

# MICHIGAN FARMER

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## The Evolution of the Silo in America.

WHILE the silo had its origin in Europe, the evolution of the modern silo with which all are so familiar has been a distinctly American process. The first silos were simply deep cellars or pits in which the green corn was packed and weighted down with a covering of boards, straw and earth, or some similar substance to exclude the air and pack the silage together, as was then thought necessary to prevent it from spoiling. But the labor of getting the feed out of these pits was not a task to appeal to American farmers, and had it not been for the improvement of the silo through a natural process of evolution, the silo would not be so common an equipment upon the average farm as it is today, even if the advantages of silage as a succulent winter feed were as well understood and as generally appreciated as they now are.

It is interesting to note that the first introduction of the silo into American agriculture was by a Michigan man, it being said upon good authority that the first silo in America was built in Wayne county, by Dr. Manley Miles, formerly of the Michigan Agricultural College. Notwithstanding that early introduction of the silo into Michigan agriculture, the growth of its popularity was slow for many years. This fact was due partly to a natural conservatism of the farmers with regard to adopting a radically new method of this kind for the storage of valuable feeding stuffs until it had been thoroughly tested out and demonstrated to be an efficient method, but perhaps to an even greater degree to the imperfections and disadvantages of the earlier types of silos with which we are familiar.

The first silos to be constructed after the idea of the pit in the ground was abandoned, were built above ground in the same form as the old pit; that is to say, they were square in shape, generally being constructed of lumber with a double ceiling on the inside to make them as air tight as practicable. They were not as high as those built today, which fact, together with the square shape, prevented the silage from settling as compactly as it does in the modern silo, and notwithstanding the fact that the old method of putting a tight covering over the silage and weighting it down was commonly practiced, the silage did not keep uniformly well and the percentage of failures with the feed were against the rapid introduction of the silo.

So far the evolution and introduction of the silo was due to educators and progressive farmers who were continually looking for some means of increasing the profits from their farms by the introduction of more improved and up-to-date methods. But from this time on the evolution of the silo to its present day perfection was largely the work of enterprising manufacturers rather than of educators and progressive farmers, although the experience of the latter with this most valuable of home-grown winter

feeds was the chief factor in popularizing the silo and stimulating the work of progressive manufacturers and the application of American inventive genius to this problem.

One of the first essentials in the modern development of the silo was the development of machinery by which the corn could be cut and elevated into the silo. With the adoption of the above-ground form of construction, the silage cutter with an elevator attachment was the first development, but the introduction of blower elevators, which facilitated

material available upon the farm and in a crude way as compared with the modern silo of this type. But to the manufacturers belongs the credit for the development of this most popular and useful type of silo to its present day perfection, with many exclusive features of value and of material and workmanship which insure a degree of permanency which, with reasonable care, will extend beyond the life time of the owner.

Silos of more permanent material were also constructed rather early in the evolution of this farm necessity. Silos of

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Another form of permanent construction which found early favor among users of silos was the cement or concrete silo. The principles of cement reinforcement, however, were not sufficiently well understood to give these earlier structures the degree of permanency desired, while the art of waterproofing the porous cement was not generally applied and silage did not keep uniformly well in these structures. Later developments in the evolution of this class of silos are, like those of the stave silos, due largely to the enterprise of manufacturers who have devised adequate methods of reinforcement, the latest development of this type of silo being secured in the plastering of several coats of cement over a superstructure of steel, both inside and outside. This makes a thin concrete silo with steel reinforcement, which will carry the entire load. In this silo the cement plaster is troweled down in such a compact manner as to make it impervious to both air and moisture. This type of silo has the advantage over concrete silos of monolithic construction in that the reinforcement is more ample and evenly distributed, leaving no chance for the silo to crack and settle from the pressure exerted on it from the enormous weight of the silage.

These steel cored silos are a modern development in concrete construction, in which the universally accepted principle of sufficient reinforcement to carry the entire load is followed out; this essential principle in concrete construction being a logical outcome of modern knowledge of the low and unreliable tensile strength of cement, notwithstanding the enormous crushing strain which it will resist.

Other types of silos have been developed, including a metal type, which so far as we know has not been introduced into Michigan, and other types of home-made silos, including the lath and plastered silo, which is perhaps most commonly used of the home-constructed types in Michigan. But so rapid has been the development, and so great the improvement of the manufactured silos, or those for which the material is manufactured by specialists in that line, that, unless there is some special reason for the building of some other type, such as the

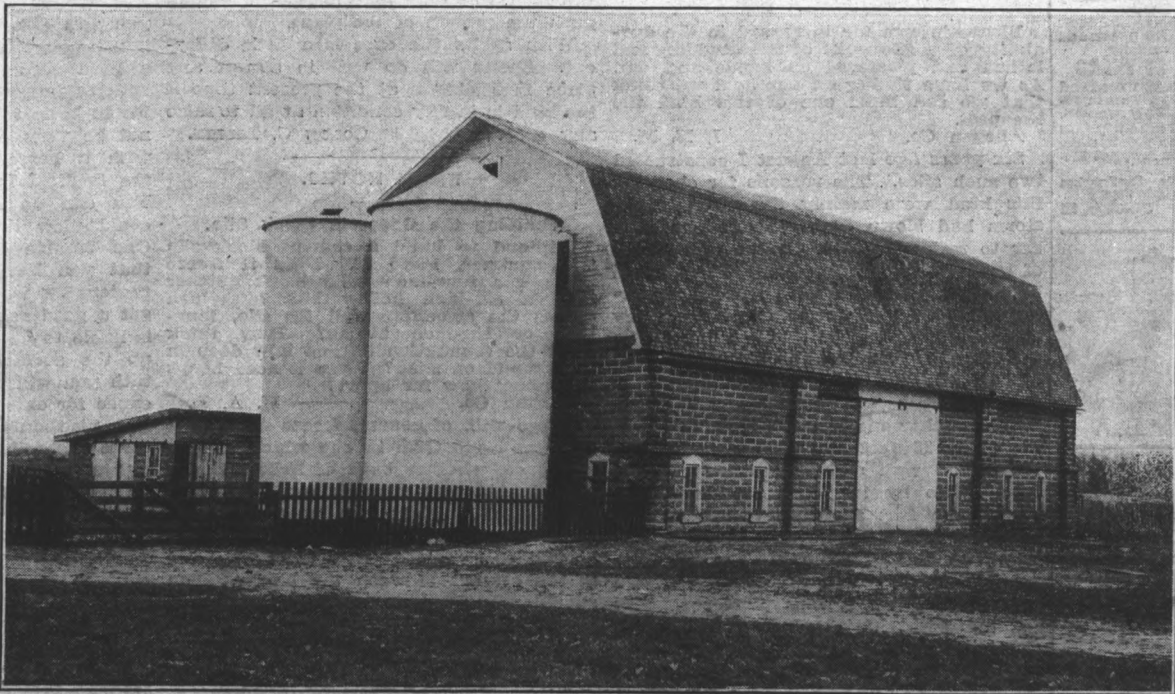


Well Located Stave Silo and New Barn on Farm of C. R. Taylor, Oakland County.

the convenience in filling taller silos, with the simultaneous development of the round type of silos, were factors which may be considered as most important in the evolution of the silo in America.

The first of the round silos were, like the square ones, of home-made construction and generally with the double lining of lumber, but as this form of silo was in reality nothing but a huge tank, manufacturers of wooden tanks soon developed the stave silo. This form of silo was also to some extent built out of ma-

stone and brick, and later of concrete, were built, and where the foundations were adequate and the workmanship good some of these structures gave excellent service. But of modern developments in the use of permanent material for silo building, none is more important than that of the adaptation of vitrified hollow tile to this use. Silos of hollow tile were first built from ordinary building tile and hooped like wooden silos. But here again the manufacturers rose to the occasion and brought out special tile for this pur-



Steel Cored, Cement Plastered Silos and Concrete Block Barn on Farm of Hon. J. N. McBride, Shiawassee Co.



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availability of material for such construction upon the farm, it is very doubtful if it will pay the average farmer to experiment with types of construction with which he is not familiar. At least, before breaking ground for a silo, it would pay every farmer who contemplates the erection of this near necessity of the modern farm, to carefully investigate the advantages offered in these several types of improved silos, of the manufactured kind or kinds for which materials are manufactured by specialists in this line, as to cost and satisfaction in use as well as permanency, and the absence of risk regarding their success.

After such an investigation if economic reasons point to the advisability of erecting a home-made silo, then careful consideration should be given to the type which local conditions suggest should be built, and even though skilled labor may not be necessary to the performance of the greater part of the work, someone who is familiar with the details of construction of the type of silo which is to be built should be employed to superintend the work, to the end that costly mistakes may not be made which will result in a waste of valuable feed as well as the necessity for expensive repairs.

There are, however, certain essentials of silo construction for which the builder must himself provide, the most important of which is the foundation. This should be adequate in any event, and should be preferably of concrete construction with a sufficient depth and width of footing to insure against settling from the weight which will be placed upon it, or heaving from the effect of the frosts getting under it. Also, if good natural drainage is not present the soil about the foundation should be provided with artificial drainage which will insure its permanency and stability.

Considerable attention should also be given to the location of the silo, and to the matter of the size and height of the silo needed and to the availability of needed material, such as gravel and sand in case a silo of the more permanent type is to be erected. There are many factors which enter into the consideration of the silo problem which can be wisely solved only in the light of local conditions, but whether a silo is needed upon the farm or not can no longer be considered to be in the nature of a problem. The solution has long since been found in the great economy of silage, not only for dairy cattle, but for feeding cattle and sheep, and even horses as well. The problem is not, "Do we need a silo or can we afford one upon our farm?" but rather, "Can we afford to longer do without this essential equipment?"

The evolution of the silo has reached a stage where we can make no mistake in our selection, provided our part in the matter of erection is well done. Probably more silos have been erected in Michigan during the last year than in any previous two years, if not more than in the previous decade, and it is certain that the proportion of farmers who come to an appreciation of their need of this farm equipment will increase more rapidly in years to come, until the farm which is not so equipped will be a rare exception. Hence the importance of considering this problem seriously, at once and from every angle.

## DURABILITY OF THE LATH AND PLASTERED SILO.

Please inform me in regard to the durability of a silo built of 2x4 studding and lathed and plastered on inside and out. As we have timber on our land we think that we can build one of this kind the cheapest.

Allegan Co.

I. N. M.

Six years ago last August I constructed two such silos. The reasons for choosing this kind were mainly three: A wind-storm had blown down enough elm timber to make the lath. There was plenty of good gravel on the farm. They could be built at that time with farm help costing less than \$1.00 per day and extra day labor at from \$1.00 to \$1.25 per day. So the cost of materials bought was about \$75 per silo and the labor cost about the same.

Silo number one was 16 1/2 feet in diameter and 35 feet high, with three feet foundation wall and 32 feet superstructure. Two by two inch studding were placed one foot apart on the foundation wall and lathed inside and out with elm lath, two to 20 feet long. The two-inch space between the lath was filled with concrete one to six, then plastered inside and out with cement plaster one to two.

This construction proved to be a failure. The fifth year the silo commenced to crack up and down. Examination

showed the lath to be completely rotten and the studding nearly so. So far we have simply plastered over the cracks on the inside and the silage has kept fairly well. To make it safe it has been necessary to hang old wagon and buggy tires from top to bottom every foot or two around the silo and hoop it from top to bottom with wire fencing; and it should have another coat of plaster on the outside to cover the metallic reinforcement.

Silo number two was 16 1/2 feet in diameter and 40 feet high. The construction was the same as in number one, except that the two-inch air space between the lath was not filled with concrete. So far this silo has kept silage well, and has been satisfactory, except that the outside coat of cement plaster has a tendency to scale off and has had to be patched some. Think it will soon be necessary to cover it with woven wire and another coat of cement plaster on the outside.

Cement plaster seems to make an excellent lining for a silo. The curvature seems to hold it firmly to the lath. The acid in the silage slowly eats the cement plaster, therefore it should receive a coat of cement whitewash about every third year. Cement plaster will scale off the outside of the silo and never should be used unless the wooden laths are first covered with woven wire. We note from the above experience that in the lath and plastered silo an air space is absolutely necessary, and a four-inch space would be better than a two-inch space in my silo. I think if an opening on the outside were left at the bottom and top, so that a current of air would continually pass up between the lath they would last longer. But probably the only absolutely permanent concrete silo is the solid concrete wall with metallic reinforcement; and the only objection I know of would be that in very cold weather the silage would freeze more than in a silo with an air space in the wall.

Oakland Co.

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## SPRING WHEAT AND SPELTZ FOR SOUTHERN MICHIGAN.

I would like to know if speltz and spring wheat can be successfully grown in the southern row of counties in Michigan. How much is sow of each kind of grain per acre, and when should each kind be sown?

St. Joseph Co.

C. W. S.

In early days spring wheat was the only variety grown but later on it didn't seem to do as well as at first. No one seems to be able to give the exact reason. Finally people found out that spring wheat did not do nearly as well as winter wheat, and this seems to be the experience all over the country. When the country is new, when the soil is rich, spring wheat does well, but as the country gets older, as it becomes deficient in vegetable matter and it becomes in such condition that it no longer seems to push crops vigorously, then a slower growing variety of winter wheat takes the place of the spring wheat. This has been the history of wheat all over this country. Spring wheat used to do well in Ohio and Indiana. It gradually worked farther north until finally in Wisconsin and Minnesota and now in the Dakotas and farther north in British Columbia spring wheat is grown, but in the Dakotas it is getting so that winter wheat is gradually taking the place of spring wheat. I see no reason why spring wheat wouldn't do just as well in Michigan as it ever did if the land was only in proper condition to push the growth of the plant.

With speltz the case is a little different. Speltz will do well in almost any place in Michigan at the present time if the land is in any condition at all to raise any crop.

COLON C. LILLIE.

## FARM NOTES.

## Building the Concrete Block Silo.

I intend to build a cement block silo this summer, 10x30 ft. Does it freeze through a four-inch solid block quicker than a six-inch hollow block? Which makes the strongest wall for silo, four-inch or six-inch blocks? How thick must the foundation be and how deep in the ground on sand? Does it need hoops and about how far apart?

Allegan Co.

H. A. L.

Silage will, of course, freeze more in a solid wall silo than in one which has an air space, whether built of hollow blocks or a double wall with air space between. Where solid blocks are used four-inch blocks make a strong wall if properly hooped or reinforced with steel wire laid in the cement between the blocks. You should use about as many hoops as you would in a stave silo, or their equivalent in reinforcement. A six-inch hollow block would not be sufficiently thick for the best results. Where one intends to build

a concrete or concrete block silo it will be found profitable to employ someone to superintend the work who is familiar with this kind of construction, as it is easy to make mistakes which will be difficult and costly to repair.

## Buckwheat as a Crop for Green Manure.

Kindly give me your opinion about sowing buckwheat, to be turned under as a fertilizer. I have been told that potatoes planted in soil which has been renovated by plowing buckwheat under, are sure to be scabby. Can you tell me the reason why I can't raise a good crop of oats? Our soil is a sandy loam. Three years ago I raised 26 bu. of oats per acre and since then I can not raise 10 bu. I have changed seed, thinking the fault lay in that, but it did no good. I also sowed them on good ground. Plowed under a four-year-old meadow, planted to potatoes and the following year to oats, but to no purpose. I sowed two bushels of seed to the acre as do most of my neighbors, excepting one, and he sows one and a quarter to one and a half bushels. Which is the proper amount?

Grand Traverse Co.

J. S.

On land where one cannot be sure of getting a catch of clover, buckwheat makes an excellent catch crop for green manuring purposes. It does not, like clover, add any plant food to the soil which it does not take from it, but it will add considerable vegetable matter and will bring up from the lower strata of the soil some available plant food in the roots. As a beginning on worn land, it is a good crop to use for this purpose. The writer, however, knows nothing with regard to the tendency to promote scab in potatoes.

## Reason for Failure of Oats.

One reason why a sandy soil does not grow oats well is the fact that oats draw very heavily upon the soil for moisture during the period of their rapid growth and the maturing of the grain. When an open soil of this kind becomes depleted in its content of humus it rapidly loses its power to hold moisture and even though there might be plenty of available plant food in the soil the plants cannot use it unless it is in solution and available in the form of soil moisture. The plowing down of leguminous crops and the growing of a short rotation, plowing the clover down the second year, will tend to increase the humus content of the soil. This, in turn, will increase its power to hold moisture or a solution of plant food.

## SEEDING CLOVER WITH PEAS AND OATS.

I have a small field near barn we would like to seed to clover this spring. Would peas and oats be good to sow on it or would it be better to sow to barley? It is corn stubble and in good condition. Have raised peas on it. It is clay loam and tiled. Would rather sow to peas if they will be as good to seed with as barley. Would it be better to plow or disc it, or drag it up?

Branch Co.

S. S. M.

Peas are not a good crop to use as a nurse crop with grass or clover. They not only produce a very dense foliage which shades the ground, especially when they are mixed with oats, they combined make a very dense shade, but the pea vines are weak and are liable to lodge badly, and when they lodge badly they are almost sure to smother out the clover. It would be much better to seed with the oats alone, seeding one bushel of oats to the acre, and leave the peas out. Or barley is even better than oats because barley don't have quite such a dense foliage as oats.

I don't think it is necessary to plow this ground if it is a corn stubble. If you will disc it up or work it up with a spring-tooth harrow so that you have a good seed bed. If the corn stubble bothers you, are in the way and are liable to be in the way in mowing, it would not be very expensive to rake these up with a horse rake and draw them off the field. I have done this many times. You can do it then cheaper than you could plow the ground and then fit it. One trouble in plowing the ground is, that you have got to go to work and thoroughly work it and pack it down to get a good seed bed for grass or oats. It is liable to be too loose. If you can work up the surface soil and get it in good tilth you will have an ideal seed bed because for oats and grass you want it fine and nice on top to a depth of two or three inches and the balance of the soil wants to be compact, otherwise your plants will not get a good root hold.

COLON C. LILLIE.

## ARE YOU A MEMBER?

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### SHOULD DRAIN TILE BE LAID A LITTLE APART AT THE ENDS TO ALLOW WATER TO ENTER.

Thanks for your reply to my question about tile draining in hardpan. I told the neighbor whose drain was not a success on this soil he might bring the tile up to the top, pile some stone around it and drain off the surface water that way, and he thought he would try it, but your way may be better. Please state whether tile should be laid close together, that is, endways, or slightly apart so the water can get in and run off, for it surely cannot penetrate the glazed surface of the tile.

Oceana Co.

J. A. H.

I have been thinking considerable about this drainage proposition ever since I received the first inquiry, and there is no way that I can solve it in my mind. I never saw any ground that you couldn't tile drain if you had an outlet at all, and frankly, I don't believe there is any. I have one field that has a hardpan. You get through that and you get into something like quicksand. Now we have put

so close together but what the water will enter between the tile. Water doesn't run into the tile in a stream. It soaks down into the soil and circulates into the tile slowly. There is plenty of chance for it to get in at the ends of the tile. Water doesn't run through the soil in this way, but it goes down slowly. The tile drain is working practically all the while. One beauty of the tile drain is that it takes off the surplus water, leaves the pores of the soil open and then when rains come these pores can absorb the moisture that comes and then the excess is gradually drained into the tile drains, but it doesn't go in there with a rush. If you leave the tile open at the ends it is liable to fill up. The dirt will come in and clog up your tile drains. It is the wrong thing to do.

COLON C. LILLIE.

### DESTRUCTION OF GROUND MOLES.

Barry County Subscriber's question as to how to get rid of ground moles brings to the minds of the many readers of the Michigan Farmer what a destructive little animal the ground mole is. I would like to ask Mr. Subscriber if he really knows whether ground moles do really eat corn or not. As to fixing up a poison dope for the little destroyers, I believe that is useless. I never have been able to determine whether moles eat corn or not and have about come to believe that they do not. One thing we all do know; take the country over, year after year, they destroy many acres of corn. My experience is that they work worse in a June grass sod than in any other sod. I have seen patches of June grass sod literally chopped to pieces by the moles, and take it after a few days of dry, hot sunshine, the top of the ground would lay up loose and dry as an ash bed. And June grass sod is generally pestered with cutworms. The June grass seems to be food to the worms, and I have about come to believe that the grass and worms are food for the moles, as the grass roots are food for the worms, and the worms are food for the moles. If you turn a lot of hogs into a field of June grass sod and they will completely dig it up, will they not? A thought just strikes me now, although I never have tried the plan, that if any of the readers of The Farmer have a patch of ground that the hogs have been running on for a year and they have been given their liberty, that is, not having rings in their noses, I would like, if they can, to have them fit the ground up for corn and see if they would be pestered with worms.

Now I know of no better way of getting rid of the moles than was given to



Steel Cored Silo in Process of Construction.

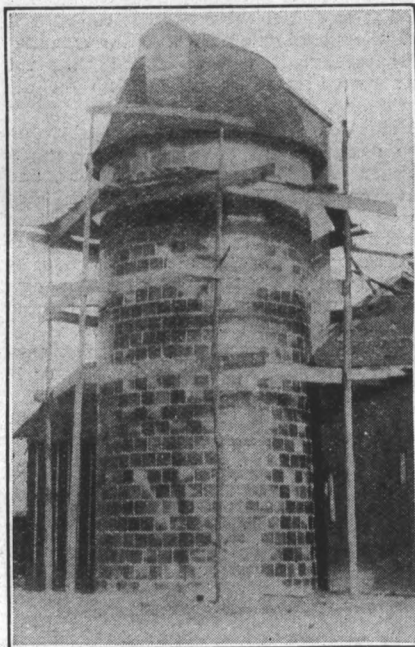
Several coats of tempered cement mortar are plastered on the steel core or reinforcement, which can be seen at the top. The barber pole appearance is due to the different times of plastering and consequent difference in dryness of the strips.

tile drains through that, cutting right through the hardpan and putting in the tile drains, and they work all right. I have laid tile in beds of quicksand on the creek flats many times and we have no trouble. You don't have to put straw or anything else over the ends of the tile to keep the dirt from running in, but you must have a decent fall. If you have got a good fall for your tile when the water enters the tile it washes what little sediment gets in at first down and out of the tile. It goes out in the form of roily water. In a short time the earth becomes packed and channels open through the dirt so that no more runs into the tile and they will last, nobody knows how long, without ever filling up, if they are laid on a true grade.

It would seem to me that the reason why this tile drain did not work in draining the pond is for the same reason that Horace Greeley's ditch wouldn't work. I presume you all remember the story about Horace Greeley, who was very much interested in agriculture. He had a pond that he wanted drained. Someone advised him to get a surveyor to survey it out so that he would know just exactly what he was doing, but he thought there wasn't any use and so he went to work and dug the ditch from the river into the pond, and everything was all right, only when he got through the water ran the wrong way. His pond was lower than the river. Where is the outlet to this man's ditch? If it isn't a good one and if he hasn't sufficient fall, and he has got quicksand to lay it in, his ditch won't work. You have got to get a good outlet, then you must have a decent fall for the tile drain if you want it to work in quicksand. I certainly would not bring the tile up to the surface of the ground and drain off the surface water. That isn't what we have tile drains for. We want the tile drains so that the water will soak down through the soil and into the tile drain that way. It leaves the fertility in the soil. Where you run the water from the surface into a tile drain, why the water isn't strained, as it were, by the soil and we might as well have an open ditch.

### Laying the Tile a Little Apart.

This is the wrong thing to do. Tile want to be laid just as close together as you can get them. You can't get them



Vitrified Hollow Clay Block Silo.

The spotted appearance of this silo is due to the different angles at which the light was reflected from the glazed tile when the photograph was taken. The blocks are of an even brown color and the silo is attractive in appearance.

the subscriber, and that is by trapping. Moles have a runway, and if you have a boy that isn't able to do much, or a girl, and never have tried trapping them, just the very next time you go to town get three or four traps and hunt up the moles' runway. Show the boy or girl how to set the trap and you will soon have Mr. Mole. I know of a man who caught seven in the same runway in one day. I have a runway across the lanes that the moles have used for six consecutive years.

Monroe Co.

