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FARM NOTES.

Late Seeding of Alfalfa.

Some time ago I read an article in The Farmer stating that there were several different kinds of alfalfa and only two or three kinds that would stand the climate of northern Michigan. I have never raised alfalfa but would like to try some. Would like to know if there is any way of telling, and where to send for seed of a kind that will stand the climate of Leelanau county. The ground I intend to seed to alfalfa was sowed to oats last spring. I will plow and sow the seed as soon after harvest as possible. What do you think of that proposition?

H. J. E.

While there are, as inquirer suggests, several varieties of alfalfa, the article which he mentions referred to the individuality of different individual plants or strains of the same variety, instead of to different varieties. One who has never done experimental work in plant breeding or had an opportunity to observe such work and note the results, has little conception of the wide variation exhibited by different plants of the same variety. There are growing in the experiment station plots at M. A. C., some thousands of individual alfalfa plants which illustrate this fact perfectly. The writer saw those plants when they were just commencing to bloom this year and noted the marvelous difference between them. Some were strong, erect, bushy plants with an abundance of foliage, while others were weak and with almost trailing

and well fitted to make a good seed bed so the crop could be sown in August, there might be a fair chance of getting a good stand. In fact, there seems to be no best time to seed alfalfa in Michigan, or if there is a best time it has not yet been ascertained. A good many growers have had success with late seeding on well prepared soil, and others favor spring seeding without a nurse crop, while still others report success in seeding with spring grain as is the customary way with the clovers, and still others have failed by all of these methods. There is one advantage in late summer seeding without a nurse crop, in that the weeds bother it less than when seeded in any other way. Then, if the young plants live over winter and the bacteria necessary to their growth is in the soil, a fair crop may be expected the following year on fertile land and no time will be lost in securing the stand, as is the case when seeded in the spring without a nurse crop, as practically nothing is secured from the field the first year under that plan. If you have stable manure with which to give this field a light top dressing after the alfalfa is sown, or even in the fall or early winter it should help to save the stand of alfalfa from winterkilling and increase the prospect of a crop next year. But unless the soil can be gotten into a proper condition, we do not believe it would pay to sow it after the oat crop is harvested. If there should be a severe drouth the

as to the best means to the end under the conditions which surround the problem in our individual case.

Some Alfalfa Problems.

As has been before noted in these columns, the writer has been trying to get alfalfa established on his farm, with but indifferent success, for several years. The field sown two years ago was not inoculated, but was well fitted and sown without a nurse crop late in June. The land was a sandy loam in a good state of fertility, having been given a heavy application of stable manure the preceding year. Commercial fertilizer was also used at the time of seeding, and the young plants made a fine growth, but the bacteria peculiar to the plant did not seem to be present in the soil in any considerable numbers, and while there was some natural inoculation in spots, and scattering plants all over the field showed the presence of bacteria, the stand failed to make a profitable crop on this account. Wherever the bacteria was present the growth was rank and of a dark green color, while the balance of the plants were small and pale in appearance. Crab grass came in plentifully and further retarded the growth of the weak plants, most of which died the second winter. However, wherever inoculation had occurred the plants seemed to stand the winter perfectly. This field was plowed and planted to potatoes this spring in the hope that the bacteria would get thoroly distributed over the

of Agriculture at Washington, and the seed was inoculated with this. But notwithstanding these precautions we secured a very imperfect inoculation on this field. Possibly it was because the bacteria on the plants growing in the spots from which the soil was taken were not in the right stage of development, and the inoculation with the pure culture was not effective, or possibly the soil was in a slightly acid condition, not favorable for the development of the bacteria. Anyhow, the evidence of inoculation is apparent only in spots as was the case with the other field, and the plants have made a vigorous growth only on these spots. The plants in this field did not get as large as those sown the preceding year before winter set in, on account of the exceedingly dry weather, and the stand was injured worse by winterkilling, yet on most of the field there were sufficient plants to make a good stand if inoculation had been general and effective. This field will be treated in the same way next year as we have treated the field sown the year before, and we expect to get a good stand of alfalfa on both. We shall take the precaution to apply lime next time, and will secure soil from an old and successful field with which to inoculate more perfectly and probably use another pure culture on the seed as well.

These experiences simply show that we do not know all about growing alfalfa yet. But in some sections of the state

there is no such trouble and natural inoculation takes place readily. In these places the crop has been a success from the start, and in other localities there has been no trouble in securing perfect inoculation by artificial means. However, the fact that alfalfa is being successfully grown in nearly all parts of the state and on practically all kinds of soils that are well drained makes it practically certain that we can all grow it successfully when we learn just how. For one, the writer is going to keep right on trying until he learns, and believes that it would be to the advantage of a great many more farmers in the state to do the same thing. These problems of preparation of the soil, inoculation, early or late sowing and with or without a nurse crop, the use of lime, etc., are all problems which must be worked out before this great forage crop becomes as universally successful in Michigan as those who appreciate its value would like to see it, and by experimenting a little on our own account and reporting our success or failure thru the columns of the Michigan Farmer, we can materially hasten the day of their general and satisfactory solution.

The Fall Seeding of Clover.

I have a field in beans that I want to put into rye. Can I seed it this fall to clover and timothy? It is sand loam. Will the clover live? I used fertilizer on the ground with beans. How much rye and seed should I use to get a good catch?

Tuscola Co.

H. E. HERDER.

The fall seeding of clover is a very uncertain proposition in Michigan. There are a few farmers who advocate the plan and seem to have fairly good success with it. The most enthusiastic advocate of fall seeding of clover that we know of is a prominent Van Buren county farmer



The Modern Porch Adds to the Appearance and Comfort of the Roomy, Old-Fashioned Farm House.

you get seed that was grown in the northern part of the United States as above noted, it is about all that you can do in the way of selection, at present, unless you are prepared to pay a fancy price or are fortunate enough to secure Michigan grown seed. Some seed was harvested in Michigan last year, but as it was only harvested from limited areas and mostly retained in the neighborhoods where grown, it is hard to secure.

With regard to the late seeding of alfalfa, as contemplated by this inquirer, the writer would say that its advisability would depend largely on soil and weather conditions. If there is plenty of moisture so the land can be plowed,

soil could not be properly firmed down after plowing, and the seed would not be likely to germinate well, so the chances of getting a good stand and a fair growth of the young plants before winter would not be good. However, late summer seeding has given best results in some of the states in which alfalfa is extensively grown in the middle west, and we believe it is worth a trial in Michigan. The unquestioned value of the crop for the production of a maximum of valuable forage, and as a soil renovator and improver, makes it well worth while to use every available means in an effort to get it established on our farms, and we must depend on our own judgment

field in cultivating the potatoes. It will be sown to alfalfa again next spring, and we have a great deal of faith that the crop will be a success on this ground from that seeding.

Another field of eight acres was sown one year ago, being put in in the same way and on the same kind of land, except that the soil was inoculated, or at least we made an effort to inoculate it. Soil was taken from the field sown the preceding year from a spot which showed good inoculation and where the nodules were plentiful on the alfalfa roots, and scattered over the field before seeding. A pure culture of the alfalfa bacteria was also secured from the Department

who seeds in rye, sowing the crop early and using only one peck of seed per acre. By this plan he has secured uniformly good results in getting a catch of clover, and by sowing the grain early on a well prepared seed bed it has thinned or stood out so that he has secured good average crops of rye from this small amount of seed. However, within the writer's experience or observation the fall seeding of clover has succeeded in making a stand only occasionally. We have never tried seeding clover in the fall with a thin seeding of rye as noted above, but believe it would be far more certain of success than fall seeding in a thick stand of grain.

Seeding Muck Land.

I have fifteen acres of muck land which I think could be got ready for rye. Would it be better to wait and sow it to barley in spring? I want to seed it in the spring. Please advise me.

Eaton Co.

S. F.

Muck land contains a relatively large proportion of available nitrogen, which would be liable to cause such a heavy growth of rye straw that the seeding would have less chance than with a crop like barley with a shorter, lighter straw. If the land is prepared this fall, and seeded with barley in the spring the chance of getting a good seeding would seem better than with rye for this reason.

Applying Muck to Sandy Land.

Would it pay to haul muck on sand and gravel soil?

Branch Co.

C. Ewers.

Muck contains considerable nitrogen and vegetable matter, and if weathered before applying to sandy land will prove of some benefit. Where the muck has to be moved for some other purpose it will pay to apply it to this kind of land, and where it is composted with other material it makes a valuable fertilizer, but it is doubtful if it will pay to draw raw muck on sandy land with labor which must be charged against the farm or which could be employed profitably in other ways. Where men and teams would be idle if not thus engaged, it might be made profitable.

THE IMPORTANCE OF PROPER REINFORCEMENTS IN CONCRETE STRUCTURES.

Concrete, on account of its durability and low cost, is a very desirable building material on the farm, when properly used. On the other hand, when improperly used, it is a most undesirable material.

The greatest difficulty met with in the use of this material, by the inexperienced, is the prevention of cracks, which are detrimental to the structure and which make it look bad. These cracks are caused by the shrinkage of the concrete when hardening in air, variations of temperature and uneven settlement.

Tests show that a 1 to 3 cement mortar will shrink one-tenth of 1 per cent when hardening in air. The few tests available show that concrete does not shrink as much as mortar but it may be reasonably expected that it will shrink in proportion to the amount of cement used per unit of volume. That is, if we had a mix of one part cement to six parts sand and gravel the shrinkage would be half as much as a 1 to 3 mortar, or one-twentieth of 1 per cent. In a wall 100 feet long the shrinkage would be one two-thousandth of 100 feet, or 1,200 inches. This would equal .6 of an inch. When the concrete in this wall is hardening it has very little tensile strength and cracks must open up at the weakest points to make up this .6 of an inch shrinkage.

Concrete properly reinforced can be made to stretch .18 of 1 per cent, without producing cracks. Then it is easy to see that concrete, with the proper amount of reinforcement in it, will stretch sufficiently to make up for the shrinkage. The steel reinforcement has equal tensile strength thruout the length of the wall, and each inch of wall is made to stretch a very small amount, the total sum of these small amounts being more than sufficient to take up the shrinkage. The steel rods make the concrete a great deal more elastic, that is, it is capable of being distorted a great deal more, without producing cracks, due to the distortion being distributed over a considerable area of the wall by the steel rods. The wall can settle unevenly to a certain extent tho the tendency of a well reinforced wall is to settle as a whole, instead of any one part settling more than another. The wall, likewise, will be elastic enough to take care of any expansion or contraction due to variation of temperature.

That concrete structures can be built and kept intact by the proper use of steel rods is no longer a question but an established fact, and according to the best engineering practice, all concrete above ground is reinforced to prevent cracking, due to the various causes mentioned.

This reinforcement for the prevention of cracks is but one of the important uses of steel in concrete structures. There is another more important use, and that is, in those structural forms in which both tension and compression exist, as in all forms of beams. Before discussing this kind of reinforcement it will be well to consider some of the properties of steel and of concrete separately and in combination.

Concrete and steel in combination constitutes a form of construction possessing nearly all of the advantages of both materials without their disadvantages. Steel is a material possessing high tensile strength but is not durable in some localities. Concrete is characterized by low tensile strength, high compressive strength and great durability. It is a good fire proof material and therefore is a good fire proof covering for steel. It is also true that steel well covered with concrete will not rust. By the proper combination of these materials, beams can be made that are very economical. To obtain maximum strength for a given size of beam and percentage of reinforcement it is essential that the steel be placed as near the bottom of the beam as possible and still have sufficient covering for it. The strength of a reinforced concrete beam is proportional to the depth from the top of the beam to the center line of the steel, just as the strength of a wooden beam is proportional to its depth.

Maximum economy is attained when there is just steel enough to develop the compressive strength of the concrete. A surplus of either steel or concrete is a waste of material. To be able to proportion a beam correctly to carry a given load requires a thoro knowledge of the theory of reinforced concrete beams which is very complicated and none but those possessing this knowledge should attempt the design of structures in which the beam theory applies. And this is especially true where the lives of people depend upon the safety of the structure. There is no question but what these structures can be extensively used on the farm, but whenever a farmer desires to build a reinforced concrete structure he should have a competent engineer prepare a set of plans for him. If the structure is built in accordance with such plans it will cost less ultimately than if he designed it himself or any other incompetent person designed it, and the owner can rest assured that it will be a safe and permanent structure.

A great many structures on the farm, such as tanks, silos, etc., are built of heavy walls, 8 inches thick, and some thicker, some are reinforced with a few smooth wires and some have no reinforcement in them at all. It may be said of these structures that some have stood all right, but many have not, and invariably when they have not the cement has been blamed for it, rather than the incompetency of the one who planned it.

A great deal of literature on the subject of concrete may be had for the asking, in which readers are told that any one that can mix mortar can build a concrete structure. They are also told that by the use of a few wires certain ends can be attained. It is not putting it too strong to say that there is no one who does not understand the properties of steel and of concrete and their relations to one another when used in combination, can design or plan a structure that will be a success, let alone economical.

Smooth wire for reinforcement, when enough of it is used, may be all right in some cases, but the chances are against it. In the first place, it is hard to keep it in place while concreting, and in the second place it will slip before it is stressed very high. There are manufacturing companies who manufacture wire for reinforcing concrete. This wire has electrically welded cross wires on it that prevent it from slipping. There are also many types of steel rods rolled purposely for reinforcing concrete. Some of these have corrugations on them and some are square twisted rods. All are well adapted to the purpose and none of them will slip in the concrete. Railroads and other industrial corporations are using this class of reinforcement exclusively in their concrete work because it is economical and

efficient and for this same reason it should be used in farm structures built of concrete.

It is to be hoped that reinforced concrete will be more extensively used on the farm, but it will not be successfully used in the same sense that municipalities, railroads and other industrial concerns are now using it until the farmer does as they are doing, namely, employing experienced engineers and architects in reinforced concrete to give them the necessary information and plans. This will cost something but the cost will be trivial compared to the saving, even on small structures that experts in this line can effect.

Jackson Co.

J. F. HAHN, C. E.

HARVESTING THE FIRST CUTTING OF ALFALFA.

Having secured my first cutting of alfalfa for this season, which is the first cutting for this seeding, which was sown last August as I stated in a former article, I will give my experience. The field contains about nine acres of rolling, variable soil, ranging from heavy clay to light sand. There was a good stand over most of the field, but quite a difference in the yield of the hay. We estimate the crop at about eleven tons.

When the Crop Should Be Cut.

We began cutting the 18th and finished the 24th of June. This, I think, was about the right time. Some of the farm journals advise cutting when in full bloom, but in a cold, wet season in this part of Michigan it never gets in full bloom. The time to cut alfalfa, in my opinion, is just as soon as the next growth starts. Examine the plant at the crown and when the young sprouts begin to show, cut it, bloom or no bloom. If it is cut before this time it will start slow and other plants will get the start of it. If cut after the young growth gets high enough the new shoots will be cut off and that also puts back the second growth; but if cut at just the right time the second crop comes very fast and keeps back everything else. On that part of the field cut the 18th the plants now stand from 2 to 8 inches high, (July 1).

Hay Caps Prevent Damage from Shower.

It was from six to eight days from the time we cut the hay till we had it in the barn. It got one good shower on it but it was bunched and capped, so it was not hurt. We let the hay wilt nicely and then rake and put into cocks and cover with hay caps and let stand until it sweats out a little, then open out for a short time and it is ready for the barn. This brings it in with the leaves all on and makes the best of hay.

Yes, it is a lot of bother, but they tell us that a ton of alfalfa well cured is worth as much as a ton of wheat bran, and if it is it will pay to take a lot of pains in curing it. I believe it will pay to use hay caps in curing clover as well as alfalfa.

How the Caps are Made.

Get 40-inch factory and tear into squares. Get strong linen cord such as the hardware merchants keep. Tie a half-pound weight to each corner and they are ready for use. To make weights mix sand and cement equal parts. Get pasteboard egg fillers, fill these with the mortar and stick a fence staple in each one, leaving just room enough to run a string thru, and let dry. This makes about the right weight. Turn over the corner of the cap so as to make them double at this point, draw the cord thru with large sacking needle, run both ends thru the staple and tie so the cord will be double, leaving the weight about 2 to 4 inches from the corner of the cap. These caps cost about 12 cents apiece and it is amazing how they will run the water off a hay cock.

Try a few and next year you will want a lot of them.

Oakland Co.

C. R. Cook.

AFTER HAYING—WHAT THEN?

Many are the day dreams of the enterprising farmer who ponders long and deeply over what his work shall be after the busy rush of haying and harvesting. He looks with eager anticipation toward some long cherished project—it may be great or small, from taking a trip to Europe to swapping horses with neighbor Jones who lives just over the hill. Whatever his successes or failures have been his hopes are centered on the immediate future when, relieved from the pressure of ardent toil, he can turn to something a little out of the regular routine of farm work. So much for the dreamer, but

the battle is to the active, the brave, the vigilant." Hence, it takes the practical man to win the game and even he can carry out only a small part of his plans.

At this time of the year one can determine with considerable accuracy as to what is going to be the result of the year's work. With the hay and grain mostly harvested and other crops well along in their growth, the rest of the story is largely a matter of speculation. Let us now take a retrospective view of affairs in general. If the crops have failed we ought to know the reason why or if they have been abundant we should likewise know the reasons thereof. If the wheat failed it was probably due to either lack of fertility or want of proper drainage more than to weather conditions. Why not think over these things while the failure is yet fresh in mind?

The dry weather peculiar to this season is quite favorable for many kinds of work. In fact, a greater part of farm labor can best be done while the weather is dry. If the manure was not all hauled out in the spring now is a splendid time to spread it over the parched meadow or prospective wheatfield. New buildings and repairs are in order. The highways are usually in good condition; there is an opportunity to haul the lumber, cement or stone, or any other kind of building material while the brief lull in farm operations affords time for doing and supervising the work.

Does the well need cleaning, or a new pump? Are the drains clogged at the mouth, or any filth in the cellar or other out of the way places to menace the health and convenience? If so, attention to them is imperative.

Very likely the stock will need more attention, the animals may be uneasy, getting out of their lots if the fences have been neglected. The latter will surely have a practical test when the feed gets short. Some re-arranging of the sheep is almost imperative especially if the flock is large; there will be the early lambs to wean, some of the inferior sheep will begin to look run down and some internal parasite may get in its work to greatly depreciate the value of the sheep, if nothing worse. If nothing more is done than putting the affected ones in a place by themselves where the pasture is better, it will be quite an improvement.

Preparation for the wheat ground will soon be in order, and tho the ground may be very hard to plow it can be materially improved by running over with a disc harrow, not only to mellow the soil but to retain the moisture so that it will not bake should rain fail to come as needed.

Last, but not least, I would mention the farmer's needed vacation. "But I have no time for vacation," says the average tiller of the soil. Yes, and perhaps he doesn't have time to eat, but he does it just the same. Taking time for vacation is largely a matter of habit but if we can really enjoy it there is no question as to value. It doesn't necessarily mean taking a trip abroad or even leaving home for any length of time; but anything that temporarily relieves the pressure of dull care is, in the truest sense, a recreation. The man who has a hobby, apart from his daily work, be it books, music, hunting or anything else, is the one whom you may expect to keep young the longest, even if his business cares are ever so great.

Ohio.

H. E. WHITE.

Send for "The Water-Way" March and Two-Step.

The D. & C. Lake Lines have just published a march and two-step written by Harry H. Zickel, composer of the popular "Jolly Student," "Black America," "Ford" and other very successful selections. This composition, which was expressly written for the D. & C. Lake Lines, is full of life and action, and so catchy that is bound to be the popular success of the season. You will hear it everywhere. Everybody will whistle the tune. Get your copy first. Mailed to any address for only five 2-cent stamps. Address Detroit & Cleveland Navigation Co., Dept. W., Detroit, Mich.

One Man Does It All.

A man and a horse with an Ertel "Daisy" hay press can bale a ton an hour. Just think of the advantages. No big baling crew to feed. You do the baling in spare time from regular work. Cost of baling is reduced to forty cents a ton. Automatic self-feed and wonderful but simple self-thresher have put the work in the range of one man. This is the greatest advance yet scored. You ought to read the enthusiastic endorsement of those who used the "Daisy" press last season. Better write today to George Ertel Company, Quincy, Ill., and tell them you want to know more about the hay press advertised in the Michigan Farmer. They will send you their "Baler Book" free. A postal will do.

LIVE STOCK

STORY OF THE BREEDS.

The Hereford Cattle.

It is generally known to stockmen that the Hereford cattle originated in Herefordshire, an inland county situated in the west of England, bordering on Wales, and about 130 miles northwest of London. The whole of the county is in the basin of the Severn and is watered by the river Wye, with its affluents, the Lugg, the Arron and the Teme. The climate varies with the elevation and exposure, but is on the whole, exceedingly healthy. The soil is for the most part a deep, heavy red loam which produces great crops of grain, chiefly wheat, and is highly favorable for the growth of trees. Oaks, and other forest trees abound, apple trees grow well, orchards are numerous, and cider is made in large quantities. Sheep, cattle, and horses are extensively raised. Except in the city of Hereford, agriculture is the chief employment of the inhabitants. Herefordshire was conquered by the Romans in A. D. 73, and at a later period was for a long time the scene of frequent contests, or battle ground between the English and the Welsh. Hereford, the capital of the county, is a city of over 18,000 inhabitants and makes a good market place for the disposal of agricultural products. Five annual fairs are held, the largest, and most important in October for the exhibition of cattle and cheese.

The improvement of the native cattle began about the same time with the improvement of the Durhams, or Shorthorn cattle. While the Dobisons, Collings, Bates, and Booths were patiently engaged in the slow and toilsome process of increasing the size, and molding the forms of the Shorthorns into shapes of beauty and usefulness, the Skudmores, Tompkins, Galliers, and Prices were as faithfully at work improving and perfecting the Herefords, which were destined to be the chief rivals of the Shorthorns as a beef breed. It has been asserted that the Hereford, like the Shorthorn, was formed, or modified, by a mixture of cattle from the continent. Thomas A. Knight relates that Lord Skudmore, previous to 1671 introduced into the county of Hereford from Flanders a number of cattle with white faces, and it was to this importation that Mr. Knight attributes the supreme qualities of the breed. Marshall, who saw the cattle in 1788, or more than a hundred years after the admixture with the imported cattle, describes their colors as "a middle red, with a bald white face, the latter being deemed characteristic of the true Hereford breed." Duncomb, another writer says: "The prevailing color was reddish brown, with white face." Mr. J. H. Sanders in his book, "The Breeds of Live Stock," says: "The white face, with more or less white on the top line—especially from the shoulders forward, and also on the belly, the remainder of the body being covered with a heavy growth of red hair varying from a pale, to a deep red, and frequently quite curly, remains today, as it was a hundred years ago, a characteristic of the breed."

McDonald and Sinclair, in their history of Hereford cattle, say: "The main object of these old breeders seems to have been—at least in the beginning of their operations—to rear large, heavy cattle that after having been worked in the plow, and having taken an equal share in the harvest, would bring a good price from the graziers of the midland counties who assembled in large numbers at the Hereford October fair. By them they were purchased with a view of being fattened for the butcher, or perfected for the London market." Benjamin Tompkins, who was born in 1745, has sometimes been called the founder of the Hereford breed; but the fact is that his grandfather, who died in 1723, was a famous breeder of cattle, as was also his father, Benjamin Tompkins, Sr., who was the neighbor and contemporary of William Galliers, another noted breeder of Herefords. There were three generations of the Tompkins family at work improving the same stock for many years.

Mr. G. W. Curtis in his book, says of Benjamin Tompkins, Jr.: "He came from a line of ancestors who were prominent men of the county of Hereford, as cattle breeders, and many of them were prominent men of the nation. He died in 1815, and when his herd was sold a few years later, 15 cows brot an average

of \$750 each, the 15 bringing \$11,245. Four bulls brot an average of \$1,335 each. Two yearling heifers brot \$390 each.

After Lord Skudmore, who introduced the white faced cattle from Flanders, the men who deserve the most credit for the formation of the Hereford breed are the Tompkins, Galliers, Tully, Skyrene, Haywood, Yeomans, and Price. About the year 1800, and for a period of about 30 years afterwards, the strife between the breeders of Shorthorns and Herefords was vigorous, and challenges to each other by the owners of the rival stock for competitive exhibitions were frequent, and victory did not incline to either side. After that for about 40 years, the backers of the Herefords appear to have voluntarily retired from the field. It is said that the general adoption into their herds of the Shorthorns by the aristocracy of Great Britain about this time was a great triumph for the Shorthorns, as it furnished a wonderful, effective, and widespread advertisement of the stock, and made them the fashionable cattle for a long time afterwards.

It is said by some, that the great popularity of the Shorthorns at that time caused a degeneracy of the breed, the demand for the stock being so great that every animal with four legs, and two horns, whether good or bad, could be sold at a round price to be bred from by the buyer, and the progeny sold to somebody else to be further degenerated. There may have been some truth in this, but there have always been some careful, conscientious breeders who have maintained the quality of their herds up to the full standard of old time excellence, if they have not, in fact, improved upon it.

On the other hand, the Hereford breeders not having the temptation of so great a demand and such high prices for their stock were content to breed only from the best, and were compelled by the situation to sell for breeding purposes, only those that were good.

The first importation of Herefords into the United States of which we have any account, was made in 1817 by Henry Clay, the distinguished orator and statesman of Kentucky, and it is a remarkable coincidence, that they were brot over at the same time, and in the same ship which brot the first Shorthorns. The rival cattle having struggled long for the championship of England, were determined to fight for the supremacy in America. The Herefords did not immediately become popular here, and it was not until 25 years ago that their excellent growing qualities began to be appreciated and a great demand sprung up to cross with native stock on the great western plains.

Pennsylvania. J. W. INGHAM.

SUMMER TROUBLES WITH THE PIGS.

No other animal on the farm has been so "long-suffering" from its various afflictions, with but little effort on the part of the owners to secure relief, as the hog. It seems as tho the veterinarians were slow to see the necessity for a careful study of the pig and his diseases. They have enjoyed the study of horses, cattle, sheep and even dogs and poultry, but seemed to have a special dislike for the hog.

We are aware that one of the great barriers that has prevented farmers from doctoring the hogs, has been the difficulty they experience in administering the remedies. Some are not resourceful in devising ways in which the remedies that suggest themselves as proper, can be used to advantage. In my own experience, I have not found it much more difficult to doctor the pigs than the other classes of stock. I tried to keep the pigs tame, which was a great advantage. There is one advantage in doctoring the hogs; they either get well or die soon after you begin. If there is a fair show the hog has vitality sufficient to enable him to recover, and not mope and die in spite of good care and treatment, as is the case with some other stock.

Hog Lice.

External parasites are annoying and prevent pigs from doing well. If the pigs do not seem to be doing well it is a good plan to look for evidences of lice. In some cases it is difficult to detect the lice as they seem to keep covered. Look on the hair back of the ears. If the color of the hair is dark, and if there are white specks there about the size of timothy seeds, you can rest assured that they are nits, and there are lice on the hog that produces them.

One of the safest and surest remedies I ever found for lice, is to take equal parts of kerosene and lard oil and brush it into the hair all over the body. Repeat in about a week and there will not be any more lice or nits on the hog treated, but there should be a thorough cleansing of the nests. Take all the nests out and burn them and apply with a spray pump or sprinkler to the sides of the pens and floor, a strong solution of carbolic acid. One ounce of the acid to two gallons of water is a good disinfectant. For hog lice in the pens it may be well to make it twice as strong, using an ounce to a gallon of water.

If one does not like to use the oil on the hogs, he can get at the drug store 4 ozs. of Stavesacre seed, and 1 oz. of White Hellebore, and put in a gallon of water. Boil or simmer it down to two quarts, and apply with a brush. This mixture will kill both lice and nits on the hogs. The pens must be disinfected or there will be a return of lice from pens to the hogs.

Mange or Itch.

What is usually called mange is not as prevalent as in former years. People have learned that such diseases are contagious, and can be controlled by treatment with simple remedies. The first thing is to get rid of it, and keep rid of it, by avoiding the hogs on the farm coming in contact with those that roam at will.

The mange is caused by a little insect that burrows under the skin and produces pimples and blotches that are most readily seen between the fore legs and under the thighs. A good way to treat it is to rub soft soap all over the body. In an hour or two, wash it off with warm soft water. When the hog is dry, take flour of sulphur, 4 ozs., oil of turpentine, 1 oz., lard, 8 ozs., mix thoroly and rub all over the surface of the body. Disinfect the pens, rubbing places with strong solution of carbolic acid.

Internal Parasites.

The hog is probably troubled with more internal parasites than any other animal, and stands up under them without being killed by them, except in rare cases. Abnormal appetite, and troubles we call indigestion followed by diarrhoea, are usually caused by worms. There is the thread worms, another six or seven inches long, about the size of a goose quill, and is sometimes white and sometimes of a brownish color. These are seen when the hogs run to grass. There are two other worms that live in the intestines; one a white, slender worm about three inches long, and about the size of a knitting needle, the other less than an inch long, and shaped like a tadpole.

The farmer's main remedy for the worms is ashes and salt mixed with the feed, and giving copperas water in the drink. One of the most effectual remedies is santonin or worm seed. For a hog weighing 150 lbs. give one-third of a teaspoonful, morning and evening, for three days, and follow with a brisk cathartic.

Another good remedy is to give to a 300 lb. hog a teaspoonful of copperas, together with from 6 to 10 drops of tincture of nux vomica for three successive mornings, then follow with physic. The medicine can be given in a little drink an hour before the regular morning meal, to give it a chance at the worms before they get any feed.

One great trouble with giving to the farmers an effectual remedy, like the last one, to give the hogs, is the lack of discriminating between the sizes of hogs, as they are prone to give to little and big alike; and what is a medical dose for a mature hog, might destroy a small pig. I have usually said, "give such only under the direction of a physician or a competent veterinary surgeon." A breeder of pure-bred pigs can afford to become familiar with the proper doses for hogs of all sizes, and cannot afford to take any chances of overdosing.

Kidney Worms.

