greater power is required, like threshing or filling silos, here even the steam power, at this day and age of the world is considered more practical than gasoline because it is more reliable and possibly because the people have had greater experience in the manufacture of steam engines than they have in gasoline and they are more perfect, but for some reason or other you see very few threshing outfits that are run by gasoline engines. They all use the steam engine. The steam engine, however, for the lighter work and permanent work on the farm, is not as good as the gasoline engine, even with the bother of the gasoline engine, because it takes too long to get up power and because there is too much waste about it. It takes considerable fuel to get up a sufficient amount of steam pressure to do the work, then the work only continues for a short time, and there is a lot of heat wasted in cooling off. So, for short jobs the steam engine is not practical on the farm.

Farm Transportation.

In transporting the farm products from the farm to the market the auto truck, the auto wagon, and the automobile, are more practical, it seems to me, than this sort of power would be in doing the farm work, and yet, here, I am of the opinion that it will be a long time, and perhaps never, when gasoline or electricity will take the place of the horse, even in the transportation of farm products to market. To make the use of gasoline and electricity as transportation power practical, we must have better roads. We have got to have hard roads. We have got to have roads that are hard every day of the year, and it will be a long while before we get this. You can't pull a load of wheat or a load of hay over real soft roads with gasoline power or with electric power. You can't get through a bad place in the road simply because you never will have a machine built that will have reserve power enough to do this. The horse has sufficient power so that he can pull the load through the bad place, and then by allowing him to rest he is capable of going on with the load. But the gasoline vehicle must have hard ground or the power amounts to nothing and until we get better roads the auto wagon truck cannot and will not take the place of the good old reliable horse.

COLON C. LILLIE.

GROWING OF ALFALFA IN NORTH-EASTERN WISCONSIN.

Seeing Mr. Lillie's letter in a recent issue of the Michigan Farmer, and his remarks about using barnyard manure on alfalfa ground, reminds me of my experience in trying to get a stand, as it was no trouble to get a catch. I tried two seasons to get a stand with oats for a nurse crop, the seed came up but turned yellow and slowly died, except where there had been an old manure heap about 25 feet square; here it grew and thrived. This led me to believe manure was what was needed. I had also sown inoculated soil on a quarter of an acre but that did not help as I could see. In the fall of 1909, after digging potatoes on a sandy loam which had been cleared two seasons and had two crops of potatoes on it, I drew out a lot of well rotted manure and top-dressed one acre, and let this lay until time to plow for corn in the following spring. I then plowed this about four inches deep and fitted the ground the same as I did the corn ground and up to the 28th day of June I cultivated this each time, as I did the corn. On June 28th I put the spring tooth harrow on it and gave it a good harrowing and sowed the alfalfa seed without a nurse crop and rolled it in. Although the season was dry, it came up nicely and on Sept. 20th was 20 inches and over in

height. On October 5th it was mostly in bloom and partially lodged down. I then took my mower, tilted the cutter bar as high as I could and went over the piece, cured the hay and took off two nice loads. This came through the winter in fine shape, and I have again top-dressed this piece in the poorest places and it is 50 per cent better than the clover sown right beside it on the same kind of ground in same field where I had millet. This leads me to believe that if your land has the fertility in it, and put there by good barnyard manure anyone can raise alfalfa in northern Michigan or in northern Wisconsin. Have seen fine alfalfa growing on clay soil also, in Ashland county, near Lake Superior. Have also seen it growing on the Soo railroad right of way, wild.

Ashland Co., Wis. W. H. BEACH.

MANURES, THEIR APPLICATION AND RELATION TO SOIL FERTILITY.

In the west, where the soil is still virgin, the waste of barnyard manure is prodigious. But the time will come, as it has with us, when the conservation of this most valuable fertilizer will be as apparent as its loss is now flagrant. The economical use of fertilizers is of prime importance, because, if there is not a profit over and above expenditure and if the soil is not gradually improved, there will be an ultimate loss, and may result in an increase in the proverbial "abandoned farms."

Every tiller of the soil should see to it that every particle of home products is utilized to the best advantage and the residue returned to the soil.

The judicious use of commercial fertilizer, other conditions being favorable, is advisable. But it is only with good farming that the buying, and applying of this class of fertilizers will show a profit. So long as farmers continue to waste the available fertilizing products of their barnyards and by continuous cropping, remove every particle of fiber from their fields, thus robbing the soil of humus, the use of commercial fertilizers will not compensate the loss. We must apply plant food to replace that taken up by plants, but commercial fertilizers entail considerable cash outlay, and unless used with good judgment will show a loss instead of gain. The condition essential to the availability of all fertilizers is a friable soil. It is not possible to secure or retain ideal conditions independent of humus, and unless we secure this by returning green cover crops, or barnyard manure, we will obtain a sodden, lifeless, and infertile soil. There is no question but that there is abundant plant food in the soil, but it is not available except by improving the soil texture. This can only be done by adding fiber which, when decomposed, makes humus. Any soil well filled with humus, if properly plowed and tilled, will respond to the hopes of the tiller a hundredfold. Such soil, in addition to its friable condition, enabling the roots of plants to ramify it in search of food, will hold moisture. Plants can only secure their food when in the form of solution, and this can be obtained only by decomposition. Many agricultural writers recommend that barnyard manure be hauled direct from the stable to the field, arguing that there is less waste by this than by the practice of letting it accumulate in piles in the barnyard where it not only leaches under snow and rain, but is liable to lose by burning. While this argument contains a broad statement of facts it is not fully conclusive. Any rough refuse, such as barnyard manure or, in a less objectionable degree, green crops, when plowed under will form a blanket between the top and lower soils, which will interfere with capillary action and in a dry season will not be utilized by the plants because, not being decomposed it is not possible for them to secure the food it contains. An her objection to hauling manure directly to the field as made, is that in winter when the ground is frozen, unless quite level, more or less of it will be wasted by washing, if not entirely off the farm, into the draws where it is less needed.

The preparation for conserving barnyard manure entails some expense and labor but all such expenditures will return a margin of profit commensurate with the outlay. Where it is possible to have a water supply available, it will be profitable to have a basin scooped out, and if possible, under cover, into which all manures should be thrown. Where the nature of the soil is porous the excavation should be puddled with clay to prevent leaching. Water should be added

occasionally to prevent burning and the manure turned every few days which, in a few weeks will be so decomposed as to be thrown out and a new heap started. In the spring this should be used as a top-dressing for meadows, or on cultivated fields. The rains will dissolve the now soluble plant food, washing it down in reach of the roots, the residue acting as a mulch to be finally added to the soil as humus.

Now, as to cover crops, the clovers are of first consideration on account of their ability to secure nitrogen from the air, but as it is not possible to secure these as quickly as is often desirable for a winter cover, other crops are substituted. On account of its hardness and the lateness at which it may be sown, following a summer crop, rye is often sown. It starts quite early in the spring and if plowed under when not more than half grown, it will, in addition to its conserving the nitrogen in the surface soil, give quite a layer of fiber which, because of its succulence will soon decay, thus improving the physical condition of the soil. One objection to plowing under green crops is, that they tend to increase soil acidity; to counteract this, lime should occasionally be added at the rate of one ton per acre, applied after plowing and cultivated in. Another objection, as has been said of rough barnyard manure, is, it forms a blanket somewhat interfering with capillary action. A good plan is to go over it with the roller, completely packing it down, and then cross it with a disc harrow which will cut it up and the plow, together with subsequent cultivation will mix it with the soil and the blanket will thus be obviated. The availability of fertilizers depends upon the way plowing is done and the after cultivation. It is not all soils that will admit of deep plowing on account of the open texture of the subsoil, which sometimes requires packing to prevent leaching. But on most, and especially heavy soils, with clay subsoil, plowing should be deep. This, however, should be gradual as, where several inches of tenacious clay subsoil is brought up, it would take a year or two to thoroughly refine it. An inch or two may be safely added to the top soil at each subsequent plowing until the depth required is obtained. It should be remembered that the greater the depth the soil is cultivated the greater the liberation of plant food. Plants can not penetrate or feed in a cold, compact soil. Another great advantage too often neglected, is underdraining. Where water stands in the soil at a depth to which the roots of plants penetrate, good results can not be obtained. Underdraining not only liberates the soil from excessive moisture, but increases its porosity, enabling the air to penetrate it, so essential to the well being of plants. The object of cultivation is to maintain a refined condition of the soil which admits the air and retains moisture as well as to free the plant food, thus rendering it available to the needs of plants. To do this to the best advantage it has been learned that the more numerous and finer the cultivator teeth, the better is the disintegration. Cultivators are now fitted with teeth that can be set at any angle and pulverize much better than the shovels heretofore in use, that merely turned the soil. Cultivation may, and should, be deep in the incipient growth of plants, thus preparing the soil for their future growth. But as soon as the roots reach out across the rows the cultivator should be set to run not much more than two inches and a fine surface mulch maintained. I have somewhat particularized, as success does not depend upon any one thing, but in combining all of the essentials necessary to approach nature's demands.

New York.

B. F. MACK.

HANDLING ALSIKE CLOVER FOR SEED.

As I have been a subscriber to your paper for some time and have not seen an article on growing alsike clover, I thought I would write to ask if you would publish through the columns of your valuable paper, an article describing the best way to handle alsike clover for seed, so as to make as good hay as possible. Also, how can I tell what time to cut it to save so much seed from shelling?

Ingham Co.

S. B. H.

The first crop of alsike clover is the one to save for seed. Now it is impossible to get a good crop of fine seed and have the hay worth very much. It is really straw. Of course, it is worth something for feed and it isn't necessary to leave this crop until it gets dead ripe be-

fore you harvest it any more than it is to leave a crop of wheat or oats or any other. Therefore, the only thing to do is to cut it just as early as you possibly can and not have the seed shrink. No seed will shrink much after it is in the dough but you must not cut it while the seed is in the milk. You can tell by making a careful examination. Take a head of the clover, select out the seeds and press them between the thumb and finger. If they are quite soft and milky it will not do yet to cut it for seed, but if they are past the milk stage and in the dough, still soft, then you can cut it for seed and there will be practically none of it that will shrink. By raking it up before it gets too dry, curing it as you would hay, you can still have the straw worth something for seed, although the crop ought to be cut before the seed gets in the milk, to get its highest nutritive value as hay.

COLON C. LILLIE.

DO FERTILIZERS RUIN LAND?

I would like some advice in regard to the use of commercial fertilizers. I have heard that when one commences to use them once he has to continue and that in time they will ruin his farm. I am aware of the fact that they produce much larger yields, which extends an alluring invitation to continue their use, even to the detriment of the land. I have heard it said that valuable lands in Ohio have been ruined by their continued use. Now will some person that has had the experience, or seen it tried out, please express his conscientious opinion? I am aware that perhaps this request will come before manufacturers' eyes but I would not consider them a reliable source of information. Your paper is great, could not get along without it.

Ionia Co.


W. F. C.

I have used fertilizers now on my own farm for about 25 years and I don't believe that commercial fertilizers will ruin land. A number of years ago I bought a run-down farm and began to use commercial fertilizers with a rotation of crops containing clover in the rotation, with the idea of improving the land and growing profitable crops at the same time, and I succeeded. By the use of commercial fertilizers I had no trouble in getting a catch of clover and I could raise good crops of clover, good crops of wheat, and good fair crops of corn, and at the same time I built up the fertility of the land so that when I sold this farm I could raise better crops without any fertilizer whatever than I did in the first place with commercial fertilizer. Now, this is a fact that is well known by everybody who knows anything about this piece of land.

Where one, by the use of commercial fertilizers grows larger crops and sells them off from the farm he certainly is taking more plant food out of the soil than he does when he raised poor crops. But when he supplies plant food in the form of commercial fertilizer for the crop over and above the natural yield of the land, he is not exhausting the soil. If you use, say, 100 pounds of commercial fertilizer to the acre on wheat and this gives the young plant a good start and you produce a big crop, it is very evident that you don't supply very much plant food, but you give the plant a start so that it gets more of the plant food in the soil, and when you remove the crop you remove more plant food than you would if you grew a small crop. You can do this for a short time and then you have to supply more fertilizer. But you can always depend upon what is known as the natural yield of the land. The plant has the power of taking a certain amount of the plant food out of the soil every year. This becomes available in a natural way and you can't exhaust this. For instance, Lawes and Gilbert, in their extensive experiments in England, grew wheat on the same field without manure for 40 years, and the average yield for the entire time was 13 bushels of wheat per acre. Now, that can be said to be the natural yield of the land. They can keep on growing about this amount of wheat indefinitely, but 13 bushels of wheat to the acre is not profitable. We can't live on that sort of a yield and pay expenses. We must have more, and the only way to get more is to supply plant food in some way or other. If you have got stable manure, use it, but if you have not got stable manure then you ought to supply it in the form of commercial fertilizer. The commercial fertilizers will not ruin the land. We could have a rotation of crops with clover or grass in the rotation to keep up the vegetable matter in the soil. That is the only good common sense, and when we do that there is no such thing as injuring the land by the use of commercial fertilizers.

COLON C. LILLIE.

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LIVE STOCK

THE MARE AND FOAL ON THE FARM.

When spring unfolds her robe of green and covers the laughing soil with tender and nutritious grasses and herbs, then should the new-born foals come to the farm. There is something in the softness of the air, in the lengthening of the days and in the very sounds and odors that seems to awaken the maternal solicitude of the mares toward their progeny. It is the natural time for all herbivorous animals to bring forth their young. Colts are a product of sunlight. They need fresh air and exercise to develop as they should. There is need of painstaking care when they are young.

Exercise is essential to the best growth of the foal. Roaming about the pastures and fields, the natural wear and tear of traveling keeps his feet down somewhere near the normal limit and by careful attention it is easy to keep them level and the toes of the right length. Watch the wibbly-wabbly, awkward youngsters playing on the green turf. How rapidly their muscles and sinews become taut and firm and their joints strong and supple. Outdoor exercise, fresh green grass and plenty of pure water are the substances that go to build up that vigor so characteristic of high-class horses.

Apart from the beneficial effects of outdoor exercise and green feed, the weaning time of the foal comes during the drying time of the year. Few mares give enough milk for their foals during the winter when they are feeding on dry roughage and grain food. True, this may be supplemented by the milk of the cow, but the feeding of cow's milk to young foals introduces problems that perplex the best of feeders. Summing up, we may range green grass, the exercise and sunshine and the added production of milk by the mare as the reasons for preferring spring foals.

Providing a man knows his business the brood mare is the most profitable farm worker. She will perform a good season's work and raise practically as good a colt as though supported in idleness during the whole of the year. When working brood mares one must avoid heavy loads, hard backing and slipping and crowding, and again, after foaling, she needs plenty of feed to make milk in her udders as well as repair waste in her body. Oats and wheat bran make an ideal grain ration. When her services are needed she should be worked easily, gently and moderately, but never allowed to become overheated.

What shall we do with the colt while its mother is at work on the farm? It is best to keep him in a box stall in the barn or in a shaded grove or orchard while the mare is at work. Wearily plodding after the mare across plowed ground in the heat of the sun tires the foal and is trying to the nerves of the driver.

If the mare must be worked before the foal is a month old, it is best to come in once in the middle of each half day to give the mare a pail of water and the colt a chance to get a lunch. After he is a month old and learns to eat oats and bran a little can be placed where he can help himself and he will pass the time eating and will never get hungry or miss his mother. We have the best success weaning our colts at four or five months old where the mare has to work regularly. By feeding skim-milk as a side dish with their oats and bran the colts never miss their mothers. They should have an opportunity, however, for exercise and it is best to have two or more run together. The colts will seldom eat more oats and bran than needed when they have the run of a pasture or are fed plenty of clover hay. It costs something to feed a colt as it should be fed, and this is a good reason for not throwing away feed on an inferior colt that barely pays for growing and returns no profit.

The first two years of the colt's life we are building the foundation—fixing the bony framework and the first six months gives a start toward development that is absolutely essential if the best results are to be attained. Give the mare and foal the best feed and care that you can during this period. In this way, weaning time will be passed so easily that neither mare nor foal will regard it as more than a trifling incident. A stunted colt is a stunted horse all his life. There may be exceptions to this rule, but they only serve to prove it. If we raise colts that are capable of reach-

ing heavy weights we must feed them liberally while young.

The time to begin training the colt is while his brain is soft and pliant. Then is the time which we should improve in building up habits of docility and usefulness. Teach the colt that you are his master and his best friend. It is easier to train the young plant before it is set in some definite form. It is the same with the colt for he has fewer ideas of his own and is ready to accept the directions of a superior intelligence. When the little foal is very young and ignorant catch it, putting one hand at its breast and the other behind it, and hold it gently, letting it see that you are stronger than it. Repeat this each day. When it is young, break it to the halter. This is the best time. Handle him gently. Feed him some dainty he likes when you go near him. Take time to fondle him and gain his affections. Teach him to stand over, have his feet raised, and to respect your commands. Then, when the time comes to be harnessed there will be no "breaking" needed. Early training has a great influence upon the foal's future value.

New York.

W. MILTON KELLY.

PREVENTION OF DISEASE AMONG OUR FARM ANIMALS.

So much literature is constantly being distributed treating of the cure of diseases among farm animals that the object of this article is to call attention to several conditions which will prevent diseases among the farm animals. It has been found by careful observation that the majority of diseases among farm animals are from improper care, and especially improper feeding and watering.

It is a well established fact that a horse may be given water after eating hay, but not immediately after a feed of oats. Our investigators have found that by watering a horse immediately after eating its grain, the gastric juice is greatly diluted. Also, if a horse has been eating hay and grain and then drinks its usual amount of water, there is not room in the stomach for the hay, grain and water; therefore a large amount of grain is washed out of the stomach into the intestines, and thus escapes the action of the gastric juice of the stomach. If the work of the stomach has been cut short by a full feed of water, then the intestines are overworked, resulting in a large amount of feed passing on undigested and the animal gets no good from it.

At this time of the year extreme care should be exercised in regard to giving too much grain to the work horse not accustomed to concentrated food all winter. Also, in the spring when horses are first put to work, they are usually in a good, thrifty condition, and the collar will fit properly. After a few weeks of hard work the animal will lose flesh and the collar is too large. The neck and shoulders get sore quickly and the horse is unable to work.

In this same connection, the farm machinery, giving too much weight on the necks, should be remedied in some way, otherwise a sore neck is the result.

Colorado Agl. Col.

C. L. BARNES.

OCTAGON SILO.

We are thinking of building a lath and plaster silo, using plans found in Michigan Farmer, and would like to ask you if an octagon shaped silo would not work? It would be easier to build as you would not have to cut the patent lath so many times. In plastering the corners could be rounded quite a lot so the silage would settle evenly. Also, how thick should the plaster be on the lath? The silo will be 10@24 feet.

Newaygo Co.

H. E. B.

An octagon silo is not as good as a round silo in any way you can figure it. You can't make an octagon silo and have it as strong as a circular silo. You can't build it as economically. It will not be as true and uniform on the inside and the ensilage will not settle as well as in an octagon silo as it will in a round silo. Therefore, what is the use of building an octagon silo. You can build a circular one easier, cheaper, and it is better.

The cement plaster on the lath on the inside of the silo does not have to be over thick. Just a good coat of mortar. Just about as you would plaster a house. Of course, it is impossible to get it just exactly the same thickness. Just a nice, even coat that will nicely spread over a lath, I should say it ought to be a half inch thick over the lath, is all that is necessary.

COLON C. LILLIE.



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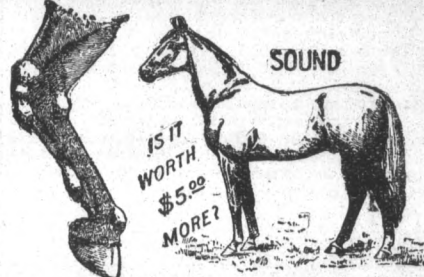
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VETERINARY

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.

Leucorrhea—Barrenness, Indigestion and Colic.—My 11-year-old mare seems to be healthy, but has a heavy white mucus discharge from vagina and fails to get with foal. I would also like to know what to give a horse to prevent indigestion and colic. H. F., Nashville, Mich.—Your mare will not get with foal until she is cured of chronic leucorrhea. One of the least expensive and most effectual remedies is made by dissolving 1 dr. of permanganate of potash in a gallon of clean water and washing out vagina daily, using a small rubber tube and funnel. Or dissolve 2 ozs. powdered alum in a gallon of water. There are other remedies which I use in my practice that are perhaps a little better, but they are much more expensive. Washing her out with a soda solution daily will often prove effectual; this is prepared by dissolving ¼ lb. bicarbonate soda in three quarts of water. See treatment for indigestion in this column.

Coffin Joint Lameness—Conjunctivitis.—I have a four-year-old horse that shows considerable lameness in right fore leg, especially when turning around and when standing still points toe in front of body. I also have a cow that is in good health, but has a watery discharge from both eyes. B. S., McBride, Mich.—Give your horse rest and blister coronet with cerate of cantharides three times a month until he recovers. Dissolve a teaspoonful of boric acid in a pint of water and apply freely to eyes two or three times a day.

Indigestion—Weak Back.—I have a horse that is inclined to bite boards, lick walls and eat mud. I have had his teeth filed and give him soda and charcoal. I also have some pigs two weeks old that show weakness in back. A. N., Perry, Mich.—Mix together equal parts ground gentian, powdered cinchona, powdered quassia, and powdered charcoal, and give horse two tablespoonfuls at a dose in feed two or three times a day. The sooner you feed him grass, instead of dry fodder, the quicker he will recover from his stomach trouble. Your pigs should be kept in a dry place, instead of a damp one and perhaps they live in a draft.

Sheep has split hoof.—I have a pet sheep that had one of her hoofs pulled off last year; we cared for it and she seemingly recovered. The hoof grew long and some time later it split and now it is opened up to flesh, making him tender. I would like to have some advice regarding the care of such a foot. B. C., Argyle, Mich.—Apply peroxide hydrogen to wound, soak foot in one part bichloride of mercury and 1,000 parts water, then cover sore with equal parts boric acid and iodoform, cover that with oakum, then wind with a bandage, that has been smeared with pine tar and the foot ought to get well. Before doing this remove as much of the loose horn as you can.

Calculi in Bladder.—I am sending you under separate cover a sample of a hard substance which was passed with urine from a five-year-old mare that was shipped here from the west about a year ago. She urinates quite often and her water is thick and muddy. I gave her buchu and juniper, but failed to see any improvement. At the sale barn where I bought her I noticed several of them passing the same sort of water. O. N. Y., Millington, Mich.—One of the best known remedies for an ailment of this kind is urotropin or urotone, which acts the same. This remedy is a compound formed by the action of ammonia on formaldehyde. Urotropin is decomposed in the kidneys with the liberation of formaldehyde and thus disinfects the urinary tract; therefore, it is an excellent urinary antiseptic and a solvent for uric acid calculi. Give your horse 3 dr. doses two or three times a day for a few days, then give it once or twice a day. If it fails to produce the desired effect increase the dose and continue giving it three times a day. In my practice and at my hospital this drug has given me excellent results in the treatment of such cases, but it is rather expensive.

Barrenness.—I bred five young sows at seven months of age, to a strong, healthy boar. Only one of the five sows got with pig and she had nine, seven dead and two that showed some life after birth, but died in a few minutes. This sow came in heat soon after farrowing. I bred her and believe she is safely with pig again. The other four sows have run with the boar all this time and never came in heat, so far as I know, but have thought they might be with pig for a while and then they would lose corpulence. These sows have always had free range and fairly well fed on corn and buttermilk. I hauled buttermilk in barrels which had been filled with boiled linseed oil, but do not think this could have caused them any trouble. G. D. S., Quinby, Mich.—The sow that farrowed dead pigs met with an injury. Your other sows may have ovarian trouble and will never breed. Give each one 4 grs. powdered cantharides at a dose in feed once or twice a day.

This DAIN Hay Loader and Side Delivery Rake

Will Save Your Dollars, Your Time and Your Hay

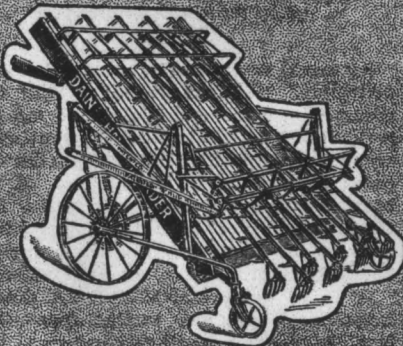
THIS is an age of specialization. The jack-of-all-trades is being outdistanced by the master-of-one. We have been specializing in hay tools for more than twenty-eight years. As a result Great Dain Line tools are superior, and most favorably known. More of them are sold than of any other kind of hay tools. In judging farm tools, you consider three things first of all: *efficiency, durability and simplicity.* These three features are cardinal points of the Great Dain Line. You'll find them prominent and effective in our Hay Loader and Side Delivery Rake.