J. M. TUTTLE.



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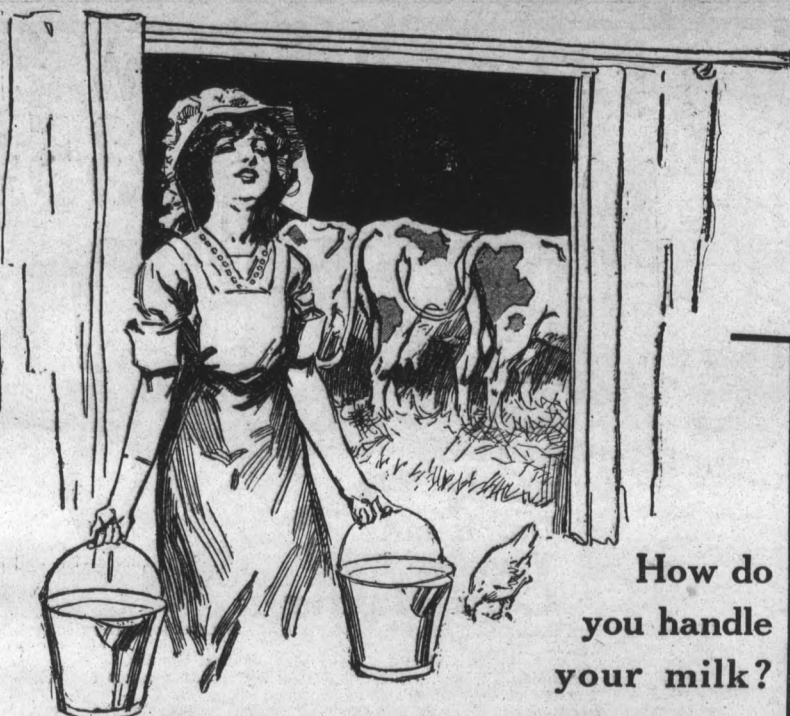
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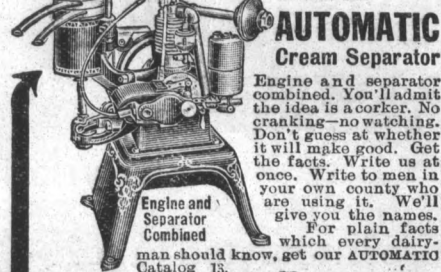
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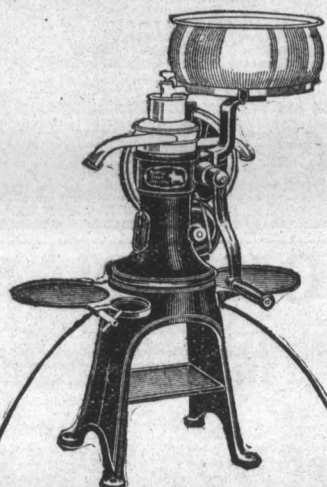
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## Dairy.

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### COW BARN QUESTIONS.

I have your letter of recent date with recommendations for a cow barn. I want to ask a few more questions about the barn. How many feet do you allow between the rows of cows for driving in with the spreader to take out the manure? Also, how wide and deep are the gutters behind the cows? The model cow stall that you speak of, what is it like and how are the cows tied?

Minn.

J. H. S.

The alley or driveway between the two rows of cows in my cow stable is 11 feet. There is a four-foot alley in front of each row of cows on the outside, two feet for the cement manger, then five and a half feet from the front of the manger to the gutter, the gutter is one foot wide. This would make a total of 25 feet. The barn is 36 feet wide, leaving 11 feet between the two gutters for a driveway, and this width answers the purpose very nicely. If one's barn was 38 feet wide instead of 36, two feet more, it would do no harm and it would be a little bit handier in loading, and yet these additional two feet are not necessary.

The gutters are one foot wide and eight inches deep. Some would prefer to have them wider than this and some would prefer to have them deeper. One can suit his own fancy about that. Ours with the model stall gutters are just simply receptacles for holding manure until it is hauled out, because the gutter has nothing to do with the principle of the model stall whatever.

### The Model Stall.

The model stall differs essentially from any other stall so far as I know. It has a manger on the floor made out of cement for the ensilage and grain and then above that manger is a permanent hay manger. Each stall is separated from every other stall so that the cows cannot tramp on the udders or teats of their neighbors. The hay manger is peculiarly constructed. It is narrow at the bottom, only a few inches, and then it is made out of slats slanting back towards the cow at an angle of 45 degrees, coming as high as the top of the manger in the feeding alley, which is four and a half feet. The philosophy of this is that when the cow eats hay she has to stand back in her stall, thus keeping the stall clean. When she is eating her ensilage and grain we notice where she stands with her hind feet and then put a 2x4 up edgewise just across the front of her hind feet, and if the length of the animal and the position of the 2x4 are attended to carefully, it will be found that the manure will not be tracked up on the cow's bed.

Now this is how the stall works out. The cow can eat hay out of the upper manger only when she stands back, and when she lies down she has got to step up and lie on this bed just in front of the 2x4, i. e., between the 2x4 and the cement manger. This space gradually fills up with bedding so that the cow has a bed four inches deep to lie on and keeps her off from the cement floor.

This arrangement is also a great saving of bedding. When you have cows in stanchions the bedding is constantly working out into the gutter. With the model stall the bedding expense can be reduced to a minimum. The cow can be tied in any way that the owner wishes. You can use a halter, or you can use a strap around the neck, or you can use common hitching chains and have them stapled to the sides of the stalls or the front of the stall, or wherever you choose. In fact, you can tie the cow so as to give her all the liberty a cow can have and still keep her confined in the barn and yet she will keep clean because when she lies down she must step up and lie on this platform which is kept clean.

### ARE HOLSTEIN CATTLE EVER RED IN COLOR?

I am writing you for information about Holstein cattle. Are they ever red? I bought two cows last February that were represented to be bred to registered bull. The calves are both red. The cows are black except some white under body and on legs.

Newaygo Co.

E. F. B.

Holstein cattle are spotted, usually black and white. Sometimes, however, they are red and white. I am told there are a number of herds in Holland, the home of these cattle, that are red and white. Even some breeders there prefer red and white to black and white, but

the great majority of Holsteins are black and white. The breeders in this country do not approve of red in the place of black. As a matter of fact, I think that in this country Holsteins that have red on them are not eligible to registration in the herd book. At least, I have been told that. But, of course, this is only a fancy. It simply means that the breeders are trying to eliminate the red color entirely in this country, which is all well enough if they choose to do so, and the only way to stop it would be to put restrictions upon the registration of Holsteins which have red color. Nevertheless if you read and study the history of this breed you will find out that Holsteins have a right to have red once in a while in the place of black, because it was one of the original colors of the breed.

But when you come down to have an animal entirely red or entirely black, I never heard of it, and it certainly would be objectionable, to say the least. You do not say that your cows are registered Holsteins. If they are not, then you may expect almost any kind of color once in a while. If your cows are grade cows and almost entirely black and you breed them to a Holstein bull, even though the bull is pure-bred, your cows of mixed breeding may produce calves that do not have the typical Holstein markings, because if in their ancestors you had red cattle, which would be quite liable, this character would be just as liable to be transmitted as any other character. Possibly not as liable, because the Holsteins are exceedingly well-bred and their characters generally predominate when they are bred to cattle of miscellaneous breeding.

### GRASS TO SEED WITH OATS TO PROVIDE PASTURE AFTER OAT HARVEST.

Will you please advise me as to what kind of grass seed can I sow with oats that will make good pasture for cows after harvest?

St. Joseph Co.

F. T.

One cannot be sure of a good pasture by seeding any kind of grass with oats this spring and then take off a crop of oats. The crop of oats is removed during the dry part of the summer and unless there are very favorable conditions we cannot expect to have very much pasture on that field for that season. Pasture is something that takes quite a little time to become established. However, if the season is favorable one can get considerable feed. There is nothing better than common red clover with rape mixed with it. If common red clover and rape were sown alone on this field this spring without oats one could be sure of a pretty good supply of cow feed late in the season, but, of course, by sowing oats the land is so completely occupied the fore part of the season as to largely use up the moisture and some of the plant food, and then when the dry weather comes and you harvest the oats the other plants have a very poor chance for a vigorous growth unless there is an exceedingly well distributed amount of rainfall. If this is so then the clover and the rape pasture will come on and in some years will make a fine pasture for all kinds of stock in the latter part of the season.

### THE BEST SILO.

Will you kindly advise me in regard to the best kind of silo to erect. I am quite favorably impressed with the looks of the vitrified tile silo.

Shiawassee Co.

A. S. P.

The indestructible silo made out of vitrified hollow clay blocks is undoubtedly a splendid silo. I don't see how it could be bettered. The first cost of it may be more than some other kinds of silos but it will be a permanent investment as long as one cares for a silo. On the other hand, most all silos will last a long time. A good modern stave silo will last longer than the life-time of a man and any of the cement block silos that are plastered on the inside, or the grout silos, or the lath and plastered silo, are also permanent structures and I should let the price settle the kind that I would build, because they are all good.

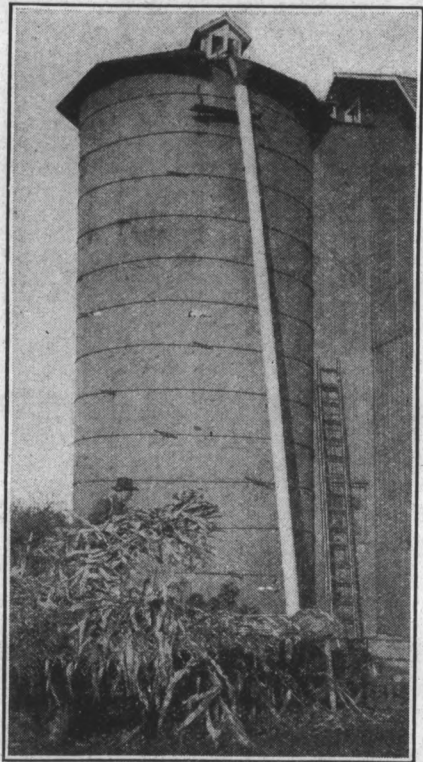
Don't turn the cows out to pasture too early this spring. Wait until the grass gets from four to six inches high. When the grass first begins to grow it is, of course, quite succulent and watery and the cows better be kept off until it makes a good start. Then, again, if you don't pasture the grass too close in the first place, it will last longer in the summer time. There is nothing worse for a pasture than to pasture it too close real early in the spring.



## Summer Feed for Dairy Cows

In Michigan practically every summer has its dry periods of more or less protracted duration. The cows dry up and the milk checks become small. Most dairymen annually resolve that they will provide against these periods in the coming year, but when the drouth appears again they are usually found unprepared, —alas, for the strength of human resolution! A few, however, are profiting by the experience and they have insured themselves against further loss by building and filling a summer silo that they may have ensilage at hand when the pastures fail.

I have about concluded that the summer dairy is a bothersome proposition. There is enough to do on a farm in the summer months without milking a large number of cows after finishing a hard day's work. A further burden is added



Stave Silo on Farm of J. G. Johnson, of Kent County.

An excellent illustration of this popular type of silo, which is perhaps more common than any other in Michigan.

by caring for the calves, which, if born in the spring demand attention from the already overworked farmer.

On the other hand, the winter dairy distributes the work of the dairy farmer to his advantage. In the summer time when his crops need every bit of labor available he is relieved to a large degree of the attention demanded by cows in a full flow of milk. When his crops are cared for the winter dairy furnishes him with an indoor job throughout the cold months and he has time to look after the details of feeding and caring for the cows consistent with the best practices along this line.

While it has not been absolutely proven yet, there is a general opinion that cows which freshen in the fall will give a larger annual output of milk than those freshening in the spring. Those coming in in the fall, if properly fed will give good messes during the winter and then when turned out upon fresh grass in the spring they will be stimulated to continue to do good work until within two or three months of the time to refreshen. Spring freshening cows are frequently checked in their flow of milk by summer droughts after which it is difficult, if not impossible, to bring them back to their normal flow.

Of course, the winter dairy will not be dry in July, but the calves will be out of the way, and the milking will not take so long, and all in all, the work will prove considerably lighter, than it would be if the cows were in full flow of milk, and we had to feed the calves also.

We hardly feel like cutting green feed for a lot of cows after we have finished our day's work in the field, though if we have a quantity of peas and oats near the barn it is not so hard after all. But the peas soon get hard, and if we begin on the fodder corn too soon, it is worth but little as it is largely water until after the ears have formed. We can feed hay but we seldom do this, and, in fact, the most of us allow the cows to pick short grass in the falling pastures, while the milk grows less and less, and we lay our trouble to the flies.

The summer silo is a sure way out. We fill it when the corn is at its best, and so we get the largest possible amount of feed from a given area. The ensilage is succulent, and the cows will eat it with a relish. It is right at the barn where we can get it with the least trouble when we are too busy to go to the field after a soiling crop. There are a good many men with small herds of cows who do not feel able to have two silos, right at the beginning, and there are other men who have silos, but are not as yet, sufficiently convinced of the value of ensilage as a summer feed, to induce them to build others at once.

If every man who has a silo, would put up a little more ensilage than he will need during the winter, and save it until the dry weather comes on, he would be able thus to test the worth of ensilage as a summer feed.

Those who are to erect silos, in the future, should build them high and not too large in diameter. Forty feet is not a bit too high for a silo, and sometimes 50 feet is better. Ensilage spoils much faster in summer than in cold weather, and so the silo designed for summer feeding, should be small in diameter, unless the herd is large. The higher the silo, the more firmly the corn is packed and the better it will keep. A small dairyman with only eight or ten cows, having a silo ten feet in diameter, and 40 or 45 feet high, should have several feet left in the spring, and if he will stop feeding after the grass gets good, and not re-open the silo until pastures are short in July, he will find those few feet of ensilage coming to him just "like money from home." The writer has had the experience, and he knows.

But many of us on small farms, hardly have the requisite corn to fill one silo, and we are wondering where the stuff is to come from to fill two. If we make a wise use of the stable manure, we shall soon grow better corn than we have in the past, and some of us need to grow a larger variety. We should not plant corn that will not ripen in our latitude but we should plant a larger sort than much of the corn that is ordinarily grown in this part of the state.

And then, too, we should plant it quite thick. We are going to get the value of the stalks when we put them in the silo, and so when we plant a large kind of corn, and plant it thick, we shall get an increased tonnage, and preserve the food value it contains.

While we advise a larger corn we must not plant a corn that is too late. Any variety, however, that will get to the state where the ears are well glazed, will answer our purpose.

After feeding ensilage for a summer or two, we shall be able to settle the matter once for all, in favor of the summer silo, and then by planting a large kind of corn, and by making the most of the stable manure, and growing better and better crops in consequence, we shall find a herd of good dairy cows will add greatly to the profits of the farm, and enable us to keep it in much better condition than we could have done had we gone on farming in the ordinary way.

Oceana Co. W. F. TAYLOR.

### SPRING DAIRY REMINDERS.

Don't neglect to plant enough corn for silage purposes this spring so that this fall you can put up a sufficient amount of silage to last your cows the entire year. Plant more than enough to last them through the winter until grass grows next spring. Have a sufficient amount left in the silo so that you can feed them just as soon as the pasture falls in the summer time. Then, if you forget to plant the fodder corn it will make no particular difference. You can't make any better money than to plant a sufficient amount of corn so that you can put up silage enough to last your cows every day in the year when they haven't got good pasture.

Keep the cows in the barn nights until the weather becomes warm and settled. Don't turn them out when the ground is too cold or too damp.

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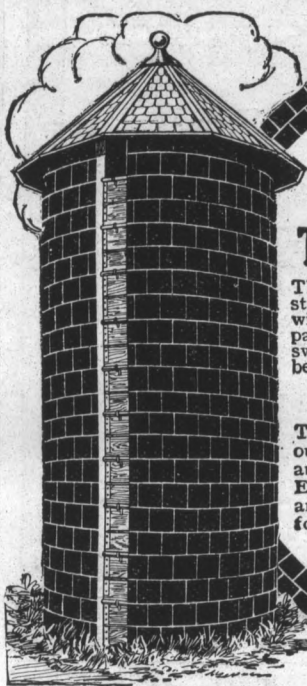
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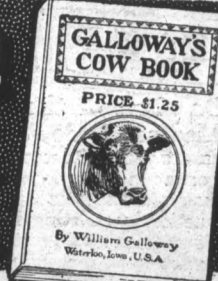
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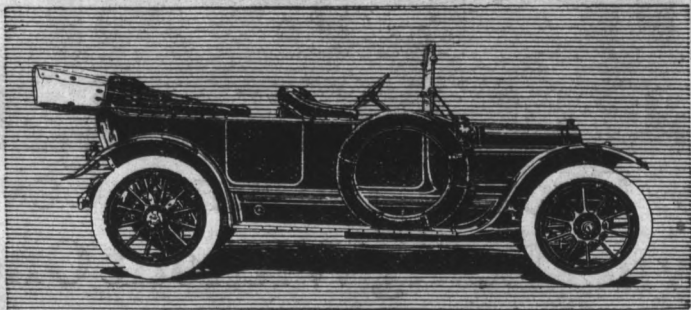


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## Live Stock.

### FEEDERS' PROBLEMS.

#### Cull Beans as a Hog Feed.

I would like to know the feeding value of cull beans and rye for hogs on clover pasture; beans and rye boiled together at the rate of 100 lbs. of beans to one bushel of rye. Or would it be better to have the rye ground?

Isabella Co.

R. D.

Cull beans cannot be figured to have as high a feeding value as corn for pigs on clover pasture, since corn and clover pasture would make a very well balanced ration. The beans will have a larger percentage of protein than corn, but when fed in connection with clover pasture this would not give them an added value, while the cost of cooking must be considered. However, cull beans and rye mixed, as suggested, would make a very good pig feed where the hogs are running on clover pasture. It would be better, in the writer's opinion, to grind the rye and mix the meal with the cooked beans, making a thick slop of same for the hogs. If corn is available it would be a cheaper feed to use than rye in connection with the beans as there is about 10 cents per bushel difference in the market price of these two grains at the present time. However, if the rye must be sold and corn purchased the transaction would consume the most of this difference in price, so it would probably be just as well to feed the rye.

#### Other Grains to Feed with Beans to Hogs.

I have a quantity of cull beans that I want to feed to hogs. What, in your judgment, should be fed with them, in order to make a more balanced ration?

Calhoun Co.

H. B. V.

Something would depend upon the age of the hogs, the cost of beans and the availability of other feeds. Hogs can be fattened successfully on cooked cull beans alone, but at the present price of corn, this grain would, in the writer's opinion, be a valuable addition to the ration and make it more palatable, if not better balanced. For hogs that are well grown and are being fattened, cooked cull beans and corn would make a very satisfactory ration. For younger hogs some middlings would add efficiency to the ration.

#### Succulency in Sow's Ration.

Last week's Farmer reminds us that in feeding a brood sow, volume and succulency is necessary, as well as a proper proportion of food elements. Is volume and succulency obtained by feeding plenty of skim-milk?

SUBSCRIBER.

With regard to the bulk and succulency, I do not think that the skim-milk would answer the purpose. Skim-milk is a splendid food as a part of the ration, but it is an unbalanced ration, being too narrow. Of course, it is bulky but the bulk doesn't last for any considerable length of time. It is like drinking water when we feel hungry. The water fills up and satisfies but only for a short time. And so the brood sow wants some other kind of food containing a certain portion of fiber in it to properly distend the intestines and then a succulent food, like roots, potatoes, green clover, alfalfa or rape, etc., keeps the tract in proper condition. These foods furnish bulk as well as succulency.

#### The Hogpen Problem.

The shed roof and curtain front construction of poultry houses appears to be successful. Would this same system of construction be applicable to hog house construction? My idea is to have enough glass to allow the sunshine to reach the back wall or nearly so, and enough muslin curtained windows to thoroughly ventilate and the general plan of the house such that there would be no drafts.

Kent Co.

D. E. W.

There is no doubt that better ventilation is needed in many hogpens, but, in the writer's opinion, adequate ventilation could better be secured by the use of the King system in the larger pens than by the use of muslin windows, although these would undoubtedly be superior to no ventilation or inadequate ventilation. It is, however, coming to be a more general opinion among hog breeders that the small portable hogpen is better suited to the needs of the average farmer than the larger and more expensive buildings in which many animals are housed. The writer has used a building of this kind in the housing of a litter of fall pigs during the winter with apparently better results than where they were housed in the permanent hogpen. A burlap sack is tacked over the doorway at the top so as to admit air, but exclude the draft, and apparently the pigs have been entirely comfortable. We are

now contemplating the conversion of the permanent hogpen into two good-sized feeding pens or floors, with a view to housing the hogs in conveniently located small lots adjacent in portable hogpens of the A type, built with good tight board floors, and located at some little distance from the feeding pens with the idea of promoting a desirable degree of exercise for the pigs. We have never seen a hogpen built on the plan suggested in this inquiry so cannot speak from experience with regard to its practicality or desirability. If any of our readers have had experience with this type of construction, particularly with the use of muslin covered windows for the hogpen we would be glad to hear from them.

### LEARNING THE CALF TO DRINK.

After the calf has been with the cow two or three days, or until it has become strong, it is best to take it away from the cow and tie it up with a rope three or four feet long. The calf may struggle a little at first, but it will soon get used to being tied and will cease struggling. When the calf has been kept from the cow long enough to become quite hungry, take a clean pail and draw a few quarts of milk from the mother; then step in front of the calf, and after dipping one hand in the milk insert one finger in the calf's mouth and gradually back up until the calf has reached the end of his rope, which will naturally pull his head down so it will be an easy matter for him to follow the finger into the milk in the pail held in front. A few lessons in this way will soon learn almost any calf to drink, at least such has been the experience of the writer. To get astride of the calf and force his head down into the pail is contrary to nature and often results in the loss of much patience and perhaps all the milk.

Ottawa Co.

JOHN JACKSON.

### STEERS NOT DOING WELL.

I would like your opinion on the feeding of 13 head of cattle averaging 850 lbs. They have all they will eat and that is 12 lbs. of corn silage, 1 lb. corn meal on it at each feed twice a day; also corn in bundle and all the clover hay they will eat once a day. Their bowels are quite loose and they do not put on fat or look good. Where is my mistake in feeding, and what feed could I buy that would be better than the meal, as I have to buy it? Would there be such a thing as my silage being too sour, as it was very wet when put in the silo last fall? Silo is cement. Last season I fed the same feeds to my cattle and they did fine and St. Clair Co.

J. P.

Of course, it is practically impossible to give a very satisfactory answer to a condition of this sort when one hasn't an opportunity to study it somewhat in detail. I would venture an opinion, however, that the probability is that the corn silage is not of the best. As J. P. says, the corn was very wet. There wasn't dry weather enough last fall to properly mature corn, anyway. I don't think ensilage is as good this year as it usually is. I am positive that mine is not. And I think this would have something to do with it. Then again, I don't believe that hay, on the average, is as nutritious and as palatable as it is some years, because there was too much moisture last year. I think all of these have a bearing and tend to produce rather unfavorable results in the feeding either of these cattle or dairy cows.

I believe that J. P. would find that he would get better results if he would feed a little cottonseed meal. I don't think he is feeding enough protein in this ration, especially as long as his steers are not eating a very heavy feed of clover hay. Cottonseed meal being rather constipating will tend to correct the looseness of the bowels also, and will furnish protein to help balance up the ration.

COLON C. LILLIE.

### AN INTERESTING ANNOUNCEMENT.

On pages 510 and 511 of this issue we announce that The Michigan Farmer will be sent to January 1, 1914, for only 25 cents. All those who are not present subscribers should avail themselves of this offer at once as the sooner your order reaches us the more you receive for your money. No back numbers will be sent, each subscription will begin when order is received. Also get a few of your neighbors to sign with you.

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1966



## STORY OF THE BREEDS.

## Brown Swiss Cattle.

Will you kindly give me a little information about the Brown Swiss breed of cattle?

Alcona Co.

E. V. W.

The Brown Swiss is one of two distinct breeds of cattle which originated in Switzerland. This breed, the Brown Schwytzer, as they are there known, originated in the Canton of Schwytz but is now common not only throughout Switzerland but has been introduced into many other countries, including the United States. This breed has been refined by centuries of careful and intelligent breeding and is characterized by a uniformity which is the result of a long period of selection. This breed of cattle is in the dual purpose class, being excellent dairy animals and of good size, with fair beef qualities. They stand high in favor in many European countries to which they have been exported, particularly Germany, Russia and Italy.