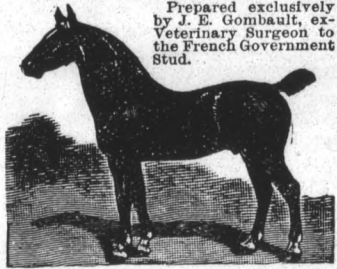
There is a class of worms that get into and burrow in the flesh, mostly at the loin. The name of "kidney worm" is generally given to such; but the kidney is not often affected. When afflicted with those pests, the hog goes down on his hind feet, and is almost as helpless as tho the back were broken. The remedy in such cases is to rub turpentine on the loin. A tablespoonful rubbed on the surface once or twice per day will cause the worms to leave that part of the body. For an internal remedy take of sulphate of iron (copperas) one teaspoonful, flour of sulphur, a teaspoonful, and mix and feed at night for three suc-

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cessive evenings. This is a dose for a hog weighing from 200 to 300 lbs.

If preventative remedies such as charcoal, wood ashes, lime and copperas were used more in the summer time, it would be a great saving in feed. The following is a good formula: charcoal, one bushel, hardwood ashes, one peck, salt, 3 lbs., air slacked lime, 1 quart. Dissolve $\frac{1}{2}$ lb. of copperas in hot water and thoroughly mix all the ingredients together, keep inside and give the pigs just what they will eat of it each day.

Wayne Co.

N. A. CLAPP.

BEET-TOPS INJURE STOCK.

Mr. Lillie, in reply to a question regarding beet-tops said last winter that he considered them of equal value with good corn silage.

I have fed them now for six seasons and am convinced that they are a positive injury to stock. So I sound this note of warning that others will consider before sustaining as heavy losses as I have.

For five winters, I put the tops in a silo and fed them as a succulent food all winter. Last fall, I put corn in my silo and wishing not to open it till cold weather, I fed beet-tops, all the fall, and as I had lots of tops fed the cows and sheep all they wanted.

They enjoyed the tops and ate large quantities. It increased the flow of milk, even causing a shrinkage when I changed on to the corn silage. Another result was that the cows and sheep drank a great deal of water and the urination was so excessive that the gutter behind the cows would be overflowing every morning and I could not bed the sheep to keep them dry.

In my flock of sheep I have had heavy losses, last year amounting to nearly half. And my cows have not done as well as they should with the care and feed given. Not till last fall, however, did I suspect the cause to be the tops, when the thirst and urinating became so abnormal on account of the generous feeding.

After losing a number last winter, I took one out to the bacteriological department at M. A. C., where Dr. Geltner dissected it in my presence. There were some parasites but not enough to cause death or even ill health. "Death," he said, "was caused by diseased kidneys. Also the duct to the bladder was closed with a limy deposit."

Dr. Geltner told of the loss of sheep by feeding mangel-beets, because of the salts in them. The reason the sugar companies do not want the tops of the beets is because they contain an excessive amount of mineral salts.

The beet-tops, therefore, containing so much more of the salts, are more apt to affect the animals.

Later in the winter I dissected a number of the sheep and found the same diseased conditions of kidney and bladder but no other indications of disease. So I am thoroughly convinced that beet-tops are injurious to stock. I have a large crop of beets this year but shall not feed any tops.

Ingham Co.

F. M. STOCKMAN.

VETERINARY

CONDUCTED BY DR. W. C. FAIR,
CLEVELAND OHIO.

Advice thru 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.

Round Worms.—Mare has not been thriving very well for some time. Lately she has passed some long round worms, some of them are fifteen inches long. She has been bred this spring and is perhaps safely in foal. W. B. G., Gaines, Mich.—Give $\frac{1}{2}$ dr. santonine, 20 grains calomel and 4 drs. aloes once a week, for 3 weeks. Also give $\frac{1}{2}$ oz. ground gentian, 2 drs. quassia and 3 drs. powdered cinchona at a dose in feed twice a day for 10 days or more.

Intestinal Worms.—I have 6 Chester White pigs eight weeks old which commenced some two weeks ago to act as tho something was irritating them. Thinking the trouble chicken lice I washed them with kerosene emulsion, but this offered no relief. They commenced by running and squealing and shaking their heads and feet; now they appear in pain at times, squeal, rub their bellies on the ground, roll over and appear weak after they get over a sick spell. They have not been weaned and are fed some corn and middlings. They did well up to lately; now they stand still and don't grow. R. H. J., Benzonia,

Mich.—Give each little pig $\frac{1}{4}$ teaspoonful castor oil adding 10 drops turpentine once a week. Cook their food for a week or ten days.

Barbed Wire Cut—Wart.—I have a 4-year-old gelding that was badly cut on a barbed wire fence last August; I applied carbolic lotion and later put on iodoform and borac acid and finally greased it a few times. The wound healed but has not haired over. A short time ago the scar became sore, causing some lameness. This same colt has kidney trouble. I also have a heifer that has a wart. E. E. T., White Cloud, Mich.—You had better apply equal parts powdered alum, iodoform and borac acid to sore twice a day but before doing so burn it with hot iron and this should be done twice a week for two weeks. Cut the wart off and apply Monsell's solution of iron once a day; give $\frac{1}{2}$ oz. powdered rosin daily to stimulate the kidneys.

Acute Indigestion.—Mare becomes sick suddenly, bloats some, at which time she must have sharp pain for she kicks belly with hind foot; she also elevates the upper lip and is very uneasy. Our local Vet. treated her and she got well, but takes sick every two or three weeks; what can be done for her? C. R., Breckenridge, Mich.—Your mare suffers from acute indigestion. A change of feed might prevent any future sick spells. Give $\frac{1}{2}$ oz. ginger, $\frac{1}{4}$ oz. gentian and $\frac{1}{2}$ oz. bi-carbonate soda at a dose in feed twice a day.

Indigestion—Blood Poison.—Mare plays out easily. She is in bad condition. Her shoulders swell in places and boils come on top of neck which break and discharge pus. She eats plenty of grain but does not eat enough grass. W. M., Hart, Mich.—Wash shoulders with salt and water three times a day, put $\frac{1}{4}$ lb. sugar of lead, $\frac{1}{4}$ lb. sulfate zinc and $\frac{1}{4}$ lb. alum in a gallon of water and apply to neck and shoulders 3 times a day after using the salt and water. Give 2 tablespoonfuls sulfate soda at a dose in feed 3 times a day; also give a tablespoonful baking soda twice daily.

Enlarged Throat Glands.—The cow that you prescribed for June 12, has improved some and does not make any noise when she breathes. Had I better continue the same treatment for a while longer? C. C. H., Grass Center, Mich.—Give 2 drs. iodide potassium at a dose in feed night and morning and apply iodine ointment to throat once a day.

Acidity of the Stomach.—My cows are inclined to chew stones, barrel hoops and most anything they can get hold of, therefore, I am anxious to do something for them which will stop it. W. C., Owendale, Mich.—Your cows suffer from acidity of the stomach. Give 1 oz. bi-carbonate soda, 1 oz. ginger and $\frac{1}{2}$ oz. gentian at a dose to each cow twice a day; salt them well.

Indigestion—Bruised Udders.—Last Monday evening when I milked my cows everything seemed to be all right about them; in the morning three of them gave very little milk and their udders seemed to be bruised; a fluid like cider came from the bruised quarters and not much of it. T. Z., Marine City, Mich.—Your cows must have eaten some poisonous weeds or grasses or else bruised their udders. Give each cow 1 lb. epsom salts, one dose only; also give $\frac{1}{2}$ oz. nitrate potash at a dose twice daily. Apply equal parts spirits camphor, tr. arnica, extract witch-hazel and alcohol twice a day, to bruised udders.

Cow Bitten by Mad Dog.—Cow was bitten by a mad dog some six weeks ago. We washed the sore with ammonia right away, so far she shows no signs of hydrophobia. The milk has not been used since the dog bit her. Now I should like to know what to do. Could I find out if she has been infected by having her milk examined? How will this cow act if she does go mad? A neighbor's sow and several dogs have gone mad already; will I have to stand the loss if she dies or will the state reimburse me? F. C. G., Breedsville, Mich.—A bacteriologist could not tell by looking at the milk. Your cow should have gone mad in 15 or 20 days; however, she might do so at any time within 90 days, and cases are reported later than that; however, most all animals which are infected show it in three weeks or less. Don't use the milk for another month or six weeks, then you can use it. The symptoms are nervousness, fever, loss of appetite, some loss of voice, trouble to swallow, inclination to bite and run around delirious and fight other cattle, later becoming weak and paralytic, then dies. I believe you must stand the loss; however, ask an attorney.

Infected Udder—Rheumatism.—I have a grade Jersey cow 8 years old, which became very lame and weak about ten days ago. She first began by giving gargety milk from one quarter of her udder; a few days later she became so weak that she could scarcely get up alone and was very stiff. Her flow of milk nearly stopped. Our local Vet. prescribed for her, gave her medicine and rubbed an ointment on udder. She seems some better now, her flow of milk has increased, but she gives scarcely any milk from the affected udder and is still very lame. She was bred May 3rd, but is not in calf. She is in rather poor condition at present, in fact, she never was inclined to lay on flesh on account of being a deep milker. I am somewhat inclined to believe that she has a disease of the womb, which is perhaps the cause of her sickness. C. E. G., Merle Beach, Mich.—Your cow suffers from an infected udder and perhaps septic infection on account of not cleaning properly when she calved. Give 3 drs. carbonate potash at a dose three times a day; also apply iodine ointment to udder twice a day. If you are equipped with a suitable syringe wash out diseased quarter of udder with one part carbolic acid and fifty parts water; also wash out womb daily with same lotion, or open quarter with air pressure; also give her 2 drs. iodide potassium at a dose night and morning.



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Great losses, not merely of poultry life, but in other ways, yearly result from exposing fowls, and especially young fowls, to excessive heat in summer. Probably loss of life is greater with young ducklings than with chickens, for with the latter the difficulty arises more especially from slowness of growth as a result of the ground being dry and vegetation somewhat lacking.

In many parts of the country means for affording relief from excessive heat must be improvised as they are not naturally available. Where the poultry keeper lives upon a place having woods or abundant hedgerows his work is very greatly simplified. For instance, under these conditions, if he, with the advent of warm weather, will remove his fowls to the shelter of the trees or hedges he will find that they will grow faster. We know from our own experience how welcome, upon a hot summer's day, is the shade, and what is true of ourselves is equally true of our fowls. If they are placed out in the open and exposed all day to an excess of sunshine, they have the same feeling of discomfort that we experience under like conditions. Consequently the effect is seen in retardation of the development of the body, and sometimes in loss by death. Moreover, under these circumstances there is a lessened activity on the part of the fowls. We have only to watch them in the open fields to see that they cower, during the greater part of the day, under such small shade as is available, whereas those having the shelter of trees or hedges are active and happy. They seem more or less constantly engaged in seeking natural food, and in short are living under conditions which must tend to their development and to the profit of their owner. My advice, therefore, is that wherever possible the benefit of the shelter which nature has provided be given. Under these circumstances there should have taken place, even earlier than this, a removal of the coops or brooders, or of the colony houses in which the growing stock is accommodated, to places which will give them abundant shade or at least protect them against excessive sunshine.

The benefit accruing from such shade is not merely seen in its protection from heat, but in the supply of natural food. We have only to use our eyes to note that where there is such shade the grass and other forms of growth are more luxuriant and more succulent than out in the open. On a hot summer's day, when the fields are bare, under the hedges and in the woods there is plenty of growth. This is an essential element in the development of our fowls, and they are thus enabled to get what should be one of the basic factors of development. Furthermore, under these conditions insects and grub life are much more abundant. In the open fields, where all is burnt up and the earth is baked hard, there is little of this nature to be obtained. The fact is that many forms of parasitic life live upon grass and other vegetable matter, and when this is burnt up they have no means of finding sustenance and they die in large numbers. Moreover, the worms do not come to the surface under such conditions, hence the fowls are deprived of what they seek constantly. In the woods and under the shelter of the hedges there is an abundant supply, and hence the fowls here find conditions that would be met with in a cool, moist summer or in the spring months of the year.

The chief difficulties regarding summer shade arise in the case of those who live in districts where all is open and where natural shelter is unavailable. The only thing to be done is to minimize the extremes so far as possible, by artificial shelter. Coops and temporary houses, instead of facing south, as at other periods of the year, should be reversed and the backs turned to the sun. This in itself will make considerable difference but it is not enough. We have sometimes seen coops in open fields with fronts exposed to the sun's rays, and pitied the hens in them. Under these circumstances they must have been miserable indeed and their chickens were vainly trying to find a little shade. Provided, therefore, that the coops are turned in the way indicated, and also provided that there are no buildings or stacks that would protect them, a good way is to put up hurdles, covering these with

branches of trees or similar material, and placing immediately behind the coops. Or they may be covered with sacking or straw. In this way shade can be created both for the coop and for the ground immediately adjacent. Such an arrangement will be highly appreciated by the fowls and they will revel in it.

One point more, and that is that during hot weather a much more abundant supply of succulent green food should be given; also that part of the food, at any rate, should contain more moisture than would be necessary at other seasons of the year. Water must be provided three times a day. Nothing is more injurious than stale water, as in hot weather bacteria develop very rapidly in warm water. They will also obtain moisture for the development of the body more favorably from green food than even by drinking. Moreover, such green foods contain elements which cannot be obtained in any other way, and all such garden stuff as lettuce, or cabbage, or, in fact, anything of that kind, may profitably be given the chickens at this season.

Canada.

W. R. GILBERT.

RIDDING FOWLS AND THEIR QUARTERS OF LICE.

Remedies for the various kinds of lice which harass poultry are numerous but many owners of fowls still fail to realize that no single preparation will answer for all kinds. Liquid preparations do not work well on the fowls themselves, especially at certain seasons of the year, and dry or powder preparations are not very effective in ridding coops and their fixtures of vermin. It therefore seems essential that every fowl owner be familiar with several unfailing remedies—one for ridding the fowls of the various parasites which are known to infest them, and another for effectively clearing their quarters of the species which secrete themselves in cracks and crevices during the day and attack the fowls at nights. Two such remedies which have been thoroughly tried out by the poultry departments of the Maine and Cornell stations have been made the subject of a circular just issued by the Maine station. These remedies, in addition to proving effective, are simple and inexpensive and therefore of general interest to poultrymen. Concerning their preparation and use we take the following from the circular referred to:

In keeping a poultry plant free from lice there are two points of attack: One, the birds themselves; the other, the houses, nest boxes, roosting boards, etc. For the birds themselves experience has shown that the best way to get rid of the lice is by the use of a dusting powder to be worked into the feathers. In using any kind of lice powder on poultry, whether the one here described or some other, it should always be remembered that a single application of powder is not sufficient. When there are lice present on a bird there are always unhatched eggs of lice ("nits") present too. The proper procedure is to follow up a first application of powder with a second at an interval of four days to a week. If the birds are badly infested at the beginning it may be necessary to make still a third application. To clean the cracks and crevices of the woodwork of houses and nests of lice and vermin a liquid spray or paint is probably the most desirable form of application.

The lice powder which the station uses is made at a cost of only a few cents a pound in the following way: Take three parts of gasoline and one part of crude carbolic acid; mix these together and add gradually, with stirring, enough plaster of Paris to take up all the moisture. The liquid and the dry plaster should be thoroughly mixed and stirred so that the liquid will be uniformly distributed thru the mass of plaster. When enough plaster has been added the resulting mixture should be a dry, pinkish brown powder having a fairly strong carbolic odor and a rather less pronounced gasoline odor.

Do not use more plaster in mixing than is necessary to blot up the liquid. This powder is to be worked into the feathers of the birds affected with vermin. The bulk of the application should be made in the fluff around the vent and on the ventral side of the body and in the fluff under the wings. Its efficiency can be very easily demonstrated by anyone to his own satisfaction. Take a bird that is covered with lice and apply the powder in the manner just described. After a lapse of about a minute, shake the bird, loosening its feathers with the fingers at the same time, over a clean piece of paper. Dead and dying lice will drop on the paper in great numbers.

For a spray or paint to be applied to roosting boards, nest boxes or walls and floor of the hen houses the following preparation is used: Three parts of kerosene and one part crude carbolic acid. This is stirred up when used and may be applied with any of the hand spray pumps or with a brush.

In both of these formulae it is highly important that crude carbolic acid be used instead of the purified product. Be sure and insist to the druggist on getting crude carbolic acid. It is a dark brown, dirty looking liquid and its value depends on the fact that it contains tar oil and tar bases in addition to the pure phenol (carbolic acid).

MOVING BEES TO NEW HONEY FIELDS.

After the colonies are once properly packed and ready for a move the great point of success lies in getting them to their destination and opened up for a flight at the earliest possible moment. Colonies, when given plenty of room, plenty of ventilation, and space to cluster off from, and away from, the combs of brood, with ample provisions of honey and water, will stand transportation during our hottest weather, by hauling with teams, or on railroads, providing you do not keep them confined more than two or three days. A few old bees in nearly all colonies will die, but I think it is only about the actual number that die each day in their normal condition.

Ample ventilation is a big item in the successful moving of bees. I find a rim three inches deep and the same size as the hive, covered with wire cloth, the proper thing. Put one of these on the top and securely fasten. I have tried many kinds of fastenings, and find common lath, cut the right length to reach from the bottom to the top, four to each hive, one nailed at each corner, about the simplest method of fastening screens and hive bodies together. Frames should be securely fastened in the hives so that they will not slide together or swing. As I use, and have used for years, the Hoffman style of frame, which is, as most are aware, self-spacing, I have no bother about this. In the few instances when I have had occasion to move colonies in loose hanging frame hives, I have fastened them securely by means of two small slats nailed, one at each end of the end bars, down thru and into the end of the hive. This fastens them securely.

The upper story of extracting combs are left on, but all surplus arrangements in connection with comb honey should be removed, or the bees will stain them badly and render them unsightly for future use. Also their clustering on the foundation starters will generally result in them coming down, and being lost, with the need of putting more in to take their place.

When arriving at the destination open the hives as soon as possible so the bees can have a flight. If there is honey coming in the bees will be at work within an hour or two, in fact, in less time, frequently. I have recently moved an apiary the short distance of a half mile. To my great surprise no bees have returned to the old location. They were moved in the evening after the field bees were all in. There being no springs on the vehicle, the hives received quite a shaking up, which no doubt gave the desired effect.

The transportation of bees in box hives is rarely practiced beyond a local move, which I have upon several occasions accomplished with success by simply confining the bees with a strip of wire screen over the entrance, loading them into a wagon and driving to the new location. The combs in such hives are secured naturally, and after having been in use for several years are very tough, so that no special care need be observed in handling.

The amount of success that a beekeeper achieves depends upon surrounding circumstances, such as nearness to honey-producing crops and the state of the weather during the time they are in bloom. But with these necessary conditions in his favor, there remains another item without which the fullest advantage possible cannot be obtained; his energies must be directed by that and applied to the work of the apiary at the right time. It is not often that we find one locality giving a continuous and abundant honey flow from spring until fall. Indeed, such localities are very rare, and even if we find one which nearly or quite fulfills these conditions we may not be able to locate an apiary there.

F. G. HERMAN.

ORIGIN Of a Famous Human Food.

The story of great discoveries or inventions is always of interest.

An active brain worker who found himself hampered by lack of bodily strength and vigor and could not carry out the plans and enterprises he knew how to conduct, was led to study various foods and their effects upon the human system. In other words before he could carry out his plans he had to find a food that would carry him along and renew his physical and mental strength.

He knew that a food which was a brain and nerve builder (rather than a mere fat maker) was universally needed. He knew that meat with the average man does not accomplish the desired results. He knew that the soft gray substance in brain and nerve centers is made from Albumen and Phosphate of Potash obtained from food. Then he started to solve the problem.

Careful and extensive experiments evolved Grape-Nuts, the now famous food. It contains the brain and nerve building food elements in condition for easy digestion.

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LIGHTNING

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The Lawrence Pub. Co.,
Detroit, Mich.

DETROIT, JULY 17, 1909.

CURRENT COMMENT.

In commenting upon "The Danger From Lightning, Fire Losses and The Farmer" in the last issue, mention was made of the high percentage of farm losses caused by lightning, and the possibility of avoiding this waste by the proper protection of farm buildings with lightning rods. By way of further illustrating the extent of such losses and the need for protection from them, some figures submitted by a committee of the National Fire Protection Association, appointed to investigate this class of losses, will be pertinent. According to these figures, out of 357,346 fires occurring from 1898 to 1902, 15,755 were caused by lightning, occasioning an aggregate loss of \$21,767,185. It was also found that buildings which are isolated, as farm buildings, are much more susceptible to damage from lightning than buildings in more thickly populated or crowded sections. In the classification of these losses, barns were found to be most susceptible, with dwellings following next in order. Of 15,775 buildings destroyed by lightning, 9,375 were barns and 3,842 were dwellings. The high proportion of barns destroyed would clearly indicate that the bulk of these losses were suffered by farmers.

While many years have passed since Franklin demonstrated that he could draw electricity from a thunder cloud, and invented the lightning rod as a means of protecting buildings from destruction by the electrical fluid, yet it is but comparatively few years since scientific attention has been given to the development of that system on a sound basis, and even at the present time there is not a very general understanding of the danger from lightning or the principles which apply in protecting buildings from it, as a large number of queries asking for information on these points clearly indicate. In order to aid the reader to a more clear understanding of both, let us consider for a moment the cause of lightning. The dense, heavy clouds which we commonly designate as thunder heads, in some way become heavily charged with electricity. There are several theories as to how this phenomenon occurs. One is that it is caused by the friction of opposing currents of air, laden with particles of moisture or vapor. Another theory is that in the process of evapora-

tion these particles of vapor carry with them the normal charge of electricity which is present in all bodies, and that as electricity is conducted only on the surface of bodies, as these unite by condensation the charge becomes intensified on account of the reduced aggregate surface of the larger particles of moisture. Be this as it may, none will doubt that these clouds become heavily charged, with positive or negative electricity, as the case may be. Contiguous clouds are often unevenly or differently charged, and many of the flashes of lightning seen are discharges from one cloud to another. But it is when the accumulated electric fluid from a heavily charged cloud is discharged to the earth, in response to the great natural law of compensation or equilibrium which governs the actions of this fluid, that the danger to property and life occurs. These discharges are more apt to occur from clouds that are near the earth than from those higher in the air, since the resistance to the passage of the electrical fluid is less. The air is a non-conductor of electricity and must be displaced by the current which we call a flash or bolt of lightning. The return of the air to fill the void left by the passing bolt is what causes the thunder. As lightning naturally follows the route of least resistance it generally strikes buildings, trees, telegraph and telephone poles or any object which offers less resistance than the air toward its passage to the earth. It is the problem of offering a medium of less resistance than the buildings which project into the air, and thus aiding the passage of the electrical fluid to the earth without damage to them, which concerns us in avoiding this danger from lightning and the losses which it inflicts.

Preparations for the State Fair are now progressing rapidly that all may be in readiness for the opening of this greatest of Michigan's agricultural shows, which this year will be held from Sept. 2 to 10, inclusive. These preparations include improvements in the grounds which will add to the comfort of fair patrons, such as additional cement walks, and additional exhibition space in some departments. Reports at this time seem to indicate that all classes will be well filled, and that the educational features of the fair will be of a high class. It is in these features that the patrons of an agricultural fair can secure the greatest benefit, and they constitute the greatest advantage which accrues to the fair patron from attending the State Fair. If the competitive exhibits in each department are carefully looked over, studied and compared, many ideas can be gained which will be of value to any farmer in his business, no matter what line of farming he may be engaged in. By carefully looking over the choice individuals of the improved breeds of live stock, which will be found on exhibition, the stockman, whether amateur or professional, may get up-to-date ideas with regard to type and general excellence which will raise the ideal toward which he will strive in his own future breeding operations. By carefully inspecting the exhibits of grains, seeds and vegetables, the general farmer can gain much knowledge with regard to the merit of different varieties. By looking over the horticultural department the fruit grower will receive a new inspiration which will be reflected in the higher standard of excellence of the fruit which he will produce in future years. The ladies will also derive pleasure and profit from the exhibits of art in the different forms which appeal to them; while all will profit by the poultry exhibit, which is probably visited by more people than any other single department of a big fair. In the manufacturers' exhibits there is also a great deal to be learned by a close study and comparison of the machinery, tools and other equipment needed upon every farm. There is no place in which such comparisons can be made to such good advantage, and the knowledge gained will prove of enormous value to the fair patron. In fact, there is no department of the exhibits of an agricultural fair which does not hold a valuable lesson for the fair patron who is seeking to profit by it. Amusement features serve to relieve the more strenuous work of seeing the fair proper, but it is the educational value of a show of this kind which we desire to emphasize.

In addition to the department exhibits several features of an educational nature have been added for this year, including a cattle judging contest conducted by Prof. Anderson, of M. A. C., which will

be open to all young men under the age of 30 years. This contest will be conducted in a ring in which five animals will be placed, and will include horses, cattle, sheep and hogs, the young men entering being given 20 minutes to place the animals in the order of their respective merit as they see it and give their reasons therefor. Colon C. Lillie will also conduct a test of milk, butter and cheese production under the auspices of the State Dairy and Food Department, which will be of educational value to dairymen.

Space will not permit the further enumeration of the educational features of the State Fair, which make it advantageous for every farmer in the state to attend it if he can possibly arrange to do so. Without doubt the educational value of the fair would be the greater for a large number of prospective patrons if they would make an exhibit in some one or more departments. The prospects are good for some crop in practically every community, and by bringing a selection of the best products for exhibit, the educational value of the fair will be increased, not only for the exhibitor, but as well for his contemporaries who attend the fair for the purpose of profiting to the greatest possible extent from its educational features. The Michigan Passenger Association has made a rate of one and one-half fare for the round trip, which will be a considerable saving for patrons living at a distance from Detroit. The advantages of attending the State Fair should appeal to the farmers of the state, as a class, and more of them should attend than ever before. While the district and local fairs should not be neglected, the greatest possible advantage cannot be derived by the fair patrons without attending both these and the State Fair, which opens the fair season in Michigan. The West Michigan Fair, which is held at Grand Rapids the succeeding week, should be attended for the same reasons, and the county and local fairs merit the support of all within the territory which they represent, and the time and money spent in attending them will be well invested.

HAPPENINGS OF THE WEEK.

Foreign.

A hurricane swept over Panama Sunday night and did much damage to property. The city was left in darkness, the electric plant having been dismantled by the terrific wind. Many of the towns along the coast as well as inland are believed to be suffering from the storm but communication is so damaged that news cannot be forwarded.

Severe earthquake shocks were experienced in the Bismark archipelago recently. No casualties have been reported.

Mrs. Theodore Roosevelt and her three children arrived at Naples on board the steamship Celtic after a stormy voyage, July 11.

It is now stated that the trouble between Spain and Morocco over the Riff coast is settled; envoys from the latter country were received by King Alfonso at Madrid a few days ago and an agreement was reached. Spain is sending a large force to the seat of trouble to avoid further uprisings. Spain has control over the territory by the terms of the treaty.

The Chicago congregational club presented a bronze tablet to the English reformed church of Amsterdam, Holland, in commemoration of the persecuted Pilgrim fathers who landed there from England in 1609, before coming to America, and in recognition of the hospitality proffered them by the inhabitants of the city.

A battle in which a number of the Shah's troops were killed, resulted some 15 miles from Teheran, Persia, recently where his forces had a pitched battle with the nationalists. The former failed to dislodge the rebels from their position. Further fighting is expected.

Don Miguel Antonio Caro, former president of Columbia, is seriously ill.

Herbert Latham was prevented from attempting his trip across the English channel in a monoplane last Sunday on account of rain. The trip is postponed till a later date.

Gold to the amount of \$1,750,000 was engaged in this country for Buenos Ayres, Monday.

In accordance with the policy of the Cuban government since the evacuation of the island by the American troops and the provisional government, the officials are making more trouble for the authorities at Washington by requesting Americans appointed for public service in the island to resign to make room for appointees of the ruling political party. A rule, under which the appointments were made by Gov. Magoon, makes it mandatory upon the new officials to show cause why removals should be made, and as they did not do so in a recent case the minister from this country has been notified to request the Cuban officials to retain the party in question until the rule is complied with.

The battleship North Carolina was terribly shaken by an explosion of gas while anchored off the harbor at Naples. The gas had accumulated in the coal hold when it was ignited by a lighted candle. One ensign was killed and another seriously injured.

Prime Minister Asquith, of England,

has thus far avoided a meeting with the representatives of the woman suffragettes, although guards are vigilant day after day seeking an opportunity to secure a conference.

The Indian student who killed Lieut.-Col. Sir William Hutt Curzon and Dr. Cawas Lalca, is on trial for his deed, and makes his defense upon the ground of being justified in his act since the English have during the past 50 years killed 80,000,000 of his countrymen and taken from India 100,000,000 pounds sterling every year.

It is now reported that the medical scientists of the Rockefeller institute have found a serum that will cure the sleeping sickness so prevalent and feared in Africa.

The Finnish diet has sent a rather stubborn protest to the Russian government and it is expected that the Czar will see that that legislative body will be dissolved. The cause of the protest was due to the Russian council preventing restrictive measures against the Jews, becoming law.

The boundary dispute between Bolivia and Peru afforded an opportunity for trouble between the two countries when the President of Argentina arbitrated the dispute in favor of Peru. Hostile demonstrations were immediately evident upon the part of certain Bolivians when the decision was announced but the better element finally gained control and it is now felt that peace will be maintained.

A call on national depository banks for a return to the treasury of government funds aggregating approximately \$25,000,000 was made last week by Secretary MacVeagh. Of this amount \$3,000,000 has been called for July 15 and \$16,000,000 for August 15. The working balance in the treasury had become reduced to \$43,000,000, which is considerably less than the amount usually maintained as a working balance.

National.

The Aldrich tariff bill passed the United States Senate last Thursday by a vote of 45 to 34—10 republicans voted against the measure and one democrat supported it. The bill contains nearly 400 paragraphs. The senate made 840 amendments to the provisions as fixed by the house. During the session when the vote was taken tobacco "in the hand" was exempted, and a duty was placed on crude petroleum shipped from those countries demanding tariff on the same goods from the United States. The revolting republicans opposed the bill on the ground that it revises the tariff "up" instead of "down," as they interpreted the meaning of the pledge of the party during the last national campaign.