Their efficiency is due to the application of correct mechanical principles by the inventor, Mr. Jos. Dain, and to painstaking construction. It gives you the assurance of successfully finishing any job that you undertake with the aid of these tools. Their durability is the result of highest grade materials in connection with construction features that eliminate unnecessary working strain. Their simplicity makes them easy to operate and dependable.

It takes courage to use costly materials in the face of cheap competition. Pretty paint can make an inferior machine look nice; but the high grade material, careful workmanship and quality features built into Dain machines keep them in the field in splendid working condition, long after the cheaply made machine has gone to the scrap heap. To build strong, substantial machines that will stand the wear and tear of hard use—season in and season out—is a religion with us. Be on the safe side, select a hay tool made by hay tool specialists. When you see the name Dain on a hay tool you take no chances—our reputation of twenty-eight years experience is back of that name.

The Great Dain Hay Loader

requires no one on the load but the driver. It pushes the hay well forward where it can be easily handled. No return carrier to drag the hay back to the ground. By dynamometer test, this loader has proven to be the highest draft loader on the market. The ground is practically raked twice by the Dain as it is geared so every revolution of the rake overlaps the one preceding. It's the simplest loader made—no long crooked crank shaft, no drum cylinder, no return carrier or ropes to rot, no twisted chains, no cams, or superfluous freak mechanism to get out of kilter and cause delay. Gently removes hay from swath or windrow. Takes the hay from the low places—passes gently over bumps and other obstructions and reaches into every hollow. These are a few of the reasons why there are more Dain Hay Loaders sold every year than any other kind.



The Great Dain Side Delivery Rake

No matter how heavy or how light the hay, this rake delivers it in fluffy loose windrows where every wisp is exposed to the air and quickly dried without sun scorching and bleaching. Air cured hay is sweetest, has best color, and brings the highest price. If your hay should be rained upon, simply turn it over with this rake—it's a rake and tedder in one. Three sets of slowly revolving rake teeth get all the hay and turn it into loose, continuous windrows so gently that scarcely a leaf is broken off. Cushion springs take up the jar when driving over rough ground. This rake used in connection with the Dain Loader, affords the quickest, best way of curing hay and getting it out of the field.

Special Features of the Hay Loader

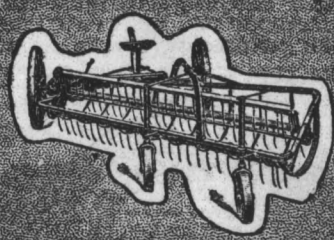
No long crooked crank shaft; is operated by swinging pitmans. Patented hinged board at bottom to turn up for windrow. Hinged tongue for coupling with any height wagon. Geared to insure greatest hay gathering efficiency. Height of rakes can be regulated. Hinged apron guides hay to load and prevents the wind blowing it off. Castor wheels insure lightest draft and make turning easy.

Learn more about this Dain Loader and Side Delivery Rake—also about the Dain Vertical Lift Mower—the seven styles of Stackers—the five styles of Sweep Rakes and Dain Presses. All Great Dain tools have features that unquestionably save hay growers time, labor and money. Consult the nearest Dain Dealer, also write us in what hay tools you are interested, and receive full description, together with a free copy of "All About Hay" the most interesting and practical book ever published about hay. Write today.

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Special Side Delivery Rake Features

Teeth move with gentle motion; harmless to tender products. Rakes cleanly without gathering trash. Steel construction throughout makes it practically indestructible. All jars absorbed by cushion springs. Easy regulation of bevel gears. Easily adjusted to handle light or heavy hay.



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Yorkshire, Poland-China, Duroc and Tamworth Weaned Pigs at \$3 each.

ALVAH BROWN'S PIG FARM,
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Herd, consisting of Trojan Erics, Blackbirds and Prides, only, is headed by Egerton W. a Trojan Eric, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910. He is assisted by Undulata Blackbird It.

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Guernsey Bull Calves For Sale—Write for prices, which are low. W. W. BURDICK, Wayland, Mich.

GUERNSEYS—Some choice young bulls for sale. Nicely marked. Tuberculin tested. Ballard Bros., R. 4, Niles, Mich.

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

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as you will find anywhere in Ohio or Michigan. I hope to sell 15 before Alfalfa haying time. You can have your choice of one or 15. A few good bulls and bull calves. L. E. CONNELL, Fayette, Ohio.

Holstein Friesian Cattle—BULL CALVES, Grandsons of Canary Mercedes. W. B. JONES, Oak Grove, Michigan.

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HOLSTEIN BULL CALVES For Sale—From Sire has 75% of the blood of the sire of Grace Payne 2nd's Homestead. E. COLLIER, Fowlerville, Mich.

HOLSTEIN BULLS FOR SALE.

Some young bulls from 2 months to 8 months old, some out of A. R. O. dams—and all dams milking at from 9,000 to 15,000 lbs. a year. Breeding of the best. Send for details and prices.

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Holstein Bulls—Cows with a 11.12 dam and 25-lb. g. dams and Hengerveld De Kol as g. sire. A prize for less than \$200. Also 3 more at bargain prices. LONG BEACH FARM, Augusta, Kalamazoo Co., Mich.

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FOR SALE—Holstein Bull 2 years old \$125. Bull Calves 6 months to 1 year \$50 to \$100. Bred heifers \$150 to \$200. Oldest herd in Ind. Send for Photos and Pedigrees. W. C. JACKSON, 715 Rex St. South Bend, Ind.

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

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

JERSEY BULLS—Reg. Ages from six months to maturity. Dams high producers. Prices right. W. E. SHEDDEN, Litchfield, Mich.

LILLIE FARMSTEAD JERSEYS.

HERD BULLS—Vidas Signal St. L. No. 58197. Jubilee's Foxhall, No. 82299. Bull calves sired by these great bulls, and out of splendid dairy cows, many of them in test for register of merit. Also a few heifers and heifer calves for sale. Write for description and prices. Satisfaction guaranteed, or money refunded.

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Register of Merit Jerseys. Official yearly record. A fine lot of young bulls from dams with official records of 483 pounds and upwards of butter.

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FOR SALE—Registered Shorthorn Cattle, both sexes not akin. JOHN SCHMIDT, R. No. 4, Reed City, Mich.

SHEEP.

Oxford-Down Sheep and Polled Durham cattle for sale. J. A. De GARMO, Muir, Mich.

Oxford Down Sheep—Good Yearling Field Rams and ewes of all ages for sale. L. R. WATERBURY, Highland, Michigan.

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Durocs & Victorias—Growthy Spring Boars & Gilts of choicest breeding from Prize Winners. M. T. STORV, R. 245, Lowell, Michigan.

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Berkshires—Ten gilts bred to the wonderful Duke Pontiac Chief, to farrow in April or May. No better breeding. C. S. Bartlett, Pontiac, Mich.

BERKSHIRES—Registered boar pigs, excellent individuals, breeding unsurpassed. Price \$15. C. C. COREY, New Haven, Mich.

BERKSHIRE Yearling sow bred for July farrow. Also two fall Gilts bred for March farrow. (Pigs 6th sex.) A. A. Pattullo, Deckerville, Mich.

FOR SALE—High quality fall Berkshire Gilts, to farrow in June. Bred to the excellent young boar, Premier Bacon 4th. Rougemont Farms, Detroit, Michigan.

DAMS BROS., Litchfield, Mich., breeders of Imp. Chester White and Tamworth swine, service boars, sows bred or open, of either breed. Shorthorn Cattle, Buff Rock, Buff Wyandotte, W. Orpington, Chks. all breeding stock leading winners

O. I. C. Swine—Bred gilts, males weighing from 150 to 250 lbs. Price and type right. Geo. P. Andrews, Dansville, Ingham Co., Mich.

O. I. C.—March pigs with quality and best pedigree. Order now and get first choice. C. J. THOMPSON, Rockford, Michigan.

O. I. C's For Sale—Best quality, large growthy type, either sex, pairs not akin, some fine bred gilts, choice lot of fall pigs all ages. OTTO B. SCHULZE, Nashville, Michigan.

CHESTER WHITES—Sold out but still in the business of raising Chesters and Holstein cattle. Both Phones. W. O. WILSON, Okemos, Mich.

O. I. C's. Bred sows all sold. 93 choice Mar. & April farrowed pigs either sex pairs not akin Reg. in buyers name. Fred Nickel, R. No. 1, Monroe, Mich.

O. I. C. March Pigs and Sows to farrow Aug. & Sept. H. W. CLARK, R. F. D. 4, Brighton, Michigan.

O. I. C's.—All ages, 25 young and 2 yearling sows, safe in pig. Price for a short time \$22 to \$30. H. H. JUMP, Munith, Michigan.

O. I. C. Choice Spring Pigs, either sex. Pairs not get first choice. All pigs shipped on approval and Reg. free. HARRY T. CRANDELL, CASS CITY, MICH.

O. I. C. SWINE—My herd is chiefly descent of the Royal strain both males and females. Get my price before you buy. Will register free of charge in purchaser's name. A. J. GORDEN, R. No. 2, Dorr, Michigan.

Duroc Jerseys For Sale—A few sows bred for summer farrowing and Spring pigs both sex. M. A. BRAY, Okemos, Michigan.

DUROC-JERSEYS—Bred Gilts and spring pigs for sale. OAREY U. EDMONDS, Hastings, Michigan.

For Sale—Registered Duroc-Jersey swine. Both sexes. Sows bred for July farrowing. BIRD FRANK, Moline, Mich.

DUROCS—25 Bred Sows, of high quality. 10 75 Fall Pigs both sex. Excellent Boars ready for service. Write or come and see. J. C. BARNEY, COLDWATER, MICHIGAN.

Butler's Famous Wonders—The biggest, big type Poland-Chinas. Best by every test, 20 fall boars ready for service, weighing up to 250 lbs. at \$20 & \$25 each, they have got to go. Also Jersey bull calves, richly bred. J. C. BUTLER, Portland, Mich. Bell Phone.

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POLAND-CHINAS—Bred for spring pigs. WOOD & SONS, Salline, Michigan.

I PAY THE EXPRESS on DUROC JERSEY Pigs. JOHN H. BANGHART, Lansing, Michigan.

POLAND-CHINAS—Spring pigs both sexes. A few choice fall boars. R. J. LANE, No. 7, Clare, Mich.

Three Extra Good Fall P. C. Boars

By Next In Line. 32 spring male pigs ready to ship. I ship C. O. D. and furnish pedigree promptly. If you want good as the best, write me for prices.

WM. WAFFLE, Coldwater, Michigan.

BIG TYPE POLAND CHINA BOARS, also fall and early spring pigs. B. P. Rock eggs \$1.00 per 15. ROBERT NEVE, Piersen, Michigan.

LARGE TYPE P. C. Largest in Mich. Sept. & Oct. pigs weigh 250 to 300 lbs. Sired by two largest boars and from largest sows in State. Come and see and be convinced. W. E. LIVINGSTON, Parma, Mich.

FOR SALE PURE YORKSHIRE PIGS. Both sexes. Price reasonable. MURRAY-WATERMAN CO., ANN ARBOR, MICH.

Lillie Farmstead Yorkshires—Holywell Oak Lodge blood predominates. Large Herd. Three service boars. Pairs and trios, not akin. Boars ready for service. A fine lot of spring pigs. Gilts bred for August farrow. The best hog on earth. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

LIVE STOCK NOTES.

In central Illinois farmers are not holding very large numbers of matured cattle, and the dearth of feeders is checking their purchase.

Lard dealers feel a good deal encouraged over the exceptionally heavy exports of this leading staple during the last few months. The larger movement is due to the decline that has taken place in prices.

"The herd law of South Dakota will probably curtail the output of beef for the next five years," says a cattle man, "as it means increased settlement and smaller cattle herds. However, in the long run the state will be benefited, as thousands of small herds will replace the hundreds of large droves inside of ten years."

A live stock journal remarks that those cattle feeders who think they should look to Canada to produce their feeding steers had better look around and make the attempt to grow at least one steer more to each 80 acres in the corn belt. It can be done by a little increase in intensive farming.

Recent investigations go to show that the largest supplies of heavy beef cattle now left in the country are held in Nebraska and South Dakota, although the supplies of distillery-fed cattle in Illinois, Indiana and Kentucky are on a fairly large scale. Most of the farmers in the middle west who are engaged in fattening cattle for the market have marketed the principal part of the heavy cattle, knowing that hot weather always greatly lessens their sale, summer demand centering on fat yearling steers and heifers.

Overloading hogs in cars these hot days is bad policy, as many dead ones are removed on their arrival at their destinations. Where owners accompany their hogs to market, after loading them carefully, better results are obtained, especially in cases where the hogs are watered frequently and sprinkled with water at intervals. It is impossible to be too careful at this season of the year, when hot weather does such bad work, and it is always best to avoid so far as possible, shipping when it is extremely hot.

Mexico is reported as short on cattle, and the revolution is checking the usual movement of cattle from the southern republic to Kansas and Montana pastures for grazing, although some large shipments were made earlier in the year to the southwestern ranches. Some time ago the large ranch owners in Mexico foresaw the present revolution and lost no time in disposing of their herds for whatever they would bring, and the result is a present cattle shortage.

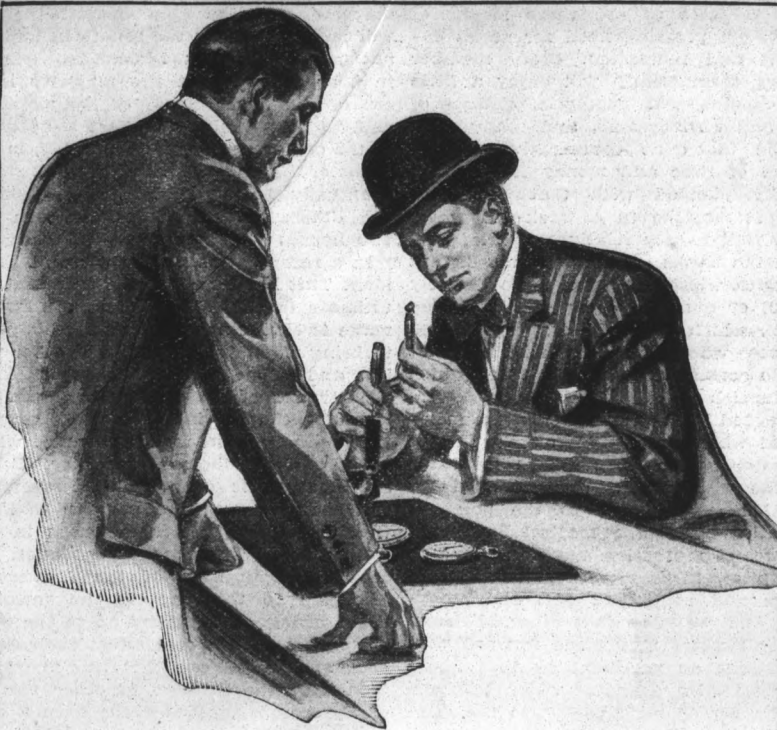
The Missouri experiment station has given out the results of an experiment lasting three years, which shows large profits from feeding hogs on forage crops. The average income per acre from clover forage was \$34.11, from the rape and oats \$23.63, from corn and cowpeas \$29.08 and from blue-grass \$17.71. The estimates are all made on the basis of 60 cents a bushel for the corn fed and six cents a pound for the pork produced.

Word comes from north central Missouri that the spring pig "crop" is the largest ever known, while a good many fall pigs are left. Matured hogs have been marketed at a lively rate this spring, and the greater part are now out of the way. Missouri farmers have a good many spring lambs for marketing, but they are expected to be shipped somewhat later than usual, the real movement showing up in earnest by the middle of June. Fewer cattle are in dry lots than at any time in the last ten years, and farmers are slow in putting stockers on their pastures.

The present inspection of hogs at the Chicago stock yards by government inspectors stationed there is very rigid. All badly pregnant sows, hogs with bunches, boils, etc., as well as hogs with cuts on the hams and shoulders, are thrown out. Dead hogs arriving at the stock yards bring a cent per pound when they weigh 100 lbs. Hogs under 100 lbs. are worthless. Dead cattle and sheep sell according to the value of the hides and pelts. "Bob," or "deacon" calves are condemned. Lumpy-jaw cattle and diseased meats are condemned.

The Texas ranges have shipped upward of 300,000 head of cattle this spring to the rich pastures owned by the Osage, Creek and Cherokee Indian nations in Oklahoma, and in addition to these cattle, 10,000 head of old-fashioned long-horn cattle have been brought in from the Mexican republic, paying the regular duty levied on such stock. The prime blue-stem grass that grows so luxuriantly in the Oklahoma pastures puts flesh on cattle rapidly, so that herds pastured the middle of April mature and are ready to be marketed by the middle of July. It costs only 25 cents to \$1 an acre to pasture these cattle.

Henry Towers, the large dealer in meats, of London, says that no less than 70 per cent of all the chilled and frozen beef imported from foreign countries for British consumption comes from Argentina and Uruguay. Live cattle are not imported from the South American countries for fear of cattle fever, while steers on the hoof are imported from the United States, though in constantly decreasing numbers, the importations being only 138,000 head last year, compared with 400,000 head in 1904. This indicates to Mr. Towers the swift approach of the day when every fat steer and every pound of frozen meat produced in the United States will be kept at home, while in the next generation he believes this country will be an importer of meats. Argentina, on the other hand, with a population of only five to the square mile and with extensive ranges, the natural breeding ground of cattle, he believes will supply other countries for an indefinite period.



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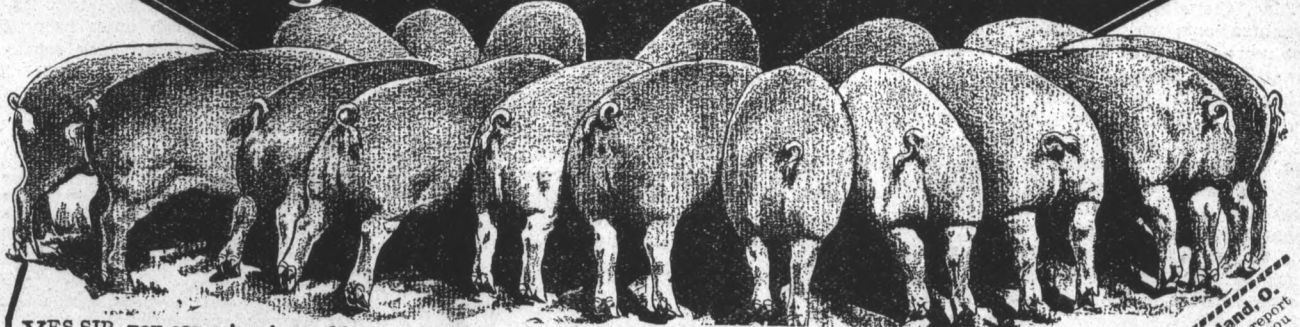
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DETROIT, JUNE 3, 1911.

CURRENT COMMENT.

That the topic selected for special discussion in the Summer. June through the columns of the Michigan Farmer will bring out some new ideas on this important subject is already assured. The first contribution to the discussion of this important topic will be found in the Farmers' Club department of this issue. In the article referred to a Kalamazoo county lady tells how the annual school meeting in her community was made to help fill the long felt want of "Social Needs and Recreation for the Summer" through the efforts of the ladies of the neighborhood. There is no question but that the example of the ladies in this community is worthy of emulation by those of many other Michigan communities. The annual school meeting is, in far too many cases, a living reproach to the public spirit of those citizens who should make the school a subject of solicitous thought and conscientious effort, and we hope that every Michigan Farmer reader will carefully scan the article above mentioned in which this novel, but highly beneficial plan of combining business and pleasure to the undoubted benefit of the community is described.

Also, there is no doubt that the social organizations, which we are glad to note are more numerous among the farm communities of Michigan than those of any other state in the Union, can be made to serve a valuable purpose in the way of furnishing recreation and supplying the social need in any farm community, just as the Farmers' Club is described as doing by the author of the article mentioned. The farmers of Michigan are to be congratulated upon having so many active Farmers' Clubs and Granges to serve them in this manner, but there is still room for very many more similar organizations in the state, and while the busy summer season may not be the most propitious time to effect their organization, it is a good time to get in touch with them and learn something of the benefits to be derived in a social way at least, from a membership in such an organization. Very many of these organizations have special picnic meetings during the summer season to which all are welcomed, and every farmer in the state who lives within reach of one of these purely social gatherings will find it

to be a day well spent to attend with his family.

But, valuable as are these means of satisfying a pressing need for social enjoyment and recreation, every member of every farm family will enjoy a little outing which will supply a change of scene and environment, and many such may be taken at comparatively small expense of time and money if they are carefully planned with that object in view. It may be in a week-end water trip, a visit to city relatives, a brief outing on the banks of some not too distant lake, with which Michigan is so liberally blessed, or even an occasional excursion by rail, which would be tiresome indeed to those whose business requires that they do considerable traveling, but which may furnish just the change and diversion needed by the farm family, the members of which have been closely tied at home during the busy season until the tiresome monotony of their daily tasks have become wearing to the point of enervation. In fact, it matters little what the form of recreation may be so long as it supplies, in a measure, the need of change and something of social enjoyment, and we hope that other Michigan Farmer readers may come forward with suggestions as pertinent as that above referred to, by means of which that end may be served with benefit to the community as well as the individuals who participate in the pleasures of the occasion, for that result is indeed a double benefit.

The Outlook for Wool Brightens.

With the publication of the report from Washington that the majority leaders in the lower house of congress have abandoned the idea of making free wool the basis of their attempt for the revision of schedule K, there has been an improvement in the tone of the market and the confidence of dealers which has been reflected in the more active buying of wool at interior points and a slight advance in the prices offered at some shipping stations. Of course, there is still a great uncertainty as to the future course of tariff legislation, but from present indications it would appear that the democratic program would provide for an ad valorem duty on wool ranging somewhere from 30 to 50 per cent, with a possible provision for a gradual decrease in the rate for a term of years. Of course, the adoption, or even the serious consideration of this program may be long delayed or even indefinitely postponed by the future trend of events political in the country, but when such a program is definitely agreed upon, an element of still greater uncertainty will be eliminated from the wool market, and the outlook for the immediate future will be considerably brightened.

It is the invariable tendency to anticipate the worst when a condition of uncertainty prevails regarding the future status of a staple product, and this has been the attitude of the wool trade during recent months. But the partial elimination of the prevailing uncertainty with regard to the future, has stimulated the activity of the market in wool trading centers, as well as in the country, and there were more liberal movements of wool at slightly stronger prices in Boston last week as compared with previous weeks, although that activity did not extend very largely to fleece wools from the bright wool states. Recent advices, however, are to the effect that 19 cents is being offered at some Michigan points for the best grades of Michigan wool, in comparison with a top quotation of 13 cents during recent weeks. While the extent of the improvement in the tone of the market will doubtless depend largely upon the amount of wool which moves from growers' hands, it is hardly probable that the trade will become overly optimistic under present conditions, and the future of the market is likely to remain an uncertain factor for some time to come.

Hope for the Defeat of Reciprocity Strengthens.

As the hearings before the Senate Finance Committee progressed, and as the desirability of amending the house bill in important particulars is suggested by senators who were supposed to be favorable to the administration program as outlined in the agreement, the hope of those who are opposed to the agreement as unjust to the agricultural interests of the country has been strengthened. Also the friends of the measure are weakening in their confidence that it will be passed by the

senate in its present form. Even President Taft has expressed fears for the outcome, and the opinion that the bill will be amended by the senate in important particulars has become so general in Washington, that the majority leaders of the lower house of congress are said to be planning to effect a deadlock in the conference committee which, in the event of the amendment of the bill, would eventually be appointed to compromise the differences of opinion between the two houses of congress.

In a recently published statement President Taft has expressed the fear that the ultimate defeat of the measure would make it exceedingly difficult for his party to bring about the reduction of other tariffs, and intimates that the opposition of the farmers of the country has been enlisted by the big interests who fear further reductions in tariff schedules which would apply to their commodities. So far as Michigan is concerned, however, we feel that we are in a position to know that President Taft is mistaken in this latter idea. There is no question but that the opposition of the farmers of Michigan to this pact is the result of their own good judgment as to the manner in which it would affect their interests, and we believe that this is equally true with the farmers of other sections of the country. Had there been a general lowering of tariff schedules as applied to Canada, instead of an attempt to apply free trade to farmers' products and leave adequate protection on all other products, this general opposition from the farmers of the country would not have developed, and President Taft's defense of the Payne-Aldrich tariff law was not calculated to inspire them with the idea that he was after "the interests" in promulgating this agreement. We willingly reiterate our confidence in President Taft's unquestionable honesty in his advocacy of this measure, but cannot abandon the conviction that it is a mistaken zeal. Nor can we permit to pass unnoticed from any source the suggestion that the farmers are being "used" in the defense of the "big interests" in this crisis. Their intelligence and fearlessness independence will continue to make them in the future, as they have been in the past, the bulwark and balance wheel of the nation in the exercise of their right of franchise, as well as in the development of a healthy public opinion, nor can they be rallied to an unjust or unwise support of any "interest" because of their defense of their own welfare in this crisis.