The first importation of the breed was made into the United States in 1869. Since that date many importations have been made, especially since 1880, in which year

and if he had been fat he would have easily weighed 600 lbs. I understand the flaxseed, ground, is better than the oil-meal but I have never tried it. To my notion, the water, with separated milk, is a great help to the calf's digestive organs.

Leelenau Co.

F. J. B.

## LIVE STOCK NEWS.

Reports from the south regarding the spring crop of lambs in Virginia, Kentucky and Tennessee have been conflicting, some statements being that fewer would be born than usual, but other reports claim that the crop will exceed that of last year. Fortunately for this important industry, favorable weather has prevailed this season, and late reports say that by the time the lambs are ready for the market they are expected to be in excellent killing condition. Marketing is expected to begin during May, and by the first of June the movement should be on a large scale. Predictions have been made recently by well-informed men in the sheep trade that the July and August market for western lambs will be an extremely animated one and that sales will be made at a range of from \$7.50@8.50 per 100 lbs. That sheepmen will make strong efforts to secure as many for feeders as possible may be taken for granted, but the tendency these times is



Brown Swiss Cattle in their Native Country of Switzerland.

the American Swiss Cattle Breeders' Association was formed. They are well distributed throughout the country, although not as numerous as individuals of the special purpose dairy breeds.

As above noted, they are in the dual purpose class, of medium to rather large size, the standard weight of cows of this breed in Switzerland being put at 1,200 to 1,300 pounds each. They average well in dairy quality and are fair beef producers, although not noted for early maturing qualities. They are good grazers, and, in fact, are excellent general purpose cattle, which fact has contributed to their popularity in sections where they are most numerous. Their weakest point may be considered a tendency toward coarseness, especially of bone, although many individuals show much quality. As compared with Shorthorns they are less valuable as beef producers, but more uniformly good milkers. Thus in their class as dual purpose cattle, they may be considered relatively strong in average dairy quality as compared with this best known of general purpose breeds, but not as valuable from the standpoint of beef production.

## RAISING CALVES ON SEPARATOR MILK.

I have noticed a great many inquiries in the Michigan Farmer of late regarding raising calves on separator milk, so I thought I would give my experience in raising a grade Durham calf on separated milk.

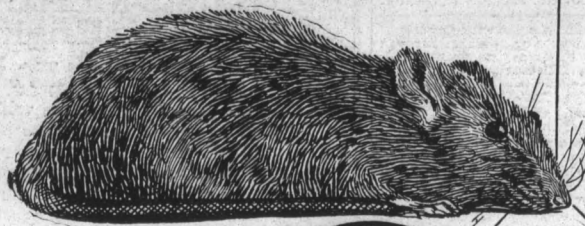
I fed this calf four quarts of fresh milk twice a day for the first two weeks, then I gave him two quarts of fresh milk and three quarts of separated milk, with about a dessertspoonful of oil meal (cooked to a jelly) twice a day for three weeks. From then on till he was five months old, I gave him five quarts of separated milk and one quart of water, and gradually increased the oil meal until he was getting three tablespoonfuls twice daily. He had good grass until he was five months old. When I put him on winter feed, I gave him a quart of ground feed, the same as was given milch cows, twice a day, and what mixed hay and corn fodder he would eat clean. When this calf was a couple of days less than nine months old he weighed 525 lbs.

Warm, spring weather has put in an appearance, and this should serve to remind stockmen that as the season advances the demand for heavy cuts of beef will naturally become smaller than ever. Warm weather always creates a smaller demand for heavy beef, the average consumer turning to the lighter cuts, and this year such discrimination may be expected to be even more than ordinarily, because of the unusual dearthness of all descriptions of beef. Hence, stockmen should market their heavy cattle at their earliest convenience, retaining only immature stock requiring a longer period for fattening.

President A. L. McFaddin of the Texas Cattle Raisers' Association, stated recently that there are in Argentina 29,000,000 head of cattle and in Brazil 25,000,000. American packers have in Buenos Aires seven large killing plants with a killing capacity of 7,800 steers daily, or 2,340,000 head annually. This applies only to dressed beef, the canners being in addition. He added that the packers of the United States have encouraged the cattle industry in Argentina and other South American countries, the duty placed by this country on foreign meat being one and a half cents per pound.

## IMMEDIATE ACTION IS BEST.

Turn to pages 510 and 511, read the announcement there and act at once.



This rat destroyed over one dollar's worth of property last year. Every other member of his tribe did as well. How much disease they spread no one can tell.

The farmer is one of the worst sufferers from their depredations. They make his corn crib their headquarters; they burrow through his silage and ruin it; they gnaw through the floors of his barn, granary and poultry house; they hide under his board walks or wooden floors or in his cellar.

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# Poultry and Bees.

## NATURAL INCUBATION.

At this time nine out of every ten farmers are interested in the above subject. Although incubators have come into general use, I think there are more chickens hatched on the farm by natural means than by artificial, and farmers' wives are putting as much thought into the above subject, at this time, as into any other. Now is the time to renew the flock, and upon this depends the success or failure of your season's chicken business. Half of the flock should be renewed each year, and the most of these should be hatched early, because only early-hatched pullets can be depended upon for profitable winter laying.

The following notes have been gathered after 12 years of experience in the poultry business, during each of which years I have raised and hatched some chicks in the natural way. I am practicing both the natural and the artificial method, and of the two much prefer the latter, yet under some conditions the former is advisable. I am of the opinion that naturally hatched chicks are a little stronger and easier to raise, yet the labor problem is more than three times as great.

From your best pen or best individuals select such eggs as are of medium size, are clean, fresh and without cracks. Discard eggs of odd shapes and sizes. Do not set eggs from your entire flock, only from the selected best, because at this time of the year your poorest specimens may be laying the best. The eggs selected must be kept out of drafts to prevent evaporation, and, if kept for any length of time, should be turned daily. I never set eggs that are older than ten days, and a week is still better.

I use both barrels and boxes for making suitable nests. All that is necessary is a receptacle of the proper dimensions and with low sides, to afford ventilation and prevent the hen breaking the eggs when entering the nest. A common barrel, with one end cut out, laid on its side and filled with cut straw to the proper depth is about as cheap and good a nest arrangement as you can get.

Place the nests in a cool, dry, well-ventilated room, well away from the other poultry and all chances of disturbance. Saturate the interior of the box or barrel with some lice paint, disinfectant or coal oil.

Place two inches of loose dry earth in the bottom and form the nest proper of chaff or cut straw on top of the earth, making a little hollow to prevent the eggs from rolling outward and getting chilled.

I take the broody hen from the nest she is occupying in the evening, handling her carefully, and dusting her with a good reliable lice powder. Exercise care not to use too much of this powder, because if you do, you are apt to drive broodiness and lice from her at the same time. The following is the lice powder made and used by the Cornell experiment station, which I have been using for several years with exceptionally satisfactory results. Spread 2½ lbs. plaster of paris in a shallow pan or tray. Pour ¼ pint of crude carbolic acid into a cup, and into this pour ¾ pint of gasoline. Pour this mixture over the plaster of paris and mix thoroughly. Run through a wire window screen upon a piece of paper. Allow it to stand for 1½ to 2 hours until thoroughly dry. Do not place near a stove but keep the powder in a closed can or jar. Apply by means of an ordinary sifter or with the fingers. Brush it in among the feathers about the vent, fluff and under the wings. A small pinch of the powder is sufficient for one fowl. Broody hens are treated at the beginning of the period of incubation and again, lightly, a few days before the eggs hatch.

For a day I place the hen on dummy eggs and keep her there by means of a box or basket set over her. If on the following day she appears contented I give her the eggs. If early, I never give an average sized hen more than 13 eggs; later on it may be advisable to allow 15 eggs. The more eggs given the more apt she is to break some of them, and to get the contents of the broken eggs over her, the nest and the other eggs. This means a job of cleaning, as it will never do to leave broken eggs in the nest.

The hatching room should be slightly darkened and provided with plenty of clean, fresh water, small sharp gravel or

grit, whole grain—preferably corn—and a box half full of road dust.

On the seventh day I dust the eggs and remove all infertiles, which show perfectly clear at this time. On the 14th day I test a second time and remove all but the fertile eggs which at this time show about two-thirds dark. All others are dead germs and should be removed. Testing is done by holding the egg between some strong light and the eye. The writer uses sunlight coming through a small hole cut in the window shade on a south window. This beats any patent tester yet invented.

The chicks should begin to chip the shell on the 21st day and should be all out by the end of the 22nd. Do not disturb the hen, save to carefully remove the empty egg shells from time to time to prevent their capping any of the remaining eggs.

The evening of the 23rd day remove all unhatched eggs and egg shells. The next day move the chicks and hen to the place where you intend to keep them. Do not give any food until the evening of the 23rd day, but provide the chicks with grit, charcoal and fresh water. Feed often, but little at a time, of easily digested food, remembering always the danger of overfeeding the little fellows.

New York. **F. W. KAZMEIER.**

## SOME TIMELY "DON'TS" FOR BEE-KEEPERS.

Most bee-keeping articles tell what to do. What not to do is in some cases more important.

First, don't spend either time or money in trying to construct a new form of a hive—not that there are not some faults in nearly all of our standard hives, but let the experienced bee-keeper remedy them if possible.

Don't make your increase too fast. The desire for work bees tempts the inexperienced to divide colonies to that extent that they are almost worthless, either for surplus or to try to winter.

Don't be contented in keeping bees that are not good honey gatherers. This is the principal reason we keep bees, and if they fail to give a good surplus when they should, supersede their queens with some of a good honey-producing strain. Don't allow king birds, skunks, toads and snakes to hang around your apiary. They weaken the working force of every colony.

Don't spend any time worrying over the frequency of poor seasons. Rather, spend time in preparing the bees to make the most they can of any season that comes; then you will be surprised to see how few poor seasons there are.

Don't allow your bees to acquire the habit of robbing. Hundreds of weak colonies are lost annually through the development of this habit which, frequently, is the result of neglect. It is one of the bad features of taking bees out of winter quarters a few at a time. The colonies that are taken out first have their cleansing flight, become well located and in prime condition to attack every colony taken out later. When you find a colony being robbed, even if the trouble has just started, close the entrance and keep it so for several days; then, if they have any brood, set them on top of a strong colony with a queen-excluder between. If they have no brood, but still have a queen, give them a comb containing brood from some other colony.

In putting two colonies together in this way don't disturb either of them any more than you can help, especially the stronger one. If you keep close watch on your apiary, and treat them as described, you can save nearly all of your weak colonies with but little trouble, and at the same time prevent the apiary becoming demoralized, which frequently happens where several weak colonies are being overpowered.

Shiawassee Co. **N. F. GUTE.**

**Remedy for Egg-eating.**—A short time ago a neighbor told me what she had done to remedy this unprofitable habit in hens. She said she used bran (or other ground feed) mixed with vinegar, no water being used in the mash. Strangely enough the hens eat it with considerable relish, crowding one another at the trough. The vinegar appears to furnish something they crave.—Harriet.

## Feed Growing Chicks Right

They must be furnished with the right kind of material if they are to make satisfactory growth of muscle, bone and feather. Profit lies in quick growth and early maturity. Rush those cockerels to marketable size and turn them into cash before prices fall. Get the pullets completely developed and ready to fill the nests with fall and winter eggs.

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contains just the necessary ingredients to give them during the first three weeks the best possible start, at a cost of 1c per chick. In boxes and bags, 25c, 50c, \$1 up. After the third week mix

**pratts' Poultry Regulator**

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Our products are sold by dealers everywhere, or **PRATT FOOD COMPANY** Philadelphia Chicago

## WHY INCUBATOR CHICKS DIE

The book entitled, *The History of White Diarrhoea, or why incubator chicks die*, will be sent absolutely free by return mail, to any one sending us the names of 7 to 10 of their friends that use incubators. This book can save you \$100 this summer. It describes white diarrhoea or bowel trouble. The cause and tells of a cure. **BOOK ABSOLUTELY FREE FOR THE NAMES.**

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# JOHN DEERE IMPLEMENTS



## John Deere Wagons

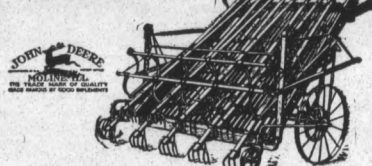
No other implement on the farm is used as much as the wagon. Nothing is more abused. Consequently the wagon should have the quality to withstand this usage.

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## Dain Hay Tools



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## Dain Hay Loader and Side Delivery Rake

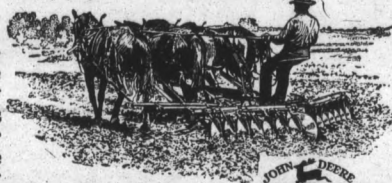
tell you about how to use these tools to handle your hay rapidly and economically. Should you want information about other Dain hay tools, tell us which tool you are interested in. See lower right hand corner of ad. how "to get the books you want."

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Ask to see the Davenport wagon at your John Deere Dealer's.

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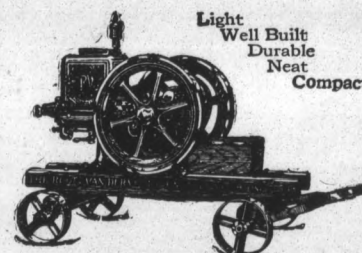
Branches and Dealers Everywhere



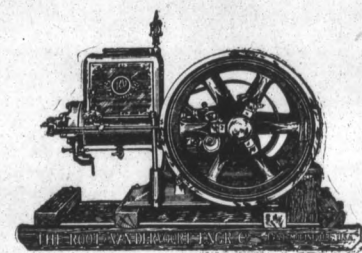
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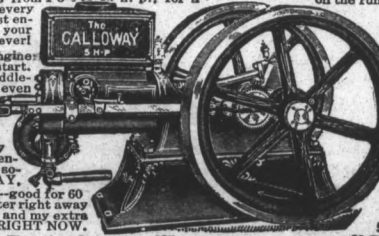
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WE GUARANTEE to stop THE MICHIGAN FARMER immediately upon expiration of time subscribed for, and we will pay all expenses for defending any suit brought against any subscriber to The Michigan Farmer by the publisher of any farm paper, which has been sent after the time ordered has expired, providing due notice is sent to us, before suit is started.

Avoid further trouble by refusing to subscribe for any farm paper which does not print, in each issue, a definite guarantee to stop on expiration of subscription. The Lawrence Publishing Co., Detroit, Mich.

DETROIT, APRIL 19, 1913.

## CURRENT COMMENT.

**Prospective Tariff Legislation.** In the last issue the personnel of the sixty-third Congress, now in special session, was commented upon from the standpoint of political affiliations, with a view to preparing the reader for a more intelligent study and understanding of the trend of proposed tariff legislation which is the immediate program in Congress. As noted in that comment, the democratic party leaders have practically agreed upon proposed tariff schedules which reduce duties all along the line and add many products to the free list, including wool and a number of other products in which Michigan farmers are interested. There is also said to be an agreement by which the present duty on refined sugar will be decreased 25 per cent with a provision that sugar will be automatically placed on the free list within three years. But the exact form in which proposed tariff reductions will be finally presented to Congress cannot be authoritatively stated until the close of the House democratic caucus, which is now in progress.

But, while these schedules cannot be discussed in detail until they have been finally formulated, there are certain factors of the proposed tariff legislation which can be intelligently discussed at this time. In the general proposition of revising the tariff downward, the democratic party is carrying out the propaganda with which it went to the people in the election of last fall. On this ground there is probably little, if any, occasion for excitement or apprehension on the part of the interests which are affected. Conditions are different at this time than they were at the time the McKinley tariff bill was enacted, of which the present law is only a slight modification. And even in the marked reductions of the schedules which are proposed by the democratic leaders the principle of protection is still applied, even though the schedules may not be arranged with that intention.

With the proposed free list, however, the case is entirely different. Take the matter of wool for instance. On this proposition the democratic party is, by its record, committed to a tariff on raw wool. Twice during the last Congress the democratic leaders prepared and passed through the House a bill providing for a 20 per cent duty upon raw wool and in conference agreed to the increase demanded by the Senate as incorporated in the bill which President Taft vetoed. At this time the leaders stated that this amount of tariff represented the amount of the difference between the cost of production at home and abroad, taking issue with the tariff board on the amount of this difference, rather than upon its existence. The fact that it was upon this record that they went before the voters in the last campaign will make it more difficult to secure the necessary

votes to pass the free wool clause in the Senate, although it is stated that an agreement was reached between members of the Senate committee and the President at a recent conference, and it may be equally necessary to make a concession on the wool schedule as has already been done upon the sugar schedule in which some southern states are directly interested.

The same thing might be said with regard to some of the other articles which have been placed upon the free list, a number of which will directly effect the farmers of Michigan, at least in some seasons. But while the proposed tariff legislation will be made a party matter, the members of the two houses from the various states may be depended upon to look after the interests of their own constituencies as far as possible. Hence, this legislation, like other contemplated legislation, will be a matter of compromise among the various active factors, with political and business considerations somewhat mixed. The Michigan legislature has memorialized the President against free wool and doubtless the organized wool producers will also protest. But there is little that the individual can do except to study the problem carefully and adjust his business to the resulting action when the time arrives for such adjustment. In such an adjustment there may be compensating advantages in the increased purchasing power of the farmer's dollar, as claimed by the advocates of tariff reduction.

**Co-operation a Kind of Education.**

Of all the many obstacles blocking the way to successful co-operation, lack of education is the most prohibitive. The ignorant, the selfish and the thriftless of our state and country will not be tempted to undertake a co-operative scheme, nor would they find themselves competent to handle such an enterprise if attempted. It is the thoughtful, intelligent class who have the courage to bury selfish desires, shoulder responsibility and launch out in such an undertaking. A prominent educator has said that "Co-operation is a form of moral education," and the history of efforts to organize groups into mutual associations of an economic character, as well as of those that have been successfully managed, has pointed precisely to the importance of such a moral training. In the Farm Commerce department of this issue appears an article on a co-operative laundry that was organized and put on a business footing without the usual trouble of pleading, and bribing and threatening, simply because those approached had been actively connected with a co-operative creamery for a score of years previous; they were trained to work together and they knew how much more efficient their efforts were when organized. Although there is a growing appreciation among the rank and file of our civilization of the advantages offered by co-operation, the fact remains that a vast amount of educating must be done before any large portion of the possibilities of this form of organization can be enjoyed.

**In the Field of Agriculture.**

The great development of agriculture which has occurred during recent years has made it imperative for the farmer who would keep pace with the industry to avail himself of every opportunity to gain information upon any phase of the complex business in which he is engaged. Of all the various means to this end of which every farmer may avail himself his agricultural paper is the cheapest, and is one which no farmer can afford to neglect. Through that medium the reader will not only get the valuable opinions of specialists along every line of agricultural effort, but will also secure an even greater benefit through the exchange of ideas by practical farmers who are engaged in the various branches of agriculture in a general way, without making a leading specialty of any one line.

In view of the fact that this issue will be sent to a considerable number of Michigan farmers who are not now readers of their home farm papers, we trust that the regular readers will pardon a reference to some of the more recent efforts which we have made toward the improvement of the Michigan Farmer along these lines.

Last year we brought out a new development in agricultural journalism by establishing a Practical Science department, thus providing for a weekly discussion of the more purely scientific phases of the problems of the farm and the farm home. This year we have led in another new development of agricultural journalism in

establishing our new Farm Commerce department, through which the business side of farming, particularly that phase of it which pertains to the marketing of farm products will be discussed from week to week with a particular view to encouraging the adoption of better marketing methods and the development of organized marketing among the farmers of the state. In developing these new phases in agricultural journalism, we have, however, not minimized the importance of other departments, but have sought to make constant improvement in their character as well.

Progress is our motto, as it should be the motto of every Michigan farmer, and as a means of insuring that we may work together with a still larger proportion of the farmers of Michigan for the betterment of Michigan agriculture, we have not only sought to make every possible improvement in the character of this publication, but have at the same time cut the former subscription price in half. Having thus met the farmers to whom this issue will go, who are not now regular readers of the paper, more than half way, may we not hope that a large majority of them will determine to join the Michigan Farmer family in order that we may all work together for the further betterment of Michigan agriculture.

**The Marketing Problem.**

In another column will be found a brief report of the conference on marketing and farm credits held in Chicago last week. While no new ideas were brought out at this conference, it will perhaps serve to bring various interests together which have been working independently along similar lines and toward the same end. These same facts and phases of the marketing problem have been repeatedly discussed in our editorial columns and later through our Farm Commerce department, which was established with the view of promoting the solution of this problem of business farming.

There is plenty of room for effective work by every person or organization interested in the betterment of American agriculture. We are proud to count the Michigan Farmer among the pioneers in this kind of work and gratified at the general interest which is being taken at the present time which speaks well for not only the ultimate, but early solution of this vexed problem.

## HAPPENINGS OF THE WEEK.

## National.

The Ohio legislature has passed a bill that provides for pensioning mothers. Destitute widows, women whose husbands are completely disabled, have deserted them, or are serving prison sentences, are to be cared for under the provisions of the measure. Juvenile courts are authorized to pay such mothers \$15 per month for a child and seven dollars a month more for each additional child. An annual tax of one-tenth of a mill is planned to furnish funds to supply the pension allowances.

The amount of water flowing through the channel of the Mississippi is perhaps as great as that of any previous flood known in its history. While there is considerable distress, the loss is largely confined to property, the precautions taken by authorities under the supervision of the federal government having enabled people living in dangerous places to escape to high ground.

Two persons were seriously injured in a wreck near Cadillac, Sunday, when a southbound passenger train was derailed by the teetering of the tender.

An exciting contest is on between candidates for the presidency of the organization known as the Daughters of the American Revolution in national session at Washington. There are three candidates who are actively campaigning for the position.

The federal government suffered a defeat by a jury sitting in Chicago returning a verdict in favor of the defendants charged with obtaining \$10,000,000 worth of Alaskan coal lands by the use of dum-dum bullets. It is the opinion that the government's conservative program regarding Alaska will be disturbed by the verdict of the jury.

The strike of workers in the rubber factories at Akron, Ohio, is at an end, and the Goodyear Tire & Rubber Company, with labor matters settled, declare that they will be able to fill all orders promptly. No concessions were granted the men by the employers.

## Foreign.

The health of Pope Pius X is critical, according to reports from Rome. On Sunday there was improvement but his medical attendants are still very anxious over his condition.

The Huerta government of Mexico confesses that the present financial status of that country is weakened by the attitude of the United States in refusing to recognize the new organization. The ministers have sought loans from abroad but they have been unable to effect same because of a lack of credit, a matter which it is claimed would be overcome should recognition at Washington be made. The growing strength of the rebels in the northern states is giving the new government further alarm since the

support of armies in the field is rapidly exhausting the treasury of the republic.

Several bills have been introduced into Congress to make the Sherman law a more effective weapon for destroying trusts and combines.

An attempt was made on the life of King Alfonso of Spain, Sunday, as he was riding through the streets of Madrid. The monarch was at the head of a parade when the would-be assassin emerged from among the spectators, grabbed the King's horse by the reins and fired three times, but all bullets went amiss and the ruler escaped unharm. The criminal declared he was out to avenge the life of Ferrer, who for political reasons was put to death a few years ago. This being the fifth time that Alfonso has baffled those who would take his life, the subjects are now beginning to believe that he is a charmed being.

Seven persons are dead and 15 injured as the result of a derailment on a branch of the Central Vermont Railway near St. Lambert, Canada. The accident was supposed to have been due to the spreading of rails.

The congress of San Domingo convened on April 13 and chose Jose Borda Valdez president of the republic to succeed Archbishop Nouel who, because of ill-health has been compelled to leave the island for Europe in search of treatment. The government must call a general election within a year to elect a new executive.

On Monday of this week there began in Belgium a unique fight for the expansion of political liberty. The socialists have organized thousands of workmen, and they are quitting work to the numbers of from 300,000 to 500,000, hoping thereby to compel the government to extend to them full rights of franchise. While the government has taken the precaution to have in readiness all available troops, the men who have quit work declare there is no danger of rioting and that no one will be molested, but that they have determined to refrain from productive employment until their demand is granted.

Only a part of the demands of the allies who have submitted the conditions upon which they will settle matters with Turkey to representatives of the powers will be allowed by the representatives, according to advices received here. The powers do not feel that they can dispose of the Aegean islands in toto to the allies, and that the solution of all financial matters must come before a special committee sitting at Paris before whom agents of the belligerents may appear to present their claims for indemnities.