The supreme court of Illinois has been asked to pass upon the legality of marriages performed in Chicago by justices of the peace since the enactment of the municipal court law. It has been held that all marriages so contracted are illegal. Fully 3,000 persons are concerned.

It is reported that skilled chemists have found a process whereby butter can be made from crude petroleum.

The income tax amendment to the constitution passed the House last Monday by the decisive vote of 317 to 14. As the measure was not amended since receiving the sanction of the Senate it will come before the several state legislatures as soon as President Taft signs it.

Both the counsel for Harry K. Thaw and the state favor the appointment of a commission to pass upon the sanity of Thaw in his hearing for release from the asylum for insane criminals.

The freighter Scott, loaded with iron ore, hit the John B. Cowles off Whitefish Point in Lake Superior, Monday morning and nearly cut the latter in two. The Cowles went to the bottom with fourteen of her crew, in three minutes after the accident.

During the past week the central states were visited by numerous heavy storms and much damage was done by rain and wind. On Monday from Missouri to West Virginia and from Minnesota to the gulf violent wind storms, waterspouts and floods destroyed property in widely separated sections; besides, several lives were lost.

It was expected the 18,000 miners of the Pittsburg coal company would go out on strike Monday but the president of the united mine workers of America refused to sanction the move and it was delayed. It is now reported that the miners will defy the higher authority and call the strike later.

The Bronx Zoo, of New York, is now the largest zoo in the world, the recent addition of 450 animals of 87 different species giving it this distinction.

Troops have been called out again to suppress disorder growing out of the coal strike in Cape Breton. Strike rioters attacked the miners and the local police were unable to cope with the situation.

Outlaws attacked ten horsebuyers at Camp Alton, New Mexico, last Sunday night and killed nine of them.

It is estimated that \$48,000,000 will be needed to carry on the work of the Panama canal for the fiscal year of 1911. This amount will be asked from Congress.

President Taft is arranging a trip thru the west and south this fall. It was first planned that he would make stops at only a few of the larger points but requests from so many small places have come in that the first draft of the itinerary is now being changed to accommodate the numerous requests where it is found possible to do so.

State.

Wales C. Martindale was re-elected superintendent of the Detroit schools last Thursday.

Michigan shippers are contesting the recently adopted demurrage rates by the national association of railway commissioners.

One person was killed and four others made dangerously ill in Detroit last week.

(Continued on page 49).

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

MICHIGAN FARMER
AND **LIVE STOCK**
JOURNAL
PUBLISHED WEEKLY.
ESTABLISHED 1843.

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

MACKINAC, THE BEAUTIFUL ISLAND

BY IRMA B. MATTHEWS.

CHARMING, fascinating, beautiful Mackinac. It has been fitly named "The Fairy Island," and to me it is the most entrancing spot of all of our beautiful historical state. Well may Michiganders point to it with pride, not only for its lovely scenery but also for its historical and legendary interest. No other spot in all this wide land is richer in the latter than this.

It seems almost a shame that the old fort has been abandoned and the soldiers are no longer quartered there, for it is the only fort that has floated the flags of three nations. I understand that there is a project now before the war department to have the old fort reinhabited and it is to be hoped that it may be so, but it is also hoped that if this is done that the quarters will be made more comfortable, for I understand that they were far from that when the troops were removed.

There seems to be many opinions as to the Indian meaning of the name, which was Michilimackinac, but which has since been abbreviated. Some say that it means Great Turtle, and Schoolcraft gives it as the island of Dancing Spirits. Certainly the many traditions go to show that the Indians held it sacred.

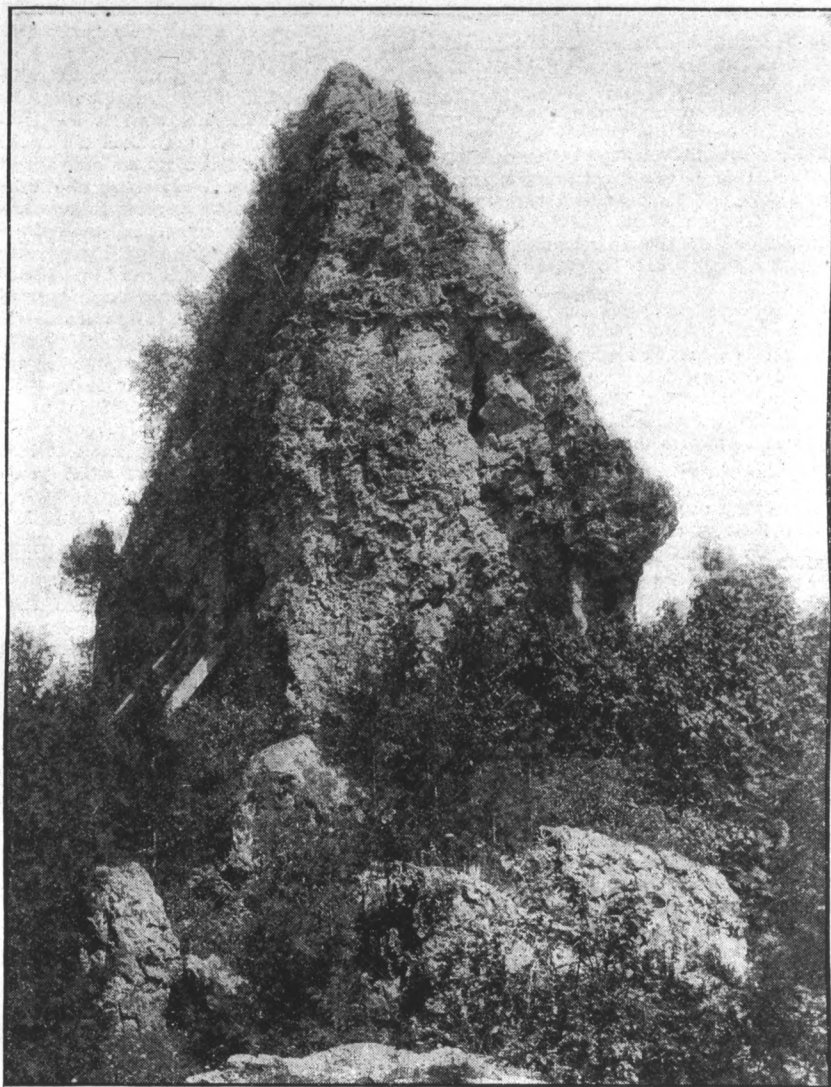
The story as told me, coming from the Indians themselves, was as follows: "We went to our sleep and there was no land in the great waters, but when we awoke in the morning we saw the island and we thought it was a great turtle, but the days passed and it did not go away and then we knew it had come to stay."

The Indians were very poetical, as will be seen by their legends concerning different parts of the island of which mention will be made later on.

Mackinac was destined, however, to have a tragic history and many were the bloody scenes she has witnessed. The white man's history of the place begins at the time when the French first discovered the island and pronounced it fair, over two hundred and fifty years ago. From the early colonial times the Island of the Straits has had a part in making the history of our great nation. It played a part in the war of 1812, and the terrible scene of the massacre of 1763 can never be forgotten.

Only a little band of thirty-five English soldiers formed the garrison at that time. This first fort, however, was built on the mainland at St. Ignace. When the rebuilding of the fort came up the

island was investigated and was found to be a much better place than the main session of it. For a time, however, we had land. So the removal was ordered. The someone else to reckon with besides the



Sugar Loaf Rock, one of the Interesting Natural Features of Mackinac Island.

English took possession here in July, 1780. English, and that was the real owners of the island, the Indians. Being settled peacefully, however, the island soon became a peaceful spot, and altho belonging to the American government it was

in reality more French than anything else.

When the war of 1812 was declared, the first drama was enacted here, for the English always coveted this spot and were eager to regain it as soon as opportunity offered. The commandant had but a handful of men and had not been apprised of the fact that war had been declared until the British demanded the surrender of the fort.

They knew that an attack in front would be impossible and so they landed on the northwest side of the island, (the place is now pointed out to tourists as the British Landing), and gained a point higher than the fort and had the little garrison at their mercy when they demanded the surrender. Lieut. Hanks, the commander, surrendered without any resistance and it was most likely the wisest thing he could have done, for had the Indians once gotten the taste of blood no doubt all of the inhabitants would have been victims.

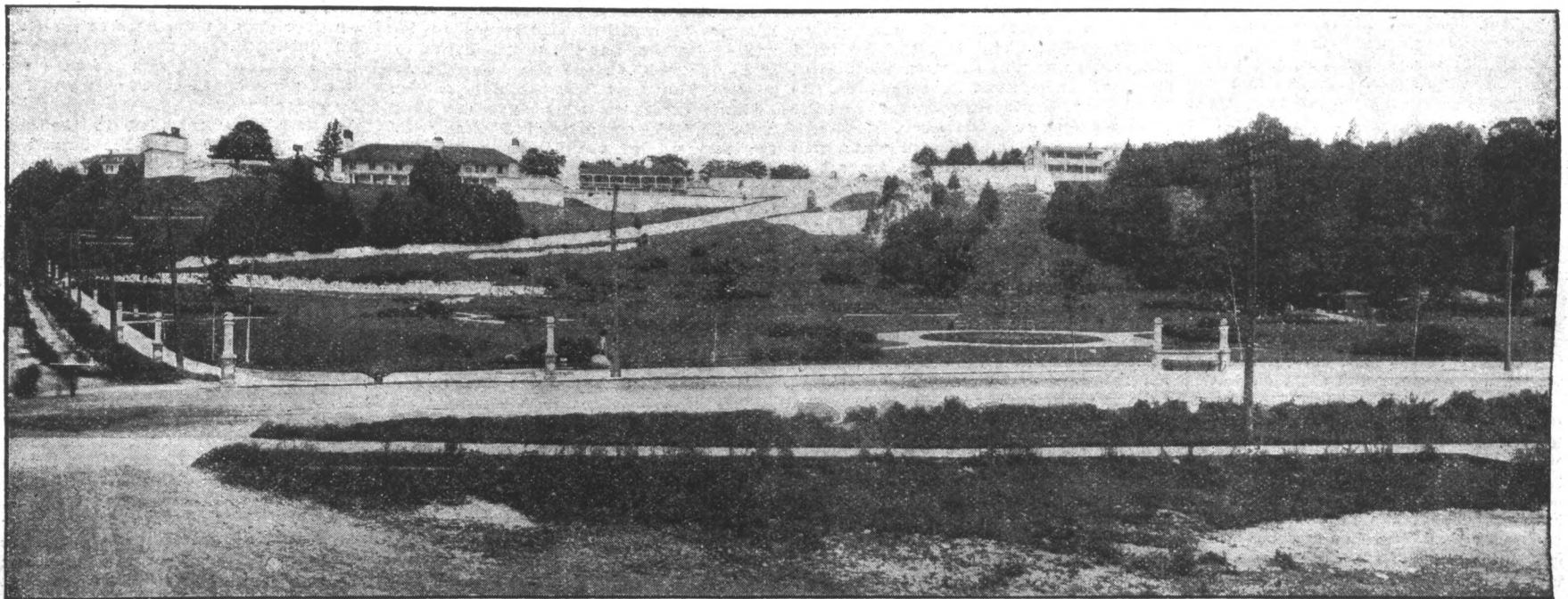
The Americans, however, were not idle, and neither did they like to see their enemies in possession of the Gibraltar of the lakes, and an expedition was fitted out to try and regain it. Altho many plans were tried, none of them were successful, and the enterprise had to be abandoned and the fort remained in the hands of the English until after the treaty of peace was signed.

During the Civil War the troops were withdrawn from the fort because they were all needed at the front and one soldier was left to look after it and see that the colors were kept flying. At the close of the war, however, it was again reinhabited.

In 1895 the forces were withdrawn and the government ceded it to the state of Michigan, together with eleven hundred acres of ground that compose the park. It seems a pity, for I hardly think we have another fort with the history of old Mackinac and it seems as tho the post should have been kept for reasons of sentiment and patriotism.

Mackinac is not a large island, being three miles long and two wide, with a crescent-shaped harbor. I shall never forget my first view of it as I stood on the upper deck of the big boat that carries passengers back and forth daily during the resort season. Even before we reached the land I was enthusiastic over its beauty.

The first thing, of course, that attracts (Continued on page 45).



Historic Old Fort Mackinac as it Appears Today. This Fortress, now Unoccupied, successively Floated the Flags of Three Nations.

HOW MISS FATAMA TERMINATED THE LAND SALE.

BY MARY L. DANN.

"Do not miss this sale, unless you enjoy regretting a lost opportunity. We are going to sell, at your own price, one hundred and fifty lots, on the main street leading to your beautiful town, within fifteen minutes walk of churches, school and post office, and, besides, we shall give away hundreds of dollars' worth of presents to the holders of the lucky numbers. Each person attending the sale will receive a ticket." Miss Fatama Wells read aloud from the yellow handbill, which she had picked up from the well-scrubbed floor of the old-fashioned portico which still clung pathetically to her quaint little home; then she shrugged her shoulders in disgust.

"Now, wouldn't that scheme drive common sense to the seashore for a vacation?" she exclaimed. "The imbecile idea of selling off a whole addition at auction, like you'd sell household goods and farming implements too numerous to mention. I have seven good lots in the most desirable part of this town, only six minutes walk or four minutes run from either depot, and if I should offer them for what they're worth to hold the world together, probably nobody would want to buy; but as soon as these sharpers appear with their yellow tag lot sale, everybody will have a violent attack of the shallows and be on the spot ready to invest. This land that has been platted into that new addition has been right where it is now for the past centuries, with its face turned up toward the sun, raising honest corn and beans and potatoes, as nature intended it should, until these outrageous promoters happened along, anxious to fill their pockets with a lot of senseless people's hard-earned money. It beats everything how folks take to being swindled as a gosling takes to water." Still muttering to herself, Miss Fatama deposited the handbill in the kitchen range.

The founders of Peerless Park had bot thirty-five acres of reasonably good land adjoining the city limits for one hundred dollars per acre—just what it was worth for farming purposes. They had platted it into lots of about forty by one hundred feet. The plat was legally accepted and declared an addition to the city of Oakdale, and they were now prepared to sell it to the public at a net profit to themselves of four or five hundred dollars per acre.

The three promoters were skilled in publicity and knew how to write fetching advertisements. The local papers displayed columns of well written matter exploiting the new addition. They darkly hinted that when the people of Oakdale had but twice more exchanged New Year's greetings, electric cars would be dashing past that particular locality, within hailing distance of every dweller on the addition. They estimated the few months that would intervene before the pavement of the main street of Oakdale would be extended beyond Peerless Park, and when water and gas would be piped thereto.

To many these statements seemed reasonable, but not so to Miss Fatama, who, altho public spirited, disliked to see these interlopers, as she termed them, walk away with the earnings of her neighbors. She set her teeth firmly and drew in her lips until they formed a straight line across her face, not unlike a slit in a pumpkin. As she laid the table for tea she stamped back and forth between the dining room and kitchen in a determined manner boding no good to the founders of the new addition, who little dreamed that there was a David arising for their Goliath.

The day designated for the sale of Peerless Park was cloudless. The air was clear and the foliage, shower washed, sent back glints of sunlight as the breezes played thru the leaves. There was color and brightness everywhere.

By ten o'clock, the hour appointed for the opening of the sale, several hundred people, men, women and children, jostled and elbowed each other in a frantic endeavor to procure from the ticket dispenser the piece of green cardboard which might entitle them to one of the presents about to be distributed.

Promptly at the hour appeared Mr. Bradner, one of the promoters, arrayed spick and span in a suit of faultless cut and linen fresh from Lem Yee's. He was standing erect in the front of a light wagon, drawn by a high-stepping horse. In the back of the conveyance were two

large boxes, from under whose covers peeped unruly bunches of excelsior, and among which reposed the costly presents destined to make glad the hearts, and aristocratic the homes, of Oakdale people.

The occupant of the wagon proved himself to be an auctioneer of exceptional ability. It seemed only necessary that he open his mouth for the words to come tumbling out. Not one of his listeners had ever dreamed that the King's English could boast such an array of adjectives of alluring sound as rolled tumultuously from the tip of his tongue and clustered around the words, "Peerless Park."

The rather lengthy speech finished with a grand flourish. "Now," said the auctioneer, "before I sell a single lot I am going to make somebody a valuable present."

He drew a ticket from the box beside him and announced the number. The person holding the lucky cardboard was handed a cut-glass water pitcher. The present was, indeed, a valuable one, and the look of expectancy deepened on the upturned faces of the crowd.

"I shall now," continued the auctioneer, "sell this corner lot, having a frontage of forty feet on Main street and a hundred feet on West street, the most desirable one on the addition. The man who allows this lot to pass into the hands of his neighbor is laying the foundation for a lifelong regret. What do I hear?" The bidding was fast and furious and the lot was struck off at five hundred dollars.

"There," said Mrs. Fatama, "that pays for just five acres of this wonderful addition, and I suppose the man who bot that lot thinks he has done a great stroke of financiering."

"I'm going over to the further corner of the Park," called the man in the wagon, "and shall proceed to sell another lot, but before I do so I shall give away some presents. Hurry along to be there when your number is called."

Standing grandly erect in the front of the vehicle, the auctioneer drove rapidly away. The crowd followed as best they might, falling over corner stakes and tufts of grass, treading on one another's feet and on dress skirts fore and aft. Aunt Hannah Howard, who could not walk and was always compelled to ride in a tricycle, fearing that she would be left behind, clung with one hand to the back of the auctioneer's wagon and was drawn over the humpy, newly plowed street at a rate appalling to the onlookers. She held obstinately fast until an extra large sod encountered the front wheel of her machine when, presto, the relative positions of the two were changed, the tricycle being uppermost. Several perambulators and their wee occupants met their Waterloo in that first mad charge. Nobody heeded the misfortune of his neighbor, so frantic were they all to be present at the drawing.

Already the auctioneer had begun to call numbers when the vanguard of the mob reached the wagon. They surged forward and crowded each other to the point of suffocation. Prof. Westren, lost his spectacles, as he wiped the perspiration from his face. The people were so closely wedged about him that he could not recover them, and when the excited mass of humanity had surged on, he found them, the lenses pulverized and the bows stamped into the earth.

Three or four handsome presents were given away, the last being a tea set of silver bearing the mark "Sterling." The crowd became delirious, but Miss Fatama viewed these proceedings grimly from the outskirts.

The auctioneer resumed his sale. The bidding was reckless and the lot was sold at three hundred dollars, to a hard-working teamster about town.

Again the wagon made a flying trip across the addition, the occupant warning his followers to be on hand to respond to their numbers or lose their prize. On they rushed, keeping their eyes upon the erect figure, swaying precariously in the swiftly moving wagon. They could not see where they were stepping. It mattered not to them that skirts were being ruthlessly torn from their moorings and children were trampled under foot. They must be on hand when the first number was called, if the half of Oakdale's population be crippled in the race. Each face wore a look of strained expect-

tancy. The gambling propensity, which is latent in every son and daughter of Adam, had been aroused and discretion was thrown to the winds.

As the struggling, perspiring multitude scurried across the field like a wind-driven cloud, it so happened that right in the pathway of hurrying feet Sir Woodchuck had dug an innocent appearing hole. This excavation was intended solely as the boudoir of Lady Woodchuck and the nursery of their rodent offspring, and in no wise as a pit for the unwary feet of any of the genus homo. However, Deacon Fordham, forced rapidly on by the crowd in the rear, sent one foot down into the woodchuck's home on a tour of exploration. The next moment he was prostrate on the ground, his gold-headed cane broken short, and a dozen trampling, scurrying feet had passed over him.

There he lay, white and still. He had forced his sharp false teeth thru his tongue and the blood flowed from his lips. No one stopped to inquire if he was hurt save Miss Fatama, who was leisurely bringing up the rear. Samaritan-like, she dragged her fallen brother away from the woodchuck's invaded abode. Whipping a pair of scissors from her hand-bag, she cut the laces of the Deacon's shoe and removed it from the already swollen foot. She loosed her white cotton belt and with it bandaged the sprained ankle, then rolled her jacket into a makeshift for a pillow and slipped it beneath his head. Looking about her for the "shadow of a rock in a weary land," and seeing none, she raised her umbrella above him and with a piece of the broken cane pounded the blunt handle into the ground, remarking between whacks, "I reckon—that—umbrella—is—going—to—stay—put."

"There you are, Deacon," she said cheerily, when she had finished. "You know you've often remarked in prayer meeting that you wish to go down with no blot on your 'scutcheon, and it looks to me as tho that is just what you've done."

The Deacon looked up into Miss Fatama's face with a wan smile, as she continued, "I'll go over there and send a couple of those demented men for a doctor and a stretcher. Besides there are other things that should be done up in that crowd," and she walked vigorously away.

In cleaning up the land for platting, the workmen had picked up and thrown together a large pile of stones, close beside which the auctioneer had driven his wagon. Miss Fatama passed quickly around the vehicle and commenced scrambling up the rocky heap, to the certain destruction of her cloth shoes. She used the longest piece of the Deacon's broken cane as a Swiss mountain climber uses his alpenstock, forcing it between the stones and pulling herself up by it. When she reached the summit she paused a moment to recover her breath, meantime waving the cane frantically to attract the attention of the excited people.

"Neighbors and fellow citizens," she began grandiloquently. "Maybe I ought not to try to talk to you, and in climbing this stone heap I should hate to climb out of my sphere. I want surely to be proper, and I believe something needs saying right here and now, before there's any further waste committed, as the lawyers say."

The auctioneer did not consider Miss Fatama of sufficient importance to be noticed by him, but the people began to gather about the stone pile, listening, as it were, to a voice from the hilltops.

"Look across to where you see that umbrella," she continued, indicating with the remnant of the Deacon's luckless cane. "Under it is Deacon Fordham, your friend and brother, his tongue bitten almost in two, and one foot turned until it is headed the other way. He may be in a dying condition for all you know, or seem to care."

A murmur of sympathy ran thru the crowd and all eyes were turned toward the spot marked by the umbrella. Miss Fatama resumed: "It is my opinion that some others of our respected citizens will soon be resting under the mossy marble if this thing goes on. Here's Aunt Hannah Howard, with a bruise on her head almost as big as an egg, that she got when her tricycle tripped up; here's Jones' twins a crying for fair, because they were turned out of their cart by their mother chasing across this field, and who knows but their spines are tweaked all out of shape for the rest of their lives; here's Professor Westren's eight-dollar glasses tramped to smithereens; here's Manda Robinson with three

yards of fifty-cent trimming torn off the bottom of her skirt, and here's myself with both heels blistered and a new pair of shoes worn to a frazzle, and this show has only just begun, as you might say. Wouldn't it seem as tho it's time for somebody to come to his senses?"

"I don't suppose it occurs to any of you that every time this man sells a lot he's making money enough off the buyer to pay for forty such presents as he's giving away. He tells you there may be a street-car line thru here and then you'll be sorry you didn't buy. There may be an air-ship line to the moon some day, but I'm not going to invest my money up yonder 'till it comes. You might as well be sorry you didn't buy when the street-car line arrives, as to be sorry you did when it don't."

"This man tells you that you can pay about the same as rent and soon own a home. The fact is, you can pay him a whole lot of money and when you get thru you'll have only a lot without a house on it, worth about a quarter what you paid for it. It's like riding a rocking horse all day. You can put in a tremendous amount of energy, but you won't have gone far when it comes night. On the same conditions offered you, any good real estate man in Oakdale will sell you a house and lot, where you can live while you are making the payments, and save rent. There's another thing I want to mention. The city hasn't agreed to do a dollar's worth of work on the streets that have been laid out on this addition, and they will soon grow up to ragweed and thistles higher than your head, and that won't add much to the value of these lots."

"This scheme seems to have taken away every spark of reason you have all got. It's the races and the Louisiana lottery mixed about half and half. I want to ask you all to think sanely and soberly for about a minute, and I believe you will agree with me that the thing to do is to go home and let these fellows sit down and wait for the street car. The streets may be paved out here some day, but by then a great many of us may be tip-toeing over golden pavements; and when the water is piped down this far, we may be drinking at the everlasting fountain. If these fellows want to pay city taxes on farming land, let them do it, and I reckon they'll get proper tired of it soon."

Miss Fatama stopped for breath and the auctioneer put up a noisy, tho rather incoherent remonstrance.

"Hold on there, you feller," sounded a voice from the crowd. "Miss Fatama ain't thru; she's jest stopped at a cooling station."

Miss Fatama seemed to realize for the first time, that she was very much in the limelight. Her cheeks flushed crimson, but balancing herself uncertainly on a large stone at the very pinnacle, she made a final appeal.

"I want to ask Sam Wilton to get on his wheel and go for a doctor for Deacon Fordham. To the rest of you I'll say that I've lived among you for a good while and I've tried to stand for what I believed to be right. I am coming down off this stone pile, and everybody that sees this business as I do, and proposes to let these smooth talking fellows leave this town without talking with them a lot of your hard-earned money, with a contract in their pocket that you are to pay them a monthly pension for years ahead, just fall into line behind me. Keep your eyes on the knob of the Deacon's cane, which I shall hold high to indicate that by this sign we here and now sit down on all contrivances to loot our townspeople."

The auctioneer mounted to the seat of his vehicle and a red-hot torrent of words flowed from his lips, accentuated by most heroic gestures, as he tried to gain the attention of the throng, while Miss Fatama gingerly made her descent from the stone heap.

"Three cheers for Miss Fatama," called Justice Hanald, and the neighboring hills echoed back three thunderous hurrahs, which completely drowned the voice of the excited auctioneer, as Miss Fatama, followed by the crowd to a man, commenced her triumphal march back to town.

Three baffled, confused men leaned against the auctioneer's wagon and gazed after the hundreds of prospective buyers disappearing in the distance.

"Jee-ru-see-lam," exclaimed the ticket dispenser, giving his knee a resounding slap. "Knocked out of twenty thousand dollars as straight as you can shoot, and by a woman! Hanged if a fellow couldn't stand it better if she had been even a good looking one."

MACKINAC, THE BEAUTIFUL ISLAND.

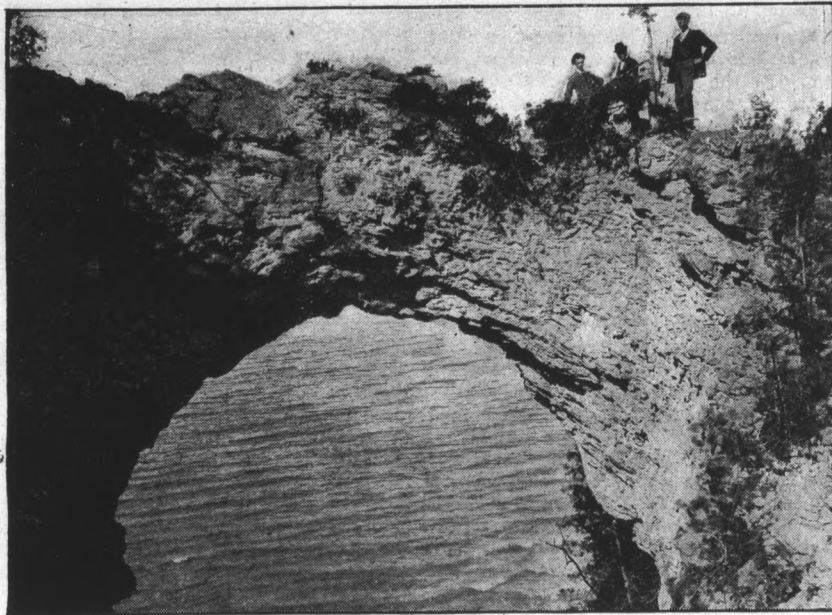
(Continued from page 43).
a stranger's attention is the fort that overlooks the harbor. Away to the left, however, I had pointed out to me, Lover's Leap, and Pontiac's Lookout. Nearly every locality has its lover's leap, and the stories differ but little, so we will waste no time on this one, and while Pontiac's Lookout may be a fine place for a lookout I doubt much that the great chief used it as such, for there is nothing in history to prove that he ever saw the island. As the boat came into the harbor our whole interest centered on the fort. It is not a modern fort by any means, but looks something more like a castle than a fort, with its huge block-houses and thick walls with loop-holes surrounded with the heavy masonry. Unique it certainly is, and without a duplicate in America. Something of this flitted thru my mind as, with a young girl companion, I climbed the sloping path that led from the fort to the village below.

We entered the grounds and I looked around with a dreamy delight. It seemed as if at any moment we might hear the bugle call or a salute from one of the big guns that overlook the harbor, so real is it all. We wander around at will, pausing once near the monument that is erected to the memory of William Beaumont. The monument is four huge stones one on top of the other, and the whole surmounted by a round stone with this inscription:

"Near this spot William Beaumont, U. S. A., made those experiments upon Alexis St. Martin which brot fame to himself and honor to American medicine. Erected by the U. P. and Michigan State Medical Societies, July 10, 1900."

Every school child that is old enough to study physiology knows what those experiments were, and so this was but

to me of the lakes, and that the Arch Rock was the doorway by which he entered the island. He came always from the east, and carefully ascended and proceeded with stately step to the Sugar Loaf, which their fancy said was his lodge. Following his example, we, too, turned



Wonderful Arch Rock, the Source of Many Fanciful Indian Tales.

our footsteps toward the rock. It was easier found than the other, or else it seemed so because we kept strictly to the highway instead of turning aside to find a path thru the woods. It was not so imposing to my notion as the Arch, altho it is very picturesque, set as it is in a wall of green, for it is surrounded by the wild forest.

For some time after this we just wan-

in the air and I drew great whiffs of it into my lungs. In no place can purer air be found.

On some of the tree trunks we noticed names and dates cut, some of them years before by visitors like ourselves. But indeed, there is no use for me to try to

you said you liked them so well, and a great big bumblebee lit on my nose when I was picking—hum, hum, and I hit him with my hat and he stung me." And the tears flowed afresh at the recollection. "Blamed old bumblebees, I wish't they was all dead. They aren't good for anything, anyhow," he continued wrathfully.

After I had applied camphor and soda to the injured member, and the pain had somewhat subsided, he came over to my desk and I knew the questions were coming.

"You said God made everything for something. Now, what did He make bumblebees for?"

"Do you remember, Allen, the pretty invitation you received from Frank, to attend his birthday party?"