The Yearbook of the Department of Agriculture for 1910.

which is now being distributed, comes out in the usual form, and contains the usual amount of general and special information. In addition to the general report of the department and the usual statistical information regarding the agricultural products of the country, this volume contains 28 special articles by department experts on different phases of agricultural production. Three of these special articles relate to forest preservation, two are on the subjects of irrigation and dry farming, one deals with the eradication of bovine tuberculosis, while others touch upon the grading of cream, the handling of eggs, the supply of and wages paid for farm labor, nitrogen-gathering plants, yields of corn from hybrid seed, crop plants in paper making, co-operation in the handling and marketing of fruit, food value of cheese, etc. The book contains over 700 pages, 49 full page illustrations, and 31 text figures. The volume is free upon request to your United States senator or representative.

HAPPENINGS OF THE WEEK.

National.

The primary school fund for the year 1910 amounted to \$6,084,369. The state tax for the same year aggregated \$4,729,000. All but 14 of the counties of the state received more from her than they paid back in regular taxes.

Milk inspectors dumped 1,000 gallons of milk in the Detroit sewers last week because it was not properly chilled when put on trains.

Arizona and New Mexico were admitted to statehood last week by a vote of 214 to 57. The constitutions submitted by the people of these commonwealths failed to fully meet the approval of congress, and the federal body requires the new states to vote upon certain provisions. If the people approve the provisions then the constitutions stand as submitted to congress, otherwise those features will be eliminated.

President Taft has refused the granting of pardons to Charles W. Morse, the former New York banker, and John R. Walsh, a Chicago financier. The former

is serving a fifteen-year sentence at Atlanta, Ga., and the latter a five-year sentence at Fort Leavenworth, Kas.

School boys of Texas have organized weed-cutting companies. Each company is assigned a certain territory to destroy the weeds upon.

The American battleship Delaware will be the largest war vessel at the coronation at London.

Nineteen New York poultry magnates are on trial upon the charge of having formed a combination in restraint of trade.

The Illinois legislature passed the woman's ten-hour law.

The state of Wisconsin erected a monument in memory of federal soldiers who died in the campaign about Vicksburg, Miss., at that place. The monument was unveiled last week.

The agricultural department has suggested that farmers sell their eggs through creameries as a less costly method of disposing of them.

Mrs. E. H. Harriman, widow of the late railroad magnate, is planning to erect a large university somewhere on the Pacific coast in memory of her husband. The institution will surpass all like institutions of its kind in the world.

For the first time in the history of the post office department of the country, the revenues will pay all expenses and leave a surplus of over \$1,000,000. This, Postmaster-General Hitchcock states, is the result of the introduction of new methods in the department.

The house of representatives is investigating the methods of the steel "trust."

Five persons were killed and another fatally injured when an electric car struck an automobile at Los Angeles, California.

The supreme court of the United States renders its decision in the tobacco "trust" case this week.

Five persons were drowned in Toledo Sunday.

Foreign.

Japan has expressed an approval of the proposed peace pact between her and the United States.

The Mexican government is now in the hands of the insurgents. Porfirio Diaz, who for 30 years has been at the head of that government, left the capitol building last Thursday and secretly traveled to Vera Cruz where he took ship to Spain. Francisco Leon de la Barra is the new president of the republic.

The population of Ireland has decreased during the past ten years 1.7 per cent, the recent returns showing the number of inhabitants now to be 4,381,951.

Shipping is at a standstill at Amoy, China, due to lightermen going on strike.

Unless unforeseen opposition hinders, Russia will in the near future abolish all pass ports, making it possible for American Jews to go that country on business. Now they are prevented from doing so.

Chili and Peru show signs of having trouble over the question of who should have domain of the provinces of Arica and Tacna.

Perfect order was had during the elections in Portugal. The monarchists did not nominate candidates and for this reason it is anticipated that the returns will show the republicans overwhelmingly victorious.

Twelve aviators started in the race between Paris and Turin on Sunday in the presence of thousands of spectators. The starters were sent off without mishap.

Two were killed and 20 hurt during a storm which passed over Pekin, Ill., Sunday.

Emperor Francis, of Austria, is reported seriously ill.

It is asserted that 4,000 Mexican refugees are on the American side of the Mexican line and will have to be fed by this country, or they will starve.

CROP AND MARKET NOTES.

Calhoun Co., May 20.—We have not had a heavy rain for nearly three weeks, and have had very warm weather during this time. It has been an ideal time for the blossoming of fruit, but some winter varieties are not blossoming full, especially Spies and Baldwins, so far as I have observed. Other fruits have blossomed full. Old strawberry beds are looking quite well, though plants did not set thickly last season as there was little rain at the time runners were setting. Newly set plants are not doing well, and we will have the poorest stand we have had for many years, and will have to fill in after we get a good rain, or do so in August. New seeding can hardly be found, and even the meadows are taking on a deadened appearance in the middle of the day. Wheat has been looking well but is not growing much now. It has come through the winter and spring well thus far.

Iosco Co., May 23.—May started in very cold, with snow and frost the first week, with excellent farming weather throughout the middle of the month. Oats all sowed and looking well. Not much corn planted yet. The weather conditions have been very unfavorable for farmers to get in their crops for the past ten days. It has rained more or less every day since May 15, and still raining today. The heavy rains have started hay and fall crops and prospects are for a bumper crop. Farmers have nearly all their plowing done at this date, and with favorable weather conditions for the next two weeks spring crops will be nearly all planted. Markets as follows: Oats, 35c; corn, 35c; potatoes, 40c; eggs, 15c; butter, 18c; cows selling at \$50@60 per head.

Gratiot Co., May 23.—Favorable weather conditions have prevailed throughout the month of May. Corn is quite generally planted and many fields are up. Some few will not plant before late this week or the last of May. Wheat, oats and rye promise fair, and it seems safe to predict even better harvests than last (Continued on page 605).

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

MICHIGAN FARMER
AND **LIVE STOCK**
JOURNAL
PUBLISHED WEEKLY
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The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

A MODERN BETSY ROSS—Uncle Sam's Flag Factory

By Louise E. Dew

WHO in all this broad land has not heard the name of Betsy Ross, the first flag-maker of Uncle Sam? Her name has been glorified down through the years like that of a sublimated saint, and more than one home in our United States displays a lithograph picture of the prim little old-fashioned woman, sitting on her bare piazza working on the stars and stripes. At that time there were fewer stars to emblazon on Old Glory, but even so, when the first flag was completed by her skillful hands it was considered quite the most distinguished and remarkable service any woman had ever performed for the nation.

Everybody knows this story, but how many people know that there is a second Betsy Ross in our midst who deserves quite as much credit and appreciation as the first flag-maker, for where Betsy Ross turned out only one flag, our modern Betsy turns out thousands. But few people who visit the Brooklyn Navy Yard have any idea of what goes on within the grim old military walls. Fewer still know that Uncle Sam maintains a government flag factory on the third floor of the equipment department, and that is where Betsy Ross No. 2 presides over this branch of Uncle Sam's business, where she is known as Miss Mary A. Woods. In fact, she is a modest little woman, this really important personage, who is so busy making flags that she does not take time to become inflated over her own importance.

Thirty years is a long time to be in the employ of Uncle Sam, but that is Miss Woods' record. She was just a slip of a girl a quarter of a century ago, turning out filmy party gowns for fair Knickerbocker dames, when she suddenly tired of this frivolous occupation and decided to turn her attention to more serious work. That was when it occurred to her to get into Uncle Sam's good graces and offer to make flags. At first Uncle Sam's assistant was not so sanguine, although Miss Woods' credentials were all that could be required. However, he gave the applicant some "piece work" to take to her home as was the custom in those days. Besides, this was the easiest way to settle an enthusiastic aspirant. Like Brer Rabbit, Miss Woods lay low, knowing that her time would come, and it did, sooner than she thought. Her piece work was so thoroughly done that she was soon made "quarter woman" of the flag room itself, where she has been for over a quarter of a century. And Miss Woods is still less than fifty years young!

When Miss Woods first became "quarter woman"—fore-woman in the flag room of the equipment department—she had but six women assistants. Today she has six times that number, besides several men helpers. Last year this corps turned out, under Miss Woods' direction, 7,000 flags. Of these, 1,580 were American, 500 were foreign ensigns, and the rest were signal flags. An interesting fact in connection with this branch of service is that of all the work in the equipment department, over ninety per cent of the cutting is done by Miss Woods, who, in her more than a quarter of a century of serving Uncle Sam, has handled more flags than any other woman in the world. If the original Betsy Ross could but have a glimpse of her successor and her work

she would hardly believe her own eyes.

To the layman it may sound very puerile to speak of "cutting" as such a remarkable accomplishment; but that is what it really is, and of all its intricacies

In the first place you are obliged to know all about flag-making, not only our own stars and stripes, but the emblems of other countries as well. You must know just how to fold the long rolls of

proudly states, "are the choicest output of the Lowell mills."

Imagine using 150,000 yards of bunting in one year; and ten years ago not 40,000 yards were used. It costs Uncle Sam something like \$70,000 to transform 150,000 yards of bunting into flags—\$50,000 for materials and \$20,000 for labor.

But to be more specific about cutting, this is the way Miss Woods does it. First a roll of bright colored bunting is deftly unrolled on a long bench; then another is placed over it, and so on until several layers are spread before her. These are weighted at each end, and a long chalked line is drawn from weight to weight, at just the right intervals where the strips are to be cut. With a little twang of the string, Miss Woods leaves a white mark on the bunting. It looked easy, but I found that it was not so simple, for I twanged and twanged the string, and nary a mark did it leave! The next process is to remove the weights to the second interval—a distance which is measured by an accurate pair of eyes that can tell at a glance the space it is necessary to bridge. This process continues until the entire width of bunting is marked for cutting, leaving the selvage for the outside strip of the flag. A huge pair of government shears are then brought into requisition and the strips are cut so rapidly that it seems only a moment before Miss Woods is ready to "walk the chalk line" again.

Cutting is one of Miss Woods' more recent accomplishments as she never undertook it until the Spanish-American war. In fact, she was so busy looking after her assistants, making patterns and attending to the thousand and one details incident to flag making that she had no time for this work. When it became necessary, however, she planned even more systematically, rolled up her sleeves, figuratively speaking, and ran a race cutting bunting—a regular Marathon, for hundreds and thousands of miles were cut that first year to keep pace with the tremendous output.

Making patterns is another duty which falls to the lot of Betsy Ross No. 2. This is no small task, as can be imagined when it is remembered that the American flag output is only a drop in the bucket. It is always a surprise to visitors to know, too, that Miss Woods has never taken any lessons in drawing, yet her flag patterns are prepared with quite as much skill as those of an expert architectural draftsman. Her one "text book" provided by Uncle Sam is entitled "Flags of Maratime Nations," and this she knows by heart from cover to cover. She knows the exact page of the flag which she has been ordered to make and does not need to search for it. In fact, she knows the flag so well that she does not even need to refer to it, but for the sake of greater accuracy she takes this precaution. A small drawing of the flag ordered is also presented her by the Bureau of Equipment, but this she is obliged to enlarge upon before she can proceed with her pattern. To do this she takes a huge sheet of manilla paper, and on this draws her design. Afterwards each star, stripe or emblem must be cut out separately, then the sectional pattern is put away in a compact box until it is needed.

When Miss Woods has cut the bunting emblems they



Every Star Must Be Carefully Basted in Place.

cies and mysteries, Miss Woods is past mistress. Cutting a dress or coat does not require half the skill or originality or precision that cutting bunting for flags does, nor does the home seamstress have half the shoals to fear that Betsy Ross No. 2 does. In truth, it requires something more than a pair of shears to cut bunting and make flags for Uncle Sam.

bunting deftly and quickly, so several strips can be cut at a time. It takes a level head to plan all this. But Miss Woods loves the beautiful, soft, all-wool material, and takes great pride in displaying it even before it is made into flags. The velvets, silks and laces of her dressmaking days seem flimsy compared with the fast-colored buntings which she



Directing the Machine Work on the Flags.

are turned over to their respective workers—the stars all going to one woman who does nothing but sew on stars three hundred and thirteen days in the year, and the numerous emblems to their “specialist.” Eight hand workers, for instance, do nothing but baste, embroider and do the fancy stitching required by our fastidious Uncle Sam, and equally fastidious foreign despots. These women receive \$1.52 for fourth class work, to \$2.25 a day for first-class work, for the pay in the navy is always by the multiple of eight. Many middle-aged women find employment in this department and in eight years not one has been discharged for lack of work. All they know of flag-making has been taught them by Miss Woods.

“The work is never monotonous,” says Betsy Ross No. 2, “for there is something new to learn every day. For instance, just before the fleet started for the Pacific, the signals were changed and all the flags had to be altered accordingly. Then you see there is such a great variety—four hundred and eight in all, and forty-three foreign ones.” Miss Woods says that the flag of San Salvador is more concentrated than any others, and therefore more intricate. The only flag on which the front and back are different is that of Paraguay, which has a lion on the front and a red, five-pointed star on the reverse side.

WHAT FLAG DAY COMMEMORATES.

BY EVA RYMAN-GAILLARD.

The bricks that were brought over as ballast in the good ship Welcome were used to erect a dwelling house in Philadelphia, under the oversight of William Penn. Later this residence became the home of Betsy Ross, whose name is so closely linked with American liberty. The floor of the house is of oak and seems to be good for another hundred years. The border over the fireplace is of blue tiles arranged picturesquely, with scenes from ancient England inscribed on them. There is a quaint little cupboard, and the old-fashioned shutters have tiny panes of glass in them.

June, 1776, General Washington and Robert Morris were appointed by con-

AUNT JANE'S ATONEMENT.

BY CHAS. A. HARTLEY.

A man and a boy passed out of a barnyard into the road on their way to the cornfield. Some strangers were posting show bills on the barn, and they stopped to look on. They stood some time gazing at the wonders there displayed, without a word being spoken. One of the men, who seemed to be the foreman, noticing them, said: “You don't want to miss this show; it's the greatest combination on earth.”

Uncle Silas Gray, the old man, may have been able to put a proper estimate upon the statement, but the boy, Tommy McGuire, agape at the wonderful exhibition of strength and agility, accepted it as the gospel truth.

“I'm going to give you an order for two tickets for the use of this space on your barn; that will take you into both shows without charge.”

He wrote the order and handed it to Tommy, who was speechless with gratitude. Uncle Silas seemed pleased but said nothing. He knew that an order for two tickets didn't signify much without the approval of Aunt Jane, his wife. Tommy was dying to say something, or to have Uncle Silas say something, and worked with an energy that finally appealed to the old man.

“Take it easy, Tommy. There's no need of hurryin'.”

They sat down on the grass and Silas fanned himself with his hat.

“It's goin' to be purty hot today, Tommy.”

“Yes, sir.”

“Was you ever at a circus, Tommy?”

“No, sir.”

“Some folks think they aren't moral, or proper, but I could never see no great harm in them, for my part. I went to shows some when I was young, and I can't see I'm any the worse for it. Can you?”

Tommy couldn't, and said so with emphasis.

“You've been a good boy, Tommy, and seein' it ain't goin' to cost anything, I've a good mind to let you go to this show—that is, as far as I'm concerned. Of course, we'll have to see what Jane has to say. She don't take much stock in shows. Thinks they're wicked. I'm a little bit dubious about her, Tommy, and you mustn't get your heart too much set

gress “to design a suitable flag for the nation.” The privilege and honor of making it was bestowed upon Betsy Ross, a widow of twenty-four. In reply to the question, if she thought she could make it, she replied, in her amiable and lady-like manner, “I don't know, but I'll try.”

It was the wish of Washington that the star be given six points, like that on his coat of arms, but Betsy clipped a pattern of a five-pointed star and finally persuaded him to accept her suggestion.

We now celebrate flag day to commemorate the time the flag was adopted by congress—June 14, 1777. It was first hoisted at Fort Schuyler, in New York state, in August, 1777.

Today our flag, with its forty-six stars, is respected in every country and is loved by every loyal boy and girl, man and woman. At the immigrant station on Ellis Island, New York, there is one room in which a large American flag is conspicuously stretched across the front, and here foreigners receive their first lesson in patriotism.

We are, perhaps, all familiar with a touching incident that occurred during the Spanish-American war. An American who had been captured by the Spaniards was doomed to be shot. Apparently nothing could be done to avert his fate. But as the guns were leveled at him, an American officer stepped to his side and wrapped him in the folds of the Stars and Stripes. The enemy did not dare fire on our flag, and the American was led away in safety through the officer's rare presence of mind.

Our national emblem has inspired the writing of many songs of stirring patriotism. “The Star Spangled Banner” and “The Red, White and Blue” are perhaps the most deservedly popular.

“O say can you see by the dawn's early light,

What so proudly we hailed at the twilight's last gleaming,

Whose broad stripes and bright stars, through the perilous fight,

O'er the ramparts we watched, were so gallantly streaming?

And the rocket's red glare, the bombs bursting in air,

Gave proof through the night that our flag was still there.

O say, does that Star Spangled banner yet wave

O'er the land of the free and the home of the brave.”

on goin'. It'll be here right in corn hoein' time, but I think you need a little rest and recreation. We'll sound her, Tommy, and maybe she'll give in. She's all right, Tommy, but awfully set in her ways.”

“I'd like to see them animals,” said Tommy with a sigh. “I've seen their pictures in the geography.”

“That's it, Tommy. I'll tell her that. There's nothin' more interestin' than the ways of animals. That's learnin' human nater. She's a great reader, you know. If it was only animals it would be all right.”

At the dinner table Tommy looked at Uncle Silas, and Uncle Silas looked at Aunt Jane. Silas cleared his throat several times to speak, but the words stuck. He finally concluded the best method of attack was to beat the bush.

“I see there's goin' to be another show in town,” he said in a careless way.

“Yes, I see somebody has been pasting the side of the barn with indecent pictures,” said Aunt Jane, her eyes snapping. “They ought to be prosecuted.”

Uncle Silas felt that the ice was very thin.

“Tommy has an order for two tickets, Ma, and can get in for nothin', and he's seen pictures of the animals in his g'ography, and wants to see them alive. He's been a powerful good boy, and I think we ought to let him go and see them this once, anyway. He may never have another chance.”

That was as long a speech as Silas ever made. It was a desperate plunge from start to finish.

“I—I'd like to see them animals, Aunt Jane,” said Tommy, meekly.

“I—I'd like to see them animals,” and Aunt Jane imitated Tommy's meek statement. “Indeed, Silas put that into your head. See the animals. That's what they all say. They don't care for the circus, but they want the children to see the animals. And the showmen know a thing or two. They drag around over the country a miserable lot of jaded, toothless brutes, just to give the hypocrites an excuse. You're not goin' a step.”

The rest of the meal was eaten in silence. There was a great lump in Tommy's throat, and he had hard work to keep back the rebellious tears. He worked on faithfully, and was unusually diligent and obedient, with a faint hope that his

humility might touch Aunt Jane. But she was adamant. His sighs were wasted. He kept the order for the two tickets carefully. The morning of show day was glorious. If it had rained, he thought, or if he had had a headache, he could have reconciled himself to the disappointment. But it looked as if it might never rain again, and he never felt better in his life.

They were plowing and hoeing the corn in a field adjoining the big road. Wagons, and buggies, and people on horseback kept passing in a continual stream all morning. They were a merry lot, and jibed at them for working on show day. Tommy was hoeing and straightening up the corn after the plow, and frequently Silas was at one end of the field while Tommy was at the other. He was working along the road now, toward town. When he came to the end of the row he laid down his hoe, climbed upon the fence and looked wistfully along the road. In the meantime he watched Silas, who was going toward the other end of the field. Self-pity brought the tears to his young eyes, and without being hardly conscious of what he did he slipped down off the fence, stood a minute or two in the road making figures in the dust with his bare feet, glanced at Silas, and took to his heels as fast as he could, down the road, and toward the show. He never stopped until he was out of sight and almost out of breath.

As he was passing a farm house a stranger drove a team of fine looking horses up to the big gate and stopped.

“My boy,” said he, addressing Tommy, “will you please hold my horses a few minutes?”

Tommy assented, and climbed into the carriage. The stranger talked a few minutes with the farmer, and came back.

“Are you going to the show?”

“Yes, sir.”

“Then you can go to town with me.”

“A man gave me an order for two tickets to the show,” said Tommy, “and I wonder if they're good.”

“To be sure they are. But I'll do better than that. I belong to the show and will take you myself.”

The stranger turned out to be Mr. Rivers, the proprietor of the big show. He soon got into the good graces of the boy, and got from him his story. Tommy told him he was an orphan, that he had been put in the poor house, and that Uncle Silas had taken him to do chores for his “keep.” That he had made his home with him for the past two years. Nor did he forget to tell him of Aunt Jane's prejudice against shows, nor of his running away.

“How would you like to come and live with me? We have no children and I need just such a boy as you.”

“To go with the show?” asked Tommy. “I don't think I'd like that.”

Mr. Rivers smiled.

“I am afraid you half agree with Aunt Jane, as you call her, in regard to shows, but I don't want you for that at all. I want you to make your home with us, to be our boy. I'll clothe you and send you to school, and treat you as if you was my son. Mrs. Rivers will be a mother to you, and I am sure you will never want to run away from us.”

As they came nearer town they heard the bands playing. “We're just in time for the parade, Tommy,” said Mr. Rivers.

From that moment it was useless to speak to the boy. He was deaf and dumb. His cheeks were flushed with excitement, and his eyes shone. They came onto the parade down a side street, just as the elephants were passing. The street was crowded with all sorts of vehicles. Just ahead of them was a carriage, in which two ladies, a mother and her daughter, were seated. The horse, a fine animal, became frightened and unmanageable. The ladies were badly frightened and lost control of him. He reared and plunged frantically, and they were in great peril. Tommy saw it and like a flash he leaped out over the wheels, seized the horse by the bridle, pulled down his head, and hung on. He was dragged some distance, and in danger of being trampled, but he finally succeeded in subduing him. Expressions of admiration for his courage were heard on all sides, and the poor boy was stiff with embarrassment. The lady got out of her carriage and went to him.

“Oh,” cried she, “I am so grateful for what you did. You saved us from a horrible accident. You are a brave boy and I want to reward you. If this gentleman will excuse you a little while I want you to come with me.”

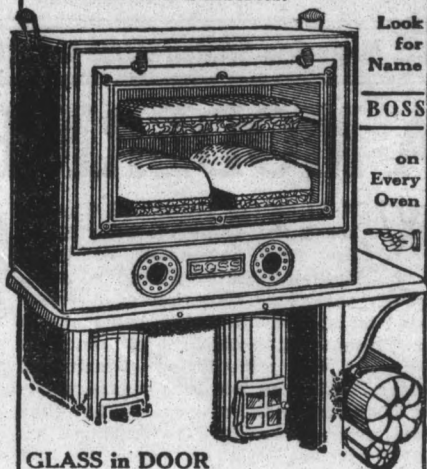
Her husband was a merchant, and she took Tommy to his store. She told him

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the story in detail, and praised the boy to the skies. She wanted to reward him substantially but was in doubt as to what form her generosity should take. But the merchant looked at Tommy's bare feet and scanty clothing, and it didn't take him long to decide. He fitted him out from head to foot in a brand new suit of clothes, shoes and all.

When Tommy went back to Mr. Rivers that gentleman was astonished at the transformation.

"Why, Tommy, I hardly knew you. Had to look at you the second time. My, but you're a lucky boy. A new suit of clothes, and the offer of a good home, all in one day. What do you think Aunt Jane would think of that? But you've got the right kind of stuff in you, Tommy, and plenty of it. I'll tell you what I've made up my mind to do. I'm going to take you with me in the morning, out past the poor house, and get permission from the overseer to send you to my wife. What do you say to that, my boy?"

"I'll go."

"Then that is settled. Now we'll get a bite to eat and go to the show."

Next morning, bright and early, Mr. Rivers and Tommy, behind a pair of fine steppers, were speeding down the road toward the poor farm. It was kept by a Mr. Short, a very self-important person, a mere political creature, concerned principally in keeping down the "per capita" cost without regard to the welfare of the unfortunate inmates. When they passed through the big gate and drove up toward the house they saw Short, in his shirt sleeves, standing in the yard. Mr. Rivers introduced himself, and said: "I suppose you know this boy?"

"I think I do," replied Short, without manifesting any interest whatever.

"It isn't necessary to relate the circumstances under which we met, but I have taken a liking to him and want to give him a home where he will be well cared for. I can give a bond if necessary."

"What is your business?"

"I'm the proprietor of the show that exhibited in your town yesterday."

Short's face hardened. He had sent Tommy away to get rid of him, but here was an opportunity to show his moral acquisitions.

"Why did you leave your Uncle Silas?" he asked of Tommy.

"As I said before, Mr. Short, it isn't necessary to go into that. I am probably more to blame than he."

"Well, he'd better stay right here in the poor house, than go trapesing over the country with a circus. That's my opinion."

"I don't intend he shall have anything to do with the show. I have no children; my wife is alone and needs someone to do little chores."

"I have your word for that," said Short, insolently.