**NATIONAL CONFERENCE ON MARKETING AND FARM CREDITS.**

The first national conference on marketing and farm credits was held in Chicago, April 8-10. Two days were devoted to discussing problems of marketing and distributing farm products and one day to farm credits. Four hundred and fifteen delegates registered, representing 34 states and four provinces of Canada.

Editors of agricultural papers, bankers, college professors, farmers, commission men, congressmen, state legislators and the professional crank with an ax to grind made up the audience. As was to be expected, the discussions represented many different points of view. It was, however, agreed that present methods of marketing and distributing farm products are wasteful and the road between producer and consumer is too long and circuitous.

Some of the suggestions for improving conditions were the co-operation of producers for selling and the co-operation of consumers in the city for buying; the provision of better and more prompt shipping facilities by the railroads and better market roads in the country.

The conference adopted resolutions on farm finance, urging a reform in our general currency system, and asking that provision be made for "the wide circulation of the notes and papers of farmers, merchants, manufacturers and business men generally through proper discount and rediscount systems." Also, that state and federal legislation be provided for the organization and supervision of co-operative credit and land mortgage banking associations to provide short and long time loans.

The establishment of a bureau of markets in the United States Department of Agriculture by the last Congress was heartily commended by the conference. Agricultural colleges were asked to give more attention to the teaching of the business side of farming and to establish bureaus of exchange as a medium of bringing buyers and sellers together.

It was voted to hold another conference at Chicago in April, 1914.

The proceedings of this year's conference are to be printed in book form and given wide distribution. The real value of the conference was largely in focusing the attention of the public on the economic problems of agriculture that are fundamental to the public welfare. It sets men to thinking about them and will hasten their solution.

E. M. Tousley, of Minneapolis, emphasized the great need of standardization of products for marketing in order to affect wise, judicious and profitable distribution. Such will enable the producer to know the real value of his product and the consumer will know just what he is buying.

Chas. Vnn Hise, president of the University of Wisconsin, advocated co-operative selling agencies to secure the division of the markets of the country so as to avoid cross freights, secure reasonable transportation and the maintenance of prices.

The mission of the agricultural college is not only to enable the farmer to raise better crops but to enable him to net more on the crops raised, said Sidney E. Mezes, of the University of Texas. Work in agricultural economics must have greater emphasis and a place in every agricultural curriculum.

(Continued on page 501).



# 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

## Whence Come the Gypsies with the Springtime

By FELIX J. KOCH.

SPRINGTIME brings, each year, the gypsies. When, in the words of the poet,

"Under my window springtime sings," then watch out for the long caravan of gaily-hued wagons filing out the suburban highway to some convenient campground near the river; watch out for the dark-skinned woman who comes to the back door, presumably to tell fortunes, but, more probably, to pilfer stray spoons or other utensils; watch out for your hen-roost; time was when one would have told you to watch out for your children, though today kidnapping is almost passe with the gypsies; but, above all else, watch out for spring—for spring and the gypsies go hand in hand.

Whence come the gypsies? Oh, yes, your particular visitors, if you live in Philadelphia, will tell you they camped

is found. In the fourteenth century, gypsy bands traversed the Balkans, and by 1417 were established over Hungary and Transylvania. Despised by the peoples among whom they came for the simple life they observed, they took refuge behind delusions and claimed descent from ancient kings, though today these fables are scouted by those few who settled down to spending at least a year in one place.

Gypsydom, however, is to be found today at its best in Hungary; at its worst, its most pitiable misery, in the heart of Roumania, where Romany is most numerous.

A gypsy town in Carmen Sylva's land is different from any other town in Europe. There is no semblance of city gov-

ernment, no hotel or even inn, in fact, no place where even the plainest provisions may be purchased. One rides out from the nearest peasant village into the flats, where only an occasional wicker fence, such as the gypsies are so clever at weaving, stretches off to mark a neighbor's fields; or one of the homes of wattle, coated with blue-painted adobe, or some of the long caravans of ox teams plodding marketward break the monotony of the farm-land. Then the gypsy town, the home of some 20 to 24 families most closely interwoven, is sighted. No settlement, as we'd think of it, is in sight—only little hillocks, three or four feet high, upon which the sod seems to grow greener than elsewhere, possibly because not so frequently walked over, and with a dog—half-breed of wolves—snarling at its litter on the mound. There is but one thing to indicate the proximity of a human settlement, and that is the children. Long before the first

gypsy boys and girls, slapping their faces and tearing their hair until the tears start in their eyes, in order to evoke our pity, begin following our droshky, begging for a bani or franc. Like the little Dutch boys along the canals to Monnickendam, who follow the tugs, begging, these gypsy little ones also have a set form of cry, far more plaintive and touching to the heart. These children, however, spoil their pleas by overdoing them, causing the visitor to become weary of paying for their self-inflicted pain.

Once ready to dismount at the village itself, the swarm of children is joined by the savage dogs. Between the yelps of these animals and the children's cries all the town is immediately informed of our arrival and from the curious underground homes men, women and babies appear in legions, verily rising from the ground.

The dwellings of gypsydom, in Roumania, are subterranean throughout—narrow little cellars, just under the surface, with the sloping roof of staunch oak timbers covered with a matting of reeds, upon which the soil excavated for the dwellings has been thrown to form a low mound. Occasionally this exterior will be smoothed over and even given a coat of whitewash, but usually it is left as the soil chances to fall. One low door pierces the home, and to it a path is dug through the earth, much as the entries to the snow forts of our own boys and girls at home. In winter, when the deep snows almost block these roads, the gypsy boys tunnel through the ice, perforce, in order that they may quit their dwellings; and it is not an unusual thing for a prowling wolf to fall suddenly through the crust into such arcade.

Semi-occasionally a little portico, where strings of fish from the brook dry in summer, adorns the fore-facade of these homes.

Gypsy life, however, is little concerned with the home. We are back in the age of the nomads, and nomadic to the last degree is the character of such village, fitted for use today and left to the moles and the hungry dogs, without regret, on the morrow. Everyone living out of doors

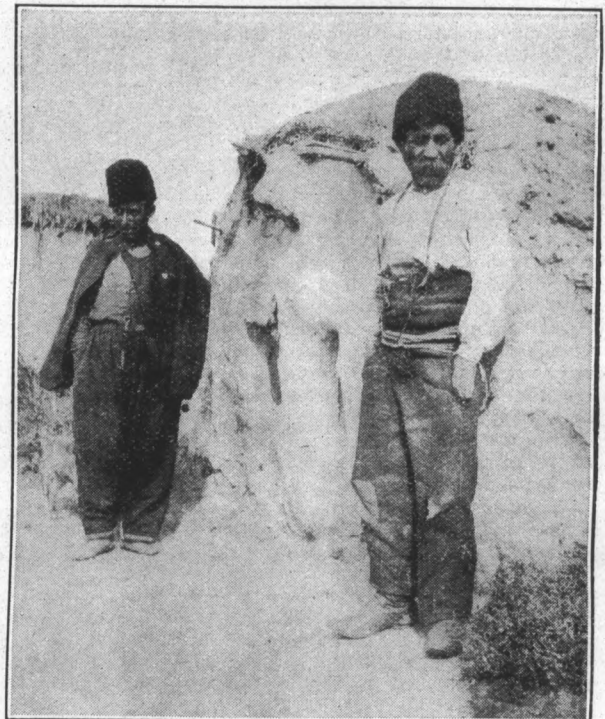


A Home of the Better Class of Gypsies in Hungary.

somewhere beyond Germantown, and if you live in Los Angeles they'll tell you they camped, perhaps, near Sierra Madre. And, before that, they have been on the march, off an on, since last springtime. So, back into their history, year on year, the story is the same. On these marches, or these winter encampments, gypsies are born, grow up, marry, elect their queens and die, and they are buried, often in the nearest country graveyard. But whence, originally, came these gypsies?

The one clue to the origin of this isolated, unlettered race, without tradition and without history, is in the names by which they are called—Roum for man and Romm for wife, and Romain for their musical language. From this slender clue the historians have been able to overthrow the tradition of their Egyptian origin, a tradition so long given credence that some of the gypsies of western Asia and northern Africa themselves have come to believe it. Other ethnologists, however, have gone a step or two farther. Taking the name Zigeuner for their clue, they discover Mesopotamian, Sarcen or even Indian origin, while some of them seem to trace a descent from the tribes that wandered from ancient Egypt. Today the Indian idea seems to meet with most favor among students, although it is agreed that the gypsy must have left the Peninsula before 99 A. D., perhaps in the hordes of Genghis Khan. The conclusions are that he spent some time in Persia, whence one section of the tribe went, via Syria, to Egypt and to northern Africa, while another passed across Asia Minor to Turkey, entering Europe by way of Greece about 1398 when definite mention of a gypsy chieftain in Hellas

ernment, no hotel or even inn, in fact, no place where even the plainest provisions may be purchased. One rides out from the nearest peasant village into the flats, where only an occasional wicker fence, such as the gypsies are so clever at weaving, stretches off to mark a neighbor's fields; or one of the homes of wattle, coated with blue-painted adobe, or some of the long caravans of ox teams plodding marketward break the monotony of the farm-land. Then the gypsy town, the home of some 20 to 24 families most closely interwoven, is sighted. No settlement, as we'd think of it, is in sight—only little hillocks, three or four feet high, upon which the sod seems to grow greener than elsewhere, possibly because not so frequently walked over, and with a dog—half-breed of wolves—snarling at its litter on the mound. There is but one thing to indicate the proximity of a human settlement, and that is the children. Long before the first



The Typical Roumanian Gypsy.

and staying outside to the hour of retiring, the brown-skinned, dark-eyed men and the women and children, happy-go-lucky as the American negro, are ever out in the open, spending their leisure time smoking at the door-side or sauntering, among the dogs and the pigs in the road, down to the edge of the corn fields and meadows that stretch off to all horizons, their undulating waves broken only here and there by the tremendous



Gypsy Children—The Rising Generation of a Roving Unlettered Race.



hay-stacks, for hay in this region is the one great staple and the peasants are forced to gather it all into one large, communal stack, that possible incendiaries may suffer with their victims. Vast patches of red peppers, furnishing the national dish of this region, cabbage fields and tomato patches also encompass gypsy-land. To these, Bulgarians come to work in summer, since irrigation from the Danube has made these lands so fertile. But the gypsies look on and idle.

The roadside, too, swarms with the gypsies. They loiter in the shade of sweet-scented acacias. Though small in stature, the clear-cut, oval features make these folk beautiful to the lover of native types—the black eyes piercing from beneath the wild, black hair, the pearly teeth standing out against the olive and the brown of the complexion, and the slight, dainty hands and unshod feet adding to the picture.

Reticent only as to their origin, which they claim their elders alone know, these people have a certain frankness and kindness that is refreshing to the sojourner among the Balkan folk. Their story, as they tell it, out under the trees, is that of the nomad par excellence.

"We came here from a camp-ground at—and came there from another at—," and so on, so far back as the oldest Roum can remember. "On these stops we were born, we wed, and we will die; and, as were our ancestors, so we will be buried beside the trail. We stop when our leader wills it and build our homes. We work for a year for some landed proprietor, who settles for all of us with the chief, and then we go on, and on, and on!"

Dismounting and approaching the huts, they remind us of nothing so much as the dug-outs of Iceland or the cyclone-cellars of Kansas, save for the little portico which the larger hovels possess, of thatch or reeds cut from governmental preserves on the Danube.

Crossing the slanted earth floor of this veranda, stooping low at the doorway, one passes underground into a dark, foully-aired chamber much the shape of a tent, due to the sloping side walls meeting at an angle overhead and closed off by perpendicular framework behind. The supports to these walls are a dozen or more logs, that protrude like ribs into the interior, over which smaller limbs are laid. The earth, taken out when exhuming the burrow, is thrown over the tops for support. Inside, this soil is smoothed into adobe between the slats, and finally coated with whitewash. An open hearth, where a cat or two lie; a circular table standing six inches from the ground and serving the entire family as these low tables do over the Balkans; what seems a toy chair, but which is the elder's seat at this table, the rest of the family squatting upon the earth, and a chest or two constitute the furnishings of the chamber. Two walls of wattling extend upward from the ground to the slanting roof at right and left, giving the hut a pair of side chambers, intensely dark and cramped, and more fit for wild beasts' lairs than human habitations. In fact, in all Europe, no more abject homes than these miserable gypsy huts are to be found.

Smaller families will utilize one of these two cubbies—they do not rise to dignity of rooms—for barn and stable, where disconsolate geese and chickens mope in the dark, with a miserable cow or hog beneath a single slit of window.

The other wing of the dwelling consists of a similar apartment, though this may be extended a trifle and, when whitewashed and given a window or two, possesses a certain coziness, despite its utter poverty and compression. This is the parlor and living-room of the home, and here the gypsy wife keeps her choicest possessions—another chest, stacked high with blankets, and an earthen stove. Over the latter the gypsy, when at home, is fond of putting, between twirlings of his whiskers, in his picturesque garb of long gingham shirt of blue and white hanging down over white trousers, a brown coat slung over the shoulders and a rude black hat on his head. The young gypsy wife—for they are monogamists, rumors to the contrary notwithstanding—is close beside it, a white kerchief about her head but not over her chin as is the custom with other Roumanian women. A string of coral encircles her neck of bronze—an entail from distant generations—while a waist of white, a skirt of blue, and a brown apron to match her complexion, make her a fit model for the most exacting artist.

The gypsies marry very early, and while the women retain their vivacity and the

sweet kindness which makes the maidens charming, their beauty fades rapidly and one sighs with regret that the hideous old crones who chatter in the musical language of Romany should have come to such a state as we find them.

A gypsy's son, in pajamas of white and wearing the tall alpaca cap of these people, assists his mother in getting dinner. His voice is, by contrast, almost shrill, having not yet attained the melody of the mature adult. A wrinkled old hag,

but with pristine black hair, may also be present, doing her share of the work, for the gypsies attain great age—living in the open, tilling the fields, camping and trekking—and remain robust to the last.

These, then, are the typical gypsies in the traditional home of the gypsy. Whether all the tribes have, at one time, come from here or no is a question. The language would seem to say they did. Other things say they did not. But that's the question for the savant.

## The Heart of a Winnebago.

By Gertrude K. Lambert.

SCHOOL had called at the little log schoolhouse at Sandy Plains. A hymn had been sung; a little verse of poetry, expressing a pleasing sentiment, had been repeated several times by the pupils, led by the teacher, and now the latter, Miss Ida Melbye, a trim, capable looking young woman of twenty-five or thirty, with plain, large-featured face and sincere grey eyes, was passing from desk to desk, giving out lessons, answering questions, advising, reproving, and incidentally getting acquainted with her new charges, for this was "first day of school."

Presently she noticed that the general interest, which had been absorbingly centered upon herself, had abruptly turned toward the door. Glancing that way she was startled to see, framed in the open doorway, against the bright September sunlight outside, the figures of a tall, dark man and an equally dark little girl, who might have alighted there like birds, so noiseless had been their coming. Promptly recovering her self-possession, she greeted them courteously, inviting them to enter. She offered her one chair, which the man accepted, drawing the girl to his side and returning the bold, curious stare of the scholars with a calm, expressionless gaze which seemed to include the entire room.

The teacher, noting something of impertinence and contempt in the childish faces, commanded, with a ring of sharpness in her tone: "Attention to your books, now, children." Waiting a moment to see that her order was obeyed, she turned again to her guests. Both were still contemplating the now busy scholars, with, she fancied, a gleam of satisfaction in their sharp black eyes, and their diverted attention left her free to study them in turn.

They were Indians, of the Winnebago tribe, from the small colony located by the government on a tract of land near by; and, having fulfilled the requirements demanded, were recognized as lawful citizens, and as such were lawful patrons of the school. Both were well and neatly dressed, with only certain characteristic touches of color and ornamentation to distinguish them from their white neighbors. She decided that the man was fine looking, of medium height, slight and sinewy, with small, well formed hands and feet. His black hair was closely trimmed, his face beardless as a woman's, few of his race having any indications of a beard. His features were even and clean cut, his air most serious and dignified.

The girl was very like him, and just escaped being pretty, in that her dark, oval face was slightly heavy at the jaws for her otherwise rather delicate features. Miss Melbye was sufficiently familiar with their race characteristics to recognize in them the pure type of Winnebago, a decision in which she was confirmed when the man turned to her and announced in soft, low, measured voice: "Me Charlie Eagle."

Miss Melbye bowed with all due deference, for the family of Eagle is well known as closely related to that of Thunder, the family name of the legitimate chief of the tribe. The bearers of the name, however, were now without title or especial honor, more than being looked upon as the tribe aristocracy.

"Me live over there," indicating with a gesture of his slender brown hand the group of small frame buildings, provided by the government, and used for granaries and storehouses, with their accompanying white teepees—wigwams or tents—built and occupied by the individual families of the colony. They were situated a half-mile from the schoolhouse, but visible through the intervening grove of scattering scrub oak or jack pine.

"This my girl, Mary Eagle; she eleven years old. She come to school."

"Did she ever come to school before?"

"Ye-es—two years—maybe; she read second reader."

The teacher bowed and smiled encouragingly into the girl's glistening eyes, watching her so intently. "Very well, Mary," she said, "would you like this desk?" indicating one near her own.

The girl nodded and, taking her school bag from her father, went to her seat. The teacher took the girl's hat and gay red and purple scarf, hanging them beside her own, and returned to show the new pupil the lessons for the day.

A little later, as Miss Melbye was standing near the door, the Indian arose and, coming close to her, said in his soft, monotonous voice: "The children here—sometimes they bother my girl; I no like it—maybe you see that?"

"Certainly I will attend to that," she replied earnestly. "I shall, surely, not allow anyone to tease Mary, if I know it."

He nodded and smiled, showing gleaming white teeth. "I think so," then turning a parting look at Mary, now busy with her books, he departed with the noiseless, graceful movement peculiar to his people.

This was Miss Ida Melbye's introduction to Mary Eagle, "the most baffling and perplexing proposition," as she was afterward wont to declare, "that I ever encountered in my work." Not that she formed this conclusion at once. It was forced upon her, by slow degrees, in the measure of her experience.

Day after day she watched and studied the strange combination of natural childish attributes and impulses, and the wild, almost animal-like, instincts and passions. At first, Mary held herself aloof from all companionship, refusing to talk, aside from her lessons, answering the teacher's friendly overtures by nods and gestures. This attitude was explained when an older girl confided to the teacher, after a sharp rebuke for some unkindness toward the little alien, "Other teachers, here, never cared how we used her. None of them ever liked to have a squaw come to school, anyway." But even with this enlightenment, it was long before the "new teacher" could convince Mary that she was trying to be kind and just toward her.

Mary made rapid progress in her studies, having a strong, retentive memory, and her teacher gave her every possible aid and encouragement. Soon the other scholars, forced to treat her with civility, accepted her, if not in full goodfellowship, at least, as a part of the school, and she began to join them on the playground and then to mingle in their games.

After a time she began speaking to her companions in their play, first, only in monosyllables, then in brief sentences, but never freely, in easy, fluent conversation. The blood of a silent, reticent race was too strong within her to be overcome by any degree of educational culture. Her cold, undemonstrative manner did not invite familiarity from her companions, even in their play; but she seemed content to make one in their sports and games, never missing nor apparently desiring the intimate friendships formed between the white children.

The teacher often drew the erect little figure close to her side and stroked the silky black hair, parted and combed down smoothly behind her ears, the shining braids tied with gay ribbons that were the envy of the little white girls; but every attention was met with the same air of impassivity. This cold reserve, coupled with a passionate temper that knew no restraint, was the despair of her teacher who was often called to the playground by an outcry, to find one or more of the white children with torn garments or bloody noses from an encounter with Mary, who, defiant and victorious, had routed the entire band with the first weapon that came to her hand—a ball bat, a paling from the fence, a stick of wood, it mattered not to her.

## THE WILD APPLE TREE.

BY FLOY SCHOONMAKER ARMSTRONG.

All alone by itself, in a back pasture lot,  
Stands a beautiful wild apple tree;  
And though humble in station and far  
from its kin,  
It is happy as happy can be.  
It spends not the hours in useless regret  
Because it has grown in a lot  
Instead of a nursery amid valued trees,  
Or in some favored, fair orchard spot.

It does not complain to the raindrops and  
wind  
That its apples are coarse-grained and  
small,  
But teaches each leaflet to whisper the  
praise  
Of Him who in kindness rules all;  
And from springtime till autumn it does  
what it can,  
In its own proper place in the lot,  
To brighten the earth and contentment  
to bring,  
Though it grows in a rough, lonely spot.

When the blithe, tuneful songsters fly  
back from the South,  
And are searching for some sheltered  
nook  
Where to build their brown nests, then  
the apple tree says,  
With its sweetest and loveliest look:  
"Let me hold your new nests, I am willing  
and strong."  
And the birds whisper one to the other,  
"I think we had better choose this quiet  
place,  
I'm afraid we can't find such another."

So they build their snug homes on the  
high leafy boughs  
Of the blossoming, wild apple tree,  
And throughout the long days of their  
stay in the North,  
From intruders and care they are free.  
Here their birdlings are reared midst the  
blossoms and leaves,  
And here taught to sing and to fly;  
So with songs of contentment and anthems  
of praise,  
The bright, sunny hours pass by.

When the hot, scorching sun of mid-  
summer beams down  
On the cows in the old pasture lot,  
And they find themselves longing for cool  
woodland brooks  
And other fine things they have not,  
Then the wild apple tree spreads awide  
its great arms,  
And kindly invites the meek cows  
To gather around and to lie down and  
sleep  
In the cool, tempting shade of its  
boughs.

In the fair, chilly autumn, when apples  
are ripe,  
And a-nutting go schoolgirls and boys,  
Then to yield her best fruit to the children  
so gay  
Is one of the few simple joys  
Of the wild apple tree, the contented old  
tree,  
Who seemingly says to us all,  
"Be happy and cheerful, do the best that  
you can  
Though your station be humble and  
small."

In the earlier combats Mary scorned explanation and took her punishment, with the other offenders, in proud silence; but, later, when questioned kindly as to the cause of her anger, she came to briefly mentioning the chief incentive: "May Turner, she say 'Mary Eagle-squaw!'" (A deadly insult when applied in derision). Or, "Fred Johnson, he throw my hair ribbon in mud!" Trifling acts, but sufficient to arouse her fierce resentment.

"Last day of school" was an event in the lives of these children of Sandy Plains, and Miss Melbye planned to make it a day of pleasure for the entire district, and, as the school year drew to a close, began to formulate her ideas for the occasion—a picnic, with long tables and a holiday feast prepared by the district mothers, a long program of recitations and singing by the school pupils, and ice cream and lemonade, furnished by herself.

Mary was given a prominent place on the program and an invitation extended to her family and friends to be present and take part in the merry-making. In the general excitement of preparation, the drilling of the pupils in their various parts, the continual discussion of details, Mary became deeply interested and nearly as excited as were the little white girls. "My father—he come," she announced proudly.

The picnic proved a great success; the dinner all that could be imagined even in the wildest dreams of the juvenile epicurean; the ice cream and lemonade, good and plentiful; the literary program, well selected and nicely rendered. Mary Eagle did her part most creditably and her father was there to see and hear. After it was all over and the teacher was preparing to leave the grounds, the Indian came to her and offered his hand. "I thank you," he said, with native dignity, "my girl, she have good time."

Then Miss Melbye mentioned to him something that had occurred to her. "I bat, a paling from the fence, a stick of wood, it mattered not to her."

(Continued on page 495).



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## Something About the Sparrow Family.

By ISAAC MOTES.

Boys and girls who are familiar with English sparrows perhaps do not know that there are almost a hundred varieties of sparrows besides the little city dwellers. All, except the English sparrows, stay in the woods and fields; you never see them in cities and towns. They may occasionally be found in city parks, perhaps, but not around houses.

People who have made an exhaustive study of birds tell us that the sparrow family includes more than one-half the birds in the world today. Many birds besides the sparrows belong to the sparrow family, or to what bird students call the fringillidae. The finches, the buntings, the linnets, the grosbeaks and the crossbills belong to this family, and all have some of the characteristics of sparrows. All birds of the sparrow family,

mer monopolize the nesting places about the houses so that other birds are forced back into the woods.