"Yes, but I don't see what that has got to do with bumblebees—"

"Not so fast, my boy," I interrupted; "you admired the pretty violets in the corner, and you wanted to go very badly, because you expected to have a nice birthday supper, with cake and fruit, and a fine frolic with the boys—" "and ice-cream, too," he added.

"I don't believe you even suspected that you went to a birthday party this afternoon, without an invitation, did you?"

"When, where?" he cried, his eyes opening wide in astonishment.

"Why, to the Clover birthday party," I replied, laughing.

"The Clovers invited the bumblebees and you went without an invitation and stole some of their supper. You don't wonder they were mad, now, do you?"

"Did they send real invitations to their party, Auntie?" asked Allen, with a sly smile.

"Yes, very real to the bumblebees. All spring the Clovers have been getting ready for the party, and during the past few days they have been decorating the whole meadow with a waving mass of pink blossoms. The invitation was the sweet-scented perfume that we can smell so plainly even here in the house and which the bees can smell for three or four miles, for they make a 'bee-line' and come to help eat the birthday supper of nectar."

"Oh, yes, I know," said Allen; "I like to pull out the pink part and suck the sweet out of the bottom. But don't the honey bees get the invitation and come too?"

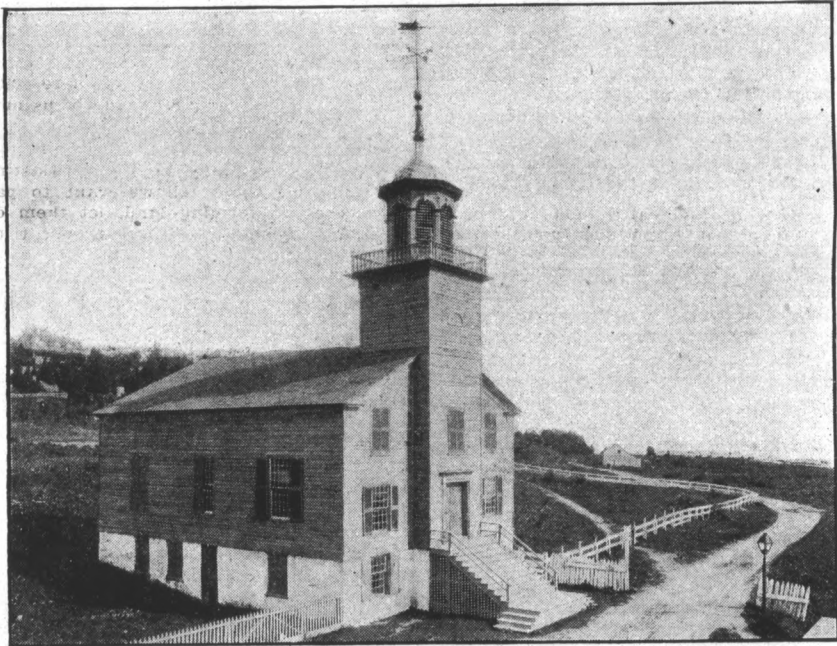
"No, not many. The honey bee's tongue, or bill, is not long enough to reach to the bottom of the Clover dish. So it is the bumblebees that especially enjoy the Clover party."

"Do the bumblebees bring presents?"

"Well," I replied, "they don't exactly bring a present, but they work hard for the Clovers every day of the party. Every time they dip down to get a sip of the nectar they get their legs and wings covered with pollen. The pollen is something like the fine dust I showed you on the lily blossoms, which must come in contact with the other part of the flower so that it may bear fruit. So the bumblebees carry the pollen from flower to flower, thus fertilizing them so that they will bear seed, which is their fruit."

"That's what papa meant, then, when he said the other day he thot he would cut the second crop for seed this year as there were so many bumblebees. I couldn't see what he meant. Do other flowers give birthday parties, Auntie?"

"Oh, yes, all kinds of clovers, besides the garden flowers and the wild flowers. When the honey bees go to the white



Old Mission Church at Mackinac—a Landmark of the Past.

another incident to add honor to Mackinac.

We left the fort grounds at last and sauntered out into the park. Carriages on every hand stood ready and eager to give one a flying trip around the island, but I never like to do my sight-seeing in that manner. I am a good walker and also a dreamer, and I prefer seeing things in my own way. We turned first into the drive leading to the Arch Rock. I suppose we might have followed the drive and would have arrived there without any trouble whatever, but that was altogether too commonplace for us and we turned off, taking a wild path thru the woods. Every little way we stopped to exclaim at some new beauty, for the forest is preserved in all of its wildness and no one is allowed to peel a tree or break a shrub. We sauntered on until the path became rougher and rougher, and was often anything but an easy one. At length I stopped in despair: "I am sure we have come miles and miles," I declared, "and there is no arch in sight yet, but the road is just ahead of us and I make a motion that we get back into that and try and find out where we are."

We clambered back into the road and lo! there was the very thing we sought—the Arch Rock. I looked at it with interest. To me it is another mighty work of the Creator, but I could not wonder that the untutored savage, with his poetical imagination, had fancies concerning it. They thot the island was the favorite haunt of Michibou, the Mani-

dered where fancy led us. I gave myself up to the witchery of the island, sometimes smiling dreamily at the exclamations of my companion as some new beauty aroused her girlish enthusiasm. In mind I was back again hundreds of years. I could almost see the painted redmen as they picked their way thru the underbrush beneath the beautiful cedars or stopped to rob the birch of its bark. The scent of the balsam was

describe the beauty of the place. Words fail, and I find myself unable to give even a faint conception of what it really is. This much I will say, that I have seen many places and most of them did not come up to what my conception of them would be. There was always at the first a feeling of disappointment, but it was not so here. Mackinac was fairer than even I had dreamed that it could be.

At the eastern end of the island is a broad cliff over a hundred feet above the beach that is named Robinson's Folly. I think all that is really known of the christening is the fact that it was named for Captain Robinson, who belonged to the garrison for a number of years. There are, however, many stories as to how the rock received its name, but for want of space I will give but the one that to me seems most probable. That is to the effect that the captain built a bower, a summer resort I dare say, on this cliff, and here he was wont to entertain his friends, and one night a gale of wind swept the frail house onto the beach below. Some claim the gallant captain was in the house at the time and so met his death, but history does not record any such incident.

At length we turned our rather unwilling steps again toward the village, for I remembered there was another thing that I was very anxious to see—the old mission church. We followed the street along the bay until we came in sight of it. No one had to point that out for us, for there it stands, weather-beaten and old, a landmark of the past among the modern buildings on every side.

THE CLOVER PARTY.

BY DORA H. STOCKMAN.

A youthful member of the Clover Club burst into my "den" one afternoon, crying and holding up a badly swollen thumb.

"What's the matter, Allen, what did you do?" I questioned between his sobs.

"I thot I'd surprise you—and get you a bouquet of clover blossoms—because



A Buckeye Farm Boy who is very Proud of his Useful Pets.

I am sending a picture of myself and my pets which I think are a very good kind of pets. I use one of the ponies and the dog for bringing up the cows. The dog could bring them alone if it were not for opening the gate. The ponies save many a trip for the farm team, such as going to town, which is 1½ miles away. My brother and I made the harness for the ponies out of old farm harness and it answers the purpose very well. I am 11 years old.—Perry W. Hentzelman, Trumbull County, Ohio.

clover parties, they make the honey that is so clear and beautiful; the nectar they gather at the buckwheat parties is the dark amber color that we call "buckwheat honey." When bees are near the woods they sometimes make honey from the basswood blossoms and in the fall they make a beautiful yellow honey from the goldenrod flowers.

"It must be fun to attend so many parties," sighed Allen, a little enviously.

"Yes, but you must remember that the 'bee parties' are for work instead of fun, tho I dare say they enjoy it if we may judge by the buzzing they make. In fact, these bees are really called 'workers' because they are so busy. The drones do not hatch out until later, and they are soon driven out by the workers. Those were drones which you boys brot in late last summer and which you were so surprised at because they did not sting. They are sometimes called 'shade bumblebees.' The 'sting' is given the workers to protect their homes with, the hive, with its honey, and the drones do not need it. That is another proof." I added, "that God furnishes each of His creatures with just the things it needs to do its work in the world."

"I have noticed lots of bees on the apple blossoms in the spring," said Allen; "do they have to pollinize them, too?"

"Most of the fruit trees are what is called self-fertilizing, and would bear fruit without outside help, but they bear more and better fruit when they are 'cross-fertilized' by the bees carrying the pollen from one flower to another. Then there are the small fruits, like some strawberries, that raise the pollen on separate plants, so you see how necessary the bees are to carry pollen for them. In fact, some greenhouse men who raise flowers and vegetables, like melons, cucumbers, and tomatoes in glass houses keep swarms of bees to carry the pollen from flower to flower."

"What do the bumblebees do when winter comes?" asked Allen, eagerly. "Do they make hives?"

"No, they could not build hives, and only the queen bees survive the cold weather by lying dormant in some partially protected place under boards, the bark of trees, and old buildings."

"Then what next?"

"In the spring when it begins to get warm she comes out and collects honey and pollen for her new home, which is very often a deserted field mouse's nest. She builds the cells, lays the eggs and feeds the young until they are ready to work. Then the young bees, which are small workers, assume the family burden of gathering food and supplies while the queen continues to lay eggs. There will be several broods of larger workers and then the drones or males, which, with the queens, leave the nest, the drones dying when cold weather comes and the queens beginning their long winter nap."

"Isn't it wonderful, Auntie? I never supposed they knew enough to do all that. It is just like a fairy story," cried the boy, with shining eyes.

"Truly more wonderful than fairy tales, because these are true."

"Isn't it all right to kill wasps and hornets and burn their nests? They don't pollinize or gather honey, do they?" added Allen, anxiously.

"No, they don't gather so much honey, only enough for themselves as they feed their young on insects. Otherwise they are much like their cousins the bees. Their queen also is the only one to live thru the winter. She is not content with an old house someone else has left, like the bee queen, but gathers wood which she makes into pulp for her paper house. And men learned from the humble hornet how to make paper out of wood pulp."

"They must have been the first paper makers, then," said Allen thoughtfully.

"God taught them that as well as all their other knowledge, which for lack of a better word, we call 'instinct.' I added reverently. "After the house is finished she makes the cells and lays the eggs similar to the bee, but when the eggs are hatched she feeds them, instead of honey, insects which she has finely chewed, quite like some birds do their birdlings. The first hatched are the small workers, then come the larger workers and the drones. The queens lie dormant in the winter, like the bees, to begin the round of life in the spring. These are the 'social wasps.'"

"How do they help if they don't lay up honey?"

"They are chiefly useful because they kill countless caterpillars and slugs that destroy the leaves and fruit of both trees and vegetables. Mrs. Treat says, 'I rather have a colony of white-faced

hornets in my garden and orchard than barrels of London purple.'

"It is very interesting to watch the 'solitary wasps.' They do not build paper castles like the others, but each one by herself digs a burrow in the ground in which she lays her eggs. These must be provisioned so that the young will have something to feed on when first hatched.

"Caterpillars and spiders are the chief food, and it is curious to see them get them. In the garden you will be most likely to see them at work. When Madam Wasp sees a nice fat caterpillar on a leaf she flies at him and down he goes on to the sand. The poor worm must suspect what is coming for he rolls around and doubles himself up like a ball trying to wiggle out of sight of his enemy under some friendly clod. After a fierce struggle the wasp gets her victim turned over and, while she holds him with her legs, with great care she stings him between the sections of the body on his back so that he is not killed outright but simply paralyzed."

"Then what does she do?" questioned the boy.

"Then," I continued, "she flies away with her burden straight to her burrow. And, strange as it may seem, tho she digs the burrow, lays the eggs, and provisions it all in three or four days, and begins another one, yet each time she flies she never seems to forget where each new one is. She, too, guided by some strange animal reason, flies straight as a 'bee-line' to her nest."

"Such is the life of these busy creatures. Someone has estimated that four-fifths of the animals of the world are insects. If it were not for the wise Creator's plan of making one kind a check on the other, they would multiply so rapidly that man would hardly be able to get a living on the earth. The balance in the living world is kept by one creature preying on another."

"I never thought before that such little things could be of any use. I guess I better find out before I kill any more, whether they are enemies or friends," concluded Allen.

COMPENSATIONS IN CAMPING.

BY M. V. B.

One's feelings partake somewhat of those of a pioneer when tramping along on the lake front in search of a suitable spot in which to pitch a tent or tents. Wisdom, or experience, which are much the same, will prompt the selection of a place with some protection from the prevailing winds of the locality. If in a cool climate, one should by all means have a small stove in which drift wood may be burned to provide the necessary warmth and dryness in case of rains. There are a few elementary instincts or physical characteristics of man which should not be trifled with under any conditions, surely not at such a time as this; one, is a craving more or less intense—mostly more—for food; one, for bodily warmth, and one, for sleep. These should be taken care of in the most simple and satisfying way possible. Everything else will follow as a matter of course.

The floor of your tent may not be of hardwood, nor overlaid with rugs; so much the better, you will not have to sweep, and twigs of balsam fir and cedar are more healthful than the most beautiful rug.

The walls may not be covered with pictures nor hung with tapestry; you do not have to keep them clean, and it is more than likely that your surroundings furnish scenery to the artistic eye far ahead of any that you have ever seen on canvas. For instance, a sunrise or sunset on the water, with all the variations that this phenomena assumes from day to day. A beautiful moonlight scene with illuminated boats plying from port to port. If these do not satisfy you, try to imagine a scene like this: 2 a. m. Air soft and balmy. Water lazily lapping the shore with a scarcely perceptible motion, and over its glimmering surface a veil of softest moisture which falls from the edge of the blue canopy above which is thickly strewn the stars; one, Venus, just at the union of mist and sky, hangs like a huge diamond, reflecting its silvery light across the waters to the very edge of the shore line, a harbinger of the new day which is about to dawn. Surely, "The heavens declare the glory of God, and the firmament showeth his handiwork."

The bed may be utterly devoid of springs and mattress, it may be made of rough boards, covered with cedar and balsam, and possibly a thin covering of straw if you are overfastidious; you will soon be sleeping so soundly that nothing

but the call to breakfast or the playful sporting of grasshoppers, "Daddy Long-legs," or spiders over your face will arouse you. And then, it is advocated by some that a flat, rather hard, surface is better for the nerves than to lie on "downy beds of ease."

You miss your bath room and its supply of hot water; never mind, a cold morning plunge or sponging is more beneficial than the use of warm water, and you will soon learn to long for it and miss it when deprived of it. The water, too, is of the finest, clear and sparkling.

The cooking utensils may be few, so few, indeed, that each vessel must serve several purposes; result, fewer dishes to wash and excellent training in habits of neatness and reserve.

The table appointments are doubtless very unpretentious, in fact, at home you would call them meagre and inefficient; you will not think about them at all, you will be so busy eating.

The usual cuts of meat and conventional fowl are probably not at hand; what do you care, when you have plenty of the finny and feathered tribes of your own and your neighbor camper's catching. Anyone can have roast beef, but not many have all the fresh fish, partridge and the like that they want.

Possibly you have no ice cream freezer with which to prepare your favorite dessert; what of that, when there is an abundance of huckleberries to be had for the picking, also red raspberries and blackberries.

Do you think you will miss your morning waffles, doughnuts, or toast and poached eggs? Not a bit of it, with meal pancakes and bacon.

Quite likely some lobes of your lungs have never been fully inflated from your constant occupancy of a house and sleeping in poorly ventilated rooms. You will get a liberal supply of pure fresh air in your tent, and no doubt when you return home you will find that your sleeping rooms seem stuffy.

Do you think you will long for matinees and musicals? The ever-changing rhythm of the waves, the play of light on the water and the beautiful cloud effects, the cry of the sea gulls and the antics of the young ones who seem to know no fear, the whistle of the boats, the chirp of the crickets, and, on foggy nights, the wail of the fog whistle like the mourning of some crustaceous monster for her offspring, all are fruitful sources of entertainment.

The absence of a daily paper may be one of your greatest aversions to camping; but I assure you that in a camp of a half dozen families there is something interesting happening every day, and the morning reports of the invasion at night of the kitchen tents by the fearful furry fellow whose aromatic remonstrance at any interruption keeps the gamesters from sending some shells into him, are heard and passed on with great interest and alacrity, as are the usual fish stories.

Your domicile is no doubt lacking in natural gas or electric lights; it may be that your only interior light is furnished by an old flickering oil lamp with a smoked chimney, but just step outside and watch the brilliant display of northern lights and meteors, then look along the shore for the cheerful bonfires.

But what can I do? Well, hunt and fish, and fish and hunt. Swim and row, row and swim. Gather driftwood for the evening bonfires in anticipation of the marshmallow and corn roasts. Take long walks so as to increase your appetite. Go after the mail at least once a day, depending upon your distance from the postoffice. Sketching, reading, writing, or any personal frills of occupation may be indulged in.

Are you nervous? Just the place for you. After a night or two the utter indifference with which you view spiders, crickets, Daddy Longlegs, grasshoppers, etc., a few attempts at making your toilet by the aid of a small hand glass, and similar slight irregularities will communicate itself to your attitude toward the vexing details of your business or profession, and you will be able to move serenely along without wishing or worrying. However, if you have not a bit of inclination nor aptitude for getting the best out of the least, you had better stay at home and go thru the regular routine, or go to some hotel or boarding house where the usual wall of trifling conventionalities may stand between you and any rugged wrestling with natural realities.

Blobbs: "A politician always reminds me of a piano." Slobbs: "How so?" Blobbs: "If he's square he's considered old-fashioned."—Philadelphia Record.

THE SUNDAY SCHOOL PICNIC.

BY INA C. ESTES WHITE.

Our Sunday School had a picnic
And we had the nicest time!
All the rigs and wagons
Went right along in line.

You ought to have seen the banners
And the flags and evergreens,
Everybody all dressed up,
Even ribbons on the teams.

Candy by the bushel,
Cakes and pies galore,
It seemed as if the table'd break
If they piled on any more.

Boat rides on the river,
Wading, and hammocks and swings.
The minister's just the jolliest man
And does the jolliest things!

I used to think that he was cross
And did not care for boys,
But my! he played the nicest games
And didn't mind the noise.

All day we ran and shouted,
All day we played and ate,
Till the sun began to set
And our mothers said 'twas late.

So we gathered up the dishes
And the baskets round about,
Then on our way toward home
We slowly started out.

Of course I was so very tired
I had to ride with mother,
But best thing 'bout a picnic is
Next year there'll be another.

SMILE PROVOKERS.

Farmer (showing town nephew round the farm): "That bull is two years old." Nephew: "How do you know?" "By his horns." "Oh, to be sure, he has only two."

"That man tinkering at that automobile was a poor man only a couple of years ago, now he's a successful business man. He's a great pusher!" "Well, he needs to be a great pusher if he expects to get that auto back home!"

Tailor (to Tommy's mother, who is ordering her boy's suit): "Do you wish the shoulders padded?" Tommy: "Ma, ma, have them pad the seat of the pants!"—Life.

"There is no doubt that Chumpleigh has the correct appreciation of what is expected of a city farmer." "What has he done now?" "Why, he has just sunk a \$1,400 well on his place in order to supply water to his \$14 cow."

KINKS.

Kink I.—Drop-Letter Proverbs.



A-n-b-s-a-e-i-h-w-r. D-y-u-b-s-a-d-e-e-s-i-k

Kink II.—Disguised Advertisers.

Following is the list of ten advertisers in our June 19 issue which won the prize, a denatured alcohol lamp, for the best correct set. The author is Edward J. Archer, of Michigan. Transpose the letters of each sentence and get the names of the advertisers which he selected.

1. Polly can't find man.
2. Seat it for big motion drama.
3. Not hard places to cattlemen.
4. Hit chief manager, Mr!
5. Many nice, honest people match gait.
6. Earth is frog camp hymn.
7. Sod hut cream shake.
8. Hate sod all over a carpet.
9. Incorporate Ma a scare.
10. Measles in great canoe race.

Kink III.—Word Square.

A medicine.
Profit; gain.
A fine clay.
Wrong.
Prophets.

Prizes for Straightening Kinks.

To the first 20 who send us correct answers to ALL of the above Kinks, we will give choice of a package of 50 post-cards representing a trip around the world, a copy of "Concrete Construction on the Farm," or a good fountain pen. Where contestant or some member of his family is not a regular subscriber a year's subscription (75c) must accompany answers. Answers must not reach us later than Aug. 14, as correct solutions will be published in issue of Aug. 21. Address answers to Puzzle Dept., Michigan Farmer.

Answers to June 19 Kinks.

Kink I. Fish Anagrams.—Shad, sword-fish, salmon, mackerel.

Kink II. Disguised Presidents.—William Howard Taft, John Quincy Adams, Ulysses Simpson Grant, Rutherford Birchard Hayes.

Kink III. Disguised Advertisers.—See Kink II above for best list sent in.

June 19 Prize Winners.

As indicated in Kink II above, the denatured alcohol lamp is awarded to Edward J. Archer. The 10 solvers sending next best solutions are: Olive Davis, H. S. Babcock, Elsie A. Davis, Miss Edna Schulze, Spencer Sutphin, W. A. Roberts, Ross H. Smith, Anna M. Dixon and H. L. Ballard.

OF INTEREST TO WOMEN

HOME CHATS WITH FARMERS' WIVES.

The Summer Hostess.

The duties of a hostess are onerous enough at best. There are so many things dependent upon this personage not alone for the physical well-being of her guests but for the entire atmosphere of the home during their visit. It is no easy matter to maintain an even balance under circumstances not always contributory to such a condition, yet at whatever cost this must be done. With a house party on hand, whether or not the formalities of an invitation have been extended, it becomes obligatory that every effort be made to have all go off smoothly and without the least semblance of friction.

Where there are children among the guests it may require an additional amount of tact on the part of the hostess and her family to prevent an occasional outbreak, especially when, as is sometimes the case, the youngsters in question are not altogether well governed by the parents. Nothing more quickly brings about strained relations between even the best of friends than differences between their children. Naturally each sees an offense first in the offspring of the other and it takes an unusually fair-minded person to maintain an entirely impartial view of a dispute of any kind where children are involved. And an ill-bred, saucy child can stir up a whole lot of disturbance if left to its own sweet will at any time. An over-indulgent mother, one who pays scant attention to the doings of her boy or girl can make life miserable for her hostess. The very best one can do under such circumstances will be to put up with it with as good a grace as possible and pray the fates to make the visit a short one. But to sit meekly by and witness without protest the wholesale destruction of one's cherished treasures, whether these be in the garden, the parlor or the poultry yard calls for more grace than the average woman possesses. I have in mind one youngster of whom it was reported that he maliciously twisted the necks of a brood of young ducks after pulling up the prized geraniums of the hostess to make himself a bouquet. Such cases are happily rare. Yet it cannot be denied that children may easily become a terror to the entire family where they are being entertained.

Many country hostesses prefer to get extra meals for their summer guests rather than have them sit down to the family table when this includes the hired help. Besides this, the early breakfast hour ordinarily observed in the country is an innovation upon which the city guest does not often look with favor. Occasionally one is found who is up with the lark and out to see what is going on, but these seem to be exceptions, and the energetic young chameleon whose ambitious attempts to announce the break of day might hear himself anathemized in no uncertain tones could he understand the thots emanating from the guest chamber some of those fine mornings.

The summer hostess usually tries to do all she can for the entertainment as well as the refreshment of her guests. She spreads the table with every bounty of the farm, remembering that with some of them they may have only a passing acquaintance. Cottage cheese is a delicacy highly prized by urbanites, while even clabber, served cold with sugar has been known to tickle the palate of city folks more than once. Of course, clabber is merely what, in farmhouse parlance, is termed "loppered milk," but it seems to be relished by those whose tastes are educated to it.

Probably nothing appeals more strongly to the city appetite than rich country cream. The big pails of foamy milk come in for their share of attention, too, and it brings a smile to the lips of the habitué to note the eagerness with which cupful after cupful of the lacteal fluid is drained fresh from nature's laboratory.

Undoubtedly the most welcome of city guests are those who make as little trouble as they can and who do not forget to return the compliment by extending a cordial invitation to visit them. Those who do this and who carry out the plan by striving to make their country friends have a good time in the city, show thereby that they are appreciative. There is no

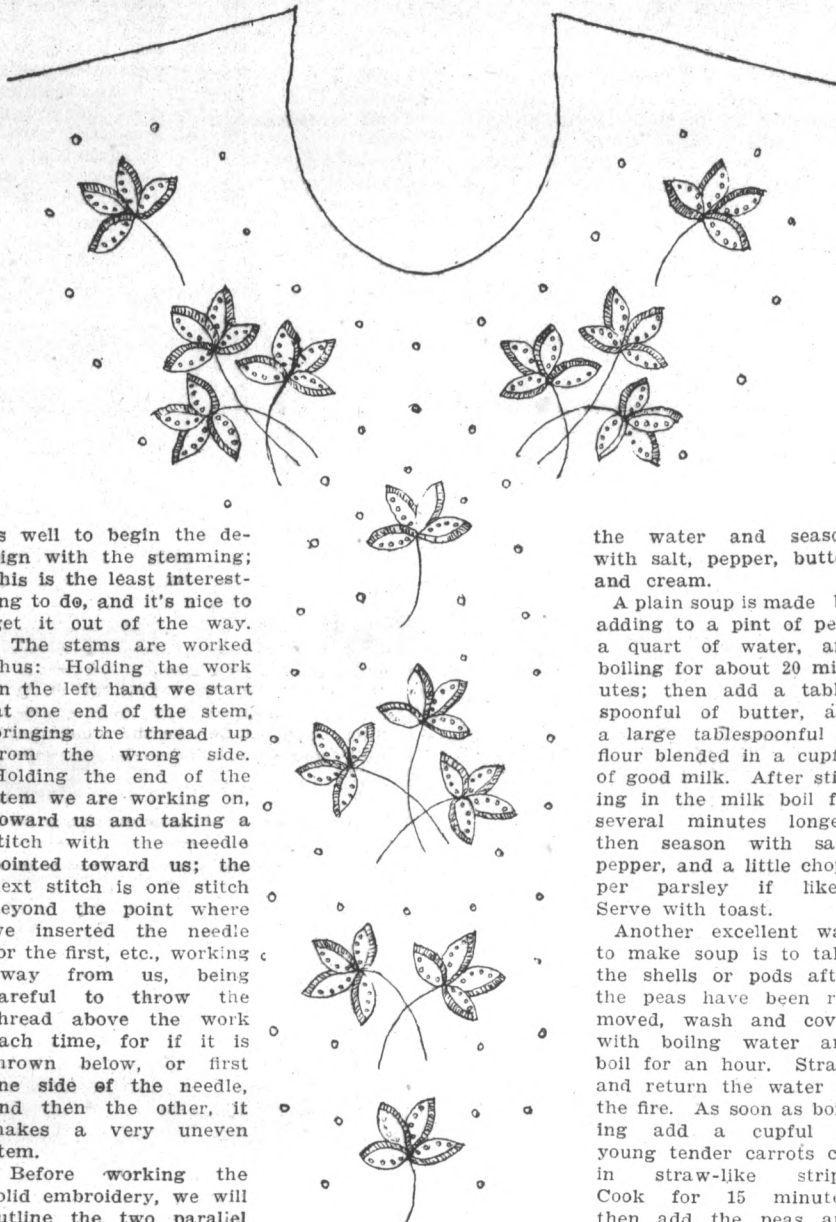
reason why this sort of exchange may not be mutually beneficial and a source of pleasure to both parties. And this is the way it should be.

A SIMPLE, EFFECTIVE SHIRT WAIST PATTERN.

BY IDA NEWLAND COLE.

The shirt waist design shown, although simple to work is very dainty and is suitable for any material, however fine. It needs mercerized embroidery cotton No. 5 or T, for working this.

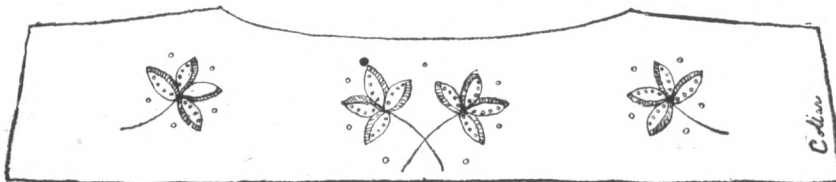
The heavy side of the leaves are worked in solid embroidery, while the other side is worked in stem stitch and eyelet. It



is well to begin the design with the stemming; this is the least interesting to do, and it's nice to get it out of the way.

The stems are worked thus: Holding the work in the left hand we start at one end of the stem, bringing the thread up from the wrong side. Holding the end of the stem we are working on, toward us and taking a stitch with the needle pointed toward us; the next stitch is one stitch beyond the point where we inserted the needle for the first, etc., working away from us, being careful to throw the thread above the work each time, for if it is thrown below, or first one side of the needle, and then the other, it makes a very uneven stem.

Before working the solid embroidery, we will outline the two parallel lines with running stitches, and also fill in between them with the same, for padding. It is better to use coarser cotton for this, and we may use either the embroidery or darning cotton, which is just as good. Then, with the finer thread again we will cover the running stitches with the short cross stitches, that is, putting the needle in on one side of the padding and out at the other. This is really working it over and over and makes the solid or French embroidery. Now following the outline



Collar to Match Shirt Waist Design Shown Above.

down the other edge of the leaf with the stem stitch, we have the leaf completed with the exception of the eyelets; these need to be very tiny, so we will use no stiletto, putting the needle in and moving around a trifle will make the hole plenty large.

The eyelets are now worked over and over, each stitch followed closely by the next until the whole circle is worked. The needle is then passed thru to the other side and the thread fastened, the thread may be carried to the next eyelet

without clipping. This completes one leaf. Each leaf is worked the same.

WAYS OF SERVING GREEN PEAS.

BY PANSY VIOLA VINER.

There is no greater delicacy than fresh green peas, and no vegetable that requires so little effort to cook and serve in an acceptable manner. Peas lose their sweetness very soon after being picked, and so they should not be shelled until just before cooking. Peas can be easily spoiled by cooking them too long; if the water is boiling when they are put in, 10 or 20 minutes will be plenty long enough if the peas are young and tender. If the peas are old and have been picked for some time they should be run thru a sieve after they have been cooked and used in soup or puree. Always boil peas in plenty of water, using about a quart to a pint of shelled peas. Except for soups drain off all the water or nearly all

and put in a stew pan and let simmer slowly in water enough to cover until they are tender; season with salt, pepper, butter and cream and serve.