"As I said before, I will give bond, if necessary."

"That's easy to say, too," replied Short. "I don't consider your business very reputable, and I don't consider you a fit

stood there the very picture of despair.

Mr. Rivers gathered up the lines, took the whip out of the socket and turned the horses. In doing so he dropped the whip and stopped the horses.

"Tommy, will you please hand me that whip?"

The poor boy picked up the whip, and as he came up to the carriage Rivers looked hard at him and whispered, "Give me your hand and put your foot on the step."

Tommy held the whip toward him. As he did so, Rivers seized him by the hand, jerked him into the carriage, gave the horses a smart cut, and dashed out of the gate into the highway. Mr. Rivers looked back, when they were clear of the premises, and saw Short shaking his fist at them and evidently saying things.

"Now, Tommy, I must get you out of the county as fast as I can. That man is like some animal that has been robbed of its prey. I don't intend he shall get you. I'm going to turn off the highway and strike the nearest railroad station. That fellow will be sure to go straight to the county seat and stir up the lawyers. You and I will not be there."

They reached a small station, after a drive that seemed to the boy to be exceedingly reckless, just half an hour before the time for the train. Mr. Rivers sent a message to his wife, gave Tommy the necessary instructions, some good advice, and put him aboard the train.

Mrs. Rivers and Mike, the man of all work, were in the yard among the plants and flowers when the message came. It read: "Am sending Tommy. Have Mike meet the 4:30 train."

"Well, of all things. What does he mean, Mike? He must think I'm a mind reader."

"And a long distance wan, at that."

"And who's Tommy?"

"Ye may sarch me, ma'm."

"It must be one of the animals, Mike, taken sick. Poor thing, you'd better take a cage down with you in the wagon."

So Mike met the train with a cage. Tommy got off the cars, bewildered by the noise and confusion, but he had presence of mind enough to stand still until the crowd had dispersed. Then he looked about for Mike. He soon recognized him from the description he had received from Mr. Rivers, and going up to him introduced himself as "Tommy."

Then Mike exploded. He laughed until the tears ran down his cheeks, and Tommy was almost dying from embarrassment. Still laughing, he took Tommy to the wagon and drove off.

"Whist, Tommy, d'ye see yon cage?" said Mike. "Be rights ye ought to be in there, and, be the powers," a sudden thought seizing him, "in there ye'll go."

Tommy began to think he had fallen into the hands of a lunatic.

"I guess ye're the great 'What Is It,' Tommy, and we'll just play a bit of a joke on the Mistrhess. She likes fun as well as annybody. Ye see it's this way, Tommy. The Boss sint a message saying he was sindin' 'Tommy,' and the Mistrhess and me thought ye must be

APPLE BLOSSOMS.

BY ALONZO RICE.

The Alpine peaks, with crystal hoods of snow,
The ruins, crowning heights along the Rhine,
Are views both beautiful and grand, I know,
But there's another closer home—and mine!
'Tis where a brown old homestead nestles soft
Against a hill where meadows stretch away,
And in the wind-swept branches, high aloft,
The robin gives to all his sweetest lay;
The scene is one of rapture and of bliss,
When breezes of the early summer blow,
And the red lips of the apple blossoms kiss
The blue eyes of the violets below!

Let others fare to far-off distant climes,
Enraptured by each castle, crag and scur,
The wonders of the olden, vanished times,
Of sunny scenes that sleep in isles afar;
Home-biding, let me wander here where swell
The flowered fields whose scented billows roll
With white caps of the daisies; winds that tell
The secret of the rose whose heart they stole;
That I, for just one season, may not miss
The beauties of the scene I cherish so,
When the red lips of the apple blossoms kiss
The blue eyes of the violets below!

ma'm," said Mike. "Ye must come and see the poor felly. He's that done up ye couldn't get a yep out of him. It's the heat, or maybe somethin' he's et that didn't agree wid his stumic."

All her sympathies aroused, she went to the barn with Mike.

"Just lift the tarpoleon, if ye please, ma'm."

She lifted it, and there saw Tommy, somewhat cramped, and very red from the heat and excitement.

"Why, it's a boy, Mike," she almost shouted.

"That's a purty good guess, ma'm," said Mike, dryly.

They released Tommy, and laughed and cried, and Mike's bit of pleasantry brought them into instant fellowship. From that time on he was the "What Is it" to Mike.

But what of Aunt Jane and Uncle Silas? Tommy had not forgotten them but had exacted a promise from his foster parents that if the show ever went back there he was to be allowed to make a visit.

So it happened that Uncle Silas, just three years after, was standing in the same place, his hands behind his back, watching some men pasting bills on the barn announcing the coming of the same "Great Combination."

Show day finally came round, just such a day as that on which Tommy ran away. Silas was working in the same field, and the road was again crowded with all sorts of vehicles, and the crowd was a happy one, shouting, singing, and bantering.

Uncle Silas was a prudent man and said nothing about the coincidence. Aunt Jane gave no sign that she had any recollection of a past event. To all appearances she had forgotten that such a boy as Tommy ever existed. Silas went early to dinner and was in the barn feeding his horses when a well dressed young man drove a team into the barnyard and tied his horses to the fence. He slipped into the barn, went quietly to the stall where Silas was, and said: "How are you, Uncle Silas?"

Without looking round to see who it was, the old man replied carelessly, "I'm fair to middlin', how are you?"

"Don't you know me, Uncle Silas?"

He came out of the stall, shading his eyes with his hand.

"Why, bless my soul," he cried, seizing the boy by the hand. "If it ain't Tommy."

He looked him all over carefully, every line of his old face indicating satisfaction.

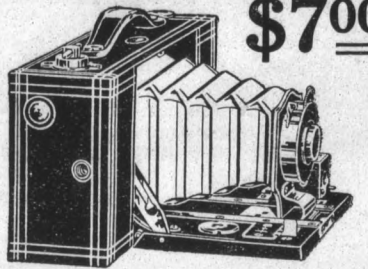
"My, but you've growed. I wouldn't have known you by sight. Come on to the house, and don't let on. I want to see if Ma'll know you."

As they came out of the barnyard into the house lot, Aunt Jane came out on the side porch and met them.

"Tommy, I'm so glad to see you," was all she said, but very gently, and Tommy saw a new light in her eyes and a slight quivering about the mouth that were a revelation to him. A little older, and much wiser, he saw something he had never seen before, never suspected.

"I have a special invitation for you both, from Mr. Rivers, to attend the

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Roland Casterline, of Kent Co., Mich., and his Riding Mare, "Margie."

person to have the care of this boy. I know I should be censured if I let you have him."

"Then you'd rather have him stay here among the old, the depraved, and the imbecile, than have all the comforts of a good home, with care and affection."

"You can put it that way if you want to. It isn't necessary to parley about it. Get out, Tommy. I think I know what's best for you, and I'll send you back to Uncle Silas. You should have staid there, and deserve punishment for leaving."

Tommy climbed out of the carriage and

wan of the animals tuck sick, and she sint me down wid the cage fr ye. So ye're a sick catamount, or a chimpanzee, or whatever ye like. I'll just drive round the back way to the barn, chuck ye into the cage, cover ye wid a tarpoleon, and there ye are. I'll call out the Mistrhess, life up the tarpoleon, and we'll have more fun than ye'd see at the unvellin' of the statoo of the Goddess of Liberty."

It was done as planned, and Mike went in search of Mrs. Rivers.

"I've got him, ma'm," said Mike.

"What is it?" inquired that lady.

"I'll lave that to yerself entiorely,

show this afternoon," said Tommy, at the dinner table.

Uncle Silas said nothing.

"It's very kind of him," said Aunt Jane, "and I guess we'll go, Silas."

"What?"

"I think we'd better go."

"Of course," said Silas, recovering from his astonishment. "It wouldn't be polite to refuse. Besides, I want to see the animals," with a wink at Tommy.

"I don't," she said, with a smile. "I'm going to the circus."

Uncle Silas hitched one of the horses to the buggy and Aunt Jane went with Tommy. On the way he told her of his life since he left them, what a good home he had found, not forgetting the joke Mike played on the Mistress, at which she laughed heartily.

"I never may be able to change my ways much, Tommy, but the older I get the plainer my mistakes appear," was all the comment she made.

When they passed into the big tent where the animals were, Silas seemed to want to linger and take a look at them. Aunt Jane became impatient.

"If you want to, Silas, you can stay here and look at the animals all you want to, but I'm going into the circus. Come on, Tommy."

OUR BIRD POLICEMEN.

BY ORIN E. CROOKER.

Every farmer has cause to be grateful to the birds for the services they render him in the way of keeping insects in check and in the consumption of the seeds of noxious plants. From before sunrise until dusk these little songsters police his fields and orchard, waging relentless war upon several thousand kinds of insects which have their homes upon his trees or amid the grass and shrubbery, or even in the ground. Birds are tireless in their activity, spending practically their entire time in searching for food. Some of them have been known to consume their own weight of insects in a single day.

There are times when some birds become a nuisance to the farmer and a trial upon his patience, as, for instance, in berry season or when his cherries are ripening. But the wise agriculturist will resort to peaceful methods of scaring the birds from his fruit rather than settling the matter with a shotgun. The annoyance is only temporary and the balance of the season these same birds will work from daylight until dark in his behalf.

The harm that birds do has been much exaggerated, while the good that comes from them has been largely lost sight of. Some people think that every hawk is a chicken thief, and the moment one appears upon the horizon the old shotgun is set in a convenient spot to be brought into action if opportunity offers. The truth of the matter is, that most depredations of this kind are committed by one of only three varieties of hawks—the Cooper hawk, the sharp-skinned hawk and the goshawk. These hawks are by no means so plentiful in most localities as the large red-shouldered or red-tailed hawks which are usually mistaken for "hen-hawks." These latter are the ones which are usually seen circling high over meadow or pasture, or skimming low across the field. Chicken thieving is far from their thoughts. They live mostly on meadow mice, moles, gophers and other rodents, and are thus among the farmer's best friends. One should never shoot a hawk unless one catches him in the act of stealing chickens. Otherwise one may commit needless murder.

In some localities the blackbird has been looked upon as a pest. Some years ago in parts of Nebraska these birds became very abundant and the farmers believed them to be damaging their crops. Great numbers of the birds were poisoned, but as their ranks began to thin, swarms of locusts took their place. Only in localities where the blackbirds had not been poisoned were the farmers able to secure anything like a fair crop. On investigation it was found that the blackbirds were intensely fond of locusts and thus kept them in check.

A good deal of prejudice has been aroused against the crow because of his love for sprouting corn. Undoubtedly this prejudice is well founded but, during the most of the year, the crow is a reasonably good citizen and worthy of our consideration. Like lots of people who do a great deal of good in the course of a year, he has been painted much blacker than he really is. The destruction by the crow of meadow mice, cutworms and other insect pests, is held by most students of the question a sufficient offset

to the damage done by him, with perhaps a balance, all things considered, in his favor.

Some time ago there was much complaint on the Pacific coast concerning the depredations by birds in vineyards and orchards. The government biological survey made a careful analysis of the stomachs of all the common birds found in the localities whence the complaints came. Seventy species of birds were studied. It was found that only four species could rightfully be regarded as in any way antagonistic to the interests of the fruit raiser. These were the California jay, the steller jay, the tinnet, and the red-breasted sapsucker. The report said, "No part of the capital invested in farm and orchard is more certain to pay big interest than the small sum collected as toll by the birds that harbor near the premises."

Without birds agriculture would be impossible. There are on an average, some 10,000 or more varieties of insects in any community of size which contains both fields and woods. Only the constant warfare of birds keeps them in check. It is almost certain that if it were not for them the destruction of the greater part of vegetation would speedily result from the onslaught of this vast army of insect pests.

A good illustration of the value of birds as enemies of insect life is told in a book recently published by the Audubon Society. It relates to the work of Baron von Berlepsch, in Seebach, Germany. Since boyhood the Baron has studied the nesting and feeding habits of birds. He learned to so prune and tie and tangle bushes and trees as to make peculiarly attractive nesting sites for those varieties which build in the open, and in this way he induced thousands of birds to nest on his estate. For woodpeckers and others that rear their young in cavities in trees he invented boxes that so closely imitated their own holes that every one of his 2,000 boxes on his 500 acres of land was taken. In 1905 there came a great plague of moths in Germany. Every leaf on the trees for many miles around the Baron's land was destroyed. His own estate was like an oasis in the desert, and the distance that his birds flew from their homes could be traced by the fringe of green vegetation around his own domain, which was practically untouched by the moths.

Birds also aid the farmer by devouring immense quantities of weed seed. The ordinary tree sparrow, which most folks would mistake for the common chipping sparrow, consumes about a quarter of an ounce of weed seed per day. On this basis it has been estimated that tree sparrows alone, in a state the size of Iowa, would eat about 875 tons of weed seed each year. The "bob-white" is also a confirmed seed eater. Because of this his worth as an aid to the farmer is so great that nothing short of an empty larder and imminent starvation should induce a farmer to kill or permit the slaughter of quail upon his premises.

The one exception everywhere to the general usefulness of birds as an assistant to the farmer in his work of fighting bugs and weeds is the English sparrow. He is a pest whenever and wherever found and should be exterminated. He will seldom eat bugs, even in the midst of a plague of them. He drives the useful birds away from the vicinity which he has himself chosen. He destroys their eggs. He is a veritable pirate in feathered dress and deserves no consideration. It is best to exterminate him from around the barns and outbuildings by shooting. This, however, should be done in the winter months, as one will not then be so likely to take the lives of other sparrows by mistake. Strange as it may seem, not everyone can distinguish an English sparrow from the many other sparrows which make their home in our midst during the summer months. A park policeman in the Fels, near Boston, was sent out to shoot English sparrows. He returned with some fifty Vesper sparrows which he had killed, simply because he did not know one sparrow from another.

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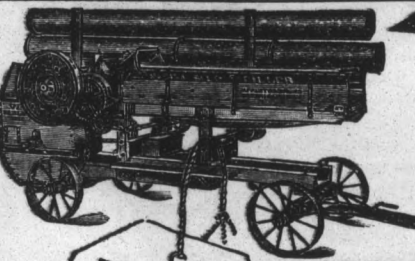
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Woman and Her Needs At Home and Elsewhere

CHILDREN'S GARDENS—BY GILBERTE HOLT.

"That method of education which develops resourcefulness in the individual is worthy of consideration," is a saying of one of our present day educators of standing.

Applying this to younger children, one must add that when this can be done and still have the vital play instinct satisfied at one and the same time, the ideal method is found. In gardening for small children we have this method. Garden work teaches the child to think about what he is doing, the manner of that doing and the result which will follow a certain line of action, and at the same time gives any amount of good, wholesome fun. Children love to dig, they enjoy any out of door employment, thus they gain pleasure and profit from gardening. Every part of this work or play (for done properly the two elements balance each other), can be made to teach a lesson and this, too, without any preaching. The right practice of gardening forms habits of many homely virtues, such as thrift, economy, orderliness, timeliness, planning ahead, and a great respect for life and a love of beauty. The child comes so near to the being of things in observing the cycle of plant life, beginning with the seed which he plants, and passing through all stages of its growth until it is completed by the appearance of the new seed, that, with no comment being made, he feels the revelation, and though he could not possibly give expression to the thoughts, their influence is felt all through his after life.

A plot of ground four by eight feet furnishes enough work for the average child. A too large garden at first is too much of an undertaking and over fatigue causes lack of interest. Talk over the garden question with the children and see if they have observed anything in regard to plant life. Even children of six and seven years of age will surprise you by telling what they have seen; such as the relative value of good and poor soil, sun and shade, rain and drouth. They may not know why many facts are so, but to a child a fact is a fact and in his small way he is more philosophic than many adults.

Some children, however, will need to have facts pointed out to them, and if they have no ideas on the subject it is well to make a few suggestions before beginning gardening. One can not just stick any seed or plant into any patch of ground and grow success, either with plants or in the education of children. Choose a sunny spot, as most flowers and vegetables of our climate thrive best in the sun. Of course, others prefer the cool and shade but, generally speaking, a sunny spot is best.

The next consideration is good soil, that which contains a combination of sand, clay and humus, in such proportions that the resulting soil is a good rich brown. If the earth is too light, there is too much sand, if gray, clay predominates, if black, it is too rich for the usual garden work. Having chosen the spot and marked out the dimensions of the garden all the rest of the work should be done by the child, or children, unaided save for direction and suggestion.

First provide him with proper tools. These need not be expensive, but do not be led into the false economy of buying sets of "children's tools." They are cheap and do not last. For the garden work few tools are needed, so have them durable and see that the child takes proper care of them. A spade, a rake, a hoe, a broad flat trowel, a small hand fork, a two-quart watering can and a small wheelbarrow, are all he needs. When he has finished working with them insist that he knocks the earth from them, scrapes them and cleans and puts them away in a dry shed. They should never be left out in the wet; the watering can should be turned upside down.

The first step is to clear the patch of ground. Right here is to be found a good lesson in economy. All rubbish taken from the garden may not be waste material, in fact, little of it is. The stones,

especially the larger ones, should be used to edge the garden bed. The bits of wood should be burned, and the ashes kept for fertilizer. The weeds should be put in the manure pit to form humus. When the ground is cleared, cover it with two or three inches of manure and spade into the ground. Always sift all refuse, or weeds, taken from the garden, as in this way you save quarts of good top soil.

Another useful lesson in economy to be found in the right way of performing an operation, may be illustrated in a very practical way in spading. First let the child lift a spadeful of earth with the right hand grasping the handle and the left hand grasping the shaft close to the blade. Then let him slide the left hand slowly back close to the right hand. As he does so his spadeful of earth seems to grow heavier and heavier. In fact, it will take about four times as much strength, the second way, as it did the first. So he learns that one person doing a thing the right way can do as much as four persons doing the same thing the wrong way.

The next question to consider is whether flowers or vegetables shall be planted. Sometimes it is possible to combine both, the garden being one for growing vegetables with flowers as borders, but for a young gardener who is new to the work, it is well to make a choice and then stick to that choice. Where it is possible to have more than one patch, or where there are two or more children, both flowers and fruit may be grown. Both can be made profitable.

Where there is any monetary return, that money belongs to the child and he should be allowed to use it as he sees fit. This will provide a good opportunity to learn financiering. However, profit does not begin until the initial cost for seeds has been refunded to whoever may have purchased them. The tools are somewhat beyond what the youthful gardener can buy, so they might be a present, but he should pay for some of the cost of his venture. He will appreciate the balance truly discouraging to work hard and successful is left, all the more. But it is good in growing a fine crop of tomatoes and then see them consumed by the family with no return coming to the young farmer. Of course, this commercial spirit may be pushed too far, so that the gardener will see his work only as a business enterprise and become miserly about his produce. To counteract this, it might be suggested to him that fresh vegetables

just from a garden, or a handful of flowers grown by one's own efforts are always appreciated by one's friends. Neither to give always nor to sell always is good, but a just balancing makes for equity.

Strong, sturdy, healthy and comparatively quick growers are the best selections for children's gardens. Radishes, beans, beets, turnips, carrots, onions, lettuce and corn are all good. If these are planted by the middle of May, they can all be harvested by the end of July, including a second planting of radishes. Tell the children why planting the vegetables in rows running from north to south is best. Show them how this manner of planting gives one side of the plant the morning sun, and the other side the afternoon sun.

In planting a flower garden, consider how the plants will appear when all are in blossom. The location of the bed is a determining factor in arrangement. If your garden is to run along a fence, put the taller plants at the back and the smaller ones at the front edge; if your bed is open on all sides, put the tall plants in the center of the bed and the lower ones graduating from them to the outer edges.

Gardens do not become beautiful of their own accord. Care in selection in regard to neighboring colors is as important as arrangement. Purple petunias and California poppies, both easy growers and beautiful by themselves, do not look well together. Petunias, verbenas, zinnias, asters, sun-flowers and hollyhocks are all good growers for centers or for backgrounds; while sweet alyssum, candytuft, dwarf nasturtiums, California poppies and French marigolds, all make good edgings. White sweet alyssum is the safest edging plant for beginners. It blooms throughout the season and is not easily killed by frost.

These are merely suggestions for the very beginnings of garden work with children, the work can be developed to most profitable and pleasing proportions. All the work spoken of can be done by a child of ten years, unaided and should be. Let the child experiment by trying sun-loving plants in shady places, and vice versa; too much and not enough watering, etc. Let him learn by actual experience what cultivation will do for his garden, and how disastrous is neglect. One often learns more from one failure than from many successes. With a really young child, direct the work far enough so that there will be enough successes to counterbalance the failures. Too much failure discourages further effort.

The Long and Short Stitches—By Mae Y. Mahaffy.

There are three long and short stitches which are made use of by embroiderers to a greater or less extent, owing largely to the styles of needlework in vogue at any particular time. These are known as the simple long and short, or Tipping stitch; the Kensington, or solid long and short stitch, known in olden times as opus plumarium, signifying plumage or feather work, and used largely in old embroideries showing figures of birds, beasts, etc., as well as human figures. The third is the tapestry stitch, an adaptation used for backgrounds.

A decade ago or more, when colored

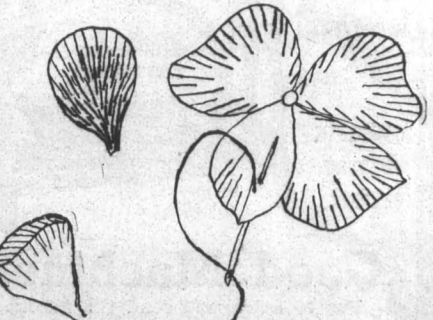


Fig. 1.

embroideries in the finer grades of silk floss were seen on every hand, these stitches comprised most of the work.

They were almost essential in producing anything like realistic work, such as was seen at that time in so much greater pro-

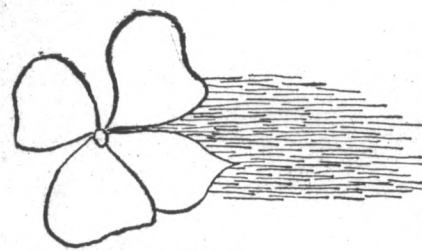


Fig. 2.

portion than today. Conventionalized patterns have, in a measure, taken the place of the former favorites, but not altogether, by any means. One still finds the naturalized flowers and foliage, done in the finest materials, and with the greatest possible skill, but more often than not the pieces thus ornamented are used in frames, or in the handsome wooden or silver mounted, glass-bottomed trays and servers. In this way the beautiful stitchwork is protected and preserved.

Workers of today seem in too great haste to attain results to attempt much of the careful and elaborate shading, etc., which the genuine Kensington work calls for. Those who are willing, however, to

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"I finally concluded that something would have to be done. I quit the use of coffee, short off, and began to drink Postum. The cook didn't make it right at first—she didn't boil it long enough, and I did not find it palatable and quit using it and went back to coffee and to the stomach trouble again."

"Then my wife took the matter in hand, and by following the directions on the box, faithfully, she had me drinking Postum for several days before I knew it."

"When I happened to remark that I was feeling much better than I had for a long time, she told me that I had been drinking Postum, and that accounted for it. Now we have no coffee on our table."

"My digestion has been restored, and with this improvement has come relief from the oppressive sense of fullness and palpitation of the heart that used to bother me so. I note such a gain in mental strength and acuteness that I can attend to my office work with ease and pleasure and without making the mistakes that were so annoying to me while I was using coffee."

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do so will find their efforts amply repaid, and if a well finished product is secured and cared for it will not only delight the worker, but may be saved for generations as a lovely example of fine stitchwork, just as now we prize the old-time work of our grandmothers.

The long and short stitch used for tipping purposes is illustrated in the four-petaled blossom shown in Figure 1. The name would seem to indicate clearly just what the stitch includes, long and short stitches taken alternately, and used as a finish around designs. It is one of the commonest stitches known, having appeared in work of the ancients, and down through the centuries in greater or less quantity. It is usually seen in any pretentious work of today. The edge of the petals or forms must be kept very accurate, and the stitches slanted towards the base.

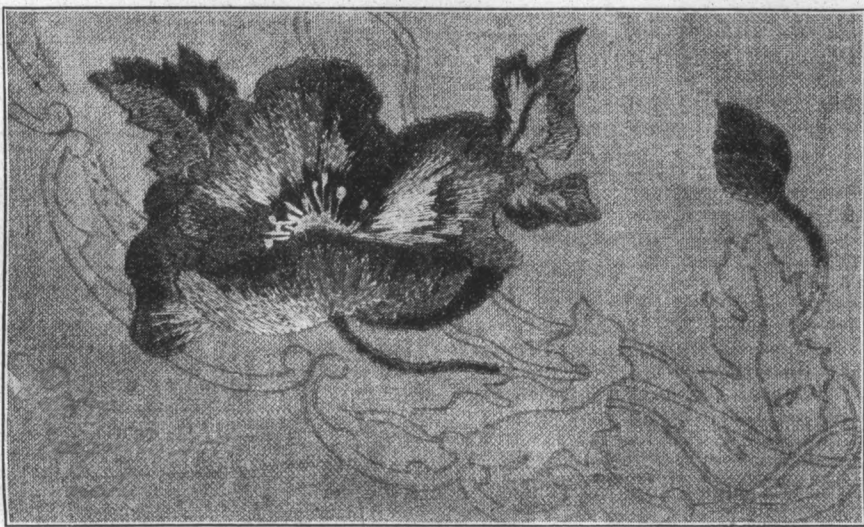
The Kensington stitch is a series of long and short stitches, one row following the outline of the design, just as in the simple long and short work, and the next being placed between the stitches of the first. These stitches are also long and short, and as many rows are worked as may be needed to cover the space. It is in this stitch that such beautiful effects are obtainable by shading the colors. The upper single petal shows the method of placing the stitches, but in the dolly il-

lustrated, falling upon the design more strongly than at other parts. Each petal will appear deeper in color when it seems to fall in beneath another petal, etc. Neither is it necessary to use all the shades in any one petal. A variety is to be preferred ordinarily, as no two are ever alike in nature. Therefore, omit one or two of the lightest or darkest shades in some of the petals.