English sparrows do not migrate like other species, but spend their lives near the place of their birth. The majority of them never get more than, perhaps, 400 yards from the place where they were born. This is notably the case where the country is thinly settled. The towns and cities being far apart, the sparrows seldom get far enough away from home to take up their abode in a new place. Although it has been nearly sixty years since they were introduced into Atlantic coast cities, they have not yet reached California and some of the other western and southwestern states.

Among the sparrows that you will find in the woods and forests in the eastern

### Boost a Little—By Anna Sterns.

John and Joe and little Ted were playing in the yard. Wheeling barrowfuls of wood o'er the fresh green sward. Back and forth right merrily, making play of work, Many barrow loads they wheeled and no one tried to shirk. Until they found the last big load—larger than the rest— Would not climb the homeward grade, though they did their best.

How they pushed and tugged and worked, getting very red, Till in the door spying me, thus spoke Master Ted: "Auntie, come and boost a little on this mountain load; Come help us get the barrow up on the level road."

Soon the needed aid was given and away they sped, Laughing gaily while they piled the last sticks in the shed. Then I listened to a voice, 'twas not Master Ted, Speaking softly in my heart. This is what it said:

"As you journey on through life, up-hill all the way, Many who bear heavy loads will pass you every day; Weary ones whose strength is small, burdened hearts and sad; Just a friendly little boost will make them strong and glad."

"Many obstacles you'll find as you jog along, Where the weak will need the aid of the true and strong; Many a righteous cause you'll see needing aid each day; Just give each a kindly boost to help them on the way. And if some burdened one you find, with over-heavy load, Lend your aid until he finds once more the level road."

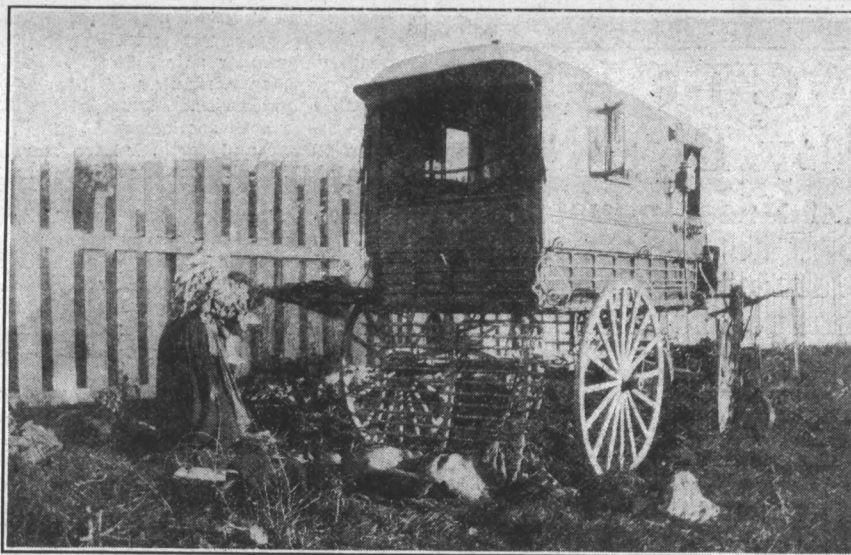
or the fringillidae, have short, stout, conoid bills—that is, shaped like a cone—large and short, but with a fine point. This fits them for eating different seeds and grains, for birds of the sparrow family are all seed eaters. They have bills stout enough to crack or peck to pieces grains of corn, yet sharp pointed enough to pick up, apparently with ease, the finest grass or weed seeds.

The English sparrow, as every boy and girl knows, has a large, stout bill for a bird of its size, which fits it for eating seeds and grains of different sizes. When you throw grains of wheat or barley upon the roof of the porch from your upstairs windows, the sparrows crush them or peck them to pieces with apparently no trouble whatever. They seize a bit of hard bread or cracker and crush it into

part of the United States are the vesper sparrow, tree sparrow, chipping sparrow, field sparrow, swamp sparrow, savanna sparrow, grasshopper sparrow, Henslow sparrow, Ipswich sparrow, sharp-tailed sparrow, Nelson sparrow, Acadian sharp-tailed sparrow, Lincoln sparrow, white-crowned sparrow, white-throated sparrow, song sparrow and fox sparrow.

Those inhabiting the southeastern portion are the pine woods sparrow, Bachman sparrow, and Florida grasshopper sparrow.

Inhabiting the midland or central portion of the country you will find the lark sparrow, Dakota song sparrow, Harris sparrow, Baird sparrow, western Henslow sparrow, Leconte sparrow, clay-colored sparrow and slate-colored sparrow. Among those on the plains west of the



A Familiar Type of the Gypsy Wagon by the Roadside.

small bits as quick almost as lightning. Birds with short, stout, sharp-pointed bills are always seed-eating birds, but if they have slender, weak bills they eat fruits, berries and other soft foods.

English sparrows have had an interesting history in this country. Introduced in 1851, and later, into a few cities on our Atlantic coast, they gradually spread to cities and towns west and south, driving out other small birds. But they drive them away not so much because they are fighters, or quarrelsome, but rather because, being so numerous, they eat up all the food in winter, and in sum-

Rockies are the western lark sparrow, western tree sparrow, western field sparrow, western savanna sparrow, western grasshopper sparrow, intermediate sparrow, Brewer sparrow, sage sparrow, mountain song sparrow, rusty song sparrow and sooty song sparrow.

In California and along the Pacific coast are found the Bell sparrow, gray sage sparrow, Merrill song sparrow, desert song sparrow, Oregon vesper sparrow, rufus-winged sparrow, rufus-crowned sparrow, western chipping sparrow, sandwich sparrow, Belding sparrow, large-billed sparrow, St. Lucas sparrow, For-

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bush sparrow, Nuttall sparrow and golden-crowned sparrow.

California has more birds than any other state in the Union, and therefore more sparrows. Among those confined more locally to California than the ones last mentioned are the sooty fox sparrow, Townsend fox sparrow, Yukutat fox sparrow, thickbilled sparrow, Stephens sparrow, brown song sparrow, Heerman song sparrow, San Diego song sparrow, Samuels song sparrow, Alameda song sparrow, Bryant marsh sparrow, lagoon sparrow, St. Clements song sparrow, Santa Barbara song sparrow, laguna sparrow and San Benito sparrow. The sparrows of California are less migratory than those of any other section of the country.

Then there are other species inhabiting Mexico, and still others peculiar to Alaska, the latter summering along the northwest Pacific coast and coming south in winter as far as northern California.

Then there are the seaside sparrow along the South Atlantic coast; the Scott seaside sparrow, the Texas seaside sparrow, the Fisher seaside sparrow in Louisiana and Texas; the Macgillivray seaside sparrow on the South Carolina coast, and the dusky seaside sparrow.

It will therefore be seen that the sparrow family is a large one, and widely distributed over the country. These are all much wilder than English sparrows, as they live in the woods or along the seashore, and do not associate with people as do the little usurpers from across the Atlantic.

As a rule, all these species are grayer than English sparrows. Some of them differ so little from each other that it is impossible to tell them apart. They are paler on the breast and the under side of the body than the English sparrow, and their wings and backs are generally streaked with brown, though sometimes the breast is almost white and the streaks are a very light brown. The fox sparrows are generally more reddish than any of the others. Some have a tinge of yellow on the breast and about the head, under or just over the eye. Some have pale brown heads streaked with white, while others have browner heads, streaked with black. These sparrows are, as a rule, about the length of the English sparrow, a little longer or shorter, perhaps, but with somewhat smaller and more slender bodies. The English sparrow is a somewhat plump little bird, but some of these woods sparrows are scarcely as large as a man's thumb.

Most of the woods sparrows summer in the north, in Canada or Alaska, and come south in winter, though a few, as already mentioned, are restricted to certain districts and are never found elsewhere.

### LITTLE FARM FABLES.

BY AUNT QUILLIA.

#### A Bit of Timely Advice.

Winter still lingered and most migratory birds were yet basking in the warmth of summer skies.

One day when a number of them were comparing climates, Bluebird said: "While I like both sections and enjoy the journeys back and forth, I have learned that birds in all localities have their grievances."

"Very true," rejoined Robin. "Farmers in all parts of the country seem to be unmindful that we have always been of incalculable benefit to them. At the north they not only begrudge us a few cherries, but are robbing us of grubs and insects by means of sprays, powders and various bug-i-cides."

"We have those same difficulties to contend with here," put in Redbird who, with a few southern friends, had joined the company; "and added to them are our troubles with tourists and native hunters who surely are wiping us off the face of the earth."

After a little further discussion it was decided to send someone out to stump the states and induce all the feathered folks to leave in a body and establish a community in a land where man was unknown.

By common consent the honor fell to the mocking bird, for, said they, "he is far and away the best speaker among us. His vocabulary is so extensive, his tones so varied and persuasive, and his flights of eloquence so high and well sustained that none can resist his appeals."

And so, forth went Brother Mockery, representing the Ancient Order of Ornithological Aviators and Insect Eaters and preaching with all his might a purer

altruism in a land where man was unknown.

In all fairness it must be admitted that he was remarkable for drawing large crowds at his first addresses. But self-interest soon got to the front. The more he pondered on his present snap of an easy living on the bounty of a few very rich old birds, and pictured to himself the free transportation to the promised land that was sure to be his at the end of the campaign, the longer grew his tongue—which by nature was not short. Volubility increased. But inflated vocabulary, ear-splitting tones, and redundant eloquence generally, seemed rather to exhaust than to animate his hearers. Yawns and restlessness were everywhere in evidence, and the meetings broke up with no clear or lasting impressions having been made. Flashy rhetoric had killed results.

One day, at the close of a frenzied flight of oratory, an old eagle with a penetrating eye approached him. "Just a word, friend," said he. "Compactness is power. You are too verbose. Not long ago two students were resting under my tree. As one was reading aloud from an old author I caught this sentence: 'Words are like sunbeams. The more condensed they are the deeper they burn.'"

### DAN AND THE BEAR.

BY MRS. JEFF DAVIS.

Dan Maxwell and his father spent two weeks, one summer, with some friends in the Olympic mountains. They had grand sport, hunting or fishing every day.

One afternoon they were fishing in a pretty stream that glided down a gentle slope. Dan decided that he could find better fishing farther up the stream, so he left Mr. Maxwell and went to a spot where the water was deeper.

After awhile his attention was attracted by a black, moving object just across the stream. Finally, it came out in the open and, at first, Dan thought, "What a big, black dog!"

Then he noticed that it had a funny walk—a kind of roly-poly, waddling walk, as if he were made of jelly—all shaky.

Soon the truth dawned upon Dan—only a narrow stream separated him from a big, black bear! He was thoroughly frightened and called loudly to his father: "Come fast! Help! Help! Here is a big bear!"

Mr. Maxwell was soon at his side, and Dan was surprised that his father did not seem afraid.

"Don't be alarmed, son," he said, "that bear does not look cross, and he won't be apt to ford the stream, anyway."

Although Mr. Maxwell had a gun, he only picked up a few stones and began throwing them at the bear. Old Bruin looked around, growling, and trotted off.

Dan was ashamed that he had been so frightened, and after that often said: "Father, I want to be brave like you, so that if I ever meet another bear I won't be so frightened."

Even after their vacation was over Dan often referred to his father's bravery, and hoped that he might some day become like him.

"There is only one way to grow brave," said his father once, when they were discussing the subject. "You must take advantage of all the little, every-day chances. Being brave in them will teach you to have courage when the big opportunities come."

"I don't understand, father," said Dan. "You know in school the easy lessons come first; then the hard ones, and almost before you realize it you have mastered very difficult studies."

"Yes, father, but that hasn't anything to do with being brave."

"I haven't finished, my son. I want to explain what true courage really is. Remember, the greatest bravery is that which enables us to do what we believe to be right, though the whole world should oppose us. Every boy can not kill a giant, as David did, nor can he slay bears. But I believe everyone can do harder, and braver, things than he thinks he can. Now, just keep your eyes open, and you will find plenty of chances to be brave. Sometimes when all the boys are teasing or imposing on another fellow, you can show your bravery by taking his part."

What his father said sounded reasonable to Dan, and as he walked to school he kept thinking about it. He realized that he had not always displayed the kind of bravery that Mr. Maxwell had urged.

At recess that day he had the opportunity to test his courage when several of

(Continued on page 497).



THE HEART OF A WINNEBAGO.

(Continued from page 492).

said, "about Mary. She learns so well, why not educate her for a teacher among your people?"

He waited a moment before answering, calm and unmoved in speech, but a great satisfaction dawned in his face. "I not know—maybe—I see—you think?"

"Yes," she urged warmly, "I think that she could easily be trained for a teacher."

"So? I think maybe, too. Thank you," with a deep note of pride.

The children gathered around to bid their teacher good-bye for the summer vacation, as it was settled that she should return in September. Mary stood close to Miss Melbye's side, happy and smiling. With an abrupt movement she put her arms around her teacher's waist and, pressing her face to the white woman's shoulder, whispered softly, "Good-bye, teacher."

Touched by this unexpected display of affection, Miss Melbye bent, and, putting an arm around the lithe form, kissed the brown forehead. "Good-bye, dear," she said kindly.

When school reopened in September, Mary was among the first to greet the teacher's return, lifting her face to be kissed, with the other little girls. Always a fairly good student, she now applied herself to her books with unwavering interest. Her devotion to learning was explained when she said, in a confidential tone, to her teacher, "Some day, I teach too, maybe—you think?"

"Certainly, Mary," replied Miss Melbye, "if you continue to do as well as you are doing now," an assurance that brought a glow of satisfaction to the dark face.

Often Charlie Eagle came into the schoolroom, to sit with rapt attention, listening to Mary's recitations. Almost as silent and motionless as a statue, he evinced his pride and gratification by an almost imperceptible relaxation of his features, and, perhaps, a low grunt of approval, when unusually pleased.

When "last day" approached again, the children clamored for another picnic, with the accompanying features of the preceding year, to which teacher and parents readily agreed.

Again Mary entered actively into the preparations and fairly distinguished herself in her part of the exercises, which were listened to, by her father and a number of Indian friends, with every indication of approval.

Once again the teacher bade them all good-bye, with the understanding that she was to return in September, but an unforeseen occurrence changed her plans and it was almost four years before she again took up school work at Sandy Plains. Then she came early in April, to teach the spring term. She found some changes. The schoolhouse had been rebuilt and enlarged. Some families had moved away, and others had taken their places. Some of the older pupils had dropped out and younger ones filled in the ranks. But the general character of the school was the same.

Comparatively few of those gathered in the school yard, awaiting the teacher's coming, came forward to greet her with the warmth of old acquaintance, but among them was Mary Eagle. Taller than her teacher, now, and fully as mature in appearance as the ordinary white girl of twenty, her black hair was still smooth and shining, the silky braids looped at the back of her head and tied with bright ribbon. Miss Melbye greeted her warmly, and felt a thrill of real pleasure in noting that she was truly pretty. The lines of her face seemed softened and refined into something near to gentleness.

Another, even greater, change in Mary was soon made manifest—she had lost her interest in books and learning. Often her teacher, watching her as she sat with open book looking out over the spring landscape with tender, dreamy eyes, wondered at the change and mused: "If she were a white girl I should say that she must be in love; but can her Indian nature be gauged by any conventional standard? Does an Indian girl pass through heart experiences after the fashion of her white sister? Can an Indian be said to have a heart, other than the wholly material organ of circulation?"

Hoping to stir her latent ambition, her teacher made some suggestion in reference to her future as a teacher; but Mary only smiled and answered carelessly, "Oh, me not know. Maybe me teach—maybe not."

Always the most punctual and regular of pupils, Mary was now often absent. It was while speaking of this, to a white

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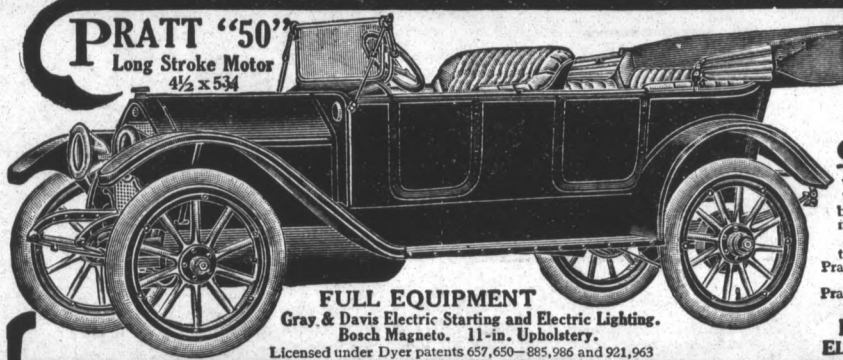
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girl of Mary's class, that Miss Melbye received her first intimation as to the cause of the change which so puzzled her. "I don't think that Mary will come to school much more," the girl remarked confidently. "I think she intends being married, soon. She has the nicest fellow! A student from the Indian school at Tomah—Willie Rainbow. He's nicer than lots of the white boys."

At the school picnic, at the close of the term, Miss Melbye met Willie Rainbow. At her request, Mary presented him to her teacher, most creditably, and he acknowledged the introduction with perfect ease of manner; indeed, few white boys could hope to equal him in grace of bearing. Slender and alert, with the dark, smooth face and intensely black hair and eyes of his race, his features were regular and his general air and expression more pleasing than is common among the men of the tribe. His dark blue student's uniform became him well; and many of the girls present, beside Mary, followed his movements with admiring glances.

Miss Melbye was surprised at the large number of Indians attending the picnic, until it was explained to her that there was to be an Indian dance at the Indian colony soon, which was but one of a series of small dances, followed by a "big medicine dance," at the Indian mission, twenty miles away.

Among the Indian students from the Tomah school, Miss Melbye noticed several very pretty and interesting young "squaws." One of these, a short, plump, round-faced creature, showily dressed, and agreeable to white estimates of beauty but for a coarse, sensual mouth and bold manner, attracted much attention from the young Indians. Willie Rainbow, with the others, seemed to find her amusing; and she openly favored him with her preference. Another young fellow, in student's blue, slightly older in looks than Willie, but very like him at any distance beyond extreme nearness, also, apparently, stood high in the good graces of the dark belle, although Mary pointed out a plain-faced young squaw as his wife.

"He, Tom Decorah," she explained. "His squaw over there, watching," and she smiled. "He talk much with Ella Green Grass. His squaw no like."

"Is that pretty, young squaw, Ella Green Grass?"

Just then Willie Rainbow joined the group under discussion, and the answer came, "Yes. She bad squaw. Me no like!"

Something in her tone caused her teacher to glance up in time to catch the old, fierce gleam of anger in her eyes, and the fact served afterward to bring this conversation back to Miss Melbye's mind with significant force.

The big medicine dance was held at the Indian mission, late in July, and was to last a week. Toward the end of the week it was reported that a young squaw had been found, stabbed to death, under a tree on the mission settlement grounds. This rumor received little attention from the white people, even when the report was later confirmed, as a stabbing affair among the Indians was a common occurrence at their reunions, where more or less drunkenness was responsible for frequent and fierce quarrels.

Not until the news came that it was Ella Green Grass who was found dead, and that Willie Rainbow had been arrested by the white authorities for the crime, did Miss Melbye become deeply concerned. After the hearing, she was somewhat reassured upon learning that there was little evidence against him. A party of white visitors on the grounds, during the evening, had seen him in company with the murdered girl, near where she was, a few hours later, found dead.

Nothing could be learned from the Indians. As was usual in such cases, they absolutely refused to talk; and before night, on the day succeeding the tragedy, the settlement was deserted by all save the very old people and the children, leaving no clue tending to a clearing up of the mystery. In the absence of testimony incriminating anyone else, Willie Rainbow was held for trial.

no more than she already knew. Then she voiced her protest, with all the vehemence of a strong, forceful nature, concluding with: "Without a certain amount of proof, foreshadowing his guilt, a white man cannot be deprived of his liberty. Why, an Indian?"

"It is this way," explained the agent, gravely. "Every year, since I took charge of this tribe, there has been some of them badly injured or killed at their annual pow-wow. Last year two were killed, an Indian and a squaw. The year before, one, a squaw. And not one word of real evidence can be forced from them in regard to crime or motive, although, of course, they know all the circumstances; but they simply won't tell. Now this young fellow is smart, and fairly well posted in civilized laws and customs. I am convinced that he could tell all about this affair if he would. More, he is a prime favorite among his people. If Indian etiquette forbids his telling what he knows of the crime, someone else may be led to tell, in order to free him. If no one appears at his trial in September, and he still keeps silent, I shall try to have him convicted and sentenced."

Miss Melbye gave a little cry of dissent, and the agent smiled. "Of course," he admitted, "if our scheme fails, we shall have to release him; but I purpose following up the case to the very limit of my power." And with this she had to be satisfied that she had done all that she could; but she accepted an invitation to visit Willie at the jail.

She found him thinner of face and rather depressed in spirits; but he smiled as he took her offered hand, recognizing her at once. "This is much kind of you," he said in his soft, even voice.

There was little she could say to him, more than that she regretted this "difficulty," and trusted that he would soon be free, at which he thanked her. But when she touched upon the subject of the murder his Indian blood asserted itself, and his eyes became cold and expressionless; the dark, thin face, impassive. Miss Melbye fully understood the utter futility of any effort to draw him out. An Indian never betrays himself in idle talk.

When they were again upon the street, the agent asked "Well, and what is your opinion now?"

She looked up at him with troubled eyes. "Willie Rainbow could tell much about the murder—if he would," adding hastily, "but he, himself, is not guilty." "No," said Mr. Jones, slowly, "but who is? Why should he shield the murderer? If we could find one with a motive for doing the stabbing—say, jealousy—and that one, someone whom the prisoner might have a motive or reason for shielding—say, a relative or sweetheart—then the case is clear."

Before he had finished speaking a flash of memory thrilled Miss Melbye like an electric shock. "She bad squaw; me no like!" The horror of the thought suggested held her speechless for a moment, but reason was active. Should she—could she—start the white avengers upon the trail of this other victim? If Willie chose to suffer—

While her thoughts still circled blindly, the agent spoke: "This is your car, Miss Melbye, if you make your train. Thank you for your visit," and he was standing alone, with lifted hat, while the car whizzed on, carrying away the clue he so eagerly sought. And Miss Melbye went home to study the hardest point she had yet encountered in her long problem. Should she tell the little she really knew? Was it her duty? Was she "accessory to crime" in not telling? But, if Willie Rainbow chose to sacrifice himself, could she betray the friendship and confidence she had gained by long and careful effort? Round and round she pondered the question, but never any nearer a solution.

(Concluded next week.)

## THE MULE—AN APPRECIATION.

BY W. J. SPILLBOY.

The mule occupies a peculiar position in life. As Josh Billings says, he has two legs to walk with and two to kick with, and he wears his wings on the side of his head. He is frequently and unjustly abused. Doubtless he is not perfect, but, as the old Quaker said to his wife, "Nobody is perfect but thee and me, and sometimes I have my doubts about thee."

The mule is subject to spells of melancholy, but we should feel for the mule, and, in a dark stable, refrain from letting him feel for us. A friendly pat on the head is all right, but the caress of a mule is not to be sought after. I would as leave shake hands with an electric



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battery as with a mule. At first glance there is considerable difference between a mule and a bolt of lightning, but they are very similar to the sense of touch. When a bolt of lightning hits a mule it is a case of an irresistible force meeting an immovable object.

A mule possesses more latent energy for his size than anything else except a cargo of limberger cheese, or the warm end of a hornet. Then he is deep, very deep in his mental processes. He is fully as deep as a treatise on the fourth dimension, and almost as deep as a member of Congress writing a circular letter to his constituents and studying what to leave out.

Although the mule owns a good ear for music, his talents in execution are limited. His tones are not as musical as a dinner horn. His voice (like his heels) is striking, but it is almost always out of tune. He means well, but to have him sing a solo under your window at midnight is not comforting. In a jovial mood he laughs heartily, but his mirth is more like the cry of a goose than the ripple of laughing water.

It is impossible to give a mule a liberal education, but he makes good use of what he has. He may not know as many words as Noah Webster, but the few he has learned are expressive.

In society the mule does not shine. There, for once, he does not know what to do with his feet. His appearance is against him, and he has never learned to eat pie with a fork. Being deprived of the advantages of home life, he is a bit uncouth in his habits, but his heart is right. As a parent he is not conspicuous, but as a voter he is above the average (in some places).