Green Peas with Bacon.—Remove the rind of a small square of bacon, about half a pound. Parboil for a few minutes; then put a tablespoonful of butter in a frying pan and fry the bacon slightly brown in this. Sprinkle a teaspoonful of flour over the bacon and fry a few minutes longer; then add 3 pints of green peas and a pint of boiling water, a few onion stalks and a few sprigs of parsley. Cook slowly for about a half hour, skim off the fat and remove the parsley and onion, season with salt and serve.

Chicken Rolls with Peas.—Cut a pound of cooked chicken and run thru the meat chopper; season with salt and pepper, also a little chopped parsley and a small minced onion—these can be omitted if liked. Mix with the chicken a good 2 tablespoonfuls of a good cream sauce or the stock made into a thick gravy, and a well-beaten egg. Spread on a flat dish or plate and let stand for about an hour. Have a pint of peas cooked and seasoned and spread these over the chicken mixture. Cut into strips about 6 inches long and 3 inches wide. Wrap each strip in good puff paste, brush with a beaten egg and fry in boiling fat until brown on the outside.

Peas in Carrot Cups.—Scrape carrots, slicing off the bottom so they will stand up, and cut to the height of small cups. Cook the cups and also the ends in boiling water until tender. Chop the ends up into small pieces. Season a pint of cooked peas with cream and butter, salt and pepper, or a thickening can be made for them. Add the chopped carrot ends and serve in the carrot cups that have been previously hollowed out.

Peas are nice for garnishing such meats as lamb, veal, chicken, duck or pigeons, and they are also nice boiled with new potatoes.

SUMMER DAINTIES.

BY LAUREL KIRK.

Instead of using the ordinary pie crust dough for your pie shells use cookie dough. Any good cookie recipe will do. Roll it out thin the same as for cookies. Line the pie tin with it and bake. Then put a quart of sweet milk on the stove. Take the yolks of three eggs, three tablespoonfuls of cornstarch, the juice of one orange, and enough water to dissolve the cornstarch. Beat until smooth, and stir into the warm milk, boiling it just long enough for it to become thick and smooth. Sweeten to taste. Add a lump of butter the size of a walnut. Stir into this $\frac{1}{2}$ cupful seeded raisins. Fill your pie shells with this. It will make two pies. Beat the whites of the eggs, add a little sugar and spread over the pies and brown in the oven. When cool, serve.

When making cookies cut some large enough to fill your gem pans. Bake them and set away until needed. Then fill them with a filling made of 1 pint of milk heated to nearly boiling; beat 2 eggs, 2 tablespoonfuls cornstarch and water enough to thin it, and stir into the milk. Sweeten and flavor to taste. This will fill ten or a dozen of the shells. Place them in your dessert dishes and pour whipped cream over them.

Another nice dessert, and one that is easily made, is to take sponge cake and alternate slices of the cake with a layer of bananas until your dessert dishes are filled. Pour over them some nice boiled custard. Beat the whites of 2 eggs and spread on. Put a lump of jelly in the center of each, or sprinkle a little red powdered sugar on them. They look very pretty and taste as good as they look.

A good puff, one that is quickly and easily made, is compounded by using 1 quart of flour, 2 teaspoonfuls baking powder, and a little salt. Mix with water or sweet milk as for biscuits. Roll out about an inch in thickness. Cut this with a small sized biscuit cutter. Drop into hot lard and fry the same as you would doughnuts. These eaten warm with maple syrup, or with a nice sugar syrup make a good dish for breakfast or tea.

Cleanliness requires that flies be kept from the living and dining rooms.

Flies are also dangerous to health according to the latest findings of scientific men.

Worrying is warm business for a hot summer day. Leave it alone till next winter when it will keep without exercise.

The wisest women seek to do more with the same, or less, energy than they are now expending. Save energy, not accomplishments.

beaten egg and a teaspoonful of sugar. Season with 2 tablespoonfuls of butter and salt and pepper to taste.

Omelets and Green Peas.—Make any good omelet, put 2 tablespoonfuls of the cooked green peas in the center of the omelet, fold one-half over the other, and turn out in a heated dish. Pour over the omelet the remaining $\frac{1}{2}$ cupful of peas and serve at once; the peas should be seasoned before adding to the omelet.

Peas with Lamb.—Chop 1 pound of lamb; add to this 1 pound of shelled peas

GUARDING AGAINST ACCIDENTS.

BY CHARLOTTE A. AIKENS.

A recent issue of a Detroit daily paper contained, in a space of about an inch, the notice of two fatal accidents to two Michigan children as the result of bottles of carbolic acid being left within their reach. The frequency with which such terrible accidents occur suggests the need of warning every family into whose home the Michigan Farmer goes, against carelessness in such matters. It is, of course, quite possible for such accidents to happen when it would seem that reasonable precautions had been taken, but in most cases there has been more or less carelessness. Not long ago I was visiting in a home where there were two little ones of two and four years. While their mother was busy in the kitchen, they pushed a chair into the bath room, got it up against a wash stand, climbed on the chair, then on the stand in order to investigate the contents of a little medicine cupboard fastened to the wall over the stand. When their mother discovered them they were having a perfectly lovely time with a bottle of cough syrup and a box of pills. They had emptied part of the cough syrup into the bath tub, fortunately not into themselves, and they were seeing how many of the pills they could crowd into the cough syrup bottle. It was all a very delightful "mussy" kind of play for the little ones. Pinafores, bath tub, floor, faces, were beautifully smeared with the brown syrup and fortunately the play did not end seriously. The mother rescued them from their perilous pastime, removed the chair, washed their faces and hands and cleaned up generally. An hour or so later she returned to find that boy, the two-year-old, had again gained access to that interesting little cupboard on the wall, helped himself to his father's shaving cup and brush and razor, and while the girl was mixing the lather for the shaving operation, he was seated on the floor with the razor open, having another new and very delightful kind of play—such as father played sometimes.

Now this mother was an unusually careful mother. She realized the danger of leaving bottle of drugs around on window sills, on top of sideboards or dressers or in drawers which children can reach. The father had made the little medicine cupboard, and put it, as he thought, out of reach, but the trouble was he had put no lock on the cupboard and the result came perilously near being a tragedy. Where there are little folks in the home such accidents are always to be feared, and eternal vigilance and all possible precautions, are the only price of safety. There is little danger of the families who have been bereft of their little ones not being careful in the future. We are all prone to lock the stable door after the horse is stolen. But there is danger that some other family may, by leaving drugs in unsafe places, have a similar experience which will be a source of grief thruout life.

The best lessons in life are those learned by experience, but they are wise who profit by the experience of others without having to pay the price for such a costly bit of experience themselves.

Two other accidents heard of recently have been scalding accidents, both of which proved fatal. In both cases the mothers were either preparing to wash or were in the midst of washing. They had left a tub of scalding water on the floor while they went out of the house for a few minutes, and the little toddlers in the home, in playing about, had backed against the tub and fallen in, scalding themselves so seriously that death resulted in a short time from shock, in both cases.

In another case, the mother had been making soap and had left the can of concentrated lye on the table while she turned to do something else. The child came along and drank a quantity of the lye and died in a few hours.

Another accident with lye which, while serious, was not fatal, happened to a friend of mine. A kettle of boiling lye had been left sitting on the floor and she fell into it. Hands and chest were fearfully burned. Another child pulled a pan of boiling starch off the table and was frightfully burned. One of the worst cases of scalding that I have known to recover was a little child who fell face foremost into a large pot of boiling cabbage which his mother had set on the floor, while she turned around to do something else. The child will carry the scars till he dies.

A most distressing accident happened to an only baby, six months old. In some

way she got hold of a medium-sized safety pin and put it where babies try to put everything, into her mouth. For nearly a week she seemed to have no special discomfort from it. Then she began to cough up blood, and the case began to look serious. The father and mother were Michigan people. It was in the days when X-Ray instruments were few and far between. They took the baby the long journey from Michigan to New York to try to have the pin located by means of the X-Ray. It was located in the windpipe, with the point upward and was open. The only chance of getting it out was by cutting into the windpipe—a perilous piece of surgery on a frail six months old baby. But it was the only hope. Few, if any, expected to see the baby come off the operating table alive, but as a last experiment, before making the incision into the windpipe, the surgeon made another attempt to reach it thru the throat with a pair of long forceps when the child was asleep from the chloroform. This attempt was successful, and the baby's life was saved. It is a rare accident, but one that might happen in any home in which there is a baby.

Leaving open cisterns with movable covers which children can lift has been the prelude to several little funerals.

I have known so many accidents to happen from children making bonfires of dead leaves or grass or trash of any kind, that I never see children playing around such a bonfire without a shudder. The child who is allowed to be present at such a bonfire is very apt to try to start one of his own, the first good chance he gets.

A bit of school boy's fun cost a boy whom I know the sight of his right eye. One of his chums had gotten hold of a few gun cartridges at home and brot them to school to play with. It was in the winter. While the teacher was out of the room he put one of the cartridges on top of the hot stove and hit it with a hammer which the janitor had been using to fix a window. The result was an explosion, one of the pieces of cartridge entering the eye of a boy and destroying the sight.

"Didn't know it was loaded" accidents are so common nowadays that they attract little attention. The parents who allow children to trifle with or handle firearms of any kind usually pay a big price for their folly.

In cities where so many families have no dooryard at all, or very small ones, and the children have to use the street as a playground, the automobile is an ever present source of danger, hard to guard against.

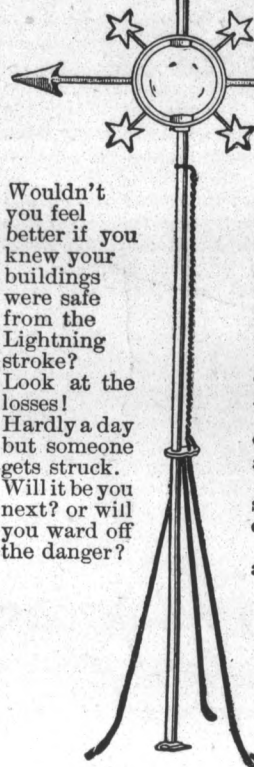
Fourth of July accidents with explosives, are accidents that can be foreseen and prevented in most cases by providing some different kind of fun for the children on that day from playing with fire crackers and other explosives. These accidents are less common in country districts, but they do occur sometimes. Most of the deaths occurring as the result of injury from toy pistols and fire crackers occur from lockjaw or, as it is technically called, "tetanus." The death rate from lock-jaw has markedly decreased since the discovery of an anti-toxin for that disease. The trouble is that the disease is slow in developing, and before the parent applies for treatment for the child, it is often too late for the anti-toxin to have any effect. In all such accidents it is a safe precaution to have a dose of the anti-toxin injected as a preventive of the disease.

Accidents with gasoline stoves are more common among adults than children. In most cases they are preventable by using ordinary precautions about filling the stove.

It is true that "accidents will happen in the best regulated families," but three fourths of such accidents could be prevented by using ordinary precautions. It is not necessary to be really careless to have an accident happen. All that is needed is just not to be sufficiently careful. A word to the wise is sufficient.

When we moved to our new home in the country we had about concluded that we would have to cut down some of the magnificent trees and pretty shrubs that grew on the lawn or else do without blooming plants. We were very fond of flowers, and it seemed scarcely like home without the bright-hued blossoms; yet we felt that we could not part with the fine trees, so for a number of years we continued to plant the usual bedding plants and annuals which we had been accustomed to do but always with the same result: a scarcity and inferiority of bloom.

Thousands of people sleep better because our Lightning Rods are on the house.



Wouldn't you feel better if you knew your buildings were safe from the Lightning stroke? Look at the losses! Hardly a day but someone gets struck. Will it be you next? or will you ward off the danger?

DODD & STRUTHER'S LIGHTNING RODS!

will protect you, your family and your property from damage by lightning. We know they will protect you, for they have been on the market long enough to prove it.

The best rod on earth will not protect you unless it is properly erected, and you should select the man who erects the rods on your buildings with as much care as you do the rod he puts up.

Prof. Dodd devotes his time to the scientific study of lightning, and instructing our dealers and teaching them how to properly put up our rods. Our agent's certificate is your best protection.

We were the first Lightning Rod manufacturers to sell our rods through the dealers, so we had the first choice and picked out the best and most reliable dealers to handle our rods. We teach each and every one of them how to properly erect the D. & S. Rods, and then guarantee the job when they finish it. Our guarantee is legal and fully backed by us. Not only that, but when you deal with our agent, we guarantee you a square deal.

We mean what we say. We guarantee the job our agent does for you, and we guarantee that he will deal honestly and fairly with you.

Remember! Ours are the Standard Lightning Rods. Guaranteed absolutely with a Legally Binding Guarantee by a firm financially able to make good all its claims.

For your protection we print our Trade-Mark on every spool of our rods and furnish every agent with an agent's certificate.

There are countless imitations, but we believe there are none so good as the genuine Dodd & Struthers Rod, and we want to tell you the advantage of our rod and system of rodming before you make your purchase. Write and tell us how many buildings you have and the size of each one and we will tell you how much it will cost to rod them with our Standard Rod. Lightning storms are frequent. Don't take a chance. Write today.

DODD & STRUTHERS,

DES MOINES, IOWA

Makers of Lightning Rods That Keep Out the Lightning.

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Makes The Best Concrete

The cement bought by the U.S. Government for the Panama Canal

SEND FOR OUR FREE BOOK "Concrete Construction about the Home and on the Farm." Contains over 100 drawings and illustrations.

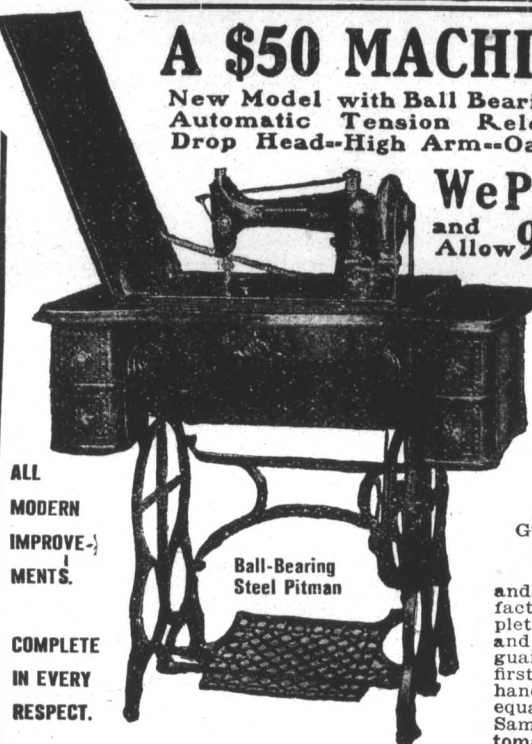
THE ATLAS PORTLAND CEMENT CO., Dept. 12, 30 Broad Street, N. Y.

Daily output over 40,000 barrels, the largest in the world.

A \$50 MACHINE for \$19

New Model with Ball Bearing Head and Stand--Automatic Tension Release--Automatic Lift Drop Head--High Arm--Oak or Walnut Table.

We Pay the Freight and Allow 90 Days' Trial



ALL MODERN IMPROVEMENTS. COMPLETE IN EVERY RESPECT.

Ball-Bearing Steel Pitman

Our new model, improved Mich. Farmer sewing machine has cam thread take up, giving better control of the thread and making a better stitch than any other arrangement. Running it backwards will not break the thread. It has highest arm, disc tension, automatic bobbin winder with loose band wheel, high lift for heavy work.

Guaranteed for 20 YEARS.

and money refunded if not satisfactory after 90 days' trial. Complete attachments, accessories and illustrated book free. We guarantee this machine to be first-class in every particular, handsome in appearance and equal to any machine made. Same machine without the automatic Lift for only \$18.

Good Machines as low as \$12.

For \$7 extra will send the \$19 machine with automatic lift in a handsome cabinet frame.

We prepay freight to any freight station east of the Mississippi River, or south to Tennessee. You cannot afford to buy a machine until you have sent for our handsome illustrated free catalog, printed in colors.

THE MICHIGAN FARMER, Detroit, Mich.



DAISY FLY KILLER



placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, cannot spill or tip over, will not soil or injure anything. Guaranteed effective. Of all dealers or sent prepaid for 20 cents. HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

(Continued from page 42).
by eating ice cream which developed ptomaine poisoning.

Labor troubles are held to be the cause of an attempt to wreck the iron works of Whitehead & Kales, of Detroit, last Friday morning. The company keeps an open shop and it is believed that union men are responsible for the affair. No one was hurt.

The citizens of Flint are much wroth up over the failure of the Saginaw & Flint electric railroad to repave and rebuild the road and streets torn up during the building of the line thru that place.

The government crop report for July estimates the largest yield of cereals ever harvested in the country's history.

The log road connecting Manistee with Lake Mitchell will be made into an electric line.

CROP AND MARKET NOTES.

Kent Co.—If July continues dry, as the latter half of June has been, potato dealers will be singing a new song. We sampled our early potatoes this morning, July 8, and was very much disappointed. Disappointed, because this patch has had every advantage that potatoes could have to grow and make a crop. And what did we find, but three to four tubers in a hill, the size of a black walnut and ground as dry as ashes. Two weeks drought right now will cut the early Michigan crop out slick and clean. Sod corn has not done as well as one might wish. This includes old meadow, pasture fields and low land sods. It is a noticeable fact that these lands are invariably turned from two to four inches too deep, excluding the corn roots from the rich, warm soil immediately underneath the sod. Hence a two weeks delay in the time required to grow and mature a crop. A general move was made on the hay field July 5, and much good hay has been gotten in in first-class condition the present week. The cultivator has been kept going steadily thru the month of June, hence the cultivated crops go into harvest in good shape.

Eaton Co.—In a trip thru the counties of Eaton, Jackson, Calhoun, Hillsdale and Branch, early in July, having had begun in only two or three fields, and I was surprised at the small amount of red clover grown. I saw no fields of it till I was in Branch county. There were a few fields of alsike, but nearly all the meadows were timothy, and altho a few were thin, the majority gave promise of a good yield, and a few were fine. Wheat fields have become almost a curiosity in Eaton county, which used to be one of the banner wheat counties of the state. Instead of waving fields of wheat one sees acres and acres of beans, and they are small for the season, some not being cultivated yet. Farmers are growing a great deal more rye than formerly, in all the counties mentioned, and one sees fields of barley here and there. Corn was in all stages, some not large enough to cultivate, and only one or two fields that came up to James Russell Lowell's standard, "Fourth of July, knee high." Where it had been well cared for, it was surprisingly well advanced, considering the backwardness of the season, and the consequent lateness of planting, July 10th finds haying in full swing, and harvest well begun, both coming in a bunch, and all teams needed in the corn, beans, sugar beets and potatoes. Help is almost impossible to obtain, and the farmer is surely having strenuous days just now. To many it seems absolutely necessary to put in sixteen hours a day, but the rush season will be short, fortunately.

Oceana Co., June 30.—On Monday, June 21, we commenced to mow our alfalfa and tonight I cut a new growth of 13 inches in length. It goes without saying that the weather has been very warm and wet. People are just thru planting beans and potatoes in this neighborhood. A very large acreage of beans has been planted, largely because the weather was so bad that the ground could not be got into condition for corn. Our hay crop is very heavy and if the weather is favorable a large amount of excellent hay will be secured. Wheat also promises well on high ground but on low ground many pieces of wheat, rye, oats and peas are completely washed or drowned out. Prices in our local market are as follows: Wheat, \$1.25; corn, 80c; oats, 60c; hay, \$10@12 per ton; butter, 18c; eggs, 17c.

Lapeer Co., July 5.—Weather cool and dry, not very promising for corn. Oats not doing very well. As it has happened, potatoes have been planted late and if frosts do not come too early they may make a crop. Farmers are a little rushed with their work; they are cultivating while they ought to be on the hay field. We never saw weeds grow so quick and fast. The writer manured a clover meadow early in the season which made a very heavy crop to plow under for potatoes. Plowed about 7 or 8 inches in depth and worked it very mellow but found when planting that in some portions of the field it was not worked deep enough, and therefore dare not drag the piece afterward for fear that it would take out the seed. We therefore put in a 2-horse cultivator and threw a ridge over the mark and potatoes so as to cover the millions of weeds that had come up and had to be subdued. Wheat harvest not far distant; the golden tint can already be noticed. Potato bugs on hand. Beans in general thruout this part of the county have come up too thin. Corn about one-half the size it was a year ago. It will have to hustle to make a crop for 1909.

Genesee Co., July 7.—June furnished good growing weather with plenty of rainfall. Corn, tho backward, is coming on nicely. Late potatoes just starting. Oats looking well. Large acreage of beans, one of the principal cash crops of this county. Haying just beginning, with clover in full bloom. Rain needed by growing crops. Help is scarce and high. Prices on farm produce high, altho a drop has been witnessed within the

past week. Present quotations follow: Wheat, \$1.37; oats, 50c; beans, \$2.25; corn, 78c; old hay, baled, \$9@11; wool, 31@32c; dairy butter, 21c; dressed hogs, \$9.50; beef, \$6@8; potatoes, old, 75c; fowls, dressed, 12c; strawberries about gone, prices fair.

Washtenaw Co., July 2.—Crops have in a large measure recovered from the effects of the cold, late spring, altho corn is and will be very uneven—some looking fairly well, but I doubt if either corn or oats make more than 75 per cent of a crop. Wheat is turning for the harvest and much more than an average crop. Haying started, with a fair yield; old timothy meadows not yielding extra. Prices of farm staples about the same, all but oats, which have eased off 5c. Butter, 25c; eggs, 18c.

Northern Isabella and Southern Clare Cos., June 28.—Good growing weather, with cool nights. Not extra good weather for corn but quite a large acreage of beans coming on nicely. Lots of them cultivated, some just coming up. Wheat doing nicely but thin on the ground; oats and peas doing well but oats are one month late; hay promises to be a large crop.

MICHIGAN CROP REPORT.

Wheat.—Crop correspondents thruout the state, with few exceptions, report wheat in good condition, with prospects of better than an average yield and of extra quality. The average estimated yield in the southern counties is 17, in the central and northern counties 15 and in the state 16 bushels per acre. The total number of bushels of wheat marketed by farmers in June at 109 mills is 62,090 and at 52 elevators and to grain dealers 21,603, or a total of 83,693 bushels. Of this amount 53,442 bushels were marketed in the southern four tiers of counties, 26,478 in the central counties and 3,773 in the northern counties. The estimated total number of bushels of wheat marketed in eleven months, August-June is 10,000,000. The amount of wheat yet remaining in possession of growers is estimated at 500,000 bushels. One hundred and ten mills, elevators and grain dealers report no wheat marketed in June.

Rye.—The average estimated yield of rye in the state and the different sections is 15 bushels per acre.

Corn.—The condition of corn in the state and southern counties is 83, in the central counties 80 and in the northern counties 85.

Buckwheat.—The acreage of buckwheat sown, compared with an average for the past five years in the state, southern and northern counties is 87 and in the central counties 85.

Beans.—The acreage of beans planted, as compared with an average for the past five years in the southern counties is 94, in the central counties 103, in the northern counties 96 and in the state 97. The condition of beans, compared with an average in the state and the different sections is 91.

Potatoes.—The condition of potatoes in the southern counties is 93, in the central counties 90, in the northern counties 91 and in the state 92.

Sugar Beets.—The condition of sugar beets in the state and southern counties is 88, in the central counties 91 and in the northern counties 84.

Clover.—The condition of clover sown this year, as compared with an average in the state and central counties is 96, in the southern counties 97 and in the northern counties 93.

The acreage of clover that will be harvested, compared with an average for the past five years in the southern counties is 79, in the central and northern counties 84 and in the state 81.

Timothy.—The acreage of timothy that will be harvested, compared with an average for the past five years in the southern counties is 75, in the central counties 90, in the northern counties 85 and in the state 80.

Peas.—The acreage of peas sown, compared with an average for the past five years in the southern counties is 86, in the central counties 85, in the northern counties 93 and in the state 89.

Fruit.—The prospect for the apple, pear, peach and plum crop is not as favorable as it was on June 1st owing to a heavy June drop and ravages by insects.

The prospect for a crop of peaches in the counties included in the Michigan Fruit Belt is as follows:

	State.	So.	Cen.	Nor.
Allegan	68	68	68	68
Berrien	81	81	81	81
Ionla	70	70	70	70
Kent	69	69	69	69
Ottawa	73	73	73	73
Van Buren	71	71	71	71
Muskegon	85	85	85	85
Newaygo	63	63	63	63
Oceana	77	77	77	77
Benzie	105	105	105	105
Leelanau	83	83	83	83
Manistee	93	93	93	93
Mason	80	80	80	80
Average for Michigan Fruit Belt	77	77	77	77
Average for Michigan Fruit Belt, 1908.	63	63	63	63
The following table of percentage represents the prospect for an average crop of the different fruits in the state and the different sections:				
	State.	So.	Cen.	Nor.
Apples	66	59	72	83
Peaches	67	63	69	87
Pears	63	57	69	81
Plums	67	63	72	82
Orchards, % cul.	37	33	37	61
Tree condition				
of new	85	87	78	83
Grapes	87	88	87	84
Black Raspberries	89	89	87	95

By cable from the London office of the Walter A. Wood Mowing and Reaping Machine Co. comes the information that one of this company's machines has just been awarded first prize at the big industrial show now on at Johannesburg, South Africa.

POTASH

Lodged wheat is dead loss because you can't harvest it—you can't thresh it—you can't sell it.

If your wheat is lodged resolve that next year you will get straw strong enough to bear the heaviest wheat your land can produce. That means Potash. It fills out the grain and makes a sturdy, elastic stalk for the grain to ripen on—keeps it standing for the harvester.

Potash Pays

Unless your wheat fertilizer is 2-8-6, it's too low in Potash. Two pounds of Muriate of Potash to each 100 pounds of fertilizer increases the Potash total one per cent.

Send for new Farmers' Note Book—about soil, crops, manures and fertilizers—a practical book compiled by experts. Mailed on request, free.

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NEW YORK—93 Nassau Street
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Samson Windmills

are the best windmills on earth. They are used and admired throughout the civilized world because of their power and efficiency and durability. They are the only windmills in existence that are built on the correct mechanical principles. They have four times the strength of other mills, twice the pumping capacity and they oil and regulate themselves. Are so constructed that the fiercest winds cannot damage or destroy them. Blades of galvanized iron.

The Double Gear Center Lift Principle

centralizes the lifting power and prevents the severe side strain which racks the average mill to pieces.

Write for new and beautifully illustrated book (free) which contains detailed information of Samson farm pumping windmills, suburban home windmills, park water works, suburban water works, suburban homes, irrigating mills and farm pumping outfits.

We also manufacture the celebrated Ideal Feed Grinders and Stover Gasoline Engines. Send for catalogs—they are free.

Stover Manufacturing Company, 28 Samson Ave., Freeport, Ill.

\$1.50 Per Bushel for the next crop of WHEAT is the prospect at this time. Insure largest yields by using

CALUMET BRAND BONE FERTILIZERS

Made from the Best Materials. Mechanical condition Perfect. Plant Food contents available. Will produce Largest Yields. Prices are Right. It will PAY you to use our Bone Goods. Why give your land ROCK when it asks for BONE Good Agents Wanted. Write for Booklet.

Hirsh, Stein & Co., Chicago, Ill.
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United States Rubber Co.

42 Broadway, New York, July 1, 1909.

The Board of Directors of the United States Rubber Company has this day declared from its net profits a quarterly dividend of Two Per Cent. on the First Preferred Stock (including all outstanding old "Preferred" Stock), and a quarterly dividend of One and One-half Per Cent on the Second Preferred Stock of this Company, to Stockholders of record at 3 p. m. on Thursday, July 15th, 1909, payable, without closing of the Transfer Books, July 31st, 1909.

JOHN J. WATSON, Jr., Treasurer.

GENUINE BARGAINS IN HIGH-GRADE UP-RIGHT PIANOS. Slightly used instruments: 12 Steinways from \$350 up; 8 Webers from \$250 up; 9 Krakers from \$250 up; 7 Knabes from \$250 up; 3 Chickering from \$250 up; also ordinary second-hand Uprights \$75 up; also 10 very fine Parlor Grand pianos at about half. Write for full particulars. Cash or easy monthly payments. Lyon & Healy, 62 Adams St., Chicago. We ship everywhere on approval.

J. F. HAHN, C. E., EXPERT REINFORCED CONCRETE ENGINEER, Bridges, Buildings, retaining walls, Silos, Tanks, etc. 206 Garfield St., Jackson, Mich.

SECOND-HAND GAETH AUTOMOBILES. Overhauled and repainted at the factory; 4 cylinder, 5 passenger machines—\$600 to \$1500. The Gaeth Automobile Co., 2553 W. 25th St., Cleveland, O.

FOR SALE—New Buick 1909 Model 5, 40 H. P., fully equipped with top, automatic wind shield, 5 lamps and generator, new set of quick detachable tires, not run over 100 miles, also two extra tires with cover for same, Jones speedometer, clock, magneto, in fact a most complete car. If sold quick \$1,260. Seats 5 people. R. D. MAHER, 139 Beaubien St., Detroit, Mich.

YOUNG MEN WANTED—To learn the Veterinary Profession. Catalogue sent free. Address VETERINARY COLLEGE Department U. Grand Rapids, Mich.

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TRUCK & POULTRY FARMS. All sizes, easy payments, good markets, fine climate. Send 25c for one year's subscription to "VIRGINIA FARMER," Dept. 318, Emporia, Va.

Public Land Openings will soon take place. For booklet containing general information, the land laws and many beautiful scenes, send four cents in stamps. Dept. J, Northwestern Publicity Bureau, Rock Springs, Wyo.

WHY PAY RENT 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. STAFFELD BROS., (owners) 15 Merrill bldg., Saginaw, W. S., Mich.

THRIFTY FARMERS are invited to settle in the State of Maryland, where they will find a delightful and healthful climate, first-class markets for their products and plenty of land at reasonable prices. Maps and descriptive pamphlets will be sent free upon application to STATE BOARD OF IMMIGRATION, Baltimore, Md.