One of the leaves shows the plain long and short stitch, with a midrib outlined, while the other finished leaf has been worked in the Kensington. The same rules for shading hold good for the leaves as were suggested for the petals, some turning or curving so that they apparently receive more light than others. What appears to be high parts are always lighter than those curving downward or starting out from under other portions of the design.

Stems should be worked solid, slanting the stitches, and the buds should be made of the darkest shades. While every flower has, of course, different form, necessitating varied shading, when one has once learned the art by practicing any given flower it will not be difficult to work out others, especially if a natural blossom is at hand, or a good colored study.

Tapestry stitch is the same long and short stitch in a series of rows sufficient



Poppy Design for Dolly in which Five Shades of Red Silk Floss Are Used.

lustrated, a design picked up at random from the shop counter from among dozens of others equally artistic, will be seen a bit of the finished work. In this poppy five shades of the red silk floss are utilized. It requires practice to be able to arrange the shading so that the cup-like shape of the flower will be preserved, although the work is necessarily flat. In poppies the lighter shades are not on the edge, as is the case with most roses, but dark edges gradually lighten toward the base. The lightest shade seems best fitted to the curving of the petals. The center is filled with a plain satin stitch, surrounded by French knots, green and black.

Occasionally the edge of a petal rolls over, as in the lower single petal of the sketch, and in such instances this portion should be padded to raise it above the remainder of the petal. These padding stitches should run the long way of the space, and be of the same color as the outer covering. The outer layer of stitches are then made to slant just as the veins of the petal would if it was folded over in one's hand. When no petal is at hand to aid one in determining this matter it is a good plan to sketch roughly an outline of a petal, drawing a few lines from its edge toward the base to represent the stitch direction. Then cut the petal out, turn the marked edge over onto the plain side, and it will clearly show the direction the slanting stitches should take, for the lines will be turned in that direction. In these turned over petals the edges must be made even and smooth, clear cut, so to speak. In fact, in all embroidery this is one of the greatest faults found with amateurish work, the failure to keep a uniformly distinct edge or outline. In the poppy design the turned-over petals should be of one of the darkest shades, but in other flowers the shade must be determined by the other portion of the petals, some being much lighter along the edges than others. The very darkest shade is then usually placed just beneath the turnover portion, indicating that a shadow is cast by it upon the petal at this point, which would, of course, be natural.

One must be thoughtful about the shading, deciding in advance just which places seem to be touched by the light

to fill the desired space, but taken exactly parallel across the space. No slanting of stitches and no shading are permissible. The stitches must overlap well, since this is really a background stitch, used to make handsome, solid fillings. It is especially rich in silk floss. The method of working appears at Fig. 2.

RECIPES.

Squash Pie Recipes.

Take Hubbard or any good dry, sweet winter squash, cut or chop in pieces, (I use an ax for this purpose), pare or chip off the hard shell or rind, steam until tender, though not mushy. Line your pie tin with a good pastry crust, then slice in thinly as possible your squash, filling your crust full. Sweeten with a generous half cup of sugar. Dot liberally with bits of butter. Flavor with allspice and cinnamon or allspice alone. Put on top crust, then through a slit or opening in same, fill all interstices with water. Then bake a rich brown.

My other recipe is simply as pumpkin pie is made, with eggs, milk (with cream left in), sugar, spices, etc., excepting that the batter must be made slightly thinner than when made with pumpkin, or the pie will be soggy or solid when cold.—Mrs. E. M. H. (Several other recipes were sent, for which we thank our readers.—Ed.)

Crack Filler.

Corn starch and raw linseed oil make a good crack filler. Make a paste so as to spread nicely.—Mrs. B. K.

Three Chocolate Frosting Recipes.

Boil 1½ cups sugar and half as much milk. Remove from fire before it can be molded into a soft ball when dropped into cold water. Do not stir until it becomes luke warm. In the meantime melt the amount of chocolate (or cocoa may be used, if you wish), adding to boiled sugar and milk when you begin to stir it. By stirring when it is cold or luke warm, it is very fine grained. It takes some time to stir it but don't be afraid it won't grain, for it will. If it has been cooked a little too hard add a little milk or water when ready to put on cake.

I always keep pulverized sugar in the house and a nice, quick chocolate frosting may be made by stirring to right consistency with water or milk, adding melted chocolate or cocoa. It will surprise you how nice this is.

Add cocoa to whipped cream and make a delicious frosting.—Mrs. C. A. R.

Buttermilk Cake.

One cup of sugar and quarter cup of butter, creamed together; one cup buttermilk, teaspoonful soda, two large cups flour. This makes one loaf. It is a favorite as it is so simple to make and is nearly always good. It is nice with spices added, sometimes.—Mrs. O.

The Perfect Soda Cracker

Uneeda Biscuit are the perfect soda crackers. The flour used must meet a perfect test. The very purity of the water is made doubly sure. Even the air in the mixing and bake rooms is filtered. The temperature and humidity of the atmosphere is accurately regulated to a uniform degree. The sponge is kneaded by polished paddles. The baking is done in the cleanest of modern ovens. Then Uneeda Biscuit are packed fresh in the purple and white package that keeps them crisp and good from oven to table. Is it any wonder that

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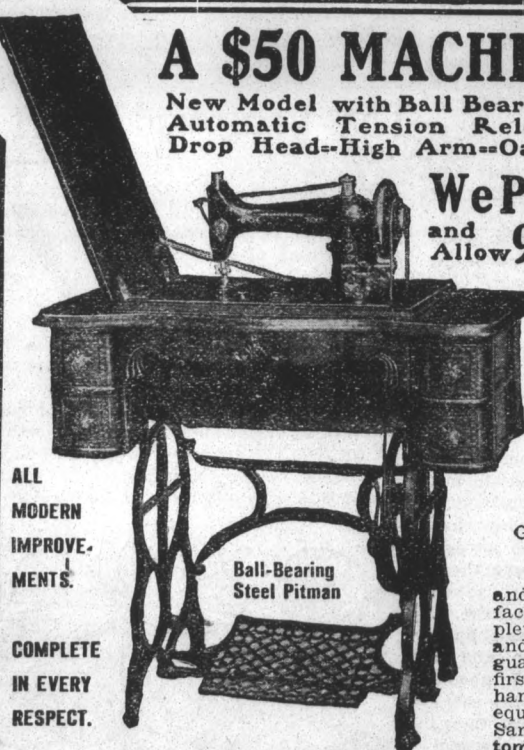
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THE MICHIGAN FARMER, Detroit, Mich.

POULTRY AND BEES

PROFIT IN CAPONIZING.

One of the problems that confronts the poultry farmer each season is how to dispose of the surplus cockerels and culls to best advantage. If one could always have the young cockerels in market condition when prices are highest this question would not be so perplexing, but to hold them for any length of time and feed them on high-priced grains until they are in market condition, and then place them on the market after prices have declined is to realize very little, if any, profit. Another thing, when one has no special pen for the cockerels the will continually annoy the pullets, causing them to develop improperly and preventing them from growing as they should.

In order to solve the problem we should caponize all the surplus cockerels. Caponizing is not such a difficult and disagreeable task as some may imagine, and the loss resulting from the operation is very slight. After one acquires a little experience the loss is hardly ever more than one per cent. A complete set of instruments can be purchased for about \$2.50, with which anyone can perform the operation.

A capon will sell on the market for about double the price per pound that is paid for uncaponized cockerels. Therefore, it is apparent that it is a profitable proposition. Some markets quote them at from 25 to 40c per lb., and as a capon will grow to large size, a single fowl will often bring several dollars. The flesh of the bird is also greatly improved by caponizing, becoming more juicy and tender and having a delicious flavor.

When one is short of hens to brood chicks, especially when incubator chicks are to be given to hens, a capon will perform this duty admirably. Their great size enables a capon to properly care for as high as fifty chicks. Some may think they might be inclined to injure the chicks but this is not the case. After being caponized they become very quiet and docile. They do not crow, nor do their combs grow. They do not annoy the pullets as they did before being operated on, and they can, therefore, be housed with the pullets if desired.

Cockerels should be caponized when they weigh about two pounds each. Select only good, healthy birds. The larger the specimen the greater the loss of blood will be. The operation is sometimes not performed successfully, which results in what we call "slips." That is, the operation failed to remove the parts entirely and they commence to develop again. Such cockerels can, in most cases, be used as breeders as they are most always as good as before being caponized.

Indiana. O. E. HACHMAN.

DON'T BE BOTHERED WITH SWARMING BEES.

There is no more use of allowing your bees to pester you with useless swarming than there is of allowing your cows to pasture on your wheat or corn. Either would be an unmitigated nuisance, and either can be very easily prevented. A fence will keep your cows out of the corn; less labor will keep the bees from swarming, and the benefit is as great in either case. I've heard men say they hadn't time to perform the necessary operations to keep bees from swarming, but they would put in four times that amount of time chasing up to the bee yard to hive swarms, besides keeping the wife or children busy watching for swarms to keep them from getting away entirely. That isn't the worst of it; they lost half of their crop of honey by allowing the bees to sulk and swarm. There are numerous ways to keep them from swarming, which may be varied to suit your circumstances.

The first one I will give is a good one for the man who has some old combs on hand and who wants some increase. As soon as your swarm is beginning to get crowded, set on another hive body with a full set of combs and allow the queen free access. See that they do not lack for honey, if the flow has not yet begun, and allow them these two hive bodies until they have them both pretty well filled with brood and honey. Then take half of the combs containing the most brood and set them on a new stand, leaving the combs with the least brood on the old stand. Then immediately put supers on the old stand. If you use full

sheets of foundation in the supers, as you certainly ought, the bees will begin operations at once, drawing out the foundation above and carrying up the honey from below to make room for brood. The honey should not be left on long enough, before dividing, to allow the bees to cap it over as they will not move it so readily if it is capped and may swarm out rather than carry it up, thereby defeating your main object.

This will in most cases put an end to swarming in that colony for that season, but they should be examined about once in eight or nine days for queen cells. If you find cells, make sure their queen is still there. They sometimes lose their queen and this would explain the presence of the cells. The surest way to tell whether the queen is there is to look for eggs. If you find eggs, and cells well started, in the same hive, you may be sure they are getting ready to swarm. Sometimes you can prevent their swarming just by cutting out the cells, but it is not a very sure method. Shake them on to foundation, which will effectually put a stop to their swarming operations for that summer. This can be done in the first place, instead of using the dividing method, but it is a little harder for the inexperienced man to do successfully. When using this method, instead of putting on the upper story of combs, just put on your comb-honey supers when you see them beginning to whiten the capings along the top bar, and examine them once a week for cells. As soon as you find cells started, shake the bees on foundation and set the hive containing the brood on a new stand. Put the supers back on the hive on the old stand. Care should be used when shaking not to shake off so many of the bees that there are not enough left to take care of the brood, and be sure you leave the queen with the foundation on the old stand.

Your flying force will soon all be back at the old stand where the supers are, making a strong colony just where you need it. The young bees hatching out in the other hive will soon build them up and if the season is long enough you may get some honey from them also. Don't make the mistake so many farmers do of putting on one super and letting it go at that. You are simply throwing away half or more of your crop. Put one super on and as soon as that is two-thirds filled raise it up and slip another under it. When the second super is two-thirds filled put on the third, and so on until the harvest is nearly ended when, if you think they may need more room, set your empty super on top of the others, when they will fill the others and cap them complete before they go into the one on top. Otherwise, you will have a lot of unfinished sections. Bees are averse to working up through sealed honey, and if the supers are simply put on top, as they are added one by one through the season, the first or lower super is likely to be the only one that will be filled.

Mecosta Co.

L. C. WHEELER.

CROOKED-BREADED FOWLS.

This is a deformity which lessens the value of a fowl for whatever purpose it is offered. Many buyers shun trussed fowls with crooked breast-bones as much as if they were of an injurious nature to the consumer. They are not so, but they certainly give a very imperfect appearance, and that always tells against the seller. Good judges buying fowls for breeding, or to improve their stock, will always handle a fowl that is considered. The first spot the hand is clapped on is the breast, when, if the bone is found to be crooked, the bird is thrown out.

Visitors to shows are often puzzled to understand how certain fine birds, apparently perfect in every external point, are unrecognized, but fifty chances to one, if the bird could be handled, a crooked breast-bone would be found, and there ends all success. The subject is therefore of very much interest to fowl raisers and should receive the keenest attention. Inbreeding, which has such a tendency to weakness, is responsible for many crooked breast-bones, but many crooked breasts result from treatment of the young fowls, and this should be averted now. Allowing them to perch or roost on narrow, thin sticks is a fertile cause of it, as the pliable bone, resting so long on a sharp edge, soon bends. See that none are allowed to roost on such perches. Be most careful in providing poles as thick as the wrist, or flat rails or strips of wood about three inches wide.

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W. R. GILBERT.

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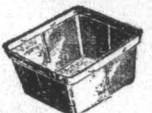
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EGGS from the famous Blue Belle Strain of Barred Rocks, prize winners at Chicago & Boston. \$1.50 a setting, \$3 from special pen of 8 hens, \$2 from special pen of 10 pullets. Lake Ridge Farm, Levering, Mich.

EGGS FOR HATCHING—Prize winning White and Columbian, White Holland Turkeys, and White Guineas. Z. KINNE, Three Oaks, Mich.

Bargain in R. I. Reds—Standard bred and show stock. Single comb eggs \$1 per 15; Rose comb eggs \$1.25 per 25 in good basket. Quality and safe arrival guaranteed. Raise Reds and compete with Canada. Buy of the poultry specialist. W. T. FRENCH, Ludington, Michigan.

S. C. BLACK MINORCA EGGS—Lay large white eggs and lots of them. \$1 for 15; \$3 for 50; \$5 for 100. E. A. BLACK, R. No. 6, Lakeview, Michigan.

White Leghorns—Rose or single comb cockerels. Rose Comb eggs \$1.50 per 15. Ray J. Graham, R. F. D. No. 1, Flint, Mich.

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B. P. Rocks, R. I. Reds, W. Wyandottes and S. C. W. Leghorn eggs for sale. 15 for \$1.25; 25 for \$1.50; 50 for \$2.50. COLON C. LILLIE, Coopersville, Mich.

EGGS: EGGS—White & Buff Orpington, White & Barred Rocks, Black & White Minorcas, White & Buff Leghorns, Rose & Single Comb Reds, Houdans & White Crested Blk Polish. H. H. King, Willis, Mich.

THOROUGHbred S. C. BROWN LEGHORN Eggs at \$1.00 per 15 or \$5.00 per 100. Stock all sold. LEWIS T. OPPENLANDER, H. No. 4, Lansing, Mich.

Eggs—Light Brahma, White Wyandotte and Barred Rocks. \$1 a setting, \$1.50 for two settings. E. D. BISHOP, Route 38, Lake Odessa, Michigan.

R. C. B. Leghorn Cockerels—Kulp strain, the best in season. C. W. WAITE, Gobleville, Michigan.

SINGLE COMB BLACK MINORCAS—A few more pullets to spare. \$1.50 per setting. B. W. MILLS, Saline, Michigan.

SILVER, GOLDEN and WHITE WYANDOTTES. Eggs \$1.50 per 15; \$2.50 per 30. A few White Roosters left, circular free. C. W. BROWNING, Portland, Mich.

FOR SALE—S. C. and R. C. Rhode Island Red Eggs. 15 for \$1.00; 50 for \$2.75; 100 for \$5. BUELL BROS., Ann Arbor, Mich.

WHITE WYANDOTTES—Useful and beautiful. The kind that weighs, lays and pays. A. FRANKLIN SMITH, Ann Arbor, Mich.

White Wyandotte and S. C. White Leghorns. per 15 or \$5 per 100. WATERBURY, Clarkston, Mich.

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MARKETS

DETROIT WHOLESALE MARKETS.

May 31, 1911.

Grains and Seeds.

Wheat.—Dealers appear confused regarding the wheat market, and are careful about going too far in either direction from present quotations. May options have served a bullish purpose and undoubtedly did much to maintain the present basis of values. Speculation as to what the July option will bring forward is now the order of interest. Crop conditions have improved. Rain being general throughout the country, and cool days are aiding the fields. Europe reports better weather and easier market conditions in Argentina have also favored the bears. One year ago the price for No. 2 red wheat was \$1.09 per bushel. The following are the quotations for the past week:

	No. 2	No. 1		
	Red.	White.	July.	Sept.
Thursday	.....91½	.....90½	.....90	.....89½
Friday	.....91½	.....90½	.....90	.....89½
Saturday	.....91½	.....90½	.....90	.....89½
Monday	.....91½	.....90½	.....90	.....89½
Tuesday	.....91	.....90	.....89½	.....88¾
Wednesday	.....91	.....90	.....89	.....88¾

Corn.—This deal has held about steady with a week ago. There continues a fair demand from the east and abroad. Crop conditions, however, are improved. Planting has progressed rapidly and the crop promises to be in the ground in good season. One year ago No. 3 corn was quoted at 61½¢ per bu. Following are the quotations for the week:

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

Oats.—While the outlook in the southwest for oats is very unpromising, the crop has shown general improvement in the central and eastern states. Prices are ruling on last week's basis. Standard oats sold at 43½¢ per bu. a year ago. Quotations for the past week are as follows:

	Standard	No. 3		
		White.		
Thursday	.....38	.....37½		
Friday	.....38½	.....37¾		
Saturday	.....38½	.....38		
Monday	.....38	.....37½		
Tuesday	.....38	.....37		
Wednesday	.....37½	.....37		

Beans.—Cash beans are quoted 10¢ below last week's figures, while the October option is off 2¢. Prices are only nominal and the market is lifeless. Quotations are as follows:

	Cash.	Oct.		
Thursday	.....\$1.94	.....\$1.95		
Friday	.....1.94	.....1.95		
Saturday	.....1.94	.....1.95		
Monday	.....1.94	.....1.95		
Tuesday	.....1.94	.....1.95		
Wednesday	.....1.94	.....1.95		

Clover Seed.—Quotations have advanced all along the line. New seedling is unpromising, owing to the extremely dry weather. A year ago October seed was bought at \$6.42½ per bu. Quotations for the week are as follows:

	Prime.	Oct.	Alsike.	
Thursday	.....\$9.00	.....\$7.95	.....\$8.75	
Friday	.....9.00	.....8.20	.....8.75	
Saturday	.....9.25	.....8.30	.....9.00	
Monday	.....9.25	.....8.30	.....9.00	
Tuesday	.....9.25	.....8.30	.....9.00	
Wednesday	.....9.25	.....8.30	.....9.00	

Timothy Seed.—The market is inactive and steady, with the recently established quotation of \$5.60 per bu. still offered.

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 range of values. 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.—Market is dull with prices ruling 5¢ below the declined values of a week ago. New potatoes are increasing in demand. In car lots Michigan potatoes are selling at 30@35¢ per bushel.

Provisions.—Family pork, \$17.50@18.50; mess pork, \$16.75; medium clear, \$16@17; smoked hams, 14½@15¢; briskets, 10½@11¢; shoulders, 10¢; picnic hams, 9¢; bacon, 14@15½¢; pure lard in tierces, 9¢; kettle rendered lard, 10¢.

Dairy and Poultry Products.

Butter.—A steady market continued throughout the past week for creamery and dairy goods. Chicago, New York and Elgin markets advanced in the face of increased receipts, which, it is believed, are being purchased by storage people, many of whom are offering premiums to get what they want. The advance at those points amounts to about 2¢ and it is expected that the local quotation will follow. Quotations are: Extra creamery 21¢; do., firsts, 19¢; dairy, 15¢; packing stock, 13¢ per lb.

Eggs.—Heavy receipts are causing sellers of eggs worry and prices are off ¼¢. The extent of storage operations is believed to be limited to smaller quantities than usual. Fresh receipts, case count,

cases included, are quoted at 14½¢ per dozen.

Poultry.—The trade is confined to live fowls only and chickens and hens are the active features of the market. Most kinds are quoted a shade lower. Market easy. Live—Spring chickens, 14¢; hens, 14¢; old roosters, 10¢; turkeys, 14@15¢; geese, 8@9¢; ducks, young, 12@13¢; broilers, 25@28¢ per lb.

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

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

Fruits and Vegetables.

Cabbage.—Higher. Selling at \$2.75@3 per crate.

Strawberries.—Quoted at \$3.50@3.75 per 24-qt. case.

Pineapples.—\$3.25@3.75 per dozen.

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

OTHER MARKETS.

Grand Rapids.

The price paid shippers this week for eggs is 14¢. Dairy butter is firm at 16@17¢, and creamery is 2¢ higher. Benton Harbor strawberries will begin coming in quantities this week and there will probably be a fair crop in spite of the dry weather. The poultry market is higher, fowls bringing 13@14¢. No. 2 red wheat is worth 87¢.

Chicago.

Wheat.—No. 2 red, 92@96½¢; July, 88½¢; Sept., 87½¢ per bu.

Corn.—No. 2, 53½@54¢; July, 52½@53¢; Sept., 53½¢ per bu.

Oats.—No. 2 white, 36@36½¢; July, 35½¢; Sept., 35½¢.

Barley.—Malting grades, 85@96¢ per bu; feeding, 60@70¢.

Butter.—Despite heavy production and liberal offerings prices have advanced 2¢ on creamery and 1¢ on dairy since this time last week. The improved demand is the result of more active buying on storage account and the market is firm at the higher range. Quotations: Creameries, 17½@23¢; dairies, extra, 20¢ per lb.

Eggs.—This market is easy under a quiet demand and continued liberal receipts. Prices are off ¼¢ on all grades except prime firsts. Quotations are: Prime firsts, 15¢; firsts, 14¢ per dozen; at mark, cases included, 12@12½¢.

Potatoes.—Old stock continues to come to market in considerable quantities and the market is rather unsettled. Prices at this week's opening showed a little improvement over those of a week ago. Quotations on old potatoes are: Choice to fancy, 40@42¢ per bu; fair to good, 36@38¢.

Beans.—The call for beans is slow and unsatisfactory. Prices have declined sharply during the past week, all kinds suffering. Choice hand-picked pea beans quoted at \$1.95@2 per bu; prime, \$1.85@1.95; red kidneys, \$3.25@3.65 per bu.

Hay and Straw.—Both hay and straw are firm at unchanged values. 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.—Creameries have advanced 3@3½¢ and the market is firm. Creamery specials are quoted at 25@25½¢; extras, 24½¢ per lb.

Eggs.—High grade stock in comparatively light supply and higher. Medium and lower grades over-plenty and dull. Fresh gathered extras, 20@21¢; firsts, 16@16½¢; seconds, 15@15½¢; western gathered whites, 17@19¢.

Poultry.—Live. Western spring chickens, 20¢; fowls, 13½@14¢; turkeys, 12¢. Dressed—Fresh killed turkeys, 13@16¢; fowls, 12½@15½¢; western broilers, 20@28¢.

Boston.

Wool.—It is difficult to put one's finger upon the cause for the improvement in wool circles, but a majority of those who pass opinions seem to credit the present attitude of congress with a large part of the strength. Wools that holders a few weeks ago would have been glad to part with at 50 cents cannot be purchased short of two cents above that figure now. Agents are bidding anxiously for the new clip and the competition is developing strength and encouraging the farmer who still holds his product. Michigan dealers are asking around 20@21¢ for medium wools, 19¢ for delaines and about 16¢ for fine and rejections. Sales in Boston for the week amounted to 2,690,500 lbs.

Elgin.

Butter.—Market firm at 23¢ per lb., which is an advance of 2¢ over the quotation of last week. Output for the week, 960,200 lbs., as compared with 829,700 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

May 29, 1911.

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

Receipts of stock here today as follows: Cattle, 156 cars; hogs, 14,880; sheep and lambs, 11,600; calves, 2,600.

With only 22,000 cattle reported in Chicago, and 156 cars on this market, all the handy butcher cattle from 1,150 lbs. down sold strong at last Monday's prices. Quality considered, heavy cattle from 1,150 lbs. and up sold about 10¢, and in some instances 15¢ per cwt. lower, as there

were some finer cattle here today than have been shown in the last two weeks.