As the poet has well said, the mule is, to a large degree, born to blush unseen and waste his sweetness on the desert air. The horse fills the parade ground, but the mule draws the commissary wagon. Knowing that he will never receive promotion, he is not much of a soldier. The horse smells the battle from afar, but the mule generally manages to smell it from a little farther. A mule would not look well on a monument, but on a dump pile he is hard to beat. Take him all in all we should have respect for his lonely and industrious state, and treat him as a friend and brother.

## DAN AND THE BEAR.

(Continued from page 494).

the boys began teasing little Joe White. Dan took his part, and soon the others were ashamed of having made a smaller boy cry.

Another time, when the boys proposed to go into Mr. Martin's orchard and get some peaches, Dan said: "Boys, we all know that Mr. Martin is a poor man, and his fruit crop means a great deal to him. Besides, it would be stealing to take his fruit in a joke, just as much as if we sneaked in here at night and took it."

The other boys called him "preacher," "fraid cat," "baby," and other names in ridicule, but Dan did not give in. Finally, the others decided to leave the fruit alone, and Dan felt that he had saved all of them from committing a sin and probably getting into serious trouble.

He told his father about these occurrences, and he said: "You are making great progress, my son. If you continue to develop your character along those lines, you will become a truly brave man. Just keep in mind that it is as brave to stand up for what you believe to be right in time of peace, as to be a brave soldier in time of war."

I can not tell you all the brave things that Dan did, and will not mention those that he failed to do, for sometimes he forgot. The examples I have given will show you that he is striving to attain true courage, and, his father says, that kind is better than being able to meet a bear without being afraid.

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Stern Landlady—What a brilliant young man! I thought of naming it after you.

Comedian Boarder—And why?

Stern Landlady—Because it is so long before it settles.

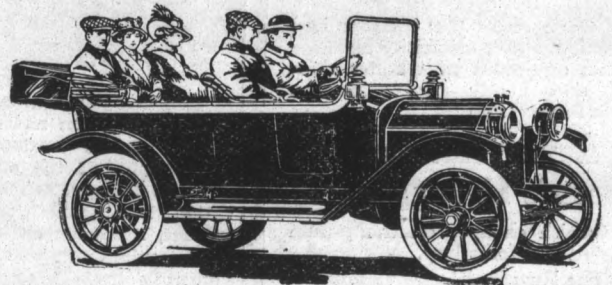
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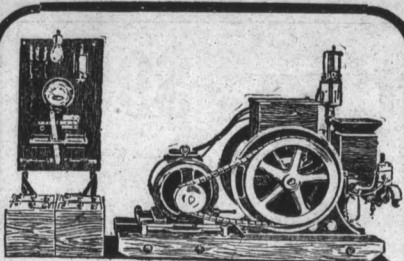
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# Woman and Her Needs

## At Home and Elsewhere

## Conservation of Health Should be the New Fad.

**W**E hear a great deal about conservation nowadays; conservation of our national forests, of our fuel supply, of the water power rights, of birds, flowers, fish and game. Conservation is a good word to use just at present, it sounds as if we were right up to the minute in our reading, and consequently it is very much overworked. Everything is being conserved, if we can judge by the talk going on around us, that is, everything but one thing, our health.

Even there we hear a great deal of talk after the mischief is done. There are hospitals and sanatoria to take care of the folks whose health has been forfeited. And there is much literature telling us how to prevent tuberculosis. But most of the conservation work being done regarding the health is like locking the barn after the horse is stolen. We fall sick, then we spend money in time trying to affect a cure or to prevent ourselves getting worse.

It is so much easier to conserve our health before we lose it. That is why so few of us do it, the process is so simple we slight it. All we need, if we are normal at the beginning, is to take care not to abuse our bodies. And by this I mean to take care not only to feed them the right sort of food, but to avoid overwork or over-strain in any way.

Temperance, that is the great word. It means temperance in eating, drinking, sleeping, working and playing. Take just enough plain, wholesome, nutritious food, just enough health-giving drink, sleep at least seven hours out of the 24 if you are an adult, eight if you can, and for children, eight or nine hours. Do not work until you are so tired you do not know how it feels to be rested, and play just enough to be brightened up from your work. In short, be an all-round person.

There is not a person living, except the most poverty-stricken, who can not have enough plain, good food to keep him in trim. Especially on the farm where there are milk and eggs in abundance, is it easy to have a well-balanced ration. Yet how many there are who sell the eggs and feed the milk to the stock, while their children grow up puny, undersized, the victims of every child's disease, and easy prey for tuberculosis. Milk and eggs and lean meat are absolutely necessary for the growing child. These are the foods of which the cells are made, while the starches and fats give heat and energy. The mother who can not afford to feed her growing children eggs, meat and milk, all too often has to afford in later years the expense of medicines and heavy doctor bills.

And the older ones need the animal foods as well. Baked goods and vegetables do not cost as much as the animal foods, and to some they are easier to prepare. Besides, the person who lives largely on sweets and starches is more apt to be plump than the one who sticks to a balanced ration. But plumpness is seldom an indication of health. It is your spare, wiry person who usually lasts, while the healthy-looking individual with the extra pounds of fat falls an easy victim to disease.

Regular hours of rest and sleep are as essential to the conservation of health as wholesome food. Of course, I do not mean that there is never to be an evening party. Rather, that the evening parties are to be the occasional reward of well-doing, instead of coming three or four nights out of the week. When you stop to think of it, do not the folks who are up night after night, having a good time, work harder for their fun and have far less pleasure, than those wise ones who sleep well six nights in the week, with perhaps one night up until 11 p. m. or midnight? The pleasure seekers lose out all round. They not only fail to have the good time they are going after, but they end up with lost health and grouchy tempers.

But there are many who eat sensibly

and sleep soundly, yet sin against health in another way. They overwork. Now, I know that to many this seems like a virtue rather than a vice, but it is just as much of a sin to work so hard that the body finally succumbs as it is to commit suicide directly. To most women it seems impossible to get along without overworking. But the family could get along with a few less cookies or pies, Susie's dress could go untucked and the children might be pressed into service in the garden. Something might be left undone in every household in order to give the mother time to conserve her health. If she works herself into sickness or unto death, the family get along. Why not let them get along while she is well and with them?

The trouble with us all is that we are prone to overdo everything. None of us are satisfied with just enough. The dish we like is so good we want just one more helping; we had so much fun at this party we simply must go to that one tomorrow night; this book was so entertaining we've got to read that one right now; the washing dried this morning and why not iron this afternoon? So we go, without rest, and the result is damaged health. Let us begin conservation of our health while it will be a simple matter.

DEBORAH.

## ECONOMICAL LACE CURTAINS.

BY H. L. G.

Not very long ago while visiting the home of a young married couple who had just got nicely settled, my attention was drawn to the lace curtains; not that they were so novel nor unusually ornamental, but that they were so simple and practical, and were, as well, both restful to look at and easily seen through while looking out. They were made of plain, rather heavy net, hemmed without lace edging, and ornamented solely by insertion running across one side and the lower end about six inches from the edge. These curtains were, of course, factory made.

Being a close friend and relative of the couple, I was invited, after expressing my interest in the curtains, to ex-

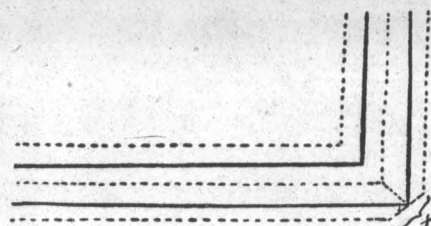


Diagram Showing How to Cut Lace Curtains.

amine them. The insertion reminded me of some I had seen in one of the ten-cent shops. This gave me an idea. After examining all the details of making, I decided I could improve on the work.

The sitting-room at home needed new curtains, four of them. Accordingly, after making measurements of the windows and calculations as to materials needed, I purchased five yards of double-width cable net, which is something like two and one-half yards wide; 15 yards of insertion, one and one-fourth inches wide; 17 yards of lace to match, two and one-fourth inches wide. The lace and insertion were procured at the ten-cent shop and looked like torchon. A spool of white cotton thread, No. 40, and about ten yards of three-eighths inch Battenberg braid made up the rest of the list, the latter not being counted into the cost as it was already at hand.

The piece of net was first trimmed across the ends to make them even and then cut into halves lengthwise; and each of these cut into halves across, thus making four curtains, each having one selvage side and one raw edge side. The edges of the ends were turned over

three-eighths of an inch and pressed with a moderately hot iron, then turned, together with the selvage side, into a hem one inch wide and pressed again. This is done first to guide one in placing the insertion which is next applied. Lay the insertion across one end six inches from the hem and up the selvage side the same distance away, turning a corner and mitering instead of crossing at right angles, and carefully baste the edges of the insertion to the net. Stitch on a chain-stitch machine. The work on such a machine is liable to ravel if the thread ends are not immediately fastened. Be careful, also, to have the chain always on the wrong side of the work. Should a chain-stitch machine not be available, the work must be done by hand, otherwise the thread will break in laundering. As soon as the insertion is stitched on turn the curtain over on the table and cut the net apart centerwise of the insertion. Care must be exercised here, else one is liable to cut the insertion, also. In cutting, follow the dotted line between the two heavy lines in the diagram. Now, turn back the two cut edges barely three-eighths inch, press, turn again fully three-eighths inch, press, and sew. A glance at the diagram will show that the hem at the outer angle (marked X), has a weak spot, and will fray in laundering if not previously darned. This need not cover so large a spot as to attract attention, and takes but a few extra minutes. It is always better to do the work so well in the first place that fussing afterwards is unnecessary. In doing the work on these particular curtains, the darning was done in a rectangle so as to fill out the vacancy in the hem and turn a nice, square corner. The stitching of the ends of the curtains should be deferred until the net along the aforesaid raw edge side has been turned over nearly three-eighths of an inch on the right side, pressed and covered neatly by basting the Battenberg braid over it and sewing the edges. This gives a very neat as well as a very durable edge. After the hem has been sewn in at the ends and selvage side, the lace edging is next sewn on slightly full, with ample fullness to turn the corner.

When the four curtains were finished, it was found that the first cost was less than five dollars or slightly less than one-half than the local shop-keepers asked for them.

## HOME QUERIES.

Household Editor:—What is meant by "sauteing"?—Cook

"Sauteing" is what we commonly call frying, cooking the food in a small amount of fat in the frying pan. Frying really means cooking in enough fat to cover, as we do fried cakes.

Household Editor:—How do you cook macaroni?—M. B.

It should be cooked in a large quantity of boiling, salted water until tender, then drained and washed quickly in cold water. Then returned to the stove and finished with tomato sauce and grated cheese or a white sauce and cheese, or in whatever way your recipe suggests.

Household Editor:—How much liquid is eight ounces?—A Reader.

A half-pint, or one measuring cup.

Household Editor:—Please tell me how old a child should be to begin to feed it something besides milk, and what would be best to feed it?—A Reader.

The child should be at least six months old, and it is better to wait seven months, as the salivary glands are not ready to work before that age. Begin feeding a little dry toast or cracker, give it to the child to nibble on and watch that it does not get any large pieces in its mouth that might choke it. After a week or two you might give a very little well-cooked farina or rice with milk, not sugar. Or give rolled oats if the child is constipated. A little orange juice or scraped apple may be fed, too, if there is any constipation. Add gradually other starches, but avoid potato until after the second summer, and do not feed other coarse vegetables. After the first year you can give a half an egg each day at first, gradually increasing to a whole egg.





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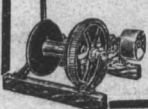
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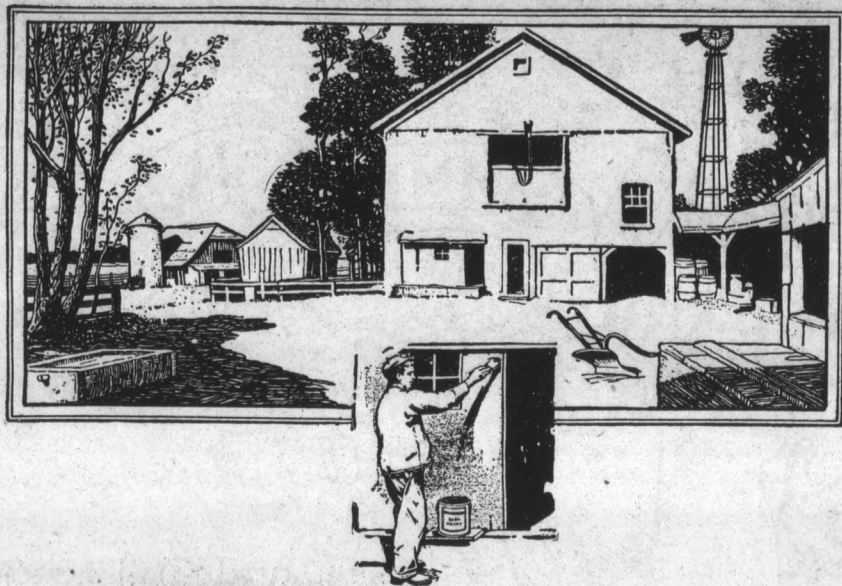


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Williams Finishes that will add to the life and looks of your buildings and your home—inside and out. You can buy them everywhere. Write for our booklet,

### "Paints and Varnishes for the Farm"

It is free—and it will give you a good many valuable ideas and suggestions about what paint can save for you in dollars and cents.

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## A \$50 MACHINE FOR ONLY \$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**

Our new model, improved Michigan 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.

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and money refunded if not satisfactory after 90 days' trial. Complete attachments, accessories and instruction 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 we 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, Michigan.



## In Wet Weather

You will find many uses for a

## Fish Brand Reflex Slicker

The Coat that keeps out ALL the rain

Roomy, comfortable, well made, and of such high quality that it gives longer service than ordinary slickers.

**\$3.00 Everywhere—Pommel Slickers \$3.50**

Satisfaction Guaranteed

If not at your dealer's, sent prepaid on receipt of price. Write today for illustrated folder.

A. J. TOWER CO., BOSTON

Tower Canadian Limited, Toronto



### LETTER BOX.

#### "A Good Preacher Lives up to His Own Teaching."

My Dear Mistress Deborah:—Permit me to remind you that it is a good preacher who lives up to his own teaching. Surely, if every man and woman would desist from giving advice or suggest a way to bring the cart out of the ditch into which we have turned it, unless we asked them to do so, we would resent their indifference, as we now resent their interference. Every one of us human beings is an ingrate at bottom. We are all ready to avail ourselves of the voluntary assistance of our neighbor when we need it, but when we are comfortable again we look for some nice, handy stage trap to take that officious fellow out of our way, just like the boy in Goethe's "Sorcerer's Apprentice." "To your corners, brooms, brooms ye were created to be spirits, just to serve the master's purpose does he call ye forth to action."

No doubt it is a very comfortable doctrine on which you hold forth, but say, who asked you to give that advice? I did not. You ventured. You have made it your business, because you thought it was right. I wonder where this good old world would be, or what would become of it, without the blessed busybodies who voluntarily make the world's business theirs instead of minding their own. Moses could have lived comfortably at the Egyptian court, enjoying its splendor, sharing the greatness. But instead of minding his own pleasant business, he minded the sorrows and oppressions of the Israelites, and went out with them, leading them to freedom, to the worship of the one and only God, to our Father in Heaven who sent that Man of Sorrows, His Only Begotten Son, down from Heaven to mind our business, to show us the way to salvation, through love, through service, through brotherliness. He left His spirit with the world and it dwells in those who do His work. Columbus was one of them, so was Abraham Lincoln, so is Thomas Ediston, Marconi, Clara Barton, Harriet Beecher Stowe, Frances Willard, Jane Addams, and oh, thank God, ever so many, many more, who enrich the world because they mind our business and make it their own.

No reform was ever started, no discovery ever made, no science perfected, no invention given us by the self-centered egotist, who minds his own business only. The good woman, who rescued 150 little girls at the age of 10 to 15 years, out of the clutches of the white slavers, was attacked and beaten by the cadets, living upon the proceeds of that traffic. When complaining to the authorities about it, she was told to mind her own business! The nurse who goes to the bedside of the typhoid patient in the slums, the physician who goes out to the bubonic plague, the leprosy, the cholera centers to help, as he may, to learn how to help, as he ought; the missionary who carries the gospel and with it the key to unlock new countries for our enterprise, for progress and enlightenment; the women who go out of comfortable homes into the highways and byways to help the half starved, overworked victims of avarice and unscrupulous egotism and help them to secure better wages, better homes, should they all mind their own business instead? Which is the better woman, the one who folds her hands in complacent severity, saying, "Thank God, my children are safe; I mind my own business!" Or the one who carefully guards her own, yet goes forth, too, to wrench other mothers' children from the fox traps of greed and vice, from misery of soul and body?

I grow melodramatic and there is no occasion. I just wanted to show that each medal or coin has two sides. We humans have the vices of our virtues and vice versa. Those of us who are helpful have a tendency to intrude and, at least, with our own children, we are not to be blamed if we are over anxious. Just when they have outgrown school, when their budding sex consciousness makes them the prey of temptations, they are told by chums and companions that they are old enough to take care of themselves and need not heed the admonitions of an old-fashioned, silly mother. But when prison bars surround the boy, when the deserted girl brings home the baby, the result of a reckless runaway marriage, then mother is to help, to cheer, to nurse, to give up her last few pennies—well, well!

Enough said on the topic. My sermonizing is uncalled for, but it is the outcome of the same spirit which dictated

yours. We are both women, dear Deborah, and it is not in our nature to just "Mind our own business."—F. H.

### NATURAL FLOWERS PRESERVED.

BY MRS. C. C.

Procure a quantity of stick sulphur. Have at hand the flowers you wish to preserve; also iron pan to burn sulphur in and square, wooden box to hang flowers in during process.

Tack two narrow pieces of wood resembling perches for a bird, on opposite sides; stretch four pieces of coarse wire from one to the other for the bunches of flowers to be suspended from. In procuring a box the object is to obtain one that is air-tight, but this can hardly be, as it wouldn't be any time until what little oxygen the air contained would be consumed, then the sulphur would no longer burn. Bore a hole or two on one side and close them by means of corks when necessary.

Suspend the flowers from the wire in loose clusters, arranging them according to size, using sound judgment. The small flowers, such as forget-me-nots, should be placed in dozens, while large flowers, such as roses, would be from two to three in a bunch.

Suspend from rods, as each cluster is tied, placing far enough apart so as not to touch each other. When you have your rods all hung full, there will be four rows. Now place your iron pan in the bottom of the box and put about a quart of clear, live coals in pan.

The process begins when you sprinkle on about two or three ounces of sulphur, previously crushed. The holes must be corked up as soon as there is a good supply of sulphur fumes. Wrap the box completely in a heavy blanket and leave till next day at same time.

The flowers will be as natural in form as when put in, if work has been a success. The shade will be a dull creamy white after the bleaching. However, they will gradually lose this creamy tint and assume their natural color, though fainter in shade, if exposed to pure, dry air.

The flowers must be kept in a dry room in the shade. They will keep indefinitely as to form and color, if the box has been sealed air-tight and the work successfully done.

### FASHIONS BY MAY MANTON.

Our large Fashion Book—containing 92 pages illustrating over 700 of the season's latest styles, and devoting several pages to embroidery designs, will be sent to any address on receipt of 10 cents.



No. 7724—Girl's Bertha dress, 4 to 8 years. With body lining, short, elbow or long sleeves, with bertha and skirt having straight edges. Adapted to bordered material.

No. 7505—Girl's dress, 10 to 14 years. With round or high neck, elbow or long sleeves, with four-gored skirt, with or without scalloped revers, cuffs and trimming bands.

No. 7365—Girl's dress, 10 to 14 years. With long or three-quarter sleeves.

No. 7739—Girl's double-breasted coat or reefer, 6 to 12 years. In full or three-quarter length, with shawl or notched collar.

No. 7722—Girl's dress, closing in front, 10 to 14 years. With six-gored skirt, short, three-quarter or long sleeves, low or high shield.

The above patterns will be mailed to any address by the Fashion Department of The Michigan Farmer on receipt of ten cents for each.



## A Long Hot Arc Flame

### Your New Engine

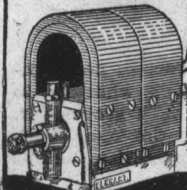
—should be equipped with an Elkhart Magneto if it is to give you its best service. A magneto on a gasoline engine is necessary for proper ignition of the fuel mixture. Elkhart Magnetos make good engines give better service. Insist on having one on the engine you buy.

### Starts the Engine On 50 R. P. M. —

One turn of the crank will make a big spark, sufficient to start the engine.

Elkhart Magnetos are dependable as the sole source of ignition.

**Elkhart**  
Arc-Flame Magnetos



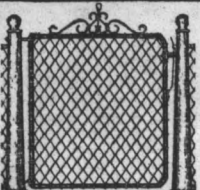
High and low tension for "Jump Spark" and "make-and-break" ignition. Gear driven and timed with the engine.

Write us for list of engine manufacturers who furnish Elkhart Magnetos on their engines.

Elkhart Manufacturing Co.  
Dept. 15, Monroe, Mich.

## \$1.90 FOR THIS DANDY GATE

These gates are not a special lot built down to a low price, but are full of the same quality, satisfaction and durability which can be obtained in any of our triple-galvanized, high-carbon steel



**Iowa Gates**

The filling of this serviceable and ornamental gate is extra close diamond mesh. Gate has strong frame, patent latch, etc. Comes in all sizes; plain and fancy tops. Style E Farm Gate, illustrated below, is another leader sold at a much lower price than asked for other gates of its kind. Painted or galvanized. All sizes.

The best lumber dealer in your town has these gates on sale. If you don't know his name, write us for booklet, name of dealer, special prices, etc.

IOWA GATE CO., 57 Clay St., Cedar Falls, Ia.



## BROWN FENCE

For all purposes. Direct from factory, freight prepaid.

Bargain Prices—13¢ per rod up

Get our new fence book before you buy fence for horses, cattle, sheep, hogs, poultry, etc.

Also Lawn Fence and Gates

We save you big money—give you highest quality. Mail postal now for Big Fence Bargain Book

Dept. 49 THE BROWN FENCE & WIRE CO., CLEVELAND, OHIO

## FARM FENCE

41 INCHES HIGH

100 other styles of Farm, Poultry and Lawn Fencing direct from factory at save-the-dealer's-profit-prices. Our large catalog is free.

KITSELMAN BROS. Box 278 Muncie, Ind

## \$32.50 gets this

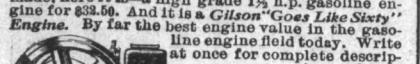
**GILSON**

*Goer-Like-Sixty*

**ENGINE**

If you are looking for the best engine offer ever made, here it is—a high grade 1½ h.p. gasoline engine for \$32.50. And it is a Gilson "Goer-Like-Sixty" Engine. By far the best engine value in the gasoline engine field today. Write at once for complete description and convincing proof.

Gilson Mfg. Co.  
64 Park St.  
St. Paul, Minn.



## National Wrapper and Splicer for Farmers—Fence Builders—Linemen.

A machine made tool consisting of three distinct machined parts, accurately fitted. **SEE CUT.** Can be used in close spacing on poultry fence where no other tool can be used at all. A revolving ratchet head, simply pump up and down with handle and head revolves and makes the wrap or splice. Works anywhere and in any place.

Send 75¢ money order and we will send you one, parcel post. A big proposition for agents. Write today.

NATIONAL IMPORTING COMPANY,  
Dept. D, Jackson, Mich.

**FOR SALE AT BARGAIN!**

New Spaulding Deep Tilling Machine. Not adapted to our soil. ROUGE MONT FARMS, Detroit.

**WE CLEAR** land and put it in condition to cultivate. Work done by contract. J. B. MEGYERY, 900 Medbury Street, Detroit, Mich.

(Continued from page 490).

W. G. Edens, of the Illinois Highway Improvement Association, laid the present high cost of living to decreased per capita production from the soil, lack of good roads and lack of financial assistance for farmers.

Geo. Woodruff, of Joliet, Ill., outlined the various farm credit systems in Europe, stating that, owing to peculiar existing conditions, the rates of interest in all are higher than is usually reported.

"Co-operation is conservation," stated Lieutenant Governor McKelvie, of Nebraska. "If we would encourage the farmer in deriving the maximum production from the land, we must join him in the economical marketing of products as a means of insuring a larger profit on larger crops. In the past he has often found a poor crop in a lean year more profitable than a large crop in a good year."