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Tidewater Virginia and Carolina. Finest farm lands. Long growing-season. Three and four crops a year. No cold winters. No scorching summers. Ploughing and planting long before the northern farmer sees the frost and snow disappear. Convenient markets. Best prices. Farmers are making and saving money. Lands on easy terms. Write F. L. MERRITT, Land and Indust'l Agt., Norfolk and Southern Railway, 20 Citizens Bank Building, Norfolk, Va.

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SEND for my free 32-page illustrated booklet and map of the Dempsey Lands in Mason and Lake Counties, Michigan; unexcelled for general farming and sheep and cattle raising. Best land at lowest prices in Michigan. Easy terms.

J. E. MERRITT, Manistee, Mich.

MARKETS

DETROIT WHOLESALE MARKETS.

July 14, 1909.

Grain and Seeds.

Wheat.—A week ago conditions looked as if the wheat deal was on the toboggan, and a decline in values was anticipated, but it has not been so. Both cash and futures have advanced. The farmers have not delivered wheat. They are said to be conservative about selling. Whether this is so or not the weather during most of the time since the last report has prevented harvesting, threshing and delivering the grain. The market has felt this and the better prices for cash grain is the result. The condition of winter wheat improved during the month of June according to the national crop report, while the spring wheat declined—the two taken together just offset each other and the figures for both were the same for July 1 as for June 1. The visible supply is very low and will not last the country for more than a week. Should the new crop be delayed longer there may be unusual advances before relief comes, but this is unlikely and now that the weather has cleared in the southwest and west some of the new crop is likely to be put on the market in a few days. One year ago No. 2 red wheat was selling at 93c per bu. Quotations for the past week are:

	No. 2	No. 1	No. 3	Red.	White.	Red.	July.	Sept.
Thurs.	1.35	1.35	1.32	1.16	1.10	1.10	1.10	1.10
Fri.	1.35	1.35	1.32	1.18	1.12	1.12	1.12	1.12
Sat.	1.37	1.37	1.34	1.19	1.12	1.12	1.12	1.12
Mon.	1.37	1.37	1.34	1.20	1.12	1.12	1.12	1.12
Tues.	1.37	1.37	1.34	1.20	1.12	1.12	1.12	1.12
Wed.	1.40	1.40	1.37	1.24	1.13	1.13	1.13	1.13

Corn.—In spite of the fact that the government report placed the amount of corn planted this season at 7.1 per cent above the acreage of 1908 and the condition at 6.5 points above the estimate a year ago, the price fixed by the traders is above what it was a week ago and the market is generally strong at the advance. The weather has been quite favorable except that in some sections excessive rains occurred. The demand is fair considering the high values. There has been nothing doing on the local market. One year ago 75½c was paid for No. 3 corn. Quotations for the past week are:

	No. 3	Yellow.
Thursday	73½	74
Friday	73½	74½
Saturday	74½	75½
Monday	75	76
Tuesday	75	76
Wednesday	75½	76½

Oats.—This grain has recovered a portion of the decline of a week ago, the advance being larger for the cash than for the future deal. The crop is doing well altho the government report placed the condition for July a fraction of a point below the estimate for June. The figures for this year, however, are 2.6 points above those for the same period a year ago, 7.3 points above those of two years ago and 1.5 points above the ten year average. A year ago the price for No. 3 oats was 58½c per bu. Quotations are as follows:

	No. 3	White.	Sept.
Thursday	53	43	43
Friday	53½	44	44
Saturday	54	44	44
Monday	54	44	44
Tuesday	54	44	44
Wednesday	55	44	44

Beans.—Cash beans are not mentioned by the traders. October options are being called for and the price has advanced during the week. The growing crop is progressing well in most sections of the state, altho many of the fields were planted rather late. The following are the quotations for the week:

	Cash.	Oct.
Thursday	\$2.45	\$2.04
Friday	2.45	2.04
Saturday	2.45	2.04
Monday	2.45	2.05
Tuesday	2.45	2.10
Wednesday	2.45	2.14

Cloverseed.—The state report places the amount of clover for seed below normal and the condition is only fair. Prices have gone up for both October and March options. August alsike is being contracted for on the local market at \$8 per bu. Quotations are:

	Oct.	March.
Thursday	\$6.95	\$7.07½
Friday	6.95	7.05
Saturday	6.95	7.05
Monday	7.00	7.15
Tuesday	7.05	7.20
Wednesday	7.05	7.20

Rye.—This market is lifeless with quotations 3c lower than a week ago. The selling quotation for cash No. 2 this week is 83c per bu.

Visible Supply of Grain.

	This week.	Last week.
Wheat	8,427,000	9,756,000
Corn	2,846,000	3,210,000
Oats	5,966,000	6,281,000
Rye	191,000	157,000
Barley	610,000	649,000

Flour, Feed, Provisions, Etc.

Flour.—Market steady, with quotations unchanged. Quotations are as follows:

Clear	\$6.75
Straight	3.85
Patent Michigan	7.10
Ordinary Patent	6.95

Hay and Straw.—Market is unchanged at last week's prices. Carlot prices on track are: No. 1 timothy, new, \$13.50 @14; No. 2 timothy, \$12.50@13; clover, mixed, \$12@12.50; rye straw, \$11; wheat and oat straw, \$9 per ton.

Feed.—Steady. Bran, \$28 per ton; coarse middlings, \$29; fine middlings, \$31;

cracked corn and coarse corn meal, \$31@32; corn and oat chop, \$29.

Potatoes.—Receipts of tubers are increasing which gives the trade an easier tone. Prices are on last week's basis. New potatoes are quoted at \$2.75@3 per bbl.

Provisions.—Family pork, \$22@23; mess pork, \$21; light short clear, \$21; heavy short clear, \$22; pure lard, 12½c; bacon, 15½@16c; shoulders, 11c; smoked hams, 14c; picnic hams, 11c.

Dairy and Poultry Products.

Butter.—The butter trade has firmed the past week. Prices are a fraction higher and the demand is taking care of the supply in such manner that dealers cannot get any stock ahead. Offerings are limited. Quotations are: Extra creamery butter, 26c per lb; firsts, 25c; dairy, 19½c; packing stock, 18c per lb.

Eggs.—Values here have advanced. The decreasing supply and the firm demand is taking the eggs out of the market as fast as they are offered. Quotations for firsts, case count, cases included, is 21½c per doz.

Poultry.—There is scarcely nothing doing in this trade. Hens are higher. The offerings are limited. Quotations for the week are: Hens, 13@13½c; roosters, 9@10c; ducks, 14@15c; geese, 8@9c; turkeys, 16@17c; broilers, 21@22c.

Cheese.—Michigan flats, new, 13c; York state, 16½c; limburger, fancy old, 17c; new, 14c; schweitzer, fancy old, 20@21c; brick cream, 15c per lb.

Fruits and Vegetables.

Onions.—Bermudas, \$1.25 per crate; new southern, 1¢ per sack.

Currents.—Red, \$4 per bu.

Huckleberries.—\$4.50 per bu.

Cherries.—Good demand and firm.

Sour now quoted at \$3 per bu.

Raspberries.—Market is active and firm.

Red, \$6.50@7 per bu; black, \$1.25@2 per 16-qt. case.

Peaches.—\$2.50 per 6-basket crate.

Blackberries.—Firm at \$4 per 24-qt case.

Vegetables.—Asparagus, home-grown, 75@90c per doz; beets, new, 20@25c per doz; carrots, new, 20c per doz; cauliflower, \$2@2.25 per doz; garlic, 10c per lb; green beans, \$1.25 per bu; green onions, 10c per doz; green peas, \$1.25 per bu; green peppers, 45c per basket; leaf lettuce, home-grown, 30c per bu; head lettuce, 50c per bu; mint, 25c per doz; mushrooms, 60c per lb; pieplant, 15c per doz; radishes, long, 8@10c per doz; radishes, round, hothouse, 8@10c per doz; spinach, 60c per hamper; summer squash, 60c per box; turnips, new, 25c per doz; vegetable oyster, 40c per doz; watercress, 25@30c per doz; wax beans, \$1.75 per bu. box.

OTHER MARKETS.

Grand Rapids.

Local millers are offering \$1.16 for new wheat and are quoting \$1.35 for old wheat, No. 2 red. Oats are off 4c, other grain unchanged. The egg market remains steady. Creamery butter is up ½c. Dressed hogs are scarce and higher, prices this week ranging from 9½@10c. Tomatoes raised under glass are selling at 75@80c per 8 lb. basket. Outdoor cabbage is worth 80c per doz; peas 65c per bu.; string beans \$1. A few homegrown potatoes of small size are coming in and sell at \$1.25. Sour cherries are worth \$2@2.25 per bu., local canneries taking large quantities of these. Red raspberries are worth \$2, blacks \$1.50@1.75, huckleberries, \$2@2.15 per 16-qt. case. Currents are selling at \$1.25@1.50.

Quotations follow:

Grains.—New wheat, \$1.16; old wheat, \$1.35; corn, 75c; oats, 53c; buckwheat, 60c per bu; rye, 80c.

Beans.—Machine screened, \$2.25.

Butter.—Buying prices, Dairy, No. 1, 19@20c; creamery in tubs, 25½c; prints, 26c per lb.

Cheese.—Michigan full cream is selling at 16@16½c per lb; brick, 17c; Swiss, 17c; limburger, 17c.

Eggs.—Case count, 18½@19c.

Cherries.—Sour, \$2@2.25 per bu.

Raspberries.—Reds, \$2 per 16-qt. case; blacks, \$1.50@1.75.

Cattle.—Cows, \$2.50@4 per cwt; steers and heifers, best quality, 3@5½c; dressed mutton, 9@10c; dressed veal, 6@9c; dressed beef, cows, 5@6½c; steers and heifers, 7½@9½c.

Hogs.—Dressed, 9½@10c.

Live Poultry.—Fowls, 10@12c; roosters, 7@8c; turkeys, 16@17c; broilers, 1½ to 2 lbs., 19@21c; spring ducks, 15@17c.

New York.

Butter.—Western factory firsts, 18@21c; creamery specials, 26½@27c.

Eggs.—Irregular. Western firsts to extras, 23@23½c; seconds, 21½@22½c.

Poultry.—Dressed, steady. Western broilers, 22@23c; fowls, 14½@15½c per lb.

Grain.—Wheat, No. 2 red, \$1.42 per bu; corn, No. 2, 80c; oats, mixed, 57c.

Chicago.

Wheat.—No. 2 red, \$1.25@1.28; July, \$1.20; Sept., \$1.10½.

Corn.—No. 3, 72½@73½c; July, 72½c; Sept., 67½c.

Oats.—No. 3 white, 50@55c; July, 49c; Sept., 43c.

Butter.—Higher for creameries; dairies steady. Creameries, 22½@26c; dairies, 20@23½c.

Eggs.—Steady. Firsts, 20c; prime firsts, 21c per doz.

Boston.

Wool.—In Boston and abroad dealers in wool were unusually active for this season of the year, the past week, and the demand for all grades was so urgent that prices have hardened. Territory wools played the star role, contracts having been completed for over 4,000,000 lbs. of Montana offerings in ten days. Receipts were large and shipments of considerable bulk. The following are the leading quotations: Ohio and Pennsyl-

vania fleeces—XX, 35@36c; X, 33@34c; No. 1 washed, 40@41c; No. 2 washed, 40@41c; fine unwashed, 27@28c; fine unwashed, 31@37c; half blood combing, 36c; three-eighths blood combing, 36c; quarter blood combing, 34@35c; delaine washed, 39@40c; delaine unwashed, 33@34c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 25@26c; delaine unwashed, 31@32c; half blood unwashed, 35@36c; three-eighths blood unwashed, 33@34c. Kentucky, Indiana and Missouri—Three-eighths blood, 34@35c; quarter blood, 32@33c.

Elgin.

Butter.—Market firm at 26c per lb., which is an advance of ½c over the previous period. Sales for last week amounted to 1,110,700 lbs.

THE LIVE STOCK MARKETS.

Buffalo.

July 12, 1909.

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

Receipts of sale stock here today as follows: Cattle, 150 loads; hogs, 9,000; sheep and lambs, 3,500; calves, 1,450.

With a light run of cattle today the market was active and 10@15c higher than last week. We look for about a steady trade on the good cattle from now out but lower on the common kinds. The good cattle are very scarce and they might sell higher later on.

We quote: Best export steers, \$6.50@7; best 1,200 to 1,300 lb. shipping steers, \$6.25@6.65; best 1,000 to 1,100 do., \$5.75@6; light butcher steers, \$4.75@5; best fat cows, \$4.50@4.75; fair to good cows, \$3.75@4.25; trimmers, \$2.25@2.50; best fat heifers, \$5.50@5.75; fair to good, \$4.25@4.75; common heifers, \$3.75@4; best feeding steers 800 to 900 lb. dehorned, \$4.25@4.50; 700 to 750 lb. dehorned stockers, \$3.50@3.75; common stockers, \$3@3.50; best bulls, \$4.25@4.50; bologna bulls, \$3.50@3.75; best fresh cows and springers, \$4@5; medium cows, \$3@4; common cows, \$2@3.

Our hog market opened strong 5@10c lower than Saturday and closed steady at the opening with a good clearance. The prospects look fair for the near future. Heavy receipts in the west and warm weather caused the decline here.

We quote: Medium and heavy, \$8.25@8.35; mixed, \$8.20@8.30; best yorkers, \$8.15@8.25; light yorkers, \$7.90@8; pigs, \$7.75@7.85; roughs, \$7.10@7.20; stags, \$5.50@6.

The sheep and lamb market today was active at the prices and everything is cleaned up.

We quote: Best lambs, \$8.50@8.75; fair to good, \$7.50@8.25; culls, \$5@7; skin culls, \$4@4.50; yearlings, \$6.50@7; wethers, \$5.25@5.60; ewes, \$4.50@4.75; cull sheep, \$2@3.50; best calves, \$8.50@8.75; fair to good, \$6@8; heavy calves, \$4@5.

Chicago.

July 12, 1909.

Received today: Cattle, Hogs, Sheep. 25,000 33,000 18,000
Same day last year: 24,503 33,203 15,845
Received last week: 44,022 118,711 85,435
Same week last year: 37,374 130,289 71,753

Cattle have to just fill the bill these days to sell at all satisfactorily, buyers usually calling for fat handy weights or choice little yearling steers or yearling heifers. These are all good sellers, with no excessive offerings, but grassy cattle and heavy weights have declined 10@20c within a week. Beef steers have sold largely at \$5.85@7, with the better class going at \$6.40@7.40, and the best heavy long-fed beefs at \$7.25. The poorer grassy steers sold at \$4.75@5.50, these having to compete with numerous consignments of Texas grass cattle received mainly by packers direct from Missouri River markets. Exporters have been moderate buyers at \$5.90@6.80, and the domestic demand is slow to improve, as the consumption of beef is curtailed by its unusual dearthness, especially in eastern sections. Prospects are brighter for light cattle than for heavy ones, and there is not much encouragement for making the latter. Cows and heifers have been selling at \$3.50@6.75, and now and then around \$7, with sales of canners and cutters at \$2.25@3.25 mainly. Bulls sold usually at \$3@5, and calves were scarce and higher, selling actively at \$3.50@8.25 per 100 lbs. The stocker and feeder branch of the market was extremely dull at \$3.25@5 for steers weighing from 600 to 1,000 lbs. Prices for these cattle have had a great fall since the high time of the year, but most stockmen continue to hold back, waiting for further reductions. In the course of another month western range cattle will be moving to market, and a good many farmers have learned to regard these feeders favorably, while others will not have them. Milch cows go at \$25@50.

The "run" of cattle today was the largest seen on Monday for a long time, the flood at Kansas City diverting cattle away from that market. There was a fair demand for the better class, which sold at steady prices, but other kinds were largely 10c lower, selling at a greater reduction in some cases.

Hogs fluctuated considerably in prices last week, the early receipts being remarkably small, causing sharp advances, with active general buying on local and shipping account. By the middle of the week supplies became larger and prices declined considerably, but rallied quickly. The general surroundings of the trade have not changed, and the future looks bright for stockmen, for it is known beyond a doubt that there is a serious shortage thruout the corn belt, east, as well as west. Current receipts are averaging 221 lbs., compared with 222 lbs. a year ago and 232 lbs. two years ago. There are general complaints regarding the quality of a large percentage of the offerings, grass-fed swine being more numerous, and these have to be closed out at a big discount from the prices

paid readily for good corn-fed droves. Hogs are unusually high, but consumption of fresh and cured meats is much greater than usual, and stocks of provisions are constantly decreasing in volume. Today's market was 5@10c lower, hogs selling at \$7.20@8.10 and the best 195-lb. hogs at \$7.90.

Sheep and lambs have been marketed recently from Idaho and other western ranges in increasing volume, and trade has shown considerable animation, prices for sheep and yearlings having had a large fall since the opening of the season a few weeks ago. Lambs are by far the favorite sellers, the popular taste settling strongly toward lambs, with yearlings the next choice, while heavy sheep are discriminated against, as is usual in warm weather. Prime Idaho lambs have sold as high as \$8.90, breaking all past records, and range feeder lambs have sold actively at \$6@6.50. All feeder stock from the ranges sells very high, and promises to all of the season, and lambs are especially high, with a short "crop" reported. There is no abatement in the demand for breeding ewes, which are selling at \$5@6 for desirable offerings. Today's market was active and firm to 15c higher, range lambs going at \$6@8.90, range wethers at \$4.25@5, ewes from the range at \$3.75@4.50, yearlings at \$5@6 and rams at \$2.50@3.25. Feeders want wethers at \$3.50@4.25 and yearlings at \$4.75@5.

This is the dull summer period in the horse market, and altho receipts are running very small in numbers, there are enough to satisfy the general requirements of buyers. Drafters are selling usually at \$165@300 per head, according to quality, and commercial chunks have been bot recently by the American Ice Company at \$200@230. Expressers go at \$175@250, feeders at \$180@250, drivers at \$150@350, and mules at \$75@225. Inferior horses are hard to sell, and sales are frequently made at prices that show no profit to country shippers. Dealers are cautioned against marketing horses of common grade.

LIVE STOCK NOTES.

Not only is there an abnormally small marketing at western points, as well as at the eastern packing points, of hogs, but a sharp decrease is shown in strictly dry-lot hogs, the daily offerings showing the effect of grass and other green feeds. Seldom indeed has the proportion of choice corn-fed hogs been so small as it has been recently, and this is regarded as good evidence that not many good swine are left in the country. Under all the circumstances, with prices for good hogs extraordinarily high and tending upward much of the time, owners of thrifty shoats and pigs should refuse to part with such valuable property until well matured. It is a suggestive fact that at the very time when hogs are scarcest the consumption of hog products is largest, as provisions, despite their unusual dearthness in the retail markets, are yet lower in price than other meats. Recent prices for hogs were the highest of the year and far ahead of most past years, about the only really new important feature being a restricted demand in the Chicago market when the weather was hottest for big, heavy hogs weighing over 300 lbs. These are likely to become victims of the hot weather while in transit from one market to another, and at such times eastern shippers have shown increased preference for droves averaging from 250 to 275 lbs. These hot, "muggy" days a great many hogs die in the cars, and owners are too apt to avoid such necessary precautions for their safety as allowing plenty of space for each hog, icing the cars, watering and sprinkling the swine. Furthermore, it is always advisable for owners to be careful to select as cool weather as possible for marketing their hogs.

Late reports made by stockmen who have visited central Illinois are that farmers have the smallest number of cattle on feed for the past ten years and comparatively few in their pastures. Not a great many fat hogs are left, and summer shipments cannot be otherwise than small. Crops of all kinds are doing all that could be asked, and there is a good hay crop.

Stocks of provisions in leading western markets on July 1 were unusually small, aggregating 272,144,000 lbs. of cut meats, 29,652,000 lbs. of short rib sides, 75,015,000 lbs. of sweet pickled hams and 127,000 tierces of lard. Stocks decreased heavily in June. On July 1 last year stocks stood at 316,016,000 lbs. of cut meats, 57,193,000 lbs. of short rib sides, 74,785,000 lbs. of sweet pickled hams and 225,000 tierces of lard.

Missouri reports say that state never looked better, so far as corn, wheat and oats are concerned, and grass is remarkably luxuriant, but the supply of cattle being fed on grass is much smaller than usual at this season of the year. Cattle feeders say they are disgusted over the low prices paid for long-fed cattle and say they will quit making them good. There is a remarkably small supply of corn-fed hogs in most parts of Missouri, and fat hogs will be marketed sparingly the remainder of the summer period. As a rule, Missouri farmers have been good cattle and hog feeders and have been in the habit of marketing heavy long-fed beefs, a kind no longer fashionable in the market.

Chicago live stock commission firms in closest touch with western range cattle conditions do not look for large receipts of these cattle the latter part of July. Receipts this year are expected to fall somewhat short of those of a year ago, when the total Chicago marketings for the season were 292,000 head, compared with 375,000 the previous year. The rapid settlement of the ranges by farmers means the gradual extinction of the former large cattle industry, but in the coming years more cattle will come from that region, for farmers will undoubtedly be greatly interested in fattening live stock for the markets of the country.

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

July 15, 1909.

Cattle.

Receipts, 1,371. Half fat grades trifle lower; all other grades steady at last week's prices.

We quote: Extra dry-fed steers and heifers, \$5.50@5.90; steers and heifers, 1,000 to 1,200, \$5@5.25; steers and heifers, 800 to 1,000, \$4.25@4.75; grass steers and heifers that are fat, 800 to 1,000, \$4.25@4.75; grass steers and heifers that are fat, 500 to 700, \$3.50@4.25; choice fat cows, \$4@4.25; good fat cows, \$3.50@3.85; common cows, \$2.50@2.85; canners, \$1.75@2; choice heavy bulls, \$3.75@3.85; fair to good bolognas, bulls, \$3.25@3.50; stock bulls, \$3; choice feeding steers, 800 to 1,000, \$4.50@4.65; fair feeding steers, 800 to 1,000, \$4@4.40; choice stockers, 500 to 700, \$3.50@4; stock heifers, \$3@3.25; milkers, large, young medium age, \$4@5.50; common milkers, \$2.50@3.50.

Bishop, B. & H. sold Sullivan P. Co. 19 stockers av 440 at \$2.90, 8 butchers av 804 at \$3.60, 3 cows av 823 at \$2.75, 1 do weighing 1,200 at \$4.50, 1 do weighing 960 at \$2.50, 1 steer weighing 710 at \$3.50, 2 do av 810 at \$3.7, 7 do av 883 at \$5, 4 do av 690 at \$4, 7 do av 1,038 at \$5.10, 3 do av 834 at \$4, 1 bull weighing 780 at \$3, 1 cow weighing 800 at \$3, 1 bull weighing 1,310 at \$3.90; to Goose 1 cow weighing 1,000 at \$3.75, 2 do av 900 at \$2.75, 4 do av 390 at \$2.75; to Rattkowsky 2 steers av 570 at \$3.35, 2 heifers av 700 at \$3.35, 1 steer weighing 600 at \$4; to Bresnahan, Jr., 5 heifers av 510 at \$3.50; to Watkins 4 stockers av 530 at \$3.50, 9 do av 482 at \$3.35; to Hammond, S. & Co. 1 bull weighing 1,360 at \$3.75; to Bresnahan 4 cows av 1,240 at \$3.75, 3 do av 843 at \$2.25; to Jonghin 5 do av 1,026 at \$3, 4 do av 850 at \$3; to Kamman 2 cows av 1,085 at \$4.25, 15 steers av 983 at \$5.40; to Prince 4 feeders av 775 at \$4.15; to Goose 2 cows av 920 at \$3.50; to Mich. B. Co. 6 butchers av 816 at \$4.75, 14 do av 756 at \$4.75; to Goose 9 steers av 714 at \$3.85.

Spicer, M. & R. sold Sullivan P. Co. 10 butchers av 640 at \$3.75, 18 do av 433 at \$3, 1 bull weighing 1,250 at \$3.75, 3 cows av 833 at \$3; to Dobetki 8 bulls av 480 at \$3; 2 do av 410 at \$3; to Hammond, S. & Co. 1 cow weighing 870 at \$2, 3 do av 960 at \$3.60, 1 do weighing 1,100 at \$3.65, 4 do av 1,060 at \$4, 2 do av 865 at \$2.50, 2 bulls av 625 at \$3.50, 2 do av 965 at \$3.50, 2 do av 800 at \$3.75, 1 do weighing 1,600 at \$4, 1 do weighing 890 at \$3.75, 2 heifers av 560 at \$3.75, 1 steer weighing 1,000 at \$5, 29 do av 825 at \$4.90, 25 do av 864 at \$4.90, 6 do av 666 at \$4.25, 1 cow weighing 950 at \$4; to Sullivan P. Co. 1 do weighing 880 at \$3.50, 2 do av 935 at \$4.25, 4 steers av 817 at \$5.25, 4 do av 750 at \$4.65; to Bresnahan 13 heifers av 570 at \$3.50; to Fry 13 butchers av 601 at \$3.75, 4 do av 530 at \$3.90; to Hunt 8 do av 644 at \$4; to Ward 3 stockers av 673 at \$3.75, 12 do av 403 at \$3.25, 4 do av 450 at \$3, 1 bull weighing 500 at \$2.50; to Bresnahan 5 heifers av 560 at \$4, 2 steers av 660 at \$4.50; to Mich. B. Co. 4 bulls av 900 at \$3.75, 1 cow weighing 1,030 at \$4, 2 heifers av \$4.75 at \$3, 1 cow weighing 780 at \$2.50, 2 bulls av 575 at \$3, 3 heifers av 626 at \$3.50, 6 butchers av 705 at \$4.50, 17 do av 870 at \$4.75, 10 do av 693 at \$3.75, 13 steers av 986 at \$5, 15 butchers av 680 at \$4; to Merritt 3 stockers av 533 at \$3.50, 4 do av 505 at \$3.50; to Gerish 7 butchers av 980 at \$5.50.

Roe Com. Co. sold Caplis 12 steers av 850 at \$4.75, 4 butchers av 827 at \$3.75, 3 do av 773 at \$2.50; to Kamman B. Co. 17 do av 825 at \$4.60; to Jonghin 5 cows av 988 at \$2.95.

Smith sold Mich. B. Co. 20 steers av 787 at \$4.60, 3 cows av 977 at \$3.50, 2 bulls av 1,080 at \$3.75.

Haley sold Schlischer 10 steers av 728 at \$4.40, 3 cows av 890 at \$3.15, 1 bull weighing 960 at \$3.75.

Haley sold Sullivan P. Co. 6 steers av 911 at \$5.25, 3 butchers av 706 at \$4.

Johnson sold same 4 steers av 1,262 at \$5.90, 3 do av 936 at \$5, 1 bull weighing 1,250 at \$4, 1 cow weighing 1,130 at \$3.50.

Torrey sold same 2 bulls av 965 at \$3.75.

Belheimer sold same 4 cows av 975 at \$4, 5 butchers av 738 at \$4.40.

Haley sold Hammond, S. & Co. 2 bulls av 1,135 at \$3.85, 1 cow weighing 920 at \$4.30, 6 do av 941 at \$3.40, 2 do av 1,010 at \$4, 11 butchers av 775 at \$4.25.

Merritt sold same 7 do av 900 at \$4.85, 7 do av 871 at \$3.60.

Sharp sold Bresnahan 9 steers av 991 at \$5.40.

Lewis sold same 2 cows av 910 at \$2.25, 14 steers av 733 at \$5.

Johnson sold Fry 4 steers av 610 at \$4.25.

Torrey sold Thompson 5 butchers av 782 at \$4.50.

Belheimer sold same 2 do av 745 at \$3.50.

Haley sold Rattkowsky 2 bulls av 770 at \$3.35, 9 butchers av 730 at \$4.15.

Terhune sold Fitzpatrick Bros. 9 steers av 1,111 at \$5.40.

Veal Calves.

Receipts, 798. Market active and 25c higher than last week. Best, \$7.75@8.25; others, \$4@7; milch cows and springers, strong for good stuff.

Roe Com. Co. sold Rattkowsky 9 av 189 at \$4.50; to Mich. B. Co. 3 av 120

at \$5, 24 av 140 at \$7; to Parker, W. & Co. 16 av 160 at \$8.25, 2 av 95 at \$5, 3 av 135 at \$8.

Haley sold Caplis 9 av 130 at \$7.40.

Same sold Goose 5 av 270 at \$4.50.

Spicer, M. & R. sold Newton B. Co. 6 av 200 at \$5, 10 av 156 at \$7.50; to Caplis 5 av 190 at \$6, 30 av 140 at \$7.60; to Mich. B. Co. 10 av 148 at \$7.90, 2 av 280 at \$5, 10 av 154 at \$7.50, 8 av 170 at \$7.75; to Parker, W. & Co. 13 av 165 at \$7.85, 2 av 130 at \$6, 7 av 150 at \$8; to Sullivan P. Co. 2 av 145 at \$6, 47 av 145 at \$8; to Burnstine 3 av 140 at \$6, 19 av 150 at \$8.

Bishop, B. & H. sold Fitzpatrick Bros. 16 av 160 at \$7.75, 21 av 155 at \$8; to Markowitz 8 av 160 at \$7.75; to Thompson Bros. 1 weighing 160 at \$8; to Parker, W. & Co. 22 av 180 at \$5.75, 12 av 130 at \$7.75, 1 weighing 290 at \$6, 6 av 170 at \$8, 5 av 145 at \$7.75, 3 av 185 at \$8; to Hammond, S. & Co. 12 av 160 at \$8, 7 av 135 at \$7.75, 11 av 165 at \$8, 1 weighing 100 at \$5, 19 av 125 at \$8; to Newton B. Co. 2 av 170 at \$5, 6 av 155 at \$8; to Parker, W. & Co. 10 av 148 at \$8.

Groff sold Thompson Bros. 10 av 134 at \$7.75, 18 av 180 at \$6.30.

Torrey sold McGuire 5 av 125 at \$7.75.

Johnson sold Newton B. Co. 1 weighing 100 at \$5, 10 av 144 at \$7.50.

Johnson sold same 2 av 300 at \$3.50.

Haley sold same 4 av 150 at \$7, 6 av 225 at \$4.85.

Vickory sold same 8 av 150 at \$8.

Sharp & W. sold Hammond, S. & Co. 17 av 155 at \$7.50.