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 lbs., \$5.40@5.65; light butcher steers, \$5@5.25; best fat cows, \$4.60@5.25; 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, \$4.50@4.75; stockers, all grades, \$4@4.50; best feeding steers, dehorned, \$5.25@5.50; common feeding steers, \$4.50@4.75; best bulls, \$5@5.25; bologna bulls, \$4@4.75; stock bulls common to good, \$3.50@4; best milkers and springers, \$5.50@6; common to good do., \$2.50@4.

Cow trade was slow today; common cows very hard to sell at satisfactory prices. Good many staggers cows coming.

Today's hog market shows a decline of about a nickle a hundred on the bulk of the mixed, medium and york weights, while prices on pigs ruled about steady. Local packers bought the bulk of the good quality mixed hogs from \$6.45@6.50; those running to the lighter weights at the latter price, which was the extreme top for any decks carrying a medium weight top. The sorted yorkers sold generally at \$6.50, with a few decks of selected quality at \$6.55, while pigs sold generally at \$6.50. Rough sows sold from \$5.40@5.50; bulk going at \$5.45. Stags sold from \$4.25@5, according to quality. Hogs are practically all cleaned up; market closing steady.

Lamb market opened active today; most of the choice dry-fed lambs selling \$7@7.25; few at \$7.35. Look for about steady prices on handy dry-fed lambs for balance of week, but look for lower prices after next Monday. Grassy lambs selling from \$6.25@6.75 according to flesh. Trade is very dull on common grass lambs today; selling anywhere from 3@5¢. Sheep market was slow today; most of the choice handy ewes selling at \$3.75@4; wethers, \$4.20@4.50; look for about steady prices on sheep balance of week.

Best handy lambs, \$7@7.25; heavy lambs \$6@6.25; bucks, \$3@3.25; cull sheep, \$1.50@3; yearlings, \$5.50@5.75; wethers, \$4.25@4.50; handy ewes, \$3.75@4; heavy ewes, \$3.50@3.75; veals, choice to extra, \$7.75@8; fair to good do., \$5.50@7.25; heavy calves, \$3.50@4.50.

Chicago.

May 29, 1911.

Cattle. Hogs. Sheep.
Received today21,500 37,000 23,000
Same day last year.....12,867 28,329 9,937
Received last week.....53,364 141,370 89,111
Same week last year.....45,976 118,126 58,092

Tomorrow will be Decoration Day, and the packers are not expected to work over half a day, so that receipts today are sufficient for the general requirements. Cattle were in very fair demand, however, and prices were about steady, with butcher stock and prime steers ruling firm. This follows advances of 10@15¢ in butcher stock and bulls last week and a rise in that time of 50@75¢ in calves. Plain heavy steers declined 10¢ last week. Hogs closed better last week than might have been expected with the increased receipts, values being mainly a dime higher than a week earlier. The average weight of the hogs received last week was 243 lbs., being three pounds heavier than a week earlier, and comparing with 240 lbs. a year ago and 218 lbs. two years ago. The receipts today were much smaller than for recent Mondays, and the early market was steady and unchanged, but the late trade was slow at weak values. Hogs sold at \$5.60@6.22½, pigs going at \$5.50@6.15, boars at \$2.25@2.75 and stags at \$5.95@6.30, stags selling subject to 80 lbs. dockage per head. Sheep and lambs were again in bad shape, following the bad close of last week. Trade was very slow on the following basis for clipped stock: Lambs, \$4.25@6.90; ewes, \$2.50@4.15; wethers, \$3.90@4.50; yearlings, \$4.50@5.50. There was a large run of southern spring lambs, which were slower at \$5.25@7.25. When the market closed last week sheep and lambs were 25@50¢ lower than at the best time of the week, and today's close was especially bad. The packers received last week about 14,000 spring lambs direct from Louisville, and this direct movement is expected to increase from now on.

Cattle have met with a better demand on the whole in recent weeks than earlier in the season, the consumption of beef being somewhat larger, but it is still not liberal enough to warrant large marketings of cattle, and country shippers should send in stock conservatively. Early appearance of extremely hot weather is highly unfavorable for the sale of heavy beefs, the popular demand being for light cuts of beef, and this tends to make fat handy yearling steers and fat cows and heifers the most active and firmest in price. Beef steers sold last week largely at \$5.50@6.25, the commoner lots of light-weight steers going at \$5@5.50 and the better class of shipping beefs at \$6.15@6.40. Export steers were salable at \$5.60@6.20 and good to choice yearling steers at \$5.75@6.30. Good killers were purchased at \$5.75@6.10 and medium grade steers at \$5.60@5.70. The tendency all of the time is for country shippers to send in too many cattle, and prices averaged a little lower for most of the steers during the first half of last week, with a rally of 10¢ Thursday on light receipts. The great bulk of the cattle are still offered on Monday and Wednesday, and 25,148 head showed up Monday last week. Cows and heifers on the butcher order have been good sellers at \$3.60@6.10, cutters selling at \$3.10@3.55, canners at \$2.10@3 and bulls at \$3.50@5.65. The stocker and feeder trade was fair considering the high prices asked, the former selling at \$4@5.60 and the latter at

\$5@5.75, while a good demand existed for stocker and feeder cows and heifers at \$4@4.75. The profits on fattening female cattle have been so good as compared with those for steers, that many farmers are going to place cows and heifers in their feed lots. Calves have been active at further good advances, selling at \$3.50@5.50 per 100 lbs. for the coarser heavy ones, while the better class of light vealers sold at \$7@8.25. Milkers and springers had a moderate sale at \$30@65 per head, the inquiry being mainly for choice cows at \$48 and better, with not many offered that were prime enough to sell above \$60. There is still a good demand for breeding cows.

Hogs are marketed freely from feeding districts, matured lots being in large supply in most parts of the corn belt, and all that causes a check in the movement from time to time is a bad break in prices. The market for a long time has been in a depressed condition due to so many offerings, especially those of heavy weights, and coarse, heavy old sows are going at a big discount. The choicer lots of underweights on the bacon order are particularly scarce still and are market toppers, with a large demand from packers. Ruling prices for hogs are much lower than two years ago, and look especially low when placed in comparison with those paid a year ago, when swine were remarkably scarce and abnormally high. As compared with three years ago, however, prices look very high. Farmers have been feeding a great deal of corn all along to their hogs, and this is still a profitable thing to do, notwithstanding the large decline that has taken place in hog values. The eastern shipping demand for hogs of the better class is very good, but this demand has not kept pace with the increasing receipts.

Sheep and lambs have been marketed here and elsewhere in such greatly reduced numbers of late that sellers were able to dictate terms, and the extremely sensational rise in prices of the preceding week was followed by a further sharp advance early last week. These advances came about as the natural result of sheepmen disposing of most of their fed flocks some time ago, leaving decidedly inadequate supplies for sending to market. These upturns were followed by a natural reaction, buyers refusing to operate freely except at reductions, and this caused some breaks in prices, although even at the lowered figures, the market was still high as compared with the time before the boom started. Now that most of the fed flocks are out of the way, buyers will be obliged to wait for the grass-fed flocks and southern spring lambs.

Horses were marketed with the usual freedom for several days last week, and as the general demand was hardly good enough to warrant such generous supplies, prices weakened and ruled to a large extent \$10 per head lower. The market was particularly bad for inferior horses selling at \$150 and under, the best demand being for a medium class of business horses of medium weights selling around \$185@210. Choice drafters had a fair sale around \$220@265, with not many good enough to bring \$250 early in the week, and several pairs of drafters went at \$390@400. Later in the week attractive light chunks sold up to \$475 per pair, and a handsome black horse adapted for either saddle or harness brought \$175. A pair of greys sold at auction at \$630.

CROP AND MARKET NOTES.

(Continued from page 598).

year. Beets are in and many are about ready to thin. Many early potatoes are up, ready to cultivate. Fruit of all kinds bids fair for a good supply. Meadows are rather short for the season, there being too little rain for rapid growth. There seems to be an abundance of pigs in the county, as many farmers have sale posters on the front gate. Wool is going out of the farmer's hands at from 15@19¢. Eggs and butter are both far below the market of a year ago.

Lapeer Co., May 15.—Weather cool and dry, with frosty nights for the past week. Wheat, oats, new seedling, meadows and pastures need rain. Pastures are insufficient and supplementary feeding is quite necessary for milch cows. Hay is scarce and almost impossible to get. Many potatoes are already planted, May planting seeming to be popular in this section. No corn planted as yet. Quite a large acreage of sugar beets going in this season. Potatoes in the local market are bringing 30¢; oats, 35¢; wheat, 86¢; beans, \$1.75. Cows are not looking very well on account of poor pastures and shortage of feed.

Wisconsin.

Ashland Co., May 10.—Spring work is progressing finely and weather is very favorable for same. Some have oats sown and up, while others have ground ready and are waiting for rain. Some have early potatoes planted but majority will plant the coming week. Ground is very dry below eight or ten inches. No moisture found below twelve inches in digging post holes. If no heavy or continued rains, look out for a poor hay crop. Forest fires are very bad again and a good many losses of logs, wood and bridges are reported. Hay is a very scarce article and dealers report it impossible to buy tame or prairie hay at any price. One car of refuse March hay was on the market here and sold for \$19.

Ohio.

Carroll Co., May 22.—The weather is very hot and dry; grass not growing much. Farmers are busy washing and shearing sheep. Barley, oats, corn and some potatoes are up already. Most of this spring's lambs are pretty nice. All live stock is looking good so far, but there will not be much grass if we don't get a good rain soon.

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.

June 1, 1911.

Cattle.

Receipts, 965. Good dry-fed strong; thin grassers dull; butcher grades good; quality full steady.

We quote: Best steers and heifers, \$6.10@6.20; steers and heifers, 1,000 to 1,200, \$5.75@6; steers and heifers, 800 to 1,000, \$5.25@5.75; 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, \$4.50 @5; good fat cows, \$4.25@4.40; common cows, \$3.50; canners, \$2.50@3; choice heavy bulls, \$4.75@5; fair to good bolognas, bulls, \$4.75@5; 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, \$4.25 @4.50; stock heifers, \$3.50@4.25; milkers, large, young, medium age, \$4.00@55; common milkers, \$2.00@35.

Bishop, B. & H. sold Mich. B. Co. 2 bulls av 1,160 at \$4.50, 1 do weighing 1,450 at \$4.50, 2 do av 850 at \$4; to Regan 4 butchers av 767 at \$5, 1 cow weighing 820 at \$4; to Bresnahan 3 do av 1,016 at \$3.70; to Kamman B. Co. 4 steers av 942 at \$5.60; to Parker, W. & Co. 2 bulls av 1,140 at \$4.70, 28 steers av 950 at \$5.40; to Moffat 1 do weighing 830 at \$4.75, 1 cow weighing 900 at \$3.50, 1 do weighing 950 at \$4, 7 do av 1,016 at \$4.40; to Sullivan P. Co. 1 bull weighing 1,990 at \$5, 1 steer weighing 1,150 at \$6.10, 2 do av 1,060 at \$5.85, 1 cow weighing 1,250 at \$5, 1 do weighing 1,060 at \$4.25, 2 do av 1,025 at \$3.75; to Bresnahan 2 cows av 830 at \$3.50; to Parker, W. & Co. 1 bull weighing 1,150 at \$4.60, 17 steers av 1,206 at \$6.20, 7 heifers av 407 at \$3.75; to Hammond, S. & Co. 5 butchers av \$34 at \$4.55; to LaBoe 2 bulls av 1,200 at \$4.60.

Spicer & R. sold Mich. B. Co. 19 steers av 1,115 at \$6.15, 19 do av 1,033 at \$6.15; to Sullivan P. Co. 18 do av 1,243 at \$6.10, 19 do av 1,032 at \$6.10, 18 do av 1,137 at \$6.10, 19 do av 1,118 at \$6.10, 19 do av 1,113 at \$6.10, 18 do av 1,200 at \$6.10, 18 do av 1,183 at \$6.10, 1 cow weighing 1,000 at \$4.50, 4 do av 942 at \$4.25, 2 canners av 855 at \$3, 4 cows av 955 at \$4.60, 1 bull weighing 1,270 at \$4.60, 1 canner weighing 750 at \$2.50, 1 cow weighing 1,020 at \$4, 1 do weighing 860 at \$3, 1 bull weighing 830 at \$4.25; to Regan 2 heifers av 480 at \$4.50; to Rattkowsky 3 do av 480 at \$4; to Cooke 2 steers av 860 at \$4.80, 25 do av 960 at \$6; to Parker, W. & Co. 1 cow weighing 770 at \$3.25, 2 bulls av 1,200 at \$4.50, 12 steers av 933 at \$6; to B. S. & Co. 2 cows av 715 at \$3.25, 5 stockers av 666 at \$4.75, 4 do av 742 at \$4.75; to Kamman B. Co. 25 steers av 950 at \$5.75, 1 do weighing 560 at \$5; to Hammond, S. & Co. 1 cow weighing 1,000 at \$3.50, 2 do 975 at \$4, 8 butchers av 887 at \$5, 1 cow weighing 800 at \$2, 4 do av 992 at \$4, 2 steers av 915 at \$5.25, 1 do weighing 820 at \$5, 1 bull weighing 950 at \$4.50; to B. S. & Co. 1 heifer weighing 450 at \$3.35, 1 do weighing 830 at \$4.50, 1 stocker weighing 600 at \$4.25.

Roe Com. Co. sold Parker, W. & Co. 1 cow weighing 950 at \$4.50, 1 do weighing 820 at \$2.50, 1 bull weighing 730 at \$4.25, 1 do weighing 1,560 at \$4.65; to Rattkowsky 3 butchers av 577 at \$4; to Kamman B. Co. 2 steers av 775 at \$5.50; to Sullivan P. Co. 3 cows av 923 at \$3.50, 1 do weighing 850 at \$2.75, 1 bull weighing 1,600 at \$5; to Thompson Bros. 9 cows av 1,075 at \$4.25, 1 bull weighing 750 at \$4; to Mich. B. Co. 5 butchers av 716 at \$5, 21 do av 985 at \$5.55; to B. S. & Co. 3 cows av 840 at \$3.50.

Haley & M. sold Sullivan P. Co. 2 cow and bull av 1,160 at \$4.60, 2 heifers av 750 at \$5, 1 do weighing 750 at \$5, 1 cow weighing 870 at \$2.50, 1 bull weighing 1,660 at \$4.75; to Kamman 1 cow weighing 1,000 at \$3.85; to Breitenbeck 6 steers av 995 at \$5.75, 2 do av 700 at \$5.50, 13 butchers av 731 at \$5.55; to Kamman B. Co. 11 do av 577 at \$4.55; to Lachalt 8 do av 893 at \$5.45; to Applebaum 5 do av 880 at \$4.70; to Bresnahan 4 cows av 832 at \$3.60, 3 bulls av 420 at \$4; to LaRoe 8 steers av 891 at \$5.40, 1 bull weighing 1,000 at \$4.50; to Schlischer 2 steers av 695 at \$5.20; to B. S. & Co. 2 stockers av 615 at \$4.75.

Groff sold LaBoe 3 bulls av 1,000 at \$4.75.

Lowenstein sold Sullivan P. Co. 1 bull weighing 1,520 at \$4.50, 2 do av 1,335 at \$4.85, 2 cows av 1,150 at \$3.60.

Runnels sold same 1 bull weighing 2,050 at \$4.75.

Henderson sold Lingeman 8 steers av 1,025 at \$5.75.

Robb sold Hammond, S. & Co. 4 heifers av 735 at \$4.50, 2 cows av 985 at \$4, 1 do weighing 1,190 at \$4.75.

Groff sold Schlischer 12 steers av 1,104 at \$5.75.

Lowenstein sold Gerish 10 steers av 1,060 at \$5.75, 11 do av 1,140 at \$5.75.

Belheimer sold Mich. B. Co. 3 cows av 1,013 at \$4.25, 1 do weighing 950 at \$3.25.

Johnson sold Fry 3 heifers av 770 at \$5.35.

Same sold Parker, W. & Co. 3 bulls av 1,007 at \$4.35.

Venus sold Bresnahan 4 cows av 1,015 at \$4.

Kendall sold same 6 av 961 at \$3.75, 2 av 885 at \$2.75.

Sandall sold Newton B. Co. 3 steers av 1,080 at \$5.50, 1 cow weighing 950 at \$4.50.

Veal Calves.

Receipts, 1,342. Market steady at last Thursday's prices. Best, \$6.75@7.25; others, \$4@6.50; milch cows and springers \$5@10 per head lower.

Haley & M. sold Mich. B. Co. 1 weighing 230 at \$6, 22 av 155 at \$7; to Parker, W. & Co. 14 av 145 at \$7, 28 av 140 at \$6.25; to Rattkowsky 13 av 150 at \$7, 3 av 208 at \$4.15 av 135 at \$6.50; to McGuire 13 av 150 at \$7.25.

Roe Com. Co. sold Sullivan P. Co. 5 av 145 at \$7, 11 av 135 at \$5.50; to Rattkowsky 3 av 130 at \$6, 28 av 150 at \$7, 5 av 145 at \$7, 3 av 140 at \$6.50; to Mich. B. Co. 11 av 150 at \$7, 7 av 125 at \$5.50.

Spicer & R. sold Applebaum 14 av 150 at \$7; to Reason 22 av 140 at \$6.75, 7 av 140 at \$6.75, 3 av 165 at \$5.15; to Freedman 23 av 140 at \$6.80; to Goose 5 av 180 at \$4, 33 av 145 at \$6.50; to Sullivan P. Co. 1 weighing 180 at \$5.50, 8 av 150 at \$7.25; to Brodloff 5 av 150 at \$7; to Parker, W. & Co. 28 av 135 at \$6.50; to Mich. B. Co. 11 av 140 at \$7, 12 av 150 at \$7; to Sullivan P. Co. 13 av 135 at \$5; to Nowshsky 8 av 130 at \$5.50.

Bishop, B. & H. sold Sullivan P. Co. 10 av 168 at \$7.25; to Parker, W. & Co. 12 av 145 at \$7, 24 av 150 at \$7.25, 5 av 140 at \$7, 62 av 135 at \$6.25; to Burnstine 14 av 145 at \$7.25; to Thompson Bros. 18 av 135 at \$7.10, 10 av 153 at \$7, 4 av 155 at \$7.25, 2 av 120 at \$6.

Kendall & S. sold Sullivan P. Co. 25 av 150 at \$7, 10 av 166 at \$7.25, 1 weighing 270 at \$5.50.

Johnson sold same 5 av 165 at \$6.50.

Lachlin sold Newton B. Co. 3 av 120 at \$5, 18 av 145 at \$6.25.

Sandall & T. sold same 6 av 105 at \$5.50, 19 av 135 at \$7.10.

Belheimer sold Burnstine 14 av 150 at \$7.10.

Sheep and Lambs.

Receipts, 1,551. Market steady at last Thursday's prices; common grassy grades dull. Best lambs, \$7; fair to good lambs, \$6@6.75; light to common lambs, \$4@4.50; spring lambs, \$7@8; fair to good sheep, \$3.50@4.25; culs and common, \$2.50@3.

Spicer & R. sold Mich. B. Co. 4 sheep av 106 at \$4.25, 3 do av 100 at \$4, 14 yearlings av 110 at \$4.40; to Sullivan P. Co. 25 lambs av 73 at \$6, 72 do av 64 at \$5.30, 12 do av 75 at \$5.50; to Mich. B. Co. 31 sheep av 95 at \$4.35.

Haley & M. sold Mich. B. Co. 13 sheep av 120 at \$4, 5 spring lambs av 50 at \$6.75, 3 sheep av 92 at \$3.75.

Roe Com. Co. sold Sullivan P. Co. 7 spring lambs av 55 at \$8, 6 lambs av 85 at \$5.25, 42 do av 65 at \$6.50, 4 sheep av 130 at \$3, 9 lambs av 72 at \$4.50, 2 sheep av 120 at \$3.50.

Lachlin sold Newton B. Co. 59 lambs av 73 at \$5.

Johnson sold Sullivan P. Co. 6 lambs av 80 at \$4.50.

Same sold Mich. B. Co. 5 sheep av 155 at \$3.75.

Kendall & C. sold Bray 30 lambs av 60 at \$4.75.

Bishop, B. & H. sold Newton B. Co. 9 lambs av 75 at \$6, 2 do av 80 at \$6, 16 spring lambs av 65 at \$8; to Parker, W. & Co. 19 sheep av 70 at \$4, 9 lambs av 73 at \$5; to Hammond, S. & Co. 36 do av 68 at \$6, 68 do av 80 at \$7, 52 do av 73 at \$6.75; to Fitzpatrick Bros. 6 spring lambs av 60 at \$7.50, 37 sheep av 80 at \$3.25, 23 do av 90 at \$3.50, 13 do av 85 at \$3.25, 20 do av 76 at \$3.25, 11 do av 105 at \$3.25, 7 spring lambs av 55 at \$7.50.

Hogs.

Receipts, 5,335. Packers bidding 5@10c lower than last Thursday; none sold up to noon.

Range of prices: Light to good butchers, \$6@6.05; light yorkers, \$6; heavy, \$5.75@5.90.

Bishop, B. & H. sold Parker, W. & Co. 2,825 av 180 at \$6.05, 415 av 175 at \$6.

Sundry shippers sold same 460 av 175 at \$6.

Roe Com. Co. sold Sullivan P. Co. 950 av 190 at \$6.05.

Sundry shippers sold same 75 av 185 at \$6.05.

Haley & M. sold Hammond, S. & Co. 360 av 180 at \$6.05, 280 av 170 at \$6.

Spicer & R. sold same 610 av 180 at \$6.05, 275 av 165 at \$6.

Sundry shippers sold same 380 av 180 at \$6.05.

Friday's Market.

May 26, 1911.

Cattle.

Receipts this week, 1,083; last week, 869. Market steady at Thursday's prices.

We quote: Extra dry-fed steers and heifers, \$6; steers and heifers, 1,000 to 1,200, \$5.65@5.90; do., 800 to 1,000, \$5.25@5.60; grass steers and heifers that are fat, 800 to 1,000, \$5@5.25; do., 500 to 700, \$4.60@5.25; choice fat cows, \$4.50@4.75; good fat cows, \$4.25@4.50; common cows, \$3.60@3.75; canners, \$2.50@3.25; choice heavy bulls, \$4.50; fair to good bologna bulls, \$4@4.25; 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@4.75; choice stockers, 500 to 700, \$4.25@4.50; stock heifers, \$3.50@4.25; milkers, large, young medium age, \$4.00@60; common milkers, \$2.50@35.

Veal Calves.

Receipts this week, 1,707; last week, 1,643. Market 25c lower than on Thursday's opening. Best, \$6.75@7; others, \$4@6.50. Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 2,862; last week, 2,846. Market dull at Thursday's close; grass sheep and lambs very dull and hard to sell. Best lambs, \$7; fair to good do., \$6.25@6.75; light to common lambs, \$4.50@5; spring lambs, \$7@8; fair to good sheep, \$3.75@4.25; culs and common, \$3@3.25.

Hogs.

Receipts this week, 7,650; last week, 6,640. Market 5@10c higher than on Thursday. Range of prices: Light to good butchers, \$6.10@6.15; pigs, \$6.10@6.15; light yorkers, \$6.10@6.15; heavy, \$5.85@6.

No Place for Birds in LOUDEN'S Bird Proof Barn Door Hanger

The solid steel track of this new hanger has no opening whatever except a narrow slit along the bottom. Not even a house wren can get in. It is absolutely trouble proof—bird-proof, weather-proof, clog-proof.

LOUDEN'S Bird Proof HANGER

Is the only hanger made with a flexible track—won't hold trash between track and barn to rot the siding. Made of heavy rust-proof steel. So strong and durable in construction that it will last a lifetime. Write today for full information. LOUDENIZE your whole barn. It will save you time, labor and money. Use Louden's Junior Hay Carrier, Balance Grapple Fork, Feed and Litter Carriers, and Sanitary Steel Stalls and Stanchions. See them at your dealer's—if he hasn't them send us a rough plan of your barn for an estimate of cost and saving.

Catalog and valuable booklet free if you send us your dealer's name. Write today.

Louden Machinery Company, 603 Broadway, Fairfield, Iowa.

The Coleman Silo

This is the only door that can be placed and clutch set with man standing on inside of silo. When empty or using from silo, the ensilage, the doors work in a slide, which shows from cut. The doors are placed from the inside, which is more convenient by not having to climb outside. The steps are built solid to doors making it more safe and will not slid out of place. The Coleman Silo is the one to use. Send us a card and get full information with Free Booklet. No agents employed, the farmer gets their commission. Write us at once.

The Coleman Silo Co., Boyne City, Mich.



Here's the only blower ensilage cutter that can be depended upon to do good work under all conditions.

PAPEC PNEUMATIC ENSILAGE CUTTER

Cuts and elevates silage with less power than any other cutter. Easy to set up and operate; no wood to twist and warp; elevates over 50 feet without clogging. Write for booklet, "How to Prepare Ensilage," FREE.