Dean Homer C. Price, of the Ohio College of Agriculture, outlined the various German credit systems. He also emphasized the fact that merely because a plan worked well in another country it would not necessarily be satisfactory here on account of our different customs, laws and conditions. He described the possibilities of a state land mortgage bank that would be possible under American conditions and through which money could be had at a low rate on land security.

"Improving Farm Credits in America," was the subject of an excellent address by B. F. Harris, of the Illinois Bankers' Association. He stated that in farming we are looking for a big yield other than mere bushels; so in farm financing we are striving for a greater goal than easy money. The farmer himself is the greatest problem.

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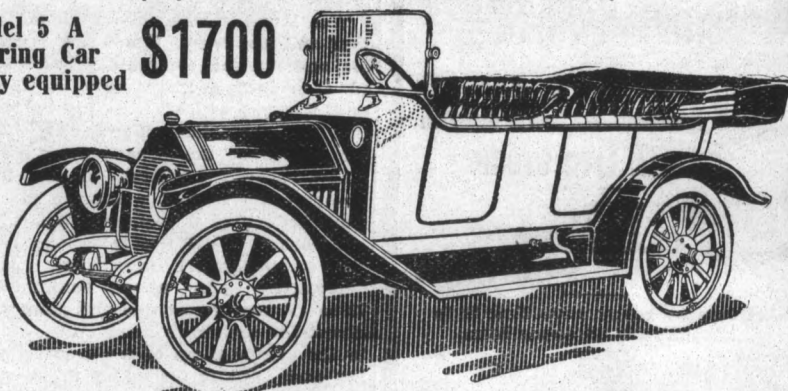
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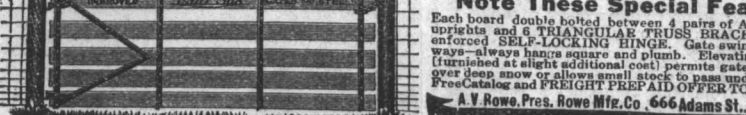
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# Farm Commerce.

## A Successful Co-operative Laundry

The little town of Chatfield, Minnesota, enjoys the distinction of having the first successful co-operative laundry conducted by farmers; at least, we have not been informed of another farmers' laundry conducted on a co-operative basis. This laundry was organized and established in 1912 and according to the patrons, it has already merited its place in the list of prospering co-operative enterprises.

The laundry was the result of education and accident. Since 1889 farmers of the surrounding community had conducted a co-operative creamery at Chatfield, and the success of working together in the creamery business paved the way for extending the benefit to other lines. They became educated to the idea of co-operation so that when the suggestion was made that a co-operative laundry be established it did not take long to bring the establishment into being. And the suggestion came about something like this: A few years ago the men working about the creamery fixed up an old churn in the engine room of the creamery building and used it for doing their washing. The plan worked to the entire satisfaction of the men, who after reflection thought of the possibility of using the power provided by the creamery and the water and heat that are naturally wasted in butter-making processes, for doing the washing of the farmers who brought their milk there. Later when the matter was presented to the board of directors it met their approval, with the above results.

A special incorporated body was organized to undertake the venture. The creamery company built an addition to their creamery and so arranged it as to take advantage of the power and heat available, and then rented this building to an organized co-operative laundry association composed almost entirely of the members of the creamery association.

The business was inaugurated in a manner that gained and kept the confidence of all. The company was incorporated with a capital stock of \$5,000, divided into 1,000 shares of \$5.00 each. No one individual purchased more than five shares, there being 230 shareholders in all. Many of the successful officers of the creamery were elected to similar offices in the new association. A competent laundryman who had had much experience was selected to oversee the work of equipping the plant and to take general charge of the laundry. These steps paved the way to business success.

As indicated above, every advantage was taken to secure the greatest economy in the combination of the two enterprises. Labor is utilized to its best advantage by having the engine room placed between the laundry and the creamery. An elevated tank was constructed in which the overflow of water that is run through the ripeners is pumped while the exhaust steam from the engine is adequate to heat this water to a sufficiently high temperature for laundry purposes. Another tank is provided to store water for rinsing.

There is also economy over the ordinary laundry methods, in delivering the clothes to the laundry and returning same. Selling cream to the creamery makes necessary two or three trips, either by the farmer or a cream collector, to the creamery every week, which service affords an inexpensive means of getting

being members of the association or not—those belonging receiving a larger percentage of the net proceeds than those not members.

The prices charged for the first few months were merely temporary and were intentionally made high to cover any surprise expenses that might come up for payment. The charge for a family washing was put at five cents per pound, which included the ironing of all flat work, underwear, shirts, hosiery, etc. Pieces that require hand-ironing are charged for according to the time required to do the work by an expert hand ironer. While these prices are high and will probably be reduced it is believed from the experience gained in the running of the laundry thus far that the laundry work of the average family will amount to about two dollars a month.

The farmers and their wives are enthusiastic over the business and already they wonder how it was that they ever got along without it.

### COLD STORAGE ON THE FARM

One of the great problems to be worked out by fruit growers is what to do with the fruit crop after it is grown. Mr. Clark Allis, president of the New York State Fruit Growers' Association, thinks



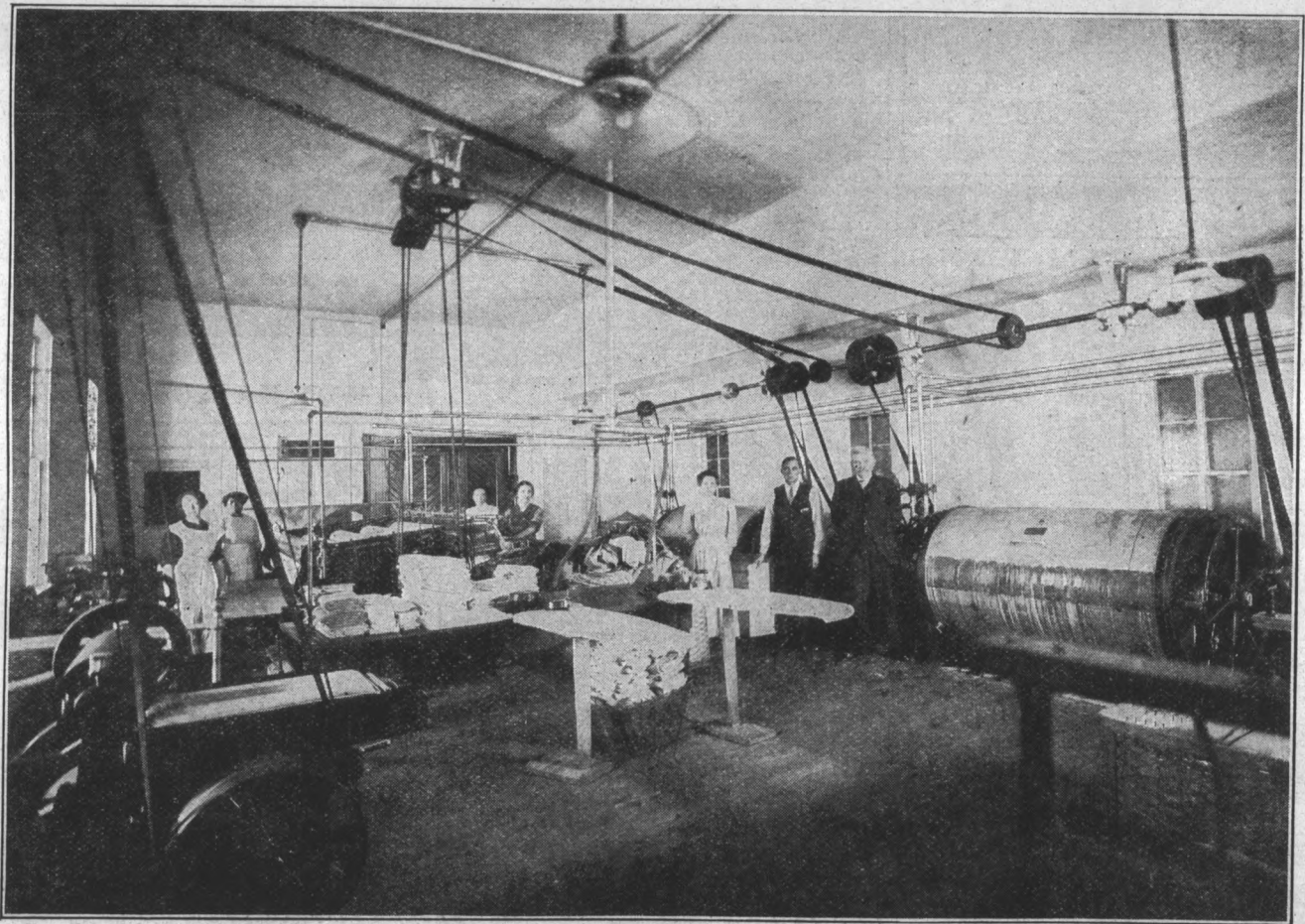
Engine and Shipping Room of Mr. Clark Allis' Private Cold Storage Plant.

the laundry to the community washers and back again.

The business is financed on a strictly co-operative basis. First, the expense of operation and upkeep are taken from the gross proceeds. Then rent and interest at the rate of six per cent on the money invested in equipment are paid. The remainder is rebated to the customers according to the amount of work they have had done and the fact of their

he has solved the problem in erecting a private cold storage on the farm.

There are three things that stand between the average farmer and this goal that Mr. Allis has reached, to-wit: The quantity of apples, the money to build, and the farm located upon the line of railroad. There is a plan, however, by which these objections may in a way be overcome. I refer to the co-operative plan and some are putting it into practice.



Inside View of a Co-operative Laundry Run in Connection with a Co-operative Creamery at Chatfield, Minn.



A description of the Clark Allis & Son plant may be interesting to the readers of the Michigan Farmer: The main building is 48x70 feet. The packing and shipping room is 35x50 feet, with a basement capacity of 15,000 barrels, and with room for 5,000 barrels more on short storage.

The building is built as follows: The roof is non-rusting galvanized iron, heavily graveled on top, six inches of shavings and two thicknesses of building paper underneath. The sides are matched siding, eight inches of fine shavings, paper, matched lumber, paper, matched lumber. The floors are similar. The building has three stories and a basement. Each floor has two storage rooms and each room is a unit by itself, i. e., there is a separate system of cooling plant for each room. At one end of the building is an ice chamber with a capacity of 800 tons, with heavy doors opening into the rooms next to and adjoining it.

The refrigeration system used provides a separate tank for each room. These tanks are located upon the top floor, are filled with coiled pipe heavily insulated. These pipes connect with a double coil in the storage room which hangs from ceiling, (see illustration on page 508). These pipes are filled with calcium chloride strong enough not to freeze. An ice crusher is also located on the top floor which discharges crushed ice into any tank. As it goes in salt is scattered into the crushed ice. The quantity of salt regulates the temperature of the solution, i. e., the more salt the more cold. As soon as the solution cools gravity takes the denser brine into the storage room below and the brine warmed by the absorption of heat from the rooms replaces it without pumping. The melted ice and salt finally go through a pipe into the basement, cooling it with the drip. The storage rooms when in use are never warm enough to thaw ice. Lump calcium chloride is placed into the trays, and this draws the dampness from the rooms, thus preventing the frost from coating the pipes by the dripping. This adds much to the cooling capacity of the pipes. Once a day in warm weather, and once in several days in cold weather, will suffice for filling the tanks with ice and salt. One man cares for the storage.

The plant is equipped with two gasoline engines for running fans, forcing in cold air from outside and warm air from a heated room located in the building, in zero weather. The power is also used for hoisting barrels, ice and running the elevator. There are 200 square feet of platform around the building for unloading from wagons and loading into cars.

New York. W. C. EATON.

#### DIRECT MARKETING PROVES SUCCESSFUL.

From the reports of both producers and consumers who have undertaken to sell and buy directly according to the directions which have been published in recent issues of the Michigan Farmer, we have received the most sanguine encouragement as to the efficiency of the Nomid plan of distributing some of our farm products. Consumers are delighted since they have been getting a superior quality of produce at a reasonable price, and the happiness of the producers lies in a revelation as to the ease with which goods are delivered to consumers, in the words of satisfaction from the letters coming to them asking for larger orders and in the better prices and prompt payments made.

And these gratifying results have come in a most unfavorable season. Speaking generally, prices have held to a lower level than during most normal years because of increased production, and that particularly along those certain lines that enter more specially into direct commerce between producer and consumer. Under such a condition of heavy supply it is well known that margins of profits are naturally smaller than during a scarcity, and to have the direct plan work so favorably when conditions do not offer even ordinary advantages, is most welcome news in a time when the great question of marketing looms large and black upon the horizon of agricultural economics.

The Michigan Farmer will continue to keep its readers informed along the line of better marketing. Not only will readers find in these columns expositions on the most advanced theories in direct and co-operative distribution, but actual examples, illustrated in many instances, will be given to show in a clear, uncolored manner what practical men are now doing to cut down the cost of getting farm products to the final consumer.



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#### The Jersey

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AT 23 MONTHS OLD**  
**IONIA GIRL**

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN, R. No. 10 Portland, Mich.

**O. I. C. SWINE** Write me for price on Spring Pigs, pairs and trios, not akin. Have a number of service males of good type. Write me describing of your wants. A. J. GORDEN, R. No. 2 Dor, Mich.

**O. I. C.**—Extra choice bred gilts, service boars and spring pigs, not akin from State Fair winners. Avondale Stock Farm, Wayne, Mich.

**O. I. C's**—all sold. Orders booked for April and May pigs of the choicest breeding.  
C. J. THOMPSON, Rockford, Michigan

**O. I. C's**—All sold, will book orders for March pigs.  
ALBERT NEWMAN, Marlette, Michigan

**O. I. C's**—Bred sows, March pigs pairs and trios. Buff Rock Eggs \$150 per 15.  
FRED NICKEL R. 1, Monroe, Michigan.

**O. I. C.**—Boars all sold. A few gilts of GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

**O. I. C's**—All ages, growthy and large. Males ready, 100 to select from. Attractive prices on young stock. H. H. JUMP, Munith, Mich.

**DUROC-JERSEYS**—Fall and Spring boars from prize-winning strains. Sows all ages. SPECIAL BARGAIN in summer pigs. Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

**MALES ALL SOLD BUT ONE**—Fancy fall gilts for sale. Station A, Bay City, Mich. Route 4, Box 81.  
JOHN MCNICOLL.

**Duroc Jerseys** For sale—A few first class fall pigs of price \$25 each. M. A. BRAY, Okemos, Michigan.

**DUROCS BRED SOWS** all sold. Service Boars \$40 to \$50. January pigs \$12 to \$15, either sex. Satisfaction guaranteed. F. B. Cook, Route 2, Stanwood, Mich.

**DUROC JERSEYS—BRED GILTS FOR SALE.**  
CAREY U. EDMONDS, Hastings, Michigan.

**DUROC JERSEY GILTS**—Bred for July and August farrow. Write for prices. I pay the express. J. H. BANGHART, Lansing, Mich.

**POLAND CHINAS**—Both Western and Homo Bred. Either sex, all ages. Prices right. W. J. HAGELSHAW, Augusta, Mich.

**Large Type P. C.**—Largest in Michigan. Bred gilts all sold, have some good Sept. and Oct. pigs that have size, bone and quality. Write your wants or come and see. Expenses paid if not as represented. Free delivery. W. E. Livingston, Parma, Mich.

**BIG TYPE POLAND CHINA BOAR**—Cheap or A will exchange for sow. A few light weight gilts left. ROBERT NEVE, Pierson, Michigan.

**POLAND CHINAS**—Either sex, all ages. Something good at a low price. F. D. LONG, R. No. 8, Grand Rapids, Michigan.

**P. C. BOARS AND SOWS**—large type, sired by Expansion. A. A. WOOD & SON, Salline, Michigan.

**LARGE Yorkshires**—Choice breeding stock, all ages, not akin, from State Fair prize-winners. Pedigrees furnished. W. C. COOK, R. 42 Box 22, Ada, Mich.

**Stop Raising Short Bodied Pigs**—long ones weigh more. Yorkshire boars produce these. For sale. WATERMAN & WATERMAN, Ann Arbor, Mich., Meadowland Farm.

**Lillie Farmstead YORKSHIRES**  
Spring bred gilts all sold. Gilts bred for next August farrow. September pigs either sex, pairs and trios not akin. Orders booked for spring pigs.  
COLON C. LILLIE, Coopersville, Mich.



# Markets.

## GRAINS AND SEEDS.

April 15, 1913.

**Wheat.**—The market has suffered a reaction since reaching the high mark of last Wednesday, quotations being about 3c below the market for that date. Dealers are attempting to strike a balance between the splendid outlook for the new crop in this country and the heavy demand that comes to us from England and the continent of Europe. It would hardly be possible to imagine a more perfect stand of the grain than is pictured by reporters from almost every section of the winter wheat belt, while on the other hand, exporters are buying wheat on every dip of prices here showing that the market abroad is anxious for the grain and that present prices seem to be near the point where they will buy. It is known that much wheat will have to go into Europe to satisfy the call from that quarter of the world. The visible supply decreased 1,314,000 bu. and the amount on passage increased 4,128,000 bu. One year ago the price for No. 2 red wheat was \$1.08 per bu. Detroit quotations for the week are:

	No. 2	No. 1	Red. White.	May.	July.
Thursday	1.11½	1.10½	1.11½	93½	
Friday	1.11	1.10	1.11	93½	
Saturday	1.10½	1.09½	1.10½	93½	
Monday	1.10	1.08	1.09	92½	
Tuesday	1.08	1.07	1.08	92½	

Chicago, (April 14).—No. 2 red wheat, \$1.08; May, 90½c; July, 89½c.

New York, (April 14).—No. 2 red, \$1.14 f. o. b. adroit; May, 98½c; July, 97c.

**Corn.**—Despite the reduction of wheat values corn prices have held steady with those of last week. While weather conditions show improvement in most of the corn growing states farmers are not taking advantage of it to deliver corn so much as they are to push forward farm work. The decrease in the visible supply amounts to 2,307,000 bu. The demand appears to be holding steady. One year ago the price for No. 3 corn was 79½c per bu. on this market. Local quotations for the past week are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	56	56½
Friday	56	56½
Saturday	56	57
Monday	56	57
Tuesday	56	57

Chicago, (April 14).—No. 3 corn, 55½c; May, 55½c; July, 55½c; Sept., 56½c.

**Oats.**—Again oats has shown a disposition to be different from the other grains for, instead of its declining with wheat, the market has advanced. The price change amounts to a full cent. There is an improved demand from farming sections where the cereal is not grown in quantities to feed work animals during the season of spring farm operations. Receipts are small. The visible supply shows a decrease of 705,000 bu. One year ago the local price for standard oats was 62c per bu. Detroit quotations for the past week are:

	No. 3	Standard.	White.
Thursday	38	38	38
Friday	38	38	38
Saturday	38½	38½	38½
Monday	39	39	39
Tuesday	39	39	39

Chicago, (April 14).—No. 2 white, 36½c; standard, 35½c; May, 34½c; July, 34½c; Sept., 33½c per bu.

**Beans.**—Slight improvement shows in the price for beans; however, the local market is sluggish and very little business is done. Immediate, prompt shipment is now quoted at \$2 per bu., as is also May delivery.

Chicago, (April 14).—No change has occurred in bean quotations at this point. The market is slow. Pea beans, hand-picked, fancy, quoted at \$2.20-2.25; do. choice, \$2.05-2.10; prime, \$1.80-1.85; red kidneys, \$1.75-2.25; white kidneys, \$2.60-2.75 per bu.

**Clover Seed.**—Although the past week has been an active one in the clover seed deal, prices for common grades are unchanged and alsike is down 25c. Cash seed is now quoted at \$13.25 and prime alsike at \$12.50 per bu.

Toledo, (April 14).—With conditions about the same as a week ago, cash seed is being exchanged at \$13.65 per bu. and April at \$13.60; prime alsike, cash, \$12.55 per bu.

**Timothy Seed.**—This deal is unchanged with trade moderately active. Prime spot sold Tuesday at \$1.70 per bu.

Toledo, (April 8).—Cash timothy seed rules steady, being quoted at \$1.70 per bu; Sept., \$1.95 per bu.

**Rye.**—This cereal rules higher than last week, with a noticeable improvement in the demand. No. 2 rye is now quoted at 62c per bu.

Chicago, (April 14).—Quotations are higher under a better demand. No. 2 rye 63c per bu.

**Barley.**—Chicago, (April 8).—Quotations for this grain range from 46-69c per bu., the highest figure being 1c above the top limit for last week.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in ½ paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.60; second, \$5.20; straight, \$4.90; spring patent, \$5.10; rye flour, \$4.60 per bbl.

**Feed.**—Detroit jobbing prices in 100-lb. sacks are as follows: Bran, \$23; coarse middlings, \$23; fine middlings, \$27; cracked corn, \$22.50; coarse corn meal, \$22.50; corn and oat chop, \$22 per ton.

**Hay.**—Poor roads have reduced offerings and prices are improved with the demand fair. Carlots on track at Detroit are: No. 1 timothy, \$14@14.50; No. 2, \$12@13; light mixed, \$13.50@14; No. 1 mixed, \$12@13 per ton.

Chicago.—Market higher, largely due to reduced receipts. Choice timothy, \$18@19 per ton; No. 1, \$16@17; No. 2 and No. 1 mixed, \$14@15; No. 3 and No. 2 mixed, \$7.50@11.50; clover, \$7.50@12.50; alfalfa, choice, \$17.50@18.50; do. No. 1, \$15.50@17.50 per ton; do. No. 2, \$12.50@14.50.

**Straw.**—Steady. Carlot prices on wheat and oat straw on Detroit market are \$8.50 per ton, rye straw, \$9@10 per ton.

Chicago.—Lower for rye and wheat straw and higher for oat. Rye, \$8@9; wheat straw, \$5.50@6.50; oat straw, \$6.50@7.50 per ton.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—All markets are strong at last week's revised figures with some reaction from the sharp decline noted in some instances. This strength is credited to the backward spring and to highway conditions which have hampered the delivery of cream, and is therefore regarded as temporary. The 1c advance at Elgin on Monday developed a firmer feeling in all markets, but local values are unchanged. Detroit jobbing prices rule as follows: Fancy creamery, 33c per lb; firsts, 31½c; dairy, 24c; packing stock, 22c.

Elgin.—Market firm at 33c. Chicago.—This market reports rather limited offerings and an unexpectedly good demand. Values, however, remain practically unchanged, with stocks well cleaned up and the market in good shape. Quotations are: Extra creamery, 34c; extra firsts, 33½c; firsts, 32c; seconds, 28@30c; dairy extras, 31@32c; firsts 28c; seconds, 25c; packing stock, 12@24½c as to quality.

New York.—After a decline of 1@1½c, creamery values in this market are more nearly on a par with other markets. Quotations are: Creamery extras, 35½c; firsts, 34½@35c; seconds, 33½@34c; state dairy, finest, 34@35c; good to prime, 31@32c; common to fair, 27@30c; packing, 20@24c as to quality.

**Eggs.**—Eggs continue in the firm position they occupied a week ago. The trend of values has been slightly upward during the week in spite of heavy offerings at all points. The local quotation shows a gain of ¼c. At Detroit current offerings, candled, and cases included, are quoted at 18½c per dozen.

Chicago.—Very firm with nearly all grades showing a fractional advance. Miscellaneous receipts, cases included, are quoted at 17@18c; do., cases returned, 16½@17c; ordinary firsts, 16½@17½c; firsts, 17½@18c; storage packed, firsts, 18½@18½c.

New York.—Values generally are a little higher than last week but offerings are heavy and the market is reported weak. Fresh gathered extras, 21c; firsts, 19½@20c; fresh gathered storage packed, firsts, 19½@20½c; western gathered, whites, 20@21c.

**Poultry.**—The approach of the Jewish holidays is giving strength to poultry and all kinds are firm. In the local market hens have set a new mark by advancing a full cent. Quotations are: Live—Spring chickens, 17½@18c; hens, 18½@19c; No. 2 hens, 15@16c; old roosters, 12c; turkeys, 19@20c; geese, 15@15½c; ducks, 18@20c per lb.