Stephens sold Burnstine 22 av 160 at \$7.75.

Johnson sold Sullivan P. Co. 7 av 135 at \$7.50, 3 av 200 at \$3.75.

Sheep and Lambs.

Receipts, 1,459. Market steady at last week's prices.

Best lambs, \$8@8.25; fair to good lambs, \$7@7.80; light to common lambs, \$5@6.50; yearlings, \$5@6.50; fair to good sheep, \$3.50@4.25; culs and common, \$2.50@3.

Bishop, B. & H. sold Sullivan P. Co. 10 lambs av 48 at \$6, 55 do av 65 at \$8, 9 do av 50 at \$8.25, 5 sheep av 110 at \$4, 8 lambs av 55 at \$6, 55 do av 72 at \$8.25; to Fitzpatrick Bros. 11 do av 70 at \$7.50, 25 sheep av 90 at \$3.50, 26 do av 75 at \$4.50; to Newton B. Co. 5 lambs av 55 at \$7, 26 do av 65 at \$8; to Young 20 do av 55 at \$8; to Fitzpatrick Bros. 82 sheep av 85 at \$4.37; to Hammond, S. & Co. 25 yearlings av 75 at \$6, 6 sheep av 100 at \$3, 5 lambs av 65 at \$7.

Spicer, M. & R. sold Newton B. Co. 40 lambs av 60 at \$8; to Mich. B. Co. 3 sheep av 110 at \$2.50, 53 do av 55 at \$4.25, 2 do av 115 at \$3.50, 6 yearlings av 80 at \$5.50, 31 lambs av 72 at \$7.75, 3 sheep av 120 at \$3.50, 30 lambs av 60 at \$7.50, 2 yearlings av 95 at \$6.50; to Eschrich 18 lambs av 52 at \$6.50, 25 sheep av 60 at \$3; to Mich. B. Co. 4 yearlings av 77 at \$6.25; to Holloway 12 lambs av 70 at \$8.15, 1 sheep weighing 70 at \$4; to Fitzpatrick Bros. 19 do av 73 at \$4.75; to Thompson Bros. 55 do av 88 at \$4.75; to Haise 17 lambs av 60 at \$7; to Thompson 15 do av 55 at \$7.

Terhune sold Thompson Bros. 15 lambs av 60 at \$7.

Torrey sold same 40 lambs av 70 at \$5.50.

Belheimer sold Hollaway 45 lambs av 73 at \$7.75, 2 sheep av 100 at \$4.

Roe Com. Co. sold Barlage 3 lambs av 65 at \$8, 13 sheep av 100 at \$3.50; to Parker, W. & Co. 4 sheep av 90 at \$5, 9 lambs av 60 at \$8.

Haley sold Mich. B. Co. 12 sheep av 77 at \$4, 18 lambs av 65 at \$7.50.

Haley sold Newton B. Co. 17 lambs av 70 at \$7.50, 12 do av 73 at \$8, 1 sheep weighing 170 at \$3.

Johnson sold same 9 sheep av 70 at \$5, 9 lambs av 55 at \$7.

Weeks sold same 23 lambs av 70 at \$7.50.

Vickery sold Fitzpatrick 1 buck weighing 150 at \$4, 23 lambs av 75 at \$8.

Merritt sold same 64 do av 65 at \$8.

Johnson sold same 12 yearlings av 80 at \$5.25.

Johnson sold Hammond, S. & Co. 7 lambs av 55 at \$6, 28 do av 75 at \$8.

Snyder sold same 24 lambs av 75 at \$8, 6 sheep av 70 at \$5.

Johnson sold Young 54 lambs av 70 at \$6.25, 2 sheep av 125 at \$3.50.

Haley sold Mich. B. Co. 15 lambs av 55 at \$6, 36 do av 65 at \$7.50, 55 do av 70 at \$7.50.

Hogs.

Receipts, 1,453. Market 20@25c higher than last Thursday.

Range of prices: Light to good butchers, \$7.90@8; pigs, \$6.75@7.50; light yorkers, \$7.50@7.80; stags, 1/4 off.

Roe Com. Co. sold Sullivan P. Co., 19 av 248 at \$8.10, 49 av 170 at \$8, 12 av 180 at \$7.85, 5 pigs av 110 at \$7.25.

Bishop, B. & H. sold same 32 av 200 at \$8.

Sundry shippers sold same 110 av 207 at \$8, 35 av 203 at \$7.90, 41 av 176 at \$7.85, 43 av 165 at \$7.75.

Bishop, B. & H. sold Parker, W. & Co. 133 av 170 at \$7.90, 61 av 160 at \$7.65, 175 av 200 at \$8, 17 av 150 at \$7.60.

Spicer, M. & R. sold Hammond, S. & Co. 46 av 170 at \$8, 12 av 180 at \$7.50, 72 av 185 at \$7.85, 4 av 208 at \$7.75.

Friday's Market.

July 9, 1909.

Cattle.

The cattle trade opened and closed strong at the Michigan Central yards Friday and everything was sold before 9 o'clock at full steady Thursday prices. Milch cows and springers also were steady.

We quote: Dry-fed steers, \$5.50@5.60; steers and heifers, 1,000 to 1,200, \$5@5.25; steers and heifers, 800 to 1,000, \$4.20@5; grass steers and heifers that are fat, 800 to 1,000, \$4.25@5; grass steers and heifers that are fat, 500 to 700, \$3.75@4.25; choice fat cows, \$4.30@4.50; good fat cows, \$3.50@4; common cows, \$2.50@3; canners, \$1.75@2; choice heavy bulls, \$3.90; fair to good bolognas, bulls, \$3.50; stock bulls, \$3@3.25; choice feeding steers, 800 to 1,000, \$4.50@4.75; fair feeding steers, 800 to 1,000, \$4@4.50; choice stock-

ers, 500 to 700, \$4@4.50; fair stockers, 500 to 700, \$3.75@4; stock heifers, \$3@3.50; milkers, large, young, medium age, \$40@55; common milkers, \$20@35.

Armstrong sold Hammond, S. & Co. 1 steer weighing 1,310 at \$5.60, 1 do weighing 1,230 at \$5, 2 cows av 920 at \$2.50, 6 do av 1,108 at \$4.

Bishop, B. & H. sold same 17 steers av 1,058 at \$5.55, 2 cows av 1,025 at \$3.50, 2 heifers av 750 at \$4.75, 4 steers av 1,067 at \$5.50, 8 cows av 1,071 at \$3.75, 6 butchers av 936 at \$4.75, 1 bull weighing 1,140 at \$3.65.

Same sold Sullivan P. Co. 1 cow weighing 1,100 at \$4.30, 1 bull weighing 1,460 at \$3.75, 2 do av 1,530 at \$3.90, 1 cow weighing 1,230 at \$3.90.

Sheep and Lambs.

The sheep and lamb trade was steady at Thursday's prices for the few offerings.

Best lambs, \$7.25@8.50; fair to good lambs, \$7@8; light to common lambs, \$5@7; yearlings, \$4@6.50; fair to good sheep, \$3.50@4; culs and common, \$2.50@3.50.

Young sold Hammond, S. & Co. 10 lambs av 64 at \$4, 31 yearlings av 73 at \$6.50.

Lucke sold Parker, W. & Co. 18 lambs av 65 at \$8.

Hogs.

In the hog department the market was active and 5@10c higher than on Thursday. Range of prices:

Light to good butchers, \$7.70@7.90; pigs, \$6.75@7; light yorkers, \$7.40@7.50; stags, 1/4 off.

Bishop, B. & H. sold Parker, W. & Co. 9 av 175 at \$7.60, 36 av 180 at \$7.80, 38 av 200 at \$7.90.

NATIONAL CROP REPORT.

The Crop Reporting Board of the Bureau of Statistics of the U. S. Department of Agriculture, from the reports of correspondents and agents of the Bureau, makes the following estimates:

The preliminary estimate of the area of corn planted is 109,006,000 acres, an increase of 7,218,000 acres (7.1 per cent) as compared with the final estimate of last year's acreage. The average condition of the corn crop on July 1 was 89.3, as compared with 82.8 on July 1, 1908, 80.2 on July 1, 1907, and 84.8, the ten-year average on July 1.

The average condition of winter wheat on July 1, or when harvested, was 82.4, as compared with 80.7 last month, 80.6 at harvest, 1908, 78.3 in 1907, and 79.6 the average at time of harvest for the past ten years.

The average condition of spring wheat on July 1 was 92.7 as compared with 95.2 last month, 89.4 on July 1, 1908, 87.2 on July 1, 1907, and 87, the ten-year average on July 1.

The average condition of the oat crop on July 1 was 88.3, as compared with 88.7 last month, 85.7 July 1, 1908, 81 July 1, 1907, and 86.8, the ten-year average on July 1.

The average condition of barley on July 1 was 90.2, as compared with 90.6 last month, 86.2 on July 1, 1908, 84.4 on July 1, 1907, and 88.3 the ten-year average on July 1.

The average condition of rye on July 1 was 91.4, as compared with 89.6 last month, 91.2 on July 1, 1908, 89.7 on July 1, 1907, and 89.8, the ten-year average on July 1.

The acreage of white potatoes is estimated at 3,452,000 acres, or 195,000 acres (6 per cent) more than last year. The condition of the crop on July 1 was 93, as compared with 89.6 on July 1, 1908, 90.2 on July 1, 1907, and 91 the ten-year average on July 1.

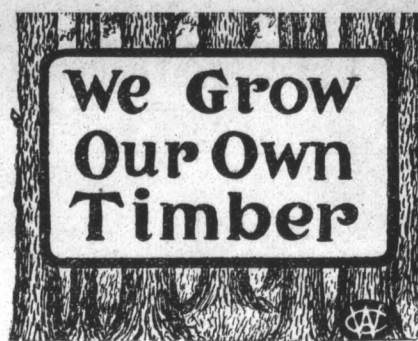
The average condition of the hay crop on July 1 was 87.8, as compared with 87.6 last month, 92.6 on July 1, 1908, and approximately 82 on July 1, 1907. The condition of timothy on July 1 was 87.1, as compared with 90.2 on July 1, 1908, 82.2 on July 1, 1907, and 85.1 the ten-year average on July 1.

The condition of clover on July 1 was 83.8, as compared with 95.5 on July 1, 1908, 76.4 on July 1, 1907, and 83.8, the ten-year average on July 1.

The condition of the apple crop on July 1 was 54.6, as compared with 61.4 last month, 57.6 on July 1, 1908, and 62.3 the ten-year average on July 1.

LIVE STOCK NOTES.

Most southern sheep breeders still show a strong preference for native breeding ewes, but breeders in other sections are more disposed to buy the harder and healthier range ewes that hail from Idaho, Wyoming, Montana, Oregon, Washington and the Dakotas. The greater part of the best grade come from Idaho, Montana and Wyoming, and many of such breeding ewes show black in the face and legs, rendering them highly popular with enthusiastic breeders. The native breeding ewes come largely from Missouri, Iowa, Illinois, Indiana, Minnesota and Wisconsin, and it usually requires considerable time and skill to select a good sized consignment in the Chicago market. The range breeders average higher in quality, for most rangemen use high-grade Shropshire, Hampshire or one of the Down rams on grade Merino ewes. After the middle of July range ewes for breeding purposes can be purchased in car loads. The commission charge at Chicago on range breeding ewes is \$6 per single-deck and \$10 per double deck. As the natives are not in small numbers, requiring much time and care, the commission charge is \$10 per single deck and \$20 per double-deck.



The quality of the timber in the farm wagon you buy is a very important item to you.

It determines the "life"—the years of service—it will give. It determines whether it is a cheap or "costly" wagon for you.

The price you pay does not. The lower the price the more costly is the wagon, because in a short time its inferiority begins to show, causing annoyance, loss of time and soon a new wagon.

This means the price of two wagons instead of one.

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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

WHAT TO FEED A JERSEY COW.

Have just purchased a Jersey cow 6 years old, supposed to give 14 qts. of rich milk per day. She is due to freshen in a week or ten days. I will have to purchase all her feed except grass and a very ordinary grade of hay. What would you suggest as an economical ration, basing your figures on Grand Rapids retail prices? Would also like some suggestions on rearing the calf.

Ottawa Co. M. E. JONES.

At this time of the year, when the cow is getting at least part of her ration on pasture, I know of no grain that is better to supplement this pasture than an equal parts mixture by weight of corn meal and wheat bran. The only objection that can be offered to this is that both of these feeds are pretty high priced at the present time. Bran costs upwards of \$30 a ton, but cows like it and do well upon it. The corn meal is also high, but this is also a valuable food, readily digestible and very palatable. I would suggest that, as soon as the cow comes fresh, a small feed of wheat bran and corn meal mixed, as I have suggested, be fed twice daily and thus gradually increased until she is getting 3 to 4 lbs. of this mixture at a feed, making 6 to 8 lbs. a day. If she is a good cow it will probably pay, when she gets to a full flow of milk, to feed her as high as 10 lbs., depending, of course, upon the pasture. If the pasture is quite abundant she will not need quite as much, but if the pasture is scant, as it is apt to be from now on for the rest of the summer, the cow will need a good liberal grain ration, and if the pasture is quite spare it will also pay to give one feed of hay a day, besides the grain.

Of course, there are other grains that will make a good ration for a cow on summer pasture. Wheat bran and corn meal are not the only foods. Gluten feed, and dried brewers' grain, and cottonseed meal mixed with the corn meal, or oil meal mixed with the corn meal, are all good. As a matter of fact, if to this ration which I have recommended—wheat bran and corn meal—oil meal is also added, it will be no detriment to it, and perhaps a benefit. If oil meal is added I would mix 200 lbs. of wheat bran, 200 lbs. of corn meal, and 100 lbs. of oil meal together. If you could get dried beet pulp, and mix cottonseed meal with this, that also makes an excellent food. The beet pulp should be moistened about six hours before it is fed to the cow—not thoroughly wet, but moistened so that it softens and swells up to something like its natural proportions. Then if 4 to 5 lbs. of beet pulp is fed to cows, and 1 to 1½ lbs. of cottonseed meal is mixed with the pulp at time of feeding it makes a good ration. You probably cannot get the dried beet pulp at this time. Taking into consideration the convenience of getting wheat bran and corn meal, I do not believe that you can find any better food for the cow.

If your cow has the heifer calf that you desire, the proper thing to do is to teach it to drink milk out of a pail just as soon as possible. I would not let it suck the cow more than two or three times. Do not feed it very much milk at first, and if you give the cow's milk it will be better to put a little water into it, as it will be pretty rich for the calf. At the end of two weeks skim-milk can be substituted for whole milk, the change being made gradually. With this skim-milk I would feed a small amount of ground flax-seed meal made into a jelly, to take the place of the butter-fat which has been removed.

AN ESTIMATE OF YIELD OF BUTTER.

How many pounds of butter per week should be realized on an average from 45 quarts of milk per day? The cows are considered a good grade of Jersey and Durham. Of course, I understand that it all depends upon how rich in butter-fat the milk is, but I would like your opinion from the average standpoint.

Oakland Co. SUBSCRIBER.

Subscriber's letter is so indefinite that it is impossible to give an intelligent answer. In the first place, 45 quarts of milk is very indefinite. While a quart is a quart, yet if it is measured from the milking pail with a dipper it is different than when measured with a milk can, or a quart measure, usually. The old saying is that a pint is a pound the world around, consequently a quart of milk will weigh about 2 lbs. Really, a gallon of

milk weighs a little over 8 lbs., so that a quart would weigh a little over 2 lbs. but we will call it 2 lbs. Therefore, 45 quarts of milk would equal 90 lbs., and if the cows are good grade Jerseys and Durhams, the average test ought to be 4 per cent; it may be 3½ per cent, or it may be a little more than 4 per cent. This is something indefinite. There is a great difference in cows. Consequently I am just simply making a guess, and I guess that the herd test will be 4 per cent. If the herd test is 4 per cent, then the cows would yield 3.6 lbs. of butter-fat per day, or in a week they would yield 25.2 lbs. Now, 25.2 lbs. of butter-fat will make about 30 lbs. of commercial butter. Therefore a man with 45 quarts of good milk per day from Jersey and Durham grades ought to make about 30 lbs. of butter per week.

SUMMER MEETING OF MICHIGAN JERSEY CATTLE CLUB.

The second annual summer meeting of the Michigan Jersey Cattle Club was held at Oakwood, the farm home of Hon. T. F. Marston, of West Bay City, on Tuesday, June 22. Jersey breeders were present from all over the state, many of them accompanied by their wives. A very enjoyable time was experienced by all present. To those who have never been to Oakwood and seen Mr. Marston's Jersey cattle, I can only say that they have missed a rare treat. He has one of the finest herds of Jerseys that can be found anywhere. It is not only a fine herd, but it is a large herd, containing at the present time over 60 cows in milk and a large number of young things, many of which are exceedingly fine.

Mr. and Mrs. Marston know full well how to entertain, and their hospitality is always equal to the best. Their luncheon must have been enjoyed to have been appreciated. One would make very sorry work in attempting to do it justice on paper. At each guest's place at luncheon was a glass paper marker containing the portrait of some noted animal of Oakwood, a very appropriate and beautiful souvenir for Jersey men to carry home with them.

The day was well spent by members of the club in looking over the stables, milk plants and herds at Oakwood. They were all practical, substantial and up-to-date, and Mr. Marston deserves a great deal of credit for running such an establishment. There were over 60 members present and the success of this meeting assures the members of the Jersey Cattle Club of another meeting next summer with some prominent Jersey breeder. These meetings prove not only fine social gatherings but they are very instructive because it gives members—Jersey breeders—a chance to see what leading breeders have and how they keep it, and it's well worth the time and money for the trip from any part of the state.

FEEDING A DAIRY HERD IN SUMMER.

Frequent and plentiful rains have thus far kept the pastures green and the question of supplementary feeding has occupied but little attention. But there is little doubt that we shall have plenty of dry weather yet, with pastures short and brown before the season closes. At least this is the rule and there is no evidence that the present year will constitute an exception.

A June grass pasture is good indeed while it lasts, but it is of short duration and few men who keep any considerable number of cows can get on successfully without preparation for summer feeding. The man who has a summer silo has settled the question right. He has a good succulent food, grown cheaply, harvested economically, and preserved in perfect condition for daily use when pastures are dry. This every dairyman should have just as soon as he can arrange to build it. The diameter should be small enough so that one can feed off from the whole top every day to a sufficient depth to keep the ensilage sweet. It should be high enough to contain all that is needed for the cows during the summer season. Forty feet is not too high for a summer silo if it can be anchored so it will not blow down.

There are several disadvantages with silaging. In the first place, we must cut considerable of the crop a good while before it has matured, when the yield to a given area is necessarily small. Then, if much feed is required, the labor of cutting it may interfere seriously with the regular work on the farm, and a

The First Perfect Feeding Device for Cream Separators

We have frequently referred to the recklessly untrue statements and claims made by "desperate would-be-competitors" struggling to retain Cream Separator business that is going to the United States Separator.

We have repeatedly proved by the records of the United States Patent Office at Washington and by the records in the United States Circuit Courts, also by the records of International Expositions and National Expositions, that most of the claims of these would-be-competitors are false.

They are using desperate and false claims in their efforts to make it appear that they are first in everything desirable in Cream Separators.

The United States Separator was the first to employ a feeding device in the Separator bowl to deliver the whole milk beyond the cream zone. This device of the United States prevents all conflict of currents and any remixing of the cream and skimmilk in the process of separation. It is far superior to any "split wing" device, more perfect in operation and has won the International prize for the most perfect separation.

The "disc" Separators could not use this device and in its efforts to equal the device of the United States was compelled to resort to an inferior expedient—the "split wing." But the "split wing" does not enable them to equal the United States, as the records show.

The United States Separator was the first to distribute the incoming volume of whole milk back of the cream wall.

The United States Separator was the first to use nonaligned channels for the currents of the milk through the Separator bowl, on which it holds strong patents, and no others can use this construction and it was the United States Separator that beat the "disc" Separator at the greatest International contest of Cream Separators ever held.

The "disc" Separator has never been able to equal this test.

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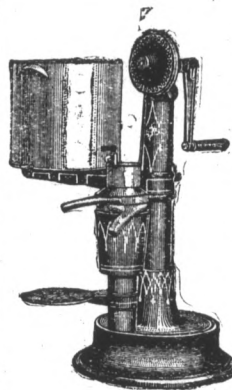
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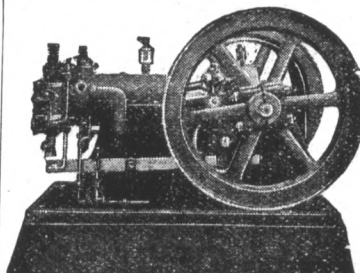
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UNICORN DAIRY RATION—The only unadulterated, unsalted complete dairy feed. Contains the three best and most costly protein feeds, Ajax Flakes, Gluten Feed and Green Diamond Cottonseed Meal, but the price to you is no more than that for inferior feeds. Send for Booklet. CHAPIN & CO., Inc., Milwaukee, Wis.

severe drouth in the latter part of the summer may so limit the growth as to make the venture almost a failure. The demand for feed on the part of the herd is regular. No weather variations, however radical, will greatly affect the appetite of the cows. They must be well fed if their owner realizes a profit, and it is essential that he have some regular and reliable source of supply. This is largely furnished by a well filled silo, without which we must, of course, rely upon some other method.

On most farms there is some land that may be economically devoted to pasture. This is at its best in May and June, and if the herd is not too large we can wait until after that time before it is necessary to feed the cows. But if the herd is large and the pasture is not sufficient a field of rye and vetch, or better, wheat and vetch, if the soil is right, will be ready to cut quite early. When this has become too old to be relished the clover will be large enough to take its place. And when that must be cut and cured, oats and peas will be found ready for use in turn. It is a good plan to sow corn with oats and peas for this purpose, for, the the corn contains but little dry matter at the time of cutting, it will still add considerable to the amount of roughage. It will hold up the peas and, if the crop is to be cut by hand, it can be done very easily.

Corn should be planted with which to follow the oats and peas, and if it is not ready to cut by the time the peas have become too old for use we may resort to clover hay in the interval. I would not plant the corn too thick. I like plenty of grain along with the fodder. By the time the corn has ripened, fall rains may have increased the feed in the pasture.

If one is conducting a winter dairy the cows will be dry in late summer and the demand for something to eat will not be so great. Perhaps we can resort to the clover hay again with a small grain ration in connection, but we may have feed, green and fresh to cut at this time if we have sown some hitherto neglected spot with buckwheat late in July. It is not as palatable as corn or oats and peas, but the cows will learn to eat it pretty well and the results in milk will be highly satisfactory. By the time this is gone we may open the winter silo and our trouble is over.

It will pay to feed the cows. We can not afford to neglect the herd for a single day when prices of dairy products are as inviting as they are at present.

Oceana Co. W. F. TAYLOR.

HOW ACIDITY OF CREAM AFFECTS FLAVOR OF BUTTER.

It has been a generally accepted theory among dairy teachers and writers on dairy subjects that the production of good butter necessitates the development of a certain amount of acid in the cream, for two reasons: to develop a desirable flavor and to improve the keeping quality. Recent investigations by the United States Department of Agriculture indicate, however, that butter made from pasteurized sweet cream has better keeping qualities and remains free from objectionable flavors for a longer time than butter made from sour cream.

The Dairy Division of the Bureau of Animal Industry for the past three years has been making a study of the changes which butter undergoes in storage, and especially the influence of acidity of cream on the keeping qualities. This was done to determine the best method of making butter for storage. The investigations have included the making of experimental lots of butter by different methods and in different parts of the country. This butter was kept in cold storage and was examined and scored at certain intervals, the scoring being done by men who had no previous knowledge of how, when, or where the butter was made, so that their conclusions were based strictly on the quality of the butter.

As a result of the investigations it was found that butter frequently undergoes marked changes even when stored at very low temperatures, and that these changes are more marked as the acidity of the cream from which the butter is made is increased. No bacteria were found in the cream or the butter which could reasonably be expected to be the cause of the more rapid deterioration of the high-acid butter. Furthermore, the changes in the high-acid butter were not checked by heating the ripened cream, which shows that they were not brot about by enzymes secreted with or in the

cream and carried into the butter. The results also indicated that acid which develops normally in the cream by the action of certain bacteria, or which is added directly to the cream in the form of pure acid, brings about or assists in bringing about a slow decomposition of one or more of the compounds of which butter is largely composed.

What is regarded as of special importance is the fact that butter can be made commercially from sweet pasteurized cream without the addition of a starter. Fresh butter made this way has a flavor too mild to suit the average dealer, but it changes less in storage than butter made by the ordinary methods, and can be sold after storage as high-grade butter. At the present time there are at least ten creameries in the country making butter from sweet pasteurized cream without a starter, and many more with a starter but without ripening. The statements in regard to butter from unripened pasteurized cream do not hold for butter made from unpasteurized cream churned without ripening. Butter made in this way has poor keeping quality.

Butter for the United States Navy is being made from sweet cream, and this plan, adopted last year, is giving satisfaction. A tub of sweet-cream butter 14 months old on exhibition at the National Dairy Show last December had no storage or fishy flavor, and was pronounced a fine article.

ECONOMY IN THE HAND SEPARATOR.

The value of a hand separator to the man with a small herd of cows depends as much upon the man as upon the machine. By this I mean that he must have enough mechanical skill to keep his machine in good running order, and to see that it is doing good work.

The first saving is in the increased amount of fat obtained over the gravity method. By the gravity system from .25 to .50 of 1 per cent of the fat is left in the milk, and butter-fat at 30c per lb. is expensive as human food, to say nothing of feeding it to growing animals, which must sell at 5@6c per lb. Now, a good hand machine will skim around .03 and sometimes lower. My machine in the last year, has not left above .05 of 1 per cent of fat in the milk.

On an average cow, say one that will give 8,000 lbs. of 3.5 per cent milk, with your separator running at .0004 your loss will be 3.2 lbs. fat; by gravity at .0035 you lose 28 lbs., or a difference of 24.8 lbs., which, at the average market price of 25c per lb., is equal to \$6.20. Very few men practice dairying with less than 10 cows, so you have \$62 as the amount saved on fat alone in one year. Now, if you buy a standard machine, and you make a mistake if you do not, it will keep right on doing this for years with but little expense outside of oil.

In this section the transportation charge to and from the factories is 15c per 100 lbs., or, on the above cow, \$12 per year, and on 10 cows \$120. The drawing of the cream from the same herd would not cost more than \$17.50, or a net gain of \$102.50. Besides this, you have your own skim-milk which has not been contaminated by being mixed with that from herds which may be diseased.

The value of skim-milk is variable. From hogs on grass, when they are selling at 6c per lb., we receive 35@45c per 100 lbs. for it. Have also made good gains on calves thru its use. I will not say it is worth more than gravity skim-milk, but I would rather have it, and I believe the increased value is in its greater palatability when fed warm.

But above all the separator is an incentive toward keeping more cows, for you will find that you can clean the machine just as easily for 25 cows as you can for one. Some say there is nothing in it anyway but I think just as a man said to me the other day, "It is just like a pension."

I keep a herd record. My cows are natives and various grades, and I have some that are making more than 300 lbs. of fat per year.

Hillsdale Co. RAY BAKER.

The New Jersey station reports that in a herd containing 35 cows one year and 34 the next the average yearly production per cow for the two years was 6,348 lbs. of milk, averaging 4.32 per cent fat, which would yield 320 lbs. of butter. The cost of feed per cow averaged \$46.19, making the cost of 100 lbs. of milk, not including labor, 72.78 cents. At \$1 per 100 pounds for the milk the average return per cow would be \$17.29 for the year. At 18 cents per pound for butter it would be \$11.41. Under these conditions the cow must produce 4,619 lbs. of milk, or 257 lbs. of butter to pay for the food she eats.

29
Yrs



On the thumb is the only piece used inside the modern, light, simple, sanitary, easy to clean, Sharples Dairy Tubular Cream Separator bowl. The lower picture shows the many disks used inside common, old style "bucket bowl" cream separators. Tubulars excel in easy running, clean skimming, fast skimming and durability as greatly as in simplicity. Which kind for you? Tubulars are made in the World's biggest separator factory. Branch factories in Canada and Germany. Sales exceed most, if not all, others combined.

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29⁷⁵

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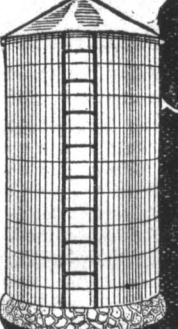
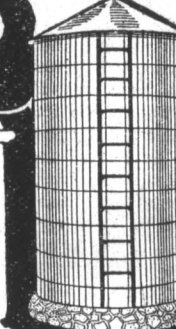


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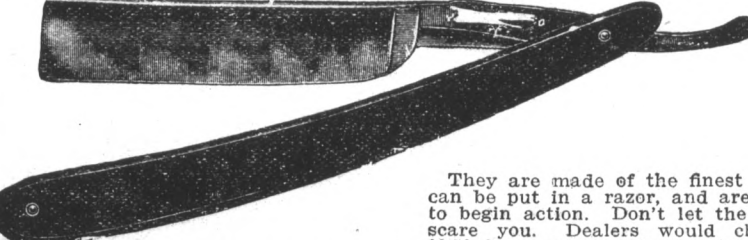
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is built on lines that make it a very fast worker—it's the result of years of development and we confidently offer it as the highest attainment in a silo filling machine. It cuts or shreds and elevates all at one operation, and does it faster and with less power than any other machine on the market. It is easy to operate and quickly moved from place to place. Is low-down and handy to feed; quickly adjusted; traveling apron need not be taken apart when machine is moved. Has very strong fan blades, heavy gear and a simple stop and reversing mechanism. Write for interesting free catalogue—a regular Silo Filler Dictionary. You ought to read it through before you buy a Silo Filler.

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A Guaranteed German Razor.

They are made of the finest steel that can be put in a razor, and are all ready to begin action. Don't let the low price scare you. Dealers would charge you \$2.50 for a razor no better than what we ask 75 cents for. Each razor fully guaranteed. There can be nothing better in a razor, regardless of price. Order at once, 75 cents, postage paid. 8 cents extra if registered. You will not have to saw your beard off. Once over will make your face smooth as a baby's. We use one and know whereof we speak. With The Farmer a year \$1.25; 2 years, \$1.65; 3 years, \$2.00.