PAPEC MACHINE CO., Box 50, Shortsville, N. Y. Distributing Points: Toledo, Ohio, Columbia, Ohio, Indianapolis, Indiana.

Genasco

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There's a big difference between Trinidad Lake Asphalt Roofing and so-called asphalt roofings. Write for the Good Roof Guide Book and find out about them. Ask your dealer for Genasco with Kant-leak Kleets packed in the roll.

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I will gladly send you incontrovertible proof of these statements. Our land is high lying, no swamps or marshes, railroad runs directly through it, no farm being more than three miles from it. Not far from a modern town of 7,000 population and close to another of 4,000; good hard roads, plenty of pure drinking water at a depth of 20 feet; artesian water and flowing wells at 75 to 200 feet; needs but little clearing; 50 inches of rainfall; finest climate in the world both winter and summer; no mosquitoes; healthiest location; plenty of schools and churches; desirable neighbors; fine hunting and fishing; perfect title; warranty deed; abstract of title, time for payments extended if sick or out of employment. Florida State Agricultural Department gives the following census reports of the actual results secured by growers in our county: lettuce, \$354 per acre; celery, \$1,925; cucumbers, \$514; English peas, \$137; beans, \$331; and you can grow from three to four crops per year on the same land. Our county is the largest fruit producing county in the state. Oranges yield \$800 per acre; grape fruit, \$800; strawberries, \$300; peaches, \$400; pears, \$300. I have prepared a handsome 32-page booklet containing dozens of photographs of fruit and vegetable farms in our vicinity and containing all the information you wish concerning this favored region. It also contains hundreds of letters from men from every part of the United States who have purchased farms here from us and who are more enthusiastic in their praise of our land than we are. I will send it to you free of charge if you will write for it today. Don't delay, but send your name and address today.

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

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A golden opportunity to purchase a good Michigan fruit farm at a sacrifice, 1 acre of raspberries netted last year \$175; excellent orchard; 100 apple; 300 pear; 50 plum; 12 cherry, and 800 peach trees, besides 800 grape vines, 6 acres of raspberries, 3 acres of blackberries, 2 acres of strawberries; 2-story 10-room house; barn 40x60, other outbuildings in excellent condition; splendid water, fine shade, only one mile to electric car station, railroad station, and good market; convenient driving distance to Grand Haven, where fruit shipped in evening, arrives at Chicago or Milwaukee the next morning. Full traveling directions to see this rare bargain and many other Michigan farms, page 6, Chicago Edition, Strout's Farm Catalogue No. 34; just out, copy free. Strout 101, E. A. STROUT, Old Colony Building, Chicago, Illinois.

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In Blue Earth County, Brown County, and Lyon County are the best farms you can buy for the money anywhere. A few hours ride from St. Paul and Minneapolis, and a night's ride to Chicago. Settled community, good schools, plenty of rainfall, good markets, soil the best. This land is better than they are selling for double the price in older States. We can satisfy you. Write us. SOUTHWESTERN LAND COMPANY, 126 Jackson St., Mankato, Blue Earth County, Minn. Marshall, Lyon Co., Minn. "Live Agents Wanted."

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

HOW TO STRENGTHEN A LATH AND PLASTERED SILO.

I would like to know if I should put 2x4's closer than 16 in. for a lath and plastered silo, to make it strong enough? Will the lath and siding be enough on the side the doors are on by leaving 2 ft. between the doors? If not, how can I make it strong enough? Are common lath strong enough or should I get them cut thicker? I want this silo for 18 or 20 head of stock. Would like to have enough ensilage left to feed for a couple of months in the dry season. What size should I build and what would be its capacity? How many yards of sand, also how many barrels of cement will it require? About what material ought I to get for staging? I want to build this silo six or eight feet from barn, in front of feed room door, then build a cover over the doors. Will it be necessary to make doors to, or about to, where the ensilage will be after settling? How can I attach the ladder the best way? Would three guy wires be sufficient, how heavy should they be, and how best attached?

Gladwin Co.

J. E. W.

Of course, if the studding were placed closer together than 16 inches it would strengthen the silo. The closer together you get the studding and the stronger the studding are the more strength there would be to the silo. But it would be much cheaper to add strength to the silo by means of wire hoops than it would be to increase the number of the studding. If you will fasten a No. 9 wire around the studding just above the first door of the silo then draw the wire tight around the silo twice and fasten it to the same studding, this will make a hoop that will not interfere with the boarding on the outside and it will give all the strength necessary to the silo. Then you can go higher, to the top of the next door, and put on more wire, and so on the entire height of the silo. In this way you will put on wire hoops which will strengthen your silo so that there is no question about its standing the pressure of the

You have the right idea in building the silo six or eight feet from the barn. Do not get it too close to the barn. Then, on the ground connect the silo to the barn with a small building. Have this building about six feet wide and seven feet high, and have a good roof on this, and this building will open directly into the stables. Now from the top of this connecting building, start your ensilage chute. Make it three feet wide and two feet deep, and I would run it to the top of the silo. On one side of this chute make your ladder for ascending into the silo. You climb up on the ladder on the side of the chute and enter the silo at the door. Then your ladder doesn't interfere with throwing down the ensilage. Have one or two windows in this chute so that it will be light and have a window on either side of your connecting room. By having the chute extend to the entire height of the silo you can climb out of the top of the chute onto the top of the silo. By all means build a flat roof on the top of the silo, as has been described in the Michigan Farmer a number of times. When you fill the silo somebody has to go on top to adjust the blower pipe and also to adjust the distributing apparatus which you use to distribute the ensilage in the silo. Now, if you have your chute extend clear to the top the ladder on one side, there is no danger of falling and no one gets dizzy, or anything of that sort. You can simply climb out on the flat roof of the silo and everything is safe and everything is permanent.

WILL IT PAY TO BE A MEMBER OF A COW-TESTING ASSOCIATION?

Would it be a good investment to join a cow-testing association which would cost about \$1.10 per cow per year. Or could I get me a tester and do the work myself, and would it be just as satisfactory all around? In other words, what would be the advantage, if any, inasmuch as I have some pure-bred Jerseys and desire to improve my herd as fast as possible?

Kent Co.

SUBSCRIBER.

In my judgment there is nothing that

W.'s mind is whether he can afford to pay \$1.10 per cow per year for doing this or whether he better attempt to do it himself. It is perfectly feasible for the farmer to do this work himself if he will. But he won't. He will neglect it when he gets busy in hay and harvesting. He will put it off from time to time and at the end of the year he won't know any more about what his cows have been doing than he did before, simply because he hasn't been accurate and careful and systematic in the testing. That is the great trouble with the farmer doing it himself. If a man has a large herd and could get the herdsman to do this, do it systematically, he perhaps can get as careful results as he could from a cow-testing association.

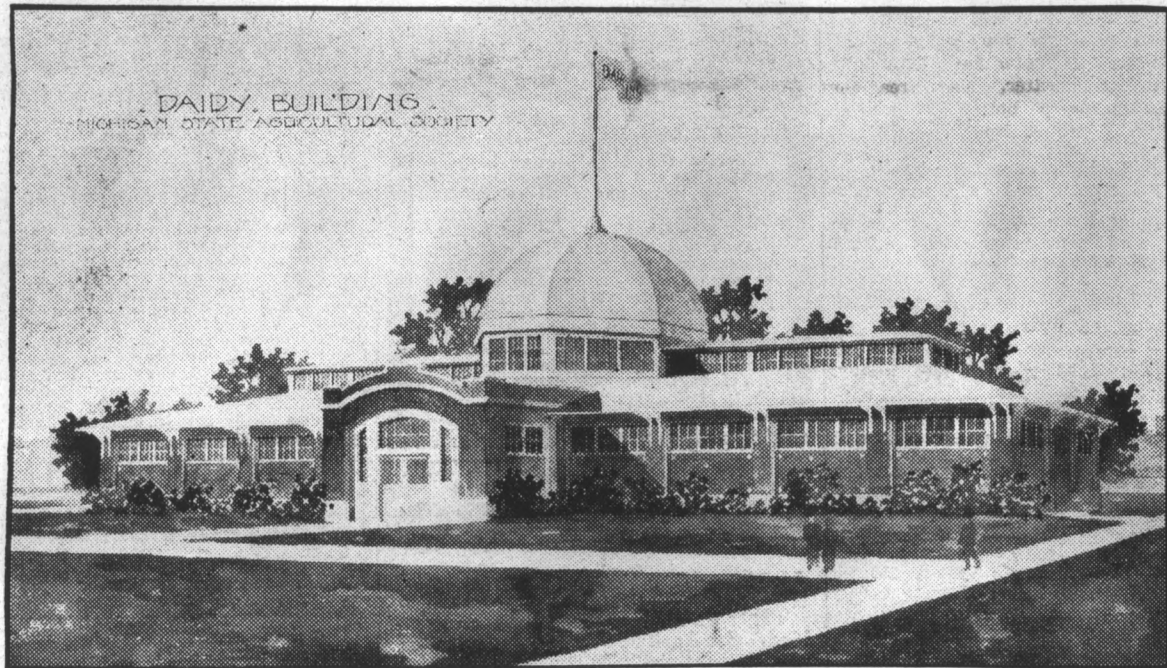
A NEW DAIRY BUILDING FOR THE STATE FAIR.

Work was started last week on the new \$40,000 dairy building at the Michigan State Fair grounds and the building will be ready for occupancy this fall. The new structure will be of stone and steel and both a useful and highly ornamental addition to the grounds and group of permanent buildings already constructed.

The dairy building will occupy a space on the new addition to the grounds between the immense automobile building erected last year and the band stand. The structure will be 200 by 90 feet, with a dome of concrete, and lighted from windows above as well as those along the sides.

The interior will be divided and one section will be a lecture hall which will seat 800, and will permit of demonstrations by college and dairy experts on the proper care and treatment of milk for all purposes. This feature is expected to prove a great attraction to the farmers, as it will show them how to make the most money possible out of their dairies.

In one end of the building will be a model stable and 20 cows will be kept there. The milking will be done by ma-



Handsome New \$40,000 Dairy Building Being Erected at State Fair Grounds.

silage and you will do it very much cheaper than it would be to add extra studding to give strength. Your hoops are all out of sight. No one knows you have used any hoops.

If you wish to carry 20 head of cattle on your farm and want silage for them during the winter and also during the usual summer drought, I would advise building a silo 12 or 14 feet in diameter and about 40 feet high. Possibly a silo 12 feet in diameter and 40 feet high would be amply sufficient to give you all the ensilage you need, but it is a pretty good plan to have a little extra room, a little extra capacity, more than you really think you will need. And where you keep as many as 20 head of cattle it would be perfectly practical to have a silo 14 feet in diameter and 40 feet high. This will furnish you all the silage that you need. Your 20 head of cattle will consume in the neighborhood of 10 tons of corn silage a month and a 12-foot silo 40 feet high will hold about 100 tons. This would give you silage for 10 months of the year. The probability is that in a few years you will want to keep more than 20 head of cattle. Then you will wish you had built your silo just a little bit larger, and two feet more in diameter will add very much to its capacity.

a dairyman could do that would pay him better than to be a member of a cow-testing association if this association is properly managed and the right kind of a man does the testing. The cow-testing association puts dairying on a business basis. It enables one to know just exactly what each cow is doing. Every month the tester gives each patron a statement showing just what it cost to feed each cow in his herd for the previous month and just how much butter-fat she produced, and its value at the market price. Consequently a man knows exactly what he is doing. If he has a cow that isn't paying he knows it. At the end of the year the cow tester gives a general summary, stating the cost of keeping his cows for a year and the amount of money the farmer received for the butter-fat produced. It isn't well always to condemn a cow on one month's work; possibly not on one year's work. But you can certainly get an idea by the amount of work which a cow does in one year whether she is going to be a valuable dairy animal or not. If a cow hasn't the capacity to make herself profitable what is the business, then, of keeping her in the herd? The sooner she is disposed of, the better.

I anticipate that the question in J. C.

chines, and separators will remove the cream from the fluid. There will be pasteurizing apparatus, and the equipment will be modern and approved by authorities. The floor of the building will be of concrete, and it will be made attractive inside as well as on the exterior.

MAMMITIS—GARGET—INFLAMMATION OF UDDER.

Mammitis consists of inflammation of the mammary gland and very often it is designated by the term "Caked bag or garget." When the milk secretion is changed and becomes stringy it is commonly named garget. Mammitis occurs in two forms; in mild cases the superficial structures of the gland are affected, but when the inner and deep-seated structures are involved the case is much more serious. In some cases only one quarter may be inflamed, in other cases two, while in some cases all four quarters are diseased.

Causes.

There are many causes which seem to bring about an inflammation of part, or the whole udder, indigestion may bring it on, infection through teat opening, or

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The Tubular Will Be Delivered At Your Home, Free. Set Up And Started For You. Left with You For Free Trial. Not One Cent of Expense to You For Freight or Anything Else. You Pay Nothing in Advance. Take No Trouble or Responsibility.

Tubulars produce twice the skimming force of others. Free trial proves Tubulars skim faster and twice as clean. Dairy Tubulars contain no disks or other contraptions. Free trial proves that rightly made dairy separators don't need them. Tubulars wear a lifetime. Guaranteed forever by America's oldest and world's biggest separator concern.

You can own and use The World's Best for less than any other. Then how can you afford to miss this free trial or risk anything on any "mail order" or other (so called) cheap machine that lasts one year on the average?

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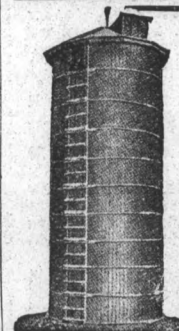
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We can use all you have. For churning purposes. Ship to us. We pay highest market price. Cash on every shipment. Reference—First National Bank of Detroit.
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\$20.45
AND UP.

SEND NO MONEY

30 Days Trial

You waste money if you pay a cent more than our price for a Cream Separator. You can't afford to buy from anyone at any price until you have sent a postal card or a letter asking us for our special Cream Separator offer. We save you half of agents' prices—we allow you 30 days trial on your own farm—you needn't send us a cent in advance, if you prefer not to.

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We will send you a machine on trial so you can find out how good it is. No Separator costs more to manufacture than the Macy, yet our price is half the price asked by Agents. Easiest cleaned machine because its skimming device is aluminum. Frictionless pivot ball bearings make it easiest running. Guaranteed forever. Five sizes; five popular factory-to-farm prices. Cut out the middleman's profit—keep this money in your own pocket. Write to-day for our special introductory offer.

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Don't Put Clean Milk Into Dirty Cans

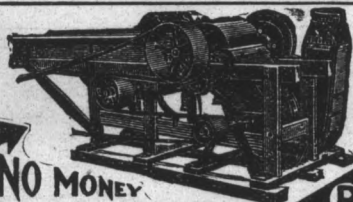
It doesn't pay. Get cans that are easy to clean and easy to keep clean. That's the Sturges. Every inside seam soldered as smooth as glass—no cracks, crevices or corners for milk or dirt to lodge. People call it the



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but it's also the strongest milk can on the market. Made of Al quality steel plate, fluted and retinned in our own shops. Seamless neck, sanitary cover and one-piece round handles are other features. See your dealer about Sturges milk cans or write postal now for free book that tells all about milk cans and proves that Sturges means the best milk can investment you can make. Ask for free book 46 and write now.

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NO MONEY REQUIRED WITH ORDER

We would sooner convince the buyer that his money was well invested before asking him to give it up. We only ask you to give our goods a chance to sell themselves. They are made so good they prove themselves a good investment without the aid of salesmen.

ROSS SILO FILLING MACHINERY

is not an experiment. It is backed by 61 years' experience—more experience than any other machinery of its kind that is made. It is known in almost every dairy and intensive farming district in the U. S., and outside of machines themselves, their owners are their best advertisements—our best salesmen.

Our large catalog tells a most interesting story about Ross Silo Filling Machinery. It is free. Write for it.

We also manufacture the Ross Silo
E. W. ROSS CO. Box 14 Springfield, Ohio

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Are the Leaders
THERE ARE MANY REASONS WHY DOWAGIAC MANUFACTURING CO. DOWAGIAC, MICH.

through choking of blood circulation. Exposure to extreme cold, sudden alterations of temperature, such as hot days and cold nights, injuries of many kinds, such as kicks, blows, stepping on udder, striking udder against rails when stepping over fences, or over door sills, or out of ditches, or traveling when udder is very full, or udder coming in contact with poisonous plants, irregular milking, or failing to milk cows clean, or punctures from nails or thorns, or wounds or want of sufficient bedding. Some bad cases follow the improper use of dirty knitting needles and milking tubes.

Symptoms.

In mild cases there are few symptoms other than those found in udder, but in severe cases a chill followed by fever and dullness will be noticed. Very often the animal shows some lameness in hind leg next to side affected, but if the whole udder is affected stiffness in hind quarters will be noticed. Lameness may not be present. The secretion of milk is always impaired and generally most so in severe cases. The temperature is somewhat elevated, nose dry and breathing quickened. The udder is swollen, tender and inflamed. The appetite is impaired, the animal is thirsty, bowels constive, urine high colored and passed in small quantities. Thick, clotted, stringy milk tinged with blood is passed. If the inflammation does not subside suppuration of the gland may take place and result in loss of one or more quarters of bag. The character of milk drawn gives one a fair idea of the condition of the udder. When pus comes from all four quarters and the gland is sloughing much, the case should be viewed with suspicion and a doubtful prognosis given, for the animal might die.

Treatment.

In the treatment of this ailment it is well to keep in mind that there are many causes and if you know what has brought on the attack, remove it and other remedies will do better work. Treatment should in all cases be prompt and energetic, for, if the case is neglected a cure is difficult to effect. The most important thing to do is to suspend the udder and apply bran or spent hops between bandage and udder, keeping them constantly wet with hot water. The treatment should, of course, be both local and constitutional; if fleshy and feverish give Epsom salts daily in one pound doses until the bowels move freely, also give less milk-making food. Apply extract of phytolacca to inflamed udder twice daily and give cow one ounce doses of fluid extract of phytolacca three times a day and it will act better than most remedies for mammitis. I have also obtained good results by applying one part turpentine and five parts camphorated oil, or apply equal parts extract witch hazel, alcohol, fluid extract belladonna and soap liniment. If you are sure the udder has been infected through teat, inject one part septic and 100 parts water twice a day. To do this you should have a return flow syringe and use great cleanliness. When pus forms open udder freely and apply one part carbolic acid and 30 parts water twice daily. In treating these cases you will often find it necessary to wash out udder with water that has been boiled, the thick milk cannot be gotten out any other way. Remember that suppuration of the udder does not always completely destroy the function of the part and when you open quarter it can often be done low down near upper part of teat and drain quarter nicely. Iodine ointment is one of the most useful remedies to soften and absorb an indurated udder; also, giving iodide of potassium in one or two dram doses two or three times a day helps to clear a diseased cow's udder. If a portion of udder becomes gangrenous it should be cut off at once. In simple cases a dose of epsom salts, a few doses of nitrate of potash, hot fomentations to udder and less hearty food will soon effect a cure.

W. C. FAIR, V. S.

This Is Why!

Putting the matter as briefly as possible, the reasons for the absolute superiority of the

United States Cream Separator

over all other Separators, are as follows:

The **United States Separator** employs a device for delivering the incoming whole milk back of the cream wall, thus preventing any possible remixing of the cream with the skim milk. This device is patented by us, and can be used on no other Cream Separator.

The **United States Separator** employs a skimming device which by reason of its non-aligned channels, subjects the whole milk to a **higher degree of centrifugal stress** than any other skimming device. This, also, is our patent; it can be used on no other Cream Separator.

The **United States Separator**, by reason of its highly efficient skimming device, can be **thoroughly washed and made sanitary** (as the records show) in 10 seconds. Because the same principle is used in washing as in skimming.

The **United States Separator** is built to last a generation; and it does. Sixteen, seventeen and eighteen years of perfect work, is the record it has made.

The **United States Separator**, by reason of its modern and skillful construction, is now the **easiest running Separator built.**



Vermont Farm Machine Co., Bellows Falls, Vt.

"Biggest Money Maker a Farmer Can Have!"

The Saginaw All-Steel Door Frame is patented and no one else can use it.



Positively prevents collapsing or bulging.

These are the very words a farmer used when he wrote us about his good old reliable Saginaw Silo. He added: "If I was a farmer owning only 20 acres, even if I had to borrow the money, I would have a Saginaw Silo."

This is what your neighbors are saying. Don't you think you had better investigate? Write us and we will reply to you personally. Free Book, "The Modern Way of Saving Money on the Farm," pictures and describes the famous Saginaw Silo part by part. Built to give perfect service for a lifetime. You can't afford to take chances with a poor silo. Saginaw All-Steel Door Frame prevents bulging or collapsing. We hold the patents. No one else allowed to use it. Any silo door frame described as "Like the Saginaw" is only a lame imitation.

FARMERS HANDY WAGON CO.

Saginaw—Des Moines—Minneapolis makes and sells the famous Saginaw Silo direct from the factory only. We give you the benefit of our personal service not only when you buy a silo, but at any time afterward.

Ask for SPECIAL PRICE on the WHIRLWIND SILO FILLER

Direct drive on big, heavy fly-wheel, which acts as cutter, blower and shredder (where required). Combined fly-wheel, cutter and blower driven direct, not through gearing—easy running. Mounted and "down" machines same height—no digging. Knives and Shear Plate adjustable without taking anything apart.



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You Can Insure Against

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made of Patented Hollow Blocks of Vitriified Clay, the same Material used for Sewer Pipe. It lasts always. Our Interlocking Clamp Gives Great Strength. Blocks are successfully used for grain tanks. Silage keeps perfectly clear up to the wall. Does not absorb moisture. Better than cement.

Write at once for free booklet.

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See and try a DE LAVAL

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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.

SUMMER RECREATIONS.

In the past there has been in our neighborhood a great need of recreation for the farmers and their families, but within the last year the question seems to have been solved in a very satisfactory manner for this community and I feel that others need to know about it.

The long felt want has been supplied by the monthly meetings of the Farmers' Club, organized last February, also the annual school meeting has been made the occasion of a pleasant neighborhood gathering in July.

This latter may be an entirely new idea to many, so I will tell you how it came about.

Some of the mothers of the district became dissatisfied with conditions in the school and resolved to attend the school meeting and try to induce all voters to be present. Finally it was suggested that ice cream and cake might be an attraction, and three families agreed to take ice cream and ask their neighbors to bring cake. The result was astounding. Nearly sixty people present, and of those thirty-seven were voters!

The previous meeting saw ten voters and two years before only three in attendance, and so it had been for years. The results in improved conditions and social feeling were so satisfactory that it was unanimously agreed to make it an annual affair.

I wish this article might be the means of awakening other school districts to the importance of attending the annual school meeting. If the children and young people are encouraged to attend they may learn how a business meeting is conducted, the proper qualifications of voters, and realize more fully the interest of the parents in their education.

The meetings of our Farmers' Club, the second Saturday in each month, have been so few in number that one can scarcely foresee all the benefits, but the plan is to meet as early in the afternoon as convenient and have a short business meeting, after which comes the discussion of some seasonable topic, in a very informal way, then the lecturer's program, consisting of readings and recitations, in a lighter vein, and last, but not least, an early picnic supper together, allowing the men to arrive home in time to do the evening chores.

Many seem to think they can not leave their work to attend these meetings but many of the faithful come, even if delayed a little, and always feel repaid for any lost time. In fact, we hope the whole of Charleston township will in time come to feel that these meetings are a great opportunity to gain information, inspiration and recreation.

Kalamazoo Co. MRS. L. J. BRADLEY.

CLUB DISCUSSIONS.

Discuss Poultry Raising.—The Washington Center Farmers' Club met at Apple Grove with Mr. and Mrs. John Keiser on May 11, at 1:30 p. m. Owing to the farmers being so busy, there were not many present. The president and vice-president being absent, Mr. C. A. Mathews, of the Essex Club, was chosen president pro tem. Reading of minutes was accepted. Under the head of miscellaneous business the secretary read some very important communications on the cold storage question. The roll call, on the order of current events, was well responded to. Question, "Dollars in chickens and turkeys." This question was ably discussed. Some thought there was money made in raising poultry, and others thought there was not, as they were so destructive to the growing crops. This question was talked on by Mesdames Mathews, Long, Tobey, French and Messrs. Mathews and French. Mr. and

Mrs. S. U. French favored the Club with some good music.

Table Menus for the Busy Day.—Describe a wholesome but simple table menu for a busy day. One thought the garden a great help on a busy day, while others thought that fruit already prepared, with bread and butter would take the place of pie and puddings on a busy day. This question was thoroughly discussed. Mrs. C. W. Curren gave a humorous select reading, "The Little Husband." Music was again furnished by the Club.

House Cleaning.—The vacuum house-cleaning, or the good old way, led by Mrs. C. A. Mathews who preferred the vacuum house cleaner. She said it made house-cleaning much lighter. She also explained the vacuum cleaner and how to use it. She described the patent dust cloth and the soiled spot cleaner for carpets and clothing. The question box brought out a lively discussion on the "Problem of spraying fruit trees," and "How to get rid of the garden insects." One said to plant lettuce seed among squash, pumpkin and cucumber vines, and they would not be bothered with bugs. A three-course luncheon was served. The next meeting will be held at East View, with Mr. and Mrs. J. Kockensperger, on June 8, at 1:30 p. m. The meeting was closed with singing by the Club.—Mrs. Cora Keiser, Cor. Sec.

Question Box Feature of Meeting.—The Rives and East Tompkins Farmers' Club met at the home of Mr. Allen Wood on May 6. After a short business session the following program was rendered: Singing by the Club; dialogue, by four little girls, followed by several musical and literary numbers. After the question box, the Club adjourned to meet the second Saturday in June at the Friendly Home in Jackson.—Ina Stringham, Sec.

Discuss Co-operation.—The monthly meeting of the Thornapple Farmers' Club was held at the pleasant suburban home of Dr. and Mrs. Amos Hanlon, Thursday afternoon, May 4. That farmers are firm believers in the old saying, "Work, Before Pleasure," was plainly evidenced from the small attendance. About forty members and guests were present and enjoyed the excellent musical and literary program. Much interest was shown in the subject, "To what extent can the farmer engage in co-operative buying and selling?" At the close of the program a short time was spent in visiting and admiring the neatly kept grounds. Then came the call to supper, and then home again, with one more bright spot marking the 1911 calendar.

Agriculture in the Schools.—At a recent meeting of the Ingham County Farmers' Club, Julius W. Chapin, a teacher of agriculture in the public school of North Adams, was present and gave us an interesting talk upon agricultural education. The first college to teach agriculture was founded in 1820, but, being maintained by private gifts, did not live long. Our own M. A. C. was the first college to receive state aid, and through the efforts of Prof. French, North Adams was one of the first high schools in the state to make agriculture part of the regular course. In the tenth grade they study farm crops, judge corn, make germination tests, study soils, conservation of moisture, tile drainage. In the eleventh grade, live stock, various breeds; ideal types, and why thoroughbreds are better than scrubs. In the twelfth grade, feeds and feeding, farm management, landscape gardening, farm barns, horticulture, propagation of the strawberry, and home sanitation.

GRANGE

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

MAKING OVER THE LOCAL FAIRS.

The matter of increasing the educational value of county and local fairs and of ridding these exhibitions of some of their objectionable features has claimed some attention from the Grange and kindred organizations in recent years, not only in Michigan but in other states. In this state the Grange has heartily co-operated with local fair associations wherever a disposition to enlist the aid of the Grange has been manifested, with the result that a number of good county and local fairs now count the co-operation of the Grange a valuable asset. The exhibits put up by this organization are strictly educational and, as a rule, more complete and fully representative of the products and industry of the section than are those shown by individuals.

But the fair associations that are enlisting the aid of the Grange or of other local organizations in an effort to increase the educational value and raise the character of their annual exhibitions are still greatly in the minority, and to this fact is largely due the gradual development of the Grange fair. Certain it is that the practice of holding county and even subordinate Grange exhibitions, many of which may properly be dignified by the name of fair, has taken a very firm hold in some sections of this state. These Grange fairs are, as a rule, made purely educational and recreative in character, and hence are, in reality, ideal events of their kind.

In this connection it is believed that Granges which have held fairs in seasons past, as well as those which are planning to conduct their first fair this coming fall, will be interested in the ideas of a prominent agricultural educator who has given the improvement or reincarnation of local fairs considerable study and thought. The educator referred to is none other than Dr. Liberty H. Bailey, of New York state. Dr. Bailey holds that despite the fact that the basis of country life is changing rapidly, the county and local fair has not changed its general basis of operation. He admits that many of such fairs are excellent and worth to the people all that they cost in effort and money, yet the method or system is inadequate to present-day conditions. His remedy is not to discontinue them but to make them over.

In his state the legislature votes funds to local fairs and he questions the propriety of this, considering the manner in

which the majority of such fairs are conducted. In his novel plan he advocates the elimination of many of the present features, among which he includes horse trots, concessions and shows, displays of ordinary store merchandise, the selling of articles and commodities, all money premiums, and even admission fees. Concerning the constructive program which he would follow in remodeling such fairs, he says:

Having taken out the obstructions, unnecessary and excrescences, I would enter on a constructive program. I should then begin to make a fair. I assume that the fact that a person lives in a community, places on him responsibilities for the welfare of that community. We should make the county fair or local fair one of the organized means of developing this general welfare. Therefore, I should assume that every citizen in the county, by virtue of his citizenship, is a member of the fair and owes to it an allegiance.

It would then devolve on the persons who are organizing and operating the work, representing the fair association, to develop in him his sense of allegiance and co-operation. I should not discourage any citizen from co-operating in the enterprise, or allow him to escape his natural responsibilities, because he felt himself unable or unwilling to pay an admission fee, any more than I should eliminate any person because of religion, politics, color or sex.

Of course, it requires money to run a fair. I should like to see the money raised on the principle of "tag day." I should like to have it said to every resident in the county that he and his family may come to the fair without money and without price; but I should say to him also that money is needed, and that all those persons who wish to give a certain sum would be provided with a tag, which would absolve them from further contributions for the year and which would admit them and family during the entire fair. I suspect that more money could be more easily raised in this way than by means of gate receipts. I should have this money collected by means of an organized effort through all the schools and societies in the county, setting every one of them at work on a definite thing.

Of course, the state or other agency, could contribute its quota of funds as heretofore.

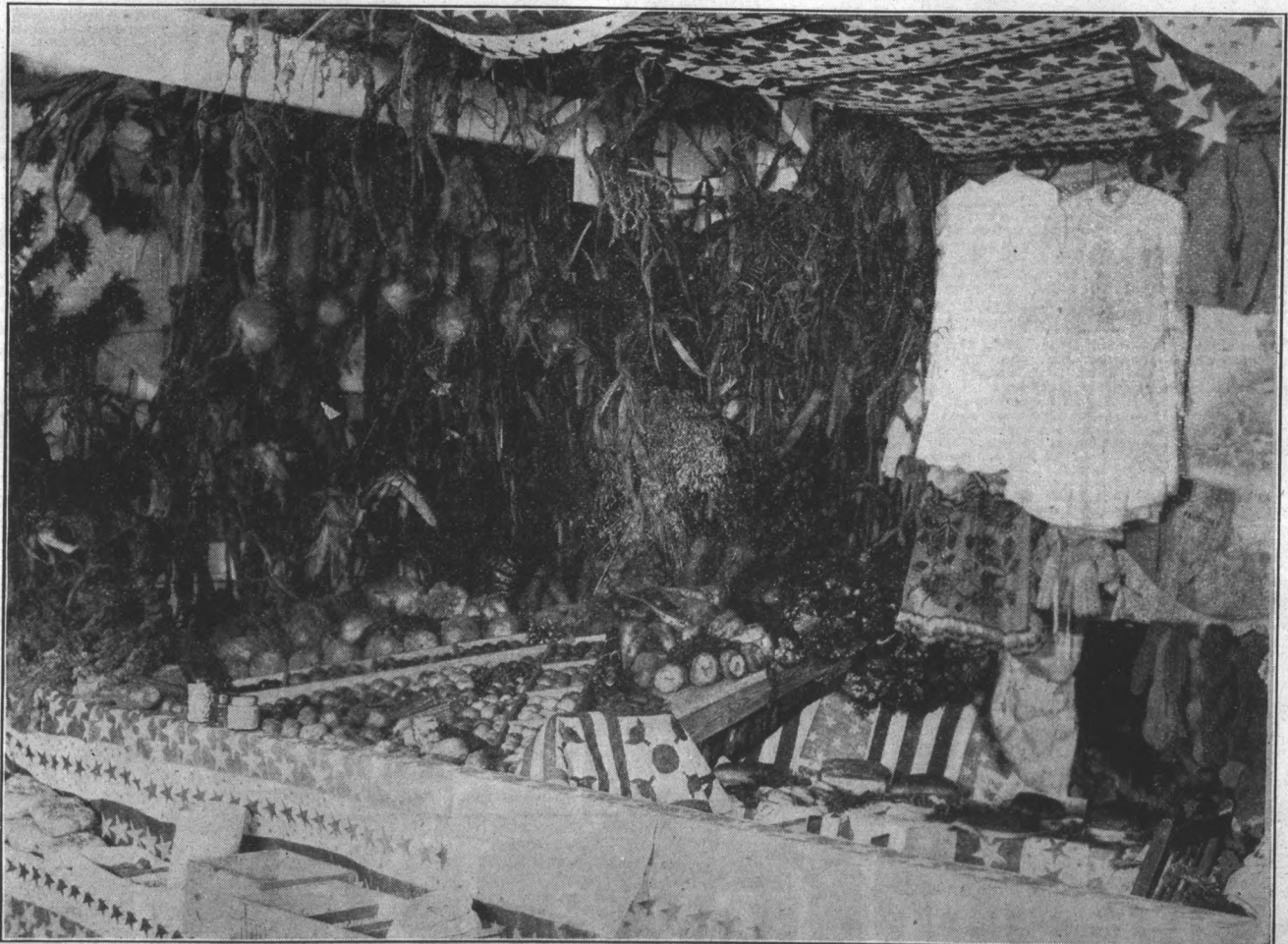
(Concluded next week.)

COMING EVENTS.

Pomona Meetings.

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

Charlevoix Co. Grange Institute and Lecturer's Conference, with Marion Center Grange, Friday and Saturday, June 9 and 10. State Deputy McClure, speaker.



First Premium Grange Exhibit at Menominee Co. Fair of 1910—Result of Co-operation of Fair with Pioneer Grange.

HORTICULTURE

SUGGESTIONS ON SELLING THE CROP.

The range of prices between poor and really good fruit is very great. A barrel of poor fruit is slow sale at one-third the figure that a barrel of fancy fruit will bring very readily. I believe that where fruit runs say, one-third very good apples and the balance medium to poor, it is possible to discard two-thirds of the poorest of this fruit and by packing the best third carefully receive as much for it as would have been received for the whole lot packed together. Then the best of the balance can be packed separately and sold for nearly as much as though both the best and the poorest had been left in. The proper packing of fruit is certainly quite a study, but the man who studies to pack fruit dishonestly, to cover up poor fruit with good, or mix in fruit of inferior quality where it will not be seen will sooner or later come to grief. The grower who deals direct with the consumer must pack honestly or lose his trade, and if he is sending to a commission house it will not take them long to find out how he packs his fruit and whether they can recommend it to their customers or not. If they can it will soon command a premium of say, one dollar a barrel; if they can not it will be discounted as much or more. Can we afford to take half price for our fruit for the sake of working in the culls?

Last season we sold most of our fruit direct to farmers in the corn belt where there was very little fruit. The car was shipped direct to the farmers' co-operative elevator, and the farmer was notified by the manager of the company when the car arrived, and he came and got the fruit he had previously ordered, of the grade and variety wanted. This method of dealing saves the grower the trouble of shipping small orders and attending to a large amount of correspondence, and also saves him commission and dealers' profits. It enables the consumer to order his fruit at home, see it before paying for it, and to know who grew it and where to get more if it suits him or whom to avoid if it does not. It also gives him the advantage of carload rates, and saves the retailer's and perhaps the wholesaler's profits. This market seems about the best we have found, and we find that farmers are good fellows to deal with, and are willing to pay a good price if they get what they want.

Calhoun Co. S. B. HARTMAN.

WESTERN MICHIGAN, WHERE THE FRUIT WITH FLAVOR GROWS.

At the Land and Irrigation Exposition, which was held in Chicago, November 19 to December 4, 1910, and which was attended by upwards of a quarter of a million of people, western Michigan was again to the front, winning fresh laurels and attracting the favorable attention of thousands, with one of the best and most varied exhibits of fruit, grain, seeds, tubers and vegetables, shown at the exposition.

This exhibition was put up and conducted by the Western Michigan Development Bureau, an organization of business men not for pecuniary profit, having for its primary object the education of the people of that region in better methods of agriculture and to encourage helpful co-operation among neighbors. The Bureau in its work recognizes two fundamental principles.

First, that agriculture lies at the base of all human endeavor and, second, that the trend of economic conditions today necessitates a return to the land. One hundred years ago, in this country, there were 96 cultivators of the soil to support four non-cultivators. Today only 30 out of every 100 persons are agricultural producers in quantity.

Another function of the Bureau is to furnish correct information to inquirers about western Michigan and to exploit the advantages which this region has to offer to the general farmer, the fruit grower, the business man and the seeker after health or recreation.

Low Priced Productive Land.

In the twenty counties which constitute the Western Michigan Bureau there are 2,061,165 acres of improved land and 5,038,355 acres of raw or unimproved land. Fully 90 per cent of this raw land is tillable. The raw or cutover lands can be bought for from \$8.00 per acre up. The price of the improved land runs from

\$25.00 per acre up. Orchards in bearing cost from \$100 to \$250 per acre.

Here is a vast kingdom waiting the magic touch of the hand of man, to make it a veritable land flowing with milk and honey.

The people of the middle west are fast coming to see that right at their own doors, in western Michigan, there are opportunities for "making good," and for becoming independent, which are unexcelled in any other region on earth. Because of the demand for western Michigan land the price is going up steadily, so that the present low prices are only temporary. The value of Michigan farms has gone up 33 per cent in the last decade.

The Climate.

The western Michigan climate is influenced by the waters of the great lakes, and as a consequence it is never too harsh and never oppressive. The winter frosts are a boon to the fruit grower in that they have rendered him immune, so far, to the dreaded San Jose scale and leave him with only one brood of peach and apple borers to contend with.

The western Michigan country is beautiful and is the paradise of the hunter, the fisherman and the man or woman seeking health or recreation. Michigan has the lowest death rate of any state in the union and western Michigan is the most healthful section of the state and is fast becoming the play-ground of the middle west and the south.

Splendid Transportation Facilities.

Nearness to the biggest markets of the country and the possession of an excellent home market, are important factors towards the success of the farmer and fruit grower in western Michigan. The thousands of resorters in the summer create a good market for his berries, garden truck, poultry, butter and eggs.

The territory is served by seventeen lines of railroad and seven steamship lines which call at eighteen different ports, putting it in the closest touch with Chicago, Milwaukee, St. Paul, Minneapolis, Detroit, and in a short time, twelve to forty hours, and at a comparatively low cost for carriage.

No irrigation is necessary, the average rainfall being 30.97 inches.

The banking facilities in western Michigan are first-class and money can be borrowed on farm property at a low rate of interest.

Soil and climate are the two essential requisites necessary to produce good fruit. Western Michigan has these in perfection, therefore the "Fruit With Flavor" which has made this region famous.

General farming, cattle raising and seed growing are successfully carried on. The average yield for general farm crops is equal to, and in many cases above, that of the older agricultural states.

The canning industry has assumed large proportions. There are twelve canning factories in western Michigan which put up in this every year, the product of 40,000 acres; this prevents, to a large extent, the glutting of the market.

There are good opportunities in western Michigan for the manufacturer and the merchant. While the lumbering business still leads in volume and importance, yet almost every article of commerce is made here. The census returns show that there are over 3,000 more independent farmers in Michigan than there were ten years ago and every place where the farmers are increasing in numbers and are prosperous, usually presents good openings for the retail merchant.

Social Conditions Are Good.

The social conditions and the conditions for contentment in western Michigan are as good as can be found anywhere. There are 1,005 church organizations, embracing nearly every denomination, 1,857 public schoolhouses, three colleges and 3,760 teachers. There are 244 granges in the district, with a membership of almost 20,000. Good roads traverse the entire region. There are 345 post offices, and the farmers are well served with telephones and rural free delivery routes.

Paul Rose of Benzie county, one of the most successful horticulturists in this country, who has operated in the south, the middle west and other sections, says that he can make more money and make it easier in western Michigan than he can anywhere else. Similar testimony can be furnished from many farmers and fruit growers of the territory.

Notwithstanding all the advantages enumerated above, the man who comes to western Michigan thinking it will be easy to succeed, has a rude awakening before him. The clearing of stump lands, the proper preparation of the soil and the making of a start in a comparatively

new country, requires grit, physique, tenacity of purpose, and some brains, and taken by and large is a man's job. The beginner should be no weakling and should have sufficient money to pay for the land, the cost of clearing, the planting of fruit trees or crops and to keep himself and family until he can receive returns for his labor. Given these essentials, however, and a big success and independence are assured.

The Western Michigan Development Bureau, Traverse City, Michigan, stands ready to help newcomers in any way possible by furnishing information and reading matter. A 48-page illustrated magazine telling about western Michigan can be had for the asking.

JOHN I. GIBSON.

SPRAY PUMPS NEED CLOSE ATTENTION.

There is a good deal of wear to the working parts of the spray pump—the cylinder and plunger packing—especially where Bordeaux mixture is used. The grit in the lime cuts both of these out rapidly, and unless frequently replaced or renewed the liquid flows past the plunger and makes it impossible to keep up the pressure. At one time I saw two men working with a hand spray pump and it was necessary for the man at the handle to work the pump as rapidly as possible and at that only a small drizzle was produced at the nozzle. The pump simply needed a new plunger packing and good work with the nozzle and much easier at the handle would have resulted. We have found it necessary to repack the plunger to our power pump as often as every other day when in constant use, and this with the very best packing we could find. We have found that in two seasons the pump cylinder becomes so worn that it requires reboring, and when it reaches that stage a new cylinder is the best repair by far.

Allegan Co.

E. H.

EGGPLANTS EATEN BY POTATO BUGS.

A Dearborn correspondent states that his eggplants are being eaten by the common Colorado potato bugs. So numerous are the pests upon the plants that he fears they will be totally destroyed. The eggplant is of the same family as the potato, Solanaceae. The beetle can be controlled in the same manner, as it is kept from eating potato vines, by feeding him poison upon the leaves which he eats. Use the same solutions as for the potato plants, i. e., an arsenical poison, either Paris green or arsenate of lead, the latter being generally considered the better of the two chemicals. Use the arsenate of lead at the rate of two pounds to a hundred gallons of water, and spray it onto the plants. It would be well not to continue the spraying later than within six weeks of harvesting the crop.

CUTWORMS BOTHER GARDEN.

My garden was an old sod, plowed a year ago last fall. This year I am swamped with cutworms; they were not very bad last year. They are of all sizes, from the smallest up, and take everything, vegetables, shrubs and young fruit trees. I can't stay up nights to pick the crop; couldn't keep up with them if I did. Must I give them this season's crop? And what can I do to head them off next year?

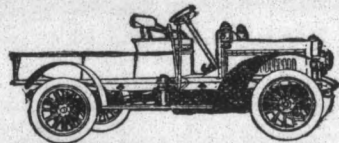
Grand Traverse Co.

M. G. G.

The standard remedies against cutworms are poisoned baits. They are of two kinds—fresh vegetation and bran mash. The former kind is prepared by spraying a small area of fresh clover or other plants of a succulent nature with a solution made of one pound of Paris green and 100 gallons of water. The clover or plants is then mowed close to the ground, gathered and sprinkled in small bunches every few feet along the rows of plants to be protected. By throwing a little chip, or cover of some sort over the bunches, wilting will be delayed and the palatability of the bait will continue longer, also, it is best to cut the grass and apply it in the evening as the cutworms do their damage at night and the grass being fresh will appeal to them more readily. The bran baits are made by using about three ounces of sugar, or an equal quantity of molasses or glucose, to a gallon of water and about a pound of bran. Mix sugar, bran and water and then add poison—a teaspoonful of Paris green or a little more arsenate of lead—and stir thoroughly.

Before planting the crop and after the ground is plowed and when there is no other food for the cutworms to eat, is the best time for the distribution of the

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bait, providing a little time can be given for the worms to consume it, as they are hungry and will eat liberally of the freshly cut grass or bran. Plants that are set in the garden can be protected by placing about each a little of the bran bait or a bunch of the poisoned clover. Plants can be dipped in a poisonous solution made of arsenate of lead and water at the rate of one pound of the arsenate to 30 or 50 gallons of water. Where one anticipates plowing a field of sod for planting to plants likely to be attacked by cutworms, and most plants are, it is best to spray the grass growing upon the land with a solution mixed as above or such as is used for killing potato bugs. The potato sprayer would do this work very nicely and make the work inexpensive.

GROWING ONION SETS.

While it now seems to be the general practice for the farmer to raise his onion crop by planting "sets," it is a remarkable fact that not more than 3,000 acres of ground are devoted to the growing of onion sets.

There is nothing difficult in the production of either onion sets or seed which may be undertaken as a side issue with other lines of farming. The work of caring for the crops may be done largely by women and children where it is desirable to provide work of this nature for them.

Officials of the department of agriculture wish to impress upon farmers the fact that no large profit can be obtained from the production of onion sets, especially when grown on a large area, small plantings affording greater profit. On a considerable portion of the land devoted to onion-set raising, the yield is less than 300 bushels to the acre. Allowing for the cost of seed, fertilizers, cultivation, harvesting, and handling, the net returns are not large, especially when sets bring only 50 or 60 cents a bushel. Where it is possible to secure a large yield of small, white onions, known as "picklers," which bring a high price in most of our markets, there will be greater profit for the farmer.

In the course of its investigations, the Ohio experiment station has discovered and applied a successful treatment of the soil with a formalin solution to prevent the fungus disease commonly known as onion smut. The solution is made with one pound of 40 per cent formaldehyde to from 25 to 33 gallons of water. This is applied best with a drip attachment to the seed drill, and at the rate of 120 to 150 gallons of the solution per acre for field onions, and from 500 to 700 gallons for onion sets. This application of the formalin solution disinfects the soil surrounding the seed and thus enables it to germinate and grow to the stage where it is beyond the attack of the fungus.

Home-made drip attachments may be made from empty syrup cans inverted, using a perforated rubber stopper in the outlet, connected by suitable rubber tubes with a drawn-glass tube point at the end of each. This rubber tube will require a pinch cock to shut off the flow and the point will need to be set so that the solution falls with the seed before the earth covers it over.

PRUNE TOPS OF TRANSPLANTED PLANTS.

It is a shock to plants to be torn from the soil, as is necessary when transplanting. Much of the root system is broken off and many of the little fibrous rootlets can no longer perform their function, they being so delicate that the moving breaks them from the food to which they are attached. It, therefore, becomes necessary for the plant to send out new rootlets to take place of the old ones. To do this requires time. The evaporation from the leaves of the plant does not stop. The evaporation was sufficient to care for all the water absorbed by the whole root system before the plant was disturbed. It can readily be understood then, that after many of the rootlets are destroyed and many more are rendered useless in doing their work, that the leaf surface will radiate more moisture than the roots can take up with the effect that the cells of the plants become empty and the plants wilt. Now, to avoid this condition to a large extent, the tops of the plant should be cut away to form a balance between the leaves and the roots. Some of the leaves are wanted to manufacture food for the plant, but it is not necessary to have them all, so cut away part, one-third or even one-half, depending upon the amount of injury done the roots in the operation of taking up and resetting.

THE prosperous farmers of the country are those who have taken advantage of every possible means of saving time and money. On their farms you will find gasoline pumping engines—telephones—the most modern and practical agricultural implements—automobiles and every other known device that shaves down time and makes men and things move and produce quicker, and with more efficiency. And it is a fact that on the majority of these same prosperous farms you will find an

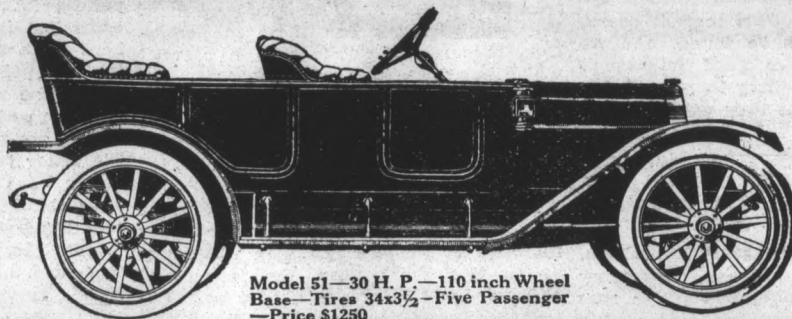
Overland

in service helping these men to make and save their money. The farmer buys the Overland purely and simply because he needs it in his business. He buys it because he knows that it is built to work as he needs it too. He wants a good strong, reliable car—one that has enough dependable power to take him any place, any time, under any condition.

And the shrewd man that investigates the Overland car, finds in it greater value for the price than any other car made. If you doubt this take Model 51 at \$1250 (shown below) and compare it with any other \$1500 to \$1700 car on the market. See how you can make twelve hundred and fifty dollars go as far as seventeen hundred. Go to several of the garages near you. Look over all the different cars. Compare what they offer with the Overland. Take the specifications of each one home and check them over at your leisure. Just because you cannot pick the car to pieces from a mechanical standpoint, that is no reason why you should not know that 110 inch wheel base is better value for your money than 106.

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