THE MICHIGAN FARMER, Detroit, M

HORTICULTURE

THINNING APPLES.

The first part of apple harvest is the thinning. This is unnecessary on most trees on some seasons and on some trees on all seasons, but when the tree promises an exceedingly large crop and there are many small or imperfect specimens, or the apples are grouped in clusters too large to enable the tree to bring them all to a large size, the operation must be a profitable one.

Last season we thinned the following varieties: Astrakhan, Strawberry, Snow, Baldwin, Winter Rambo, Ben Davis and Northern Spy. The Transparents should have been thinned for they were heavily loaded and did not attain a good size. I noticed that some of the small green ones left on the tree after the second picking became larger than the first ones. I have often noticed this rapid improvement of the late apples after the best and earliest ones were off, especially on Northern Spy. We always make two pickings of this variety. A small green Spy is almost worthless but a large, well colored one is more in demand than any other apple. Many of these smaller specimens will make good apples if left on the tree two weeks after the earliest are picked. If all were left many of the first maturing ones would drop.

Thinning is based on the same theory, namely, that relieving a tree of part of its load enables it to supply more nourishment to the remaining fruit, resulting in its better development. The chief difference between thinning and early picking of the matured fruit only, is that in the first operation the poor specimens are removed so the good ones will be still better, while in the second operation the good ones are removed as soon as mature to enable the tree to further perfect the smaller ones. Now, if we will follow both practices on loaded trees I believe we will be doubly repaid for our efforts.

Among all our varieties the Winter Rambo was most in need of thinning as this is a slender growing tree with long willow-like branches and bearing the fruit clustered close to the branch and often in a solid mass around it for a foot or more in length. The fruit in such cases is so crowded there is no room for development, even if there were food enough. I have noticed that when the crop was light on these trees it was of good size and color but when heavy was rather small and green and given to rotting and deformity on account of crowding. Last season we took off fully three-fourths of the fruit in July and they later looked as if they needed thinning again. The best of all is that almost every specimen on the trees was nearly perfect, so we are not wasting the vitality of the trees in growing worthless fruit.

The Snow is a variety that needs very thoro spraying to control the scab and even then there will be some deformed specimens on account of it. This variety is a good one to thin when they set full as they will be about right when all deformed apples are removed.

The Baldwin and Ben Davis are not as easy to thin, that is, there is more sameness to the fruits and one must remove more perfect specimens simply because they are too heavily loaded to be of good size. These varieties require more judgment and a lot of faith to thin out properly. It is a good training to prepare one to cut out filler trees in an orchard where they are too thick. The principle is the same. If one will keep in mind the difference in the size of Baldwin apples in years when the trees are loaded and in years of light crops he will have the courage to thin them properly.

The Northern Spy is a variety which is comparatively easy to thin and which I believe will amply repay the labor on years of a full crop. On such seasons there is bound to be much difference in the size of the fruit and it is easy to select the poorer specimens. There will be branches, however, where the perfect fruits are too thick and it requires considerable courage to thin these out. We did not get over our Spies until the middle of August, but it is "better late than never" in this operation.

In no other operation can one study the effects of spraying as he can in thinning. Picking is a good time but many of the wormy, scabby, and deformed fruits would have fallen off by that time. At thinning time they are mostly there and the memory of how and when the tree was sprayed is also fresh in mind and this can be coupled with the condi-

tion of the apples. Then, too, one does not feel too rushed and tired at this time to take notice and couple cause and effect, but at picking time the hands and mind are busy securing the crop and packing and disposing of it and little thought may be taken as to the cause of perfect or imperfect apples.

Among the observations we made during thinning, were these:

1. Trees that were not sprayed before the blossoming period have far more scabby fruit than those so sprayed. The more I observe the results of spraying the more I am convinced that good fruit can not be grown on trees addicted to scab unless they are thoroly sprayed shortly before blossoming.

2. The best fruit on very tall trees was not in the top, as would be expected, but down where it got the benefit of the spray. In some of the tallest trees there was little fruit left in the top after thinning while that near the bottom even in the center of the tree was quite perfect.

3. Some trees which stood next to a fence and were sprayed from one side only before blossoming, had very little good fruit on the unsprayed side while the other side was loaded with nearly perfect specimens.

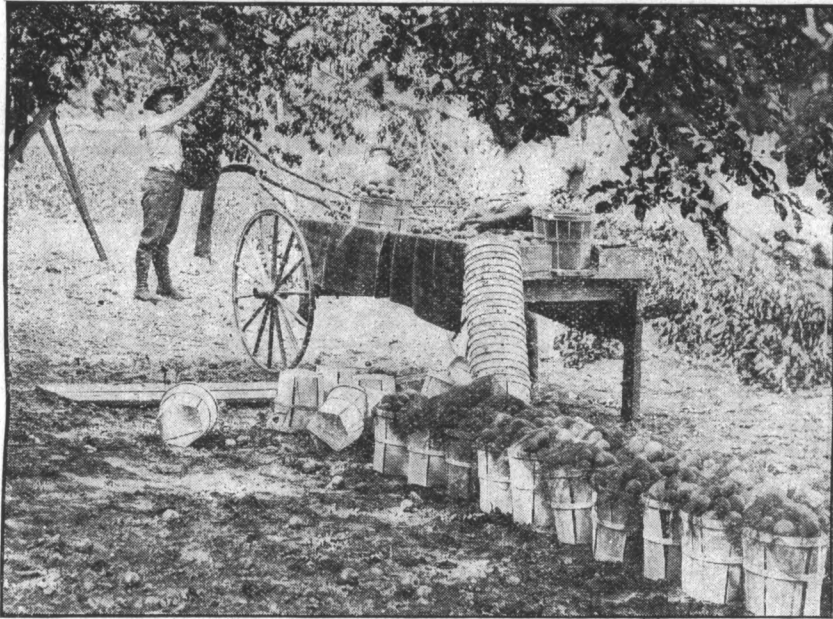
Varieties which are apt to produce two or more fruits in a cluster are most in need of thinning. In most cases one or more of these will be smaller than the other, or inferior in some way and should be snapped off. Astrakhan, Transparent,

where they have grown add something to the humus, and thus managed they give a useful crop with almost no labor except the harvesting.

Some Autumn Crops.

I know of no vegetable grown in the open ground that comes into market earlier in spring than the bunching onions, or one that will bring more money to the square rod. But for best results they should be put in in early autumn. Better results will come from preparing the ground and thoroly working for a few weeks previous to seeding. A good preparation is to fairly load the ground with well rotted manure and plow shallow, not to exceed four or five inches, and after a few days cultivate as deeply as plowed. This will mix the manure thru the soil and bring it where it can be readily utilized by the plants. After cultivation may be more shallow but should be frequent enough to keep the ground fine and mellow and put all germinating weed seed out of business.

The Egyptian perennial, multipliers, sets or ordinary onions may be used for setting, or seed of the ordinary varieties may be sown. If the latter is used, the Prizetaker is one of the best sorts to use. Early September is the best time for putting in the crop so that the plants may be well established before cold weather. Plant or sow in drills sixteen inches apart and keep the ground clean until cold weather, when they should be covered with coarse manure or litter.



Convenient Portable Packing Table.—It is important that no time be wasted in getting picked fruit in storage. Table like above will facilitate the work.

Winter Rambo, and Spy are inclined to produce fruit in clusters. This is not so common on Baldwin, Ben Davis, Russet Greening, or Stark, and these trees will have fewer imperfect specimens if loaded than the varieties first mentioned. This point is worthy of that in selecting varieties for I believe thinning will soon be a common practice and if we can select varieties which are partially self-thinning there will be much labor saved. The Stark seems especially adapted to this. Altho the trees are loaded nearly all the fruits hang separately and are not badly in need of thinning. Tho this apple can not be recommended for quality or color it is very satisfactory to grow, one point in its favor being this even distribution over the tree.

Calhoun Co.

S. B. HARTMAN.

UTILIZING THE POTATO GROUND.

A practice that I have followed with the medium, and even late potato ground with good results, is to sow turnips between the rows. This need not be done until the crop is laid by; and, in fact, may be delayed until early August. Of course, it is not practical where the potatoes are harvested with the machine, but when hand digging is followed it interferes but little with gathering the crop of potatoes.

My practice has been, that after the cultivation of the potatoes was over and whenever I was ready to sow to go thru lightly either with the horse cultivator or with hand wheel hoe, and stir the ground sufficiently for a seed bed, (it requires but little), and scatter the seed thinly between the rows. They will require more or less thinning owing to how thickly the seed is sown, but in good ground they will make a good crop with very little work. I have grown very good crops with no work whatever, except the thinning. This keeps the ground busy until cold weather and the tops left

This will protect the plants during the winter and promote early spring growth.

Spinage.

This is also a valuable autumn crop, either for table use during winter or market purposes, as it may be cut at any time during the season when not too deeply covered with snow. The soil preparation is the same as for the bunching onions, and there is no danger whatever of getting the ground too rich. If a good winter crop is desired the seed should be sown early in September, else it will not get sufficient growth for winter use, but, of course, will continue growing in spring until it begins to go to seed after which it is useless. So, if desired for winter use, no time should be lost after September 1, in sowing the seed. Sow in drills sixteen inches apart or broadcast, which latter will give a larger yield. When cutting for use take the larger plants and the smaller will grow during the early spring. It will require protection during the winter and litter of any kind will answer.

For fall sowing the Savoy Leaved and Prickly Winter are the best sorts to sow. The latter one especially is very hardy and will stand the severest winters with but slight protection.

We call attention to these crops this early in order that the ground may have the best possible preparation and still be in time to get the advantages of early sowing.

Strawberries.

In a general way we do not advocate the fall setting of this crop; but so many neglect the work in spring that we feel like urging a beginning this fall. August is a good time to set them; but it should be done early in the month and the vines will then yield some fruit next year, and anyway, a beginning will be made and we are so much nearer the promised land. Unlike most writers, I do not claim that they are easily grown, for such talk is nonsense. It takes labor,

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Of the pain which many women experience with every month it makes the gentleness and kindness always associated with womanhood seem to be almost a miracle. While in general no woman rebels against what she regards as a natural necessity there is no woman who would not gladly be free from this recurring period of pain.

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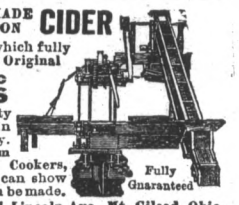
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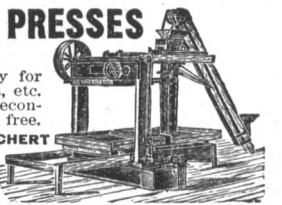


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is the strongest Lime in Ohio, and greatly benefits the soil. Same is put up in packages easy to handle. It is ready for the drill. Experimental Stations advocate its use. Write or wire us for prices for fall seeding. Made only by

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and lots of it, and then some more, to grow good berries, but I do say that few crops grown give more real pleasure or satisfaction than do strawberries. Select the best ground available and use only commercial fertilizer or well rotted stable manure, for there will be weeds enough without mixing any seed in the manure. Do not be afraid of overdosing the ground, but make it rich, set early in the month and set them carefully. Water if necessary, until they get well established and keep them well tended. Protect them thru the winter and with a good start this fall they will give some fruit next year, and so much will be gained. I know of no better sorts for family use than the Starr and Senator Dunlaps. Both are fertile and the former is very early, but a long bearer, while the latter, tho later, will be in time to cause no lap in succession.

Wayne Co.

J. E. MORSE.

SHALL WE EAT MUSHROOMS?

To see delicious morsels of food going to waste on one's lawn or adjacent territory because of some doubt concerning it is tantalizing, to say the least, yet that is exactly the light in which the vegetable called the mushroom is viewed by many who would gladly avail themselves of the opportunity to provide their table with this delicacy.

During the early summer the soil fairly teems with this perishable growth. May and June are the months when mushrooms spring up in a night and lovers of them fare forth armed with baskets which are quickly filled with the spoils. A little later, when the autumn rains come on, other varieties appear.

But for the fact that there are certain toadstools or mushrooms which contain a deadly poison there would undoubtedly be far greater consumption of this fungi than there is. The number of the poisonous varieties is not large, it is stated by authorities upon the subject, yet the fact that there are such deters many people from eating any.

The common puff ball is readily distinguishable and strictly non-poisonous. The small, tan color mushroom which grows in circles and which is called the fairy-ring because of this habit, is also edible. The variety which looks exactly like a small sponge in appearance and in color is another safe one to eat. This has a white stem and is hollow from top to bottom with the inside pure white thruout.

The shaggy mane, another edible variety, has the appearance of goose-eggs standing on end, being similar to these in shape and color. A shaggy fringe of pale brown color appears upon them as they mature.

The ink-caps take their name from the dark inky fluid which forms upon the tops and drips from the sides after maturity. These are edible also.

All the above varieties I have eaten repeatedly. Another, the fungi, which grows upon trunks of trees, a beautiful light pink in color when fresh, I pronounce about the most delectable morsel I ever tasted. All mushrooms should be taken while young. Any that are beginning to show signs of decay or discoloration should be discarded.

But here is a warning to the would-be gatherer. Begin with a single variety selected under the direction of some one who knows it. Avoid the woods or sheltered places for here are usually found the poisonous kinds. Discard any and all which have a bulb at the lower extremity of the stem or a ring around the upper part of the same. These are danger signals.

When all is said about the safety of eating mushrooms even the enthusiastic will admit that an element of danger accompanies the act. Should a single poisonous specimen grow near the edible it might contaminate the latter to the extent of making very ill the eater even tho the death should not result. The wind may carry spores from a poisonous to a non-poisonous variety with fatal effect.

So, while mushrooms are very delicious it is doubtful if it is ever entirely safe to eat them unless propagated artificially and grown where they are entirely safe from contamination.

The method of cooking mushrooms is most simple. They should not be peeled but merely rinsed in clear cold water and thrown into a pan to steam in their own juices for five to ten minutes. Butter is then added to season, with a little salt, and pepper if liked. Serve on strips of buttered toast.

Genesee Co.

E. E. ROCKWOOD.

GRANGE

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

THE JULY PROGRAMS.

State Lecturer's Suggestions for First Meeting.

The Annual School Meeting, (occurs July 12, 1909).—1, duties of members of school boards: (a) itemized reports at school meeting; (b) report of care of school premises and property. 2, duties of school patrons: (a) what taxes must be voted by the people? (b) what repairs or improvements are needed? (c) how may the Patrons assist in making a better school? 3, appointment of school visiting committee (to report in October).

Forage Crops.—1, what crops shall we grow for summer forage? 2, when should a cow have forage to supplement pasture? Lists of 10 handy, but somewhat uncommon, labor-savers in the home, by five women, each to exhibit at least one of the articles named in her list.

Leading Suggestions for Second Meeting.

"Gloomy shadows oft will flit,
If you have the wit and grit
Just to laugh a little bit."

Fifteen minutes singing old and new songs, followed by recitation.

After Local Option, What?—1, the enforcement of local option laws. 2, constructive efforts should follow local option laws. 3, general discussion of "what can the Grange do to institute clean and wholesome social gatherings in this community?"

How I would master my work so as to have some leisure: 1, If I were a man. 2, If I were a woman.

Roll call, responded to by answering the question, "What have I most enjoyed today?"

The Fireless Cooker, with demonstration of how made and used.

ESSENTIALS TO HIGHEST SUCCESS IN COUNTY WORK.

The idea of the mission of the county, or Pomona, Grange as the foster-mother of subordinate Granges is now quite generally accepted as their rule of conduct. The leading of this most essential conception of its province has revolutionized the work in some counties and quickened it in others.

Following a clear vision of the rightful field of a Pomona Grange, it is necessary to grasp certain details of procedure as essential to the successful carrying out of that purpose. After some years of observation and experience in county work, I unhesitatingly hold that the first requisite detail in a successful Pomona Grange plan is locating the time and place of the meetings for six months or a year in advance. Reasons for this are:

1. All the Grange districts of the county are to be tiled and—in view of this fact—the field should be considered as a whole and Pomona visitations adjusted to its needs so far as possible. If the locating of meetings is left wholly to voluntary invitations some parts of the county will likely be visited oftener than others which, in consequence, may be quite neglected.

2. When invitations come before every meeting and are discussed pro and con in regular sessions, time is consumed that is altogether too valuable to be afforded on such details.

3. A neighborhood that knows, months in advance, of the fixed date of a county Grange meeting to be held in its midst can plan accordingly and avoid conflicting attractions.

4. No lecturer can plan as effective programs who does not know from one meeting to another where the next session will be held. Nothing like justice can be done the work from the standpoint of balance and all-roundness for the county and the year.

5. A locating committee, appointed at the annual meeting, can canvass the whole situation thoroughly and render a report that suggests dates and places for the year's meetings. Occasionally unexpected occurrences will make a change necessary, but not often. A much more business-like and comprehensive method of conducting the Pomona and its various departments results from this practice.

JENNIE BUELL.

AMONG THE LIVE GRANGES.

New Hall in Prospect.—East Bay Grange, in the Grand Traverse region, is making progress toward the proposed Grange hall which it hopes to make a reality within twelve months. The Grange held a social on the evening of July 2 for the purpose of aiding the collection of necessary funds.

The Quarterly Program recently issued by Ypsilanti Grange is both neat and simple. It is a four-page folder, with outlines of programs for the present quarter on the inside pages. This form

of advance program is to be commended to all live Granges. Ypsilanti will begin the last quarter of the year with a school meeting on Oct. 2, at which Prof. W. H. French will be one of the speakers.

Wells Grange.—A Grange was organized in Wells township, Delta Co., by Deputy John Wilde, Saturday evening, June 26, with the following officers: Master, August Johnson; overseer, Magnus Monson; lecturer, Melville Larsen; steward, John Johnson; asst. steward, E. Vilmur; lady asst. steward, Maud King; chaplain, Eliza Vilmur; treasurer, Adolph Jorgensen; secretary, Jens Larsen; gatekeeper, Chas. Cody; Ceres, Della Johnson; Pomona, Jeney Jorgensen; Flora, Anna Monson.

Ithaca Grange, of Gratiot Co., has a committee working on a plan to organize a county grain improvement association. At the last June meeting the members discussed the question of which would be the more profitable, intensive farming, such as small fruits, poultry, bees, etc., or the heavier farming, as raising more acreage of grain, corn and hay. This proved a very interesting subject. While many farmers pride themselves in their broad acres, or desire to be the owner of all the land that joins them, the fact seemed to prevail that, owing to the rapidly increasing population, intensive farming by generous use of fertilizers is what we must come to sooner or later. This subject will be taken up again at some future time.

Ypsilanti Patrons Consider School Topic.—The new printed programs for the present quarter's work were distributed to all the members the last week in June and, on July 3, a large company gathered at the home of N. C. Carpenter to carry out the first assignments. Because no instrument belonged to the home, Mr. George Gill had been asked to bring his violin and render solos to intersperse the discussions. A recitation upon the proper way of treating a husband, from a cook's standpoint, was a happy selection by Miss Ida Thumb and well given. Much interest centered in the two main topics, first of which was that of "The Annual School Meeting." This was introduced by Master J. E. Warner, who is a school officer; he said often no other patrons attended the school meeting in his district but left the business entirely to the officers. He considered this unfortunate but that so important a matter should be attended to in a business-like manner, reports of needs and expenses of the district thoroughly understood by the patrons and a livelier part taken in all these affairs. Mr. Eugene Strang was thankful he was not an officer for he found, when he was, that teachers called upon him for trifling things. It was news to him that school boards might designate the courses of studies to be taught and that it would be well if they took a more active part in this direction. Mrs. McDougal told it impossible to have a pure water supply maintained on the school grounds, to which Mr. Gill replied by giving detailed account of how a drive well may be put down and maintained safely at any point. Mr. McDougal stated his belief that all school matters were so prescribed by laws secured by the "school people" that it was well high useless to attend school meetings or to visit school, so far as patrons and parents being able to alter the management of the schools, and he spoke from experience of thirty years as a school officer. Opinions differed widely on nearly all points touched upon and the subject had to be closed with much to be taken up at a later meeting. The master that appointment of a school visiting committee, to report at a fall meeting, a good plan. The second topic, "A Safer and Safer Fourth," brot out the replies that few had given the matter very much careful attention but an expressed satisfaction that more attention is being paid the matter by cities. Several advocated the participation of parents with children in fireworks, and of Granges with other organizations in promoting more patriotic celebrations.—J. B.

MICHIGAN CONTINUES TO LEAD.

The number of Granges organized and reorganized from April 1, 1909, to June 30, 1909, as officially reported by National Secretary Freeman, is as follows:

Organized.

Colorado	4	New Jersey	2
Connecticut	2	New York	2
Illinois	1	Ohio	13
Kansas	3	Oregon	3
Maine	4	Pennsylvania	14
Maryland	4	South Dakota	8
Massachusetts	1	Washington	15
Michigan	19	Total	96
New Hampshire	1		

Re-Organized.

Delaware	1	Pennsylvania	3
Massachusetts	1	Washington	1
New York	1	Total	9

COMING EVENTS.

Pomona Meetings.

Rosford Pomona (Roscommon Co.), at Roscommon, Saturday, July 31.
Gratiot Co., with Elm Hall Grange, Saturday, Aug. 7. Bro. J. C. Ketcham, state speaker.

Charlevoix Co., with Maple Grove Grange, Thursday, Aug. 12.
Emmet Co., with Pickering Lake Grange, Friday, Sept. 24.

Picnics and Rallies.

Ingham Co. Pomona will hold its annual picnic at the Agricultural College, Friday, August 6.

Haring and Selma Granges, of Wexford Co., will hold a rally on Saturday, Aug. 14. State Master Hull, state speaker.

Kent Co. Pomona Grange will hold a farmers' picnic in Byron township, Kent Co., Wednesday, August 25. Fourth and fifth degree session with Carlisle Grange in the evening. Master N. P. Hull, state speaker.

FARMERS' CLUBS

Address all correspondence relative to the organization of new Clubs to Mrs. W. L. Cheney, Mason, Mich.

Associational Motto.—

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

Associational Sentiment.—

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

THE ORGANIZATION OF NEW CLUBS.

There is a too general feeling among the active club members of the state that little can be accomplished in the way of club extension work during the summer season. On this account there is little effort put forth to interest people who do not now belong to a farmers' club in the work at this season of the year. We have always believed this to be a mistake. As noted in a recent issue, a most favorable time for work of this kind is offered thru the annual picnic, when an annual feature event of this kind is held by the club or clubs of any community. That a little work of this kind will accomplish good results in the way of club extension is proven by plenty of examples. The associational secretary has just reported the organization of two new clubs as follows:

East Cambria, Hillsdale Co., organized by E. Z. Nichols; president, Lee Sturdevant; rec. sec., Mrs. John Jennings; cor. sec., Mrs. Elmer Cheney.

Hartland, Livingston Co., organized thru the efforts of Director D. M. Beckwith; president, Heman Clark; rec. sec., Mrs. Will Cullen; cor. sec., Mrs. S. E. Lyons.

A LETTER FROM THE ASSOCIATIONAL SECRETARY.

June 24th, 1909, occurred the regular monthly meeting of the Maple River Farmers' Club at the pleasant home of A. L. Chandler, President of the State Association, in Owosso. It was my privilege and delight to be a guest at this meeting and I found the Maple River Farmers' Club in a flourishing condition. This club has more than an average number of talented members and we were glad to find in the chair a young man, Mr. E. N. Waugh, who knew how to keep things moving and who carried out every item on the program. There was one member, a lone democrat, Mr. Ira Snyder (no politics allowed), who assisted the president when necessary. It is the custom of this club to elect officers semi-annually but usually carry the same officers two terms, or one year, believing that passing the offices around among the different members is a part of the education. Maple River has a limited membership, at first twelve families, but it grew so popular they increased the number to twenty-two families, meaning about 60 members, all that the average house can accommodate. The host and hostess serve the meal, and have a right to invite as many guests as they choose. There are 10 clubs in Shiawassee county, and seven of these were represented at this meeting. There was also a guest from the Troy Farmers' Club, of Oakland county, and the writer from Ingham County Farmers' Club. These clubs are all very much alive, are in good standing with the State Association and we bespeak for Shiawassee county great success along club work. Probably there is no other club in the state that has done as much for the State Association as has the Maple River Farmers' Club. To my knowledge it has furnished four presidents, one secretary, one treasurer, one corresponding secretary and two members of the executive board, and at our last annual meeting one, Mrs. E. J. Cook, was made an honorary member. Many members have acted on the various committees. President Chandler and family were royal entertainers and the train left for Mason all too soon.

MRS. W. L. CHENEY.

CLUB DISCUSSIONS.

Hold Annual Picnic July 28.—The Sherman Farmers' Club met at the home of Mr. and Mrs. Kemperman, June 18, 1909. The club was called to order by our president, Mr. W. E. Carter. The meeting opened with a song, then it was decided to hold the annual picnic July 28, and a committee was appointed; it was decided to hold an old fashioned basket picnic. After the rendering of a fine literary and musical program the invitation of Mr. and Mrs. Cail to hold the

next meeting at their home on July 16, was accepted. After partaking of a good supper by about 50 members and guests, the club adjourned.—L. Kemperman, Cor. Sec.

The Salem Farmers' Club held its June meeting at the home of Mr. and Mrs. F. Lovelace. A good number were present. Well chosen select readings and recitations were rendered. An address by Mr. N. A. Clapp, was enjoyed by all. The speaker reminded us of the wonderful opportunities for education, both for the farmer and his children, which are now wide open to us. While the aim of other nations has been largely conquest and power, the watchword of the American people is, in an increasing degree, progress and education for all the people. The club gave a hearty vote of thanks for the very inspiring address. A letter was read from Rep. Wirt, Newkirk, in favor of good roads. Club adjourned to meet with Mr. and Mrs. Bettys in July.—H. C. T., Cor. Sec.

Waste on the Farm.—The June meeting of the Summit Farmers' Club was held at the summer home of Mr. and Mrs. Odell. The day being unfavorable for farm work gave the club an attendance of nearly seventy. The afternoon session was opened by a discussion of "Waste on the Farm," by B. A. Kennedy. Waste on the farm is a broad question to talk on, so I shall take only one phase of it and call attention to the waste caused by leaving the farming implements unsheltered. Suppose a man buys a new binder or a mower; he uses it during the summer, but during the rest of the year leaves it standing in the open, the ironwork becomes rusted, the woodwork rots and becomes weak, the nuts rust off and the bolts are lost and no amount of oil can make the internal works run smooth. Altogether the machine becomes worthless, for the amount of damage done by the elements is tenfold greater than that done by actual use. It would be far cheaper to borrow the money, if necessary, and put up sheds for the tools than to leave them exposed to the weather. The money would certainly be well invested.

The question was discussed by various members of the club.

Mr. Townley said: "I shall speak of waste of land and time. It has always seemed to me to be a great waste of land in having the orchard planted where you might just as well raise wheat. Were I ever to own a farm, the apple trees would be planted along the roadside and in the fence corners. The roadside might also be used, it makes the best ground for raising potatoes, and a few rows of well cultivated potatoes half a mile long are much pleasanter to view than burdocks, ragweed and other unsightly rubbish. Another waste on the farm is the loss of time. Much time is lost in going to town. Go once in a while, take a big load and you get big returns. But if you spend half or all day, two or three times a week in going to town you get nothing done at home."

Mr. Bagg: "I do not count going to town a loss of time. It is necessary to go to town and it is a change from everyday work."

Mr. McDewitt: "I am undecided whether it would pay to run into debt to build a shelter for farm tools or not."

Mrs. Draper: "There is certainly great waste by leaving tools unsheltered."

The literary program was very entertaining, and the club adjourned to meet the third Thursday in July with Mrs. J. Lee.—Mrs. John Gray, Club Reporter.

The Tramp Question.—The Conway and Handy Union Farmers' Club was very pleasantly entertained at the home of Mr. and Mrs. Henry Benjamin, June 25. The weather was delightful and there was a good attendance of both visitors and members. Meeting was called to order by the president, J. Franks. The club joined in singing America and was led in prayer by the chaplain, G. L. Adams. "The solution of the tramp nuisance" was assigned to O. E. Carr. Said if one could always decide between the worthy and unworthy tramp the solution would be easy. That in villages or larger towns it might be remedied by having a safe place to keep them over night, then give them some work and a breakfast in the morning and not send them out hungry to annoy the citizens. G. L. Adams said he had known a woodyard to be used very effectively. The question was further discussed by W. E. Stowe, Mrs. E. Nichols and others.

Our High School System.—"What are the faults of our high school system today and what can be done to remedy them?" was assigned to Clyde Stowe. Said he used to think they had to study too hard. Now he thought the subjects taught were not practical enough. He would suggest as a remedy such practical subjects as typewriting, manual training, agriculture and domestic science. Warren Holmes led the discussion. That the subjects taught in the high school were chosen with a view to placing it on the college lists rather than for their practical use. He would have the pupil taught the things he would use rather than the ornaments. Mr. Adams thought the object of the high school was to train the mind for any calling, and said we, as a people, were in danger of placing too much emphasis on the merely practical. Mrs. Adams spoke of the added dignity acquired by the high school student. Alta Snyder, of the Owosso schools, said they added manual training and domestic science to their course and considered it a great improvement. She would also banish the "societies" from the high school as she considered it fostered snobishness among the members.

After a discussion of the results attained by the last legislature, in which attention was called to the search and seizure bill and the new school law which was that to be a great improvement, the question box was taken up with the usual interest. The club then adjourned to meet with Mr. and Mrs. G. L. Adams the last Friday in July.—Mrs. O. E. Carr, Cor. Sec.

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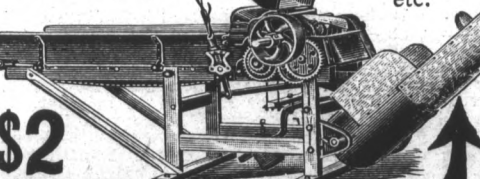
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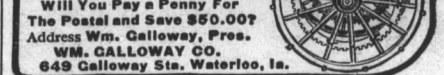
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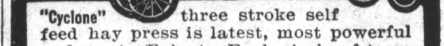
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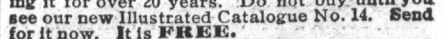
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