Chicago.—Live chickens in light supply and quoted higher. Market firm in all departments. The quotations on live are: Turkeys, good weight, 15c; others, 10c; fowls, good, 17½c; spring chickens, 17½c; ducks, large, fat, 18c; do. thin, ordinary, 15@16c; geese, full feathered, 12c; do., plucked, 8@10c per lb; guinea hens, \$4 per dozen.

**Cheese.**—Steady; unchanged. Wholesale lots, Michigan flats, new, 13½@14c; old, 16½@17c; New York flats, new, 16@16½c; old, 18@18½c; brick cream, 14@14½c; limburger, 18@19c.

**Veal.**—Steady; values unchanged from last week. Fancy, 13@14c; common, 11@12c.

Chicago.—Market recovering from the recent slump and all grades are higher. Fair to choice, 80@110 lbs., 12@13c; extra fancy stock, 13½c; fair to good chunky, 11½@12½c.

## FRUITS AND VEGETABLES.

**Apples.**—The deal continues about steady with last week. Detroit quotations now are: Fancy, per bbl., \$2.50@3.50; ordinary, 75c@1.50 per bbl.

Chicago.—Trade rules steady with a fair demand and ample supply. Standard winter varieties, \$2@4.50 per bbl.

**Potatoes.**—Although the stock of potatoes in Detroit is not large, the daily receipts run quite heavy and keep the market favorable for the buyers. Values remain unchanged. Michigan stock in car lots, 43@45c per bu.

Chicago.—Receipts have shown a decided falling off this week both as compared with last week and a year ago. Fancy Michigan stock, 43@45c per bu; best Wisconsin, 40@45c; Minnesota, 40@45c per bu.

## WOOL.

Boston.—Locally there is nothing to interest the grower except that the market is cleaning up to be ready for the new clip. Although attention is diverted to the wool-growing sections there is too little buying yet to establish values. A few purchases have been made in the southwest and west at prices comparable with those prevailing in 1912. Sheepmen are holding for good prices since they feel that there is a wide enough market for all the wool that is produced at good quotations, while buyers are uncertain as to the future condition of the trade in

this country because of tariff legislation and point to the possibility of purchasing their supplies in a world market.

## THE LIVE STOCK MARKETS.

### Buffalo.

April 14, 1913.  
(Special Report of Dunning & Stevens,  
New York Central Stock Yards,  
East Buffalo, New York.)

### Cattle.

Receipts, 140 cars, which was the same number received one week ago. Market 10c lower. Best 1350 to 1500-lb. steers, \$8.80@9.10; good prime 1200 to 1300-lb. do., \$8.75@8.85; good to prime 1100 to 1200-lb. do., \$8.25@8.50; coarse, plainish 1200 to 1300-lb. do., \$7.25@7.85; medium butcher steers, 1000 to 1100, \$7.50@8.10; butcher steers, 950 to 1000 lbs., \$7.35@7.90; light butcher steers, \$6.85@7.35; best fat cows, \$6.75@7.50; butcher cows, \$5.50@6.25; light do., \$4.75@5.25; trimmers, \$3.75@4; best fat heifers, \$7.75@8.50; medium butcher heifers, \$6.75@7.95; light butcher heifers, \$6@6.50; stock heifers, \$5.25@5.50; best feeding steers, \$7.25@7.50; fair to good do., \$6.75@7; prime export bulls, \$7.25@7.50; best butcher bulls, \$6.75@7.25; bologna bulls, \$5.75@6.50; stock bulls, \$5.25@6; best milkers and springers, \$6.80@8; common to fair kind, \$4@5.50.

### Hogs.

Receipts, 80 cars, compared with 100 one week ago. Market steady. Heavy, \$9.50@9.60; mixed, \$9.65@9.70; yorkers, \$9.65@9.70; pigs, \$9.70@9.75.

### Sheep and Lambs.

Receipts, 30 cars, compared with 75 for Monday of last week; lower. Wool lambs \$9.15@9.35; culls to fair, \$7.50@9.10; clipped lambs, \$8@8.15; yearlings, \$8@8.50; wethers, \$7.50@7.75; ewes, \$7@7.25. Calves, \$5@12.25.

### Chicago.

April 14, 1913.  
Cattle. Hogs. Sheep.  
Received today ..... 28,000 35,000 20,000  
Same day last year.. 22,122 33,293 23,836  
Received last week.. 50,615 104,008 89,179  
Same week last year.. 41,371 120,114 76,108

Too generous receipts of cattle today, following the liberal supplies of last week made a bad market for steers, which were very slow of sale at reductions of 10@15c, but butcher stock, as usual, remains steady and active. Hogs opened about 5c higher, with sales at \$8.90@9.40 for all except small lots of heavy rough packers, but before long the demand was slow, and the improvement was lost. Hogs received last week averaged 242 lbs., compared with 228 lbs. one year ago, 238 lbs. two years ago and 226 lbs. three years ago. Sheep and lambs were slow of sale at generally 10@15c lower prices, although some prime lambs brought \$9.25. The shipping demand was checked by the large receipts at Buffalo, Pittsburgh and other eastern markets.

Cattle were marketed last week much more liberally than in recent weeks, with a big share of the offering showing up on Monday, that day's run aggregating 27,069 head. Such badly distributed supplies are almost certain to result in fluctuations in prices, and a break of 10@15c took place on Monday, followed by a stronger Wednesday market. As usual, demand centered all the time in the medium kind of steers, with a moderate call for the best class and no lack of activity in fat cows and heifers. The larger share of the beef steers crossed the scales at \$8.10@9, with the better class of weighty steers going at \$9@9.20, and the cheaper class of light-weight, warmed-up steers fetching \$7.25@8.25. A good class of corn-fed steers went at \$8.50 and upward, with sales of a desirable class of yearling steers at \$8.40@9. The bulk of the steers sold decidedly higher than a month ago, while comparisons with a year ago showed that the best beefs were only about 50c higher, the commoner lots selling around \$1.75 per 100 lbs. higher. Butchering cows and heifers had a free movement on the basis of \$5.10@8.35, a few heifers going up to \$8.80, while a sale took place of 38 head of fancy little baby heifers that averaged but 591 lbs. at \$9, the highest sale on record of such weights. Cutters went at \$4.40@5, canners at \$3.35@4.35 and bulls at \$5.50@8. There was a marked falling off in the demand for stockers and feeders, and prices averaged 10@20c lower, the break being mainly in the plain and medium stock steers and the pretty good feeders. Stockers sold at \$6.50@8.10 and feeders of considerable weight at \$7.40@8.25. Only a moderate trade took place in feeding heifers at \$6.25@6.75, with stock heifers salable at \$5.75@6.40. Calves had a good outlet at \$4.75@9.35 per 100 lbs., milk cows being slow at \$55@85 for medium to choice ones. Calves of the better class advanced 50@75c, while steers below \$8.40 were irregularly lower, with a poor demand. Bulls advanced 15@25c, while fat cows and heifers were 10@15c higher.

Hogs have been marketed for a week past with much less liberality than a week earlier, when supplies were greatly increased owing to delayed country shipments showing up, and supplies also ran behind those of a year ago on several days. However, there was less urgency in the general demand than usual most of the week, and even eastern shippers operated much less freely than a week earlier, although their purchases were relatively large, considering the smaller offerings, and on Monday they took a goodly number. Prices had rallies on some days, weakening on others, with values well under the recent highest day, when the best hogs went at \$9.70, the high point for many months. The good average quality of the hogs shipped to market is well maintained, and the average weight has increased in recent weeks, with prime light hogs adapted for the fresh meat trade the market toppers, and strong weight pigs also selling very high. At a period of extremely high prices for beef and mutton, the call for fresh pork is especially large everywhere. Provisions are also having a good

sale, and the aggregate stocks held in the five leading markets, the first of April stood at only 241,000,000 lbs., against 338,000,000 lbs. one year ago. Extremely heavy hogs are the lowest sellers. The week closed with hogs selling at \$8.70@9.37½, compared with \$8.60@9.30 a week earlier. The bulk of the Saturday sales took place at \$9.15@9.30, boars selling at \$4@5, stags at \$9.25@9.60, pigs at \$7@9.20, and throwout packing sows at \$8.35@8.70.

Sheep and lambs were extremely high sellers last week, with a large general demand, especially for fat stock, with the receipts made up mostly of lambs, as usual, and decidedly more shorn flocks showing up. After advances in prices there were reactions, but at all times sales were made extremely high. Woolled Colorado-fed lambs of the best grade sold nearly as high as at the year's high spot in January, a \$9.35 top being reported, and fat yearlings, wethers and ewes sold proportionately high, as well as feeders. Shearing was in progress in the big sheep feeding stations around Chicago, and wool sold two cents per pound lower than a month ago.

Sheep and lambs closed on Saturday largely 25c higher than a week earlier, with woolled lots quoted as follows: Lambs \$6.50@9.25; yearlings, \$7.40@8; wethers, \$6.25@7.40; ewes, \$4.25@7.50; bucks, \$5@6; feeding and shearing lambs, \$6@8. Shorn lambs sold at \$7.40@8.30 for fair to choice lots; shorn yearlings at \$6.75@7.40 and shorn wethers at \$6.15@6.85.

## CROP AND MARKET NOTES.

**Newaygo Co., April 8.**—March was a pretty cold winter month and the first week in April has been a good wet one with heavy showers with lots of thunder and lightning; the low land is most all under water. Looks much like a late spring. Farmers seem to have plenty of hay on hand, which is cheap; no sale for corn fodder. Lots of horses for sale and they are high in price. Potato prices are most disappointing to the farmer at 30 cents a bushel. Young clover and fall grain looks good at present. No plowing done yet. Produce prices paid by dealers are: Beans, \$1.60; hay, \$8@9; veal, 5@8c; sheep, 2½@3½c; beef, 3@5½c; chickens, 13c; pork, 10½c; butter, 28c; eggs, 17c per dozen.

**Mecosta Co., April 9.**—April has been a stormy month. Not very cold, yet not warm, with lots of wind and some rain. Farmers are just started plowing. Some fall plowing done so that will help in some cases. However, indications point to another good fruit year here. We haven't had any warm weather to swell the fruit buds. Not as many public sales as usual. Everything that is offered is bringing good figures, however. There is quite a demand for good milk cows, and people so fortunate as to have some to sell are getting their own figures. Horses are also scarce and bringing high prices. The potato market is practically unchanged from what they were last month, ranging around 33c. Hardly any spring pigs at all. Some farms changing hands now. Ranging from \$20 per acre up to \$60. Improvements and location making the difference in most cases.

**Shiawassee Co., April 7.**—Weather moderating, soil drying and roads improving. Strong winds continue from the south and southwest. A considerable amount of water standing on wheat and rye and will do a great deal of harm to the crops. Wheat has come through the winter in fine condition and is starting up well. New seeding has also withstood the winter in good shape. A number of farmers busy laying tile drains. Barn building has already begun and a number of large buildings will be erected this spring in this locality. Fruit, from all present evidences has come through the winter in good condition and fruit trees in general are very healthy. On account of the hard winter two years ago a large number of farmers are compelled to reset a large portion of their small fruit orchards. Peaches in particular were hard hit. A considerable interest is being manifested in the selection of seed grains, showing that farmers are awake to the importance of good seed. Lamb feeders are unloading freely, some well pleased with their winter work while others have the "blue." Good milk cows are high and in good demand.

**Monroe Co., April 2.**—We are having a great deal of rain here at present. Roads are very bad, have had many washouts, means an extra boom in taxes this year. I believe seeding is coming through in good shape. Cattle, generally, are looking well. Good cows are fetching from \$75 to \$100 per head; horses from \$125 to \$250 each. No sheep in this county to speak of and not a great many hogs in this locality. Dressed pork \$10 to 11 per hundred.

## CONDITION OF MICHIGAN FRUIT.

There have been few seasons when the condition of fruit has been more promising in Michigan than this. The following from the state crop report indicates the opinion of the state's agents:

Fruit.—Fruit correspondents generally write "That owing to the mild winter fruit buds are in excellent condition."

The following table shows the prospect for an average crop of the various kinds of fruit in the different sections of the state.

	State.	Sou. Co.'s	Cent. Co.'s	Nor. Co.'s	Up. Pen.
Apples	80	80	82	82	95
Peaches	81	83	76	78	98
Pears	82	88	80	81	65
Plums	81	82	79	76	93
Cherries	87	88	86	86	85
Small fruit	89	89	88	88	98

In regard to the question, "What per cent of orchards are being sprayed?" correspondents report 40 in the state, 46 in the southern counties, 29 in the central counties, 31 in the northern counties and 36 in the Upper Peninsula.



## THIS IS THE FIRST 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.

April 10, 1913.

## Cattle.

Receipts, 1124. Market active and 15@25c higher than last week.

We quote: Best dry-fed steers, \$8.25 @8.50; steers and heifers, 1000 to 1200, \$7.60 @7.85; do. 800 to 1000, \$7.50 @7.75; do. that are fat, 500 to 700, \$6.50 @7.50; choice fat cows, \$6.50 @7; good do., \$6 @6.25; common do., \$4.50 @5; canners, \$3.75 @4.25; choice heavy bulls, \$7; fair to good bolognas, bulls, \$6 @6.50; stock bulls, \$5.50 @6; choice feeding steers, 800 to 1000, \$7 @7.50; fair do. 800 to 1000, \$6.50 @6.75; choice stockers, 500 to 700, \$6 @6.75; fair do., 500 to 700, \$5.75 @6.25; stock heifers, \$5 @5.50; milkers, large, young, medium age, \$6 @7.50; common milkers, \$3.50 @5.00.

Bishop, B. & H. sold Sullivan P. Co. 1 cow weighing 900 at \$5.50, 3 do av 950 at \$5.50, 2 bulls av 835 at \$6, 2 steers av 945 at \$7.50, 23 do av 927 at \$7.25, 2 do av 840 at \$7.25, 2 bulls av 730 at \$6, 4 cows av 895 at \$6.75, 1 do weighing 1040 at \$5.50; to Newton B. Co. 12 steers av 727 at \$7, 12 do av 946 at \$7.20, 2 do av 885 at \$7.50, 2 do av 885 at \$7.50, 5 cows av 870 at \$5.75, 2 cow and bull av 950 at \$6.50, 1 cow weighing 1120 at \$6.75; to Thompson Bros. 4 canners av 850 at \$4, 4 cows av 782 at \$4.75, 2 do av 815 at \$4; to Mich. B. Co. 1 do weighing 1100 at \$6, 1 bull weighing 1310 at \$6.50; to Goose 1 cow weighing 1000 at \$4.50, 3 steers av 666 at \$6.90; to Austin 3 stockers av 460 at \$6, 1 bull weighing 550 at \$5.50; to Sullivan P. Co. 3 butchers av 640 at \$6.50, 1 cow weighing 1090 at \$5.50, 3 bulls av 1320 at \$6.50, 3 steers av 690 at \$7, 4 do av 962 at \$7.75; to Hammond, S. & Co. 3 cows av 937 at \$5.50, 26 cows av 1034 at \$6.85, 11 steers av 968 at \$7.65, 4 cows av 1030 at \$6.75; to Breitenbeck 7 do av 900 at \$5.50; to Thompson Bros. 2 cows av 1095 at \$6.50, 2 steers av 1000 at \$7.75, 13 do av 723 at \$7, 2 cows av 910 at \$4.20.

Spicer & R. sold Sullivan P. Co. 3 steers av 1057 at \$8, 1 cow weighing 820 at \$4.25, 3 cows av 993 at \$5.75, 2 heifers av 750 at \$7; to Newton B. Co. 22 steers av 725 at \$7; to Rattkowsky 4 do av 1130 at \$7.30; to Kull 5 cows av 1078 at \$5.50, 2 steers av 565 at \$6.50; to Hammond, S. & Co. 5 do av 828 at \$7.35, 2 cows av 1010 at \$6.35, 2 bulls av 825 at \$6.35; to Nagle P. Co. 13 steers av 1010 at \$7.90; to Hammond, S. & Co. 4 do av 795 at \$7.40; to Mich. B. Co. 15 do av 1092 at \$8, 5 do av 886 at \$7.75.

Roe Com. Co. sold Kamman B. Co. 16 steers av 896 at \$7.50, 10 cows and bulls av 1147 at \$6.65, 9 steers av 1086 at \$7.75, 1 do weighing 550 at \$6; to Hammond, S. & Co. 2 cows av 915 at \$4.60; to Parker, W. & Co. 23 steers av 1130 at \$8.25, 22 do av 935 at \$8; to Mich. B. Co. 19 do av 1079 at \$8; to Newton B. Co. 6 cows and bulls av 1060 at \$6.75, 7 cows av 914 at \$5, 12 do av 960 at \$6.75.

Haley & M. sold Thompson Bros. 2 steers av 660 at \$6; to Sullivan P. Co. 4 cows av 960 at \$6.25, 1 canner weighing 780 at \$4.25, 4 butchers av 570 at \$5.35, 2 cows av 930 at \$6.30, 1 do weighing 900 at \$5, 10 steers av 982 at \$7.45; to Mich. B. Co. 9 do av 861 at \$7.80, 1 do weighing 940 at \$7.25; to Nagle P. Co. 2 do av 1100 at \$7.85, 1 bull weighing 1150 at \$6.75; to Mich. B. Co. 12 butchers av 735 at \$7.10, 3 do av 830 at \$7.10, 6 steers av 708 at \$7, 19 do av 820 at \$7.50, 2 cows av 850 at \$5, 7 butchers av 750 at \$6.10, 11 do av 694 at \$7.35, 3 do av 577 at \$6.50, 2 cows av 925 at \$5, 2 canners av 785 at \$4.25, 1 bull weighing 940 at \$6; to Thompson Bros. 1 canner weighing 470 at \$4; to Sullivan P. Co. 4 cows av 955 at \$5.25, 2 cow and bull av 980 at \$6.50, 3 steers av 920 at \$7.50, 2 cows av 1120 at \$6.25, 8 do av 1045 at \$6.10, 2 do av 865 at \$5, 3 do av 987 at \$5.35, 4 steers av 820 at \$7, 3 cows av 943 at \$5.35, 2 canners av 770 at \$4, 1 steer weighing 890 at \$6.25; to Hammond, S. & Co. 3 butchers av 907 at \$6.50; to Kull 15 steers av 931 at \$7.65; to Mason B. Co. 6 do av 633 at \$6.50, 16 do av 817 at \$7.50, 1 do weighing 770 at \$6.75; to Sullivan P. Co. 5 heifers av 790 at \$6.50.

Glenn sold Mich. B. Co. 3 bulls av 1370 at \$6.50, 2 heifers av 855 at \$7.25, 2 cows av 1035 at \$6.25.

Lowenstein sold Hammond, S. & Co. 12 cows av 1097 at \$6.15.

Groff sold same 1 cow weighing 1250 at \$6.50, 1 bull weighing 1520 at \$6.50, 2 heifers av 760 at \$6.50, 4 butchers av 800 at \$5.50.

## Veal Calves.

Receipts, 822. Market \$1 lower than last week; trade slow on common grades. Best, \$9.50 @10; common, \$6.50 @7.50; milch cows and springers strong.

Spicer & R. sold Parker, W. & Co. 1 weighing 190 at \$12; to Applebaum 2 av 125 at \$9, 3 av 130 at \$9.50, 1 weighing 130 at \$9, 3 av 120 at \$9.

Roe Com. Co. sold Rattkowsky 3 av 180 at \$6.50; to Nagle P. Co. 3 av 150 at \$10.

Haddrell sold Newton B. Co. 3 av 120 at \$9.

Glenn sold Mich. B. Co. 2 av 115 at \$9. Haley & M. sold Mich. B. Co. 1 weighing 330 at \$7, 12 av 135 at \$10.25; to Patrowsky 6 av 140 at \$10.25, 8 av 140 at \$10, 6 av 130 at \$8; to D. Goose 7 av 145 at \$10, 1 weighing 220 at \$6; to J. Goose 1 weighing 170 at \$6.50, 1 weighing 150 at \$10, 5 av 125 at \$10, 1 weighing

130 at \$6.50; to Mich. B. Co. 6 av 140 at \$10, 17 av 150 at \$8.50, 5 av 105 at \$8, 14 av 140 at \$10.25.

## Sheep and Lambs.

Receipts, 1997. Market 25@35c higher than last week. Best lambs, \$9 @9.25; fair to good lambs, \$8.50 @9; light to common lambs, \$7 @8.25; yearlings, \$8 @8.50; fair clip sheep, \$6.50 @7; clip culs and common, \$4.50 @5.50; clip yearlings, \$8.

Bishop, B. & H. sold Swift & Co. 228 lambs av 82 at \$9.40; to Nagle P. Co. 604 do av 80 at \$9, 28 do av 70 at \$8.60; to Bray 112 do av 75 at \$8.75, 95 do av 80 at \$9.25, 36 do av 70 at \$8; to Sullivan P. Co. 9 do av 55 at \$8, 4 sheep av 90 at \$4.50, 15 lambs av 55 at \$6.25; to Parker, W. & Co. 25 sheep av 45 at \$7.10; to Mich. B. Co. 13 do av 77 at \$8.50; to Newton B. Co. 36 do av 76 at \$8; to Cocco 5 clip lambs av 47 at \$5; to Mich. B. Co. 1 buck weighing 130 at \$5.50, 2 lambs av 60 at \$7.50, 1 buck weighing 130 at \$5.50, 1 sheep weighing 170 at \$7.50, 25 lambs av 75 at \$9, 174 do av 80 at \$9.25, 1 sheep weighing 150 at \$6.50, 4 do av 130 at \$5, 87 do av 109 at \$7; to Sullivan P. Co. 15 lambs av 85 at \$9.25, 19 do av 50 at \$7; to Barlage 14 do av 70 at \$8.54.

Jackson sold Parker, W. & Co. 6 sheep av 115 at \$4.50, 16 lambs av 110 at \$8.75.

Glenn sold Mich. B. Co. 59 lambs av 65 at \$8.50, 14 do av 55 at \$7.

## Hogs.

Receipts, 3995. None sold up to noon; looks as follows:

Range of prices: Light to good butchers, \$9.25 @9.30; pigs, \$9.35; mixed, \$9.25 @9.30; stags one-third off.

Haley & M. sold Parker, W. & Co. 140 av 160 at \$9.30, 230 av 200 at \$9.25, 90 pigs av 145 at \$9.35.

Spicer & R. sold same 250 av 160 at \$9.30, 250 av 200 at \$9.25.

Bishop, B. & H. sold Hammond, S. & Co. 1010 av 200 at \$9.25, 510 av 150 at \$9.30.

Roe Com. Co. sold Sullivan P. Co. 10 av 205 at \$9.35, 125 av 190 at \$9.30, 200 av 200 at \$9.25.

Bishop, B. & H. sold Newton B. Co. 196 av 180 at \$9.25, 47 av 150 at \$9.30.

## Friday's Market.

April 11, 1913.

## Cattle.

Receipts this week, 1333; last week, 1906. Market steady at Thursday's prices. Best dry-fed steers, \$8.25 @8.50; steers and heifers, 1000 to 1200, \$7 @8; do. 800 to 1000, \$7.50 @7.75; do. that are fat, 500 to 700, \$6.50 @7.50; choice fat cows, \$6.50 @7; good fat cows, \$6 @6.25; common cows, \$4.50 @5; canners, \$3.75 @4.25; choice heavy bulls, \$7; fair to good bologna bulls, \$6 @6.50; stock bulls, \$5.50 @6; choice feeding steers, 800 to 1000, \$7 @7.50; fair feeding steers, 800 to 1000, \$6.50 @6.75; choice stockers, 500 to 700, \$6 @6.75; fair stockers, 500 to 700, \$5.75 @6.25; stock heifers, \$5 @5.50; milkers, large, young, medium age, \$6 @8; common milkers, \$3.50 @5.00.

## Veal Calves.

Receipts this week, 1001; last week, 1123. Market steady at Thursday's prices.

## Sheep and Lambs.

Receipts this week, 2763; last week, 3457. Market steady at Thursday's prices. Best wool lambs, \$9 @9.25; fair do., \$8.50 @8.75; light to common wool lambs, \$7 @8.25; yearlings, \$8 @8.25; fair to good clip sheep, \$6.50 @7; clip culs and common, \$4 @5; clip lambs, \$7.75 @8.15.

## Hogs.

Receipts this week, 5312; last week, 7902. Market 10c higher than Thursday; light to good butchers, \$9.35; light yorkers \$9.35; stags one-third off. prices. Best, \$9.50 @10; others, \$5 @8; Milch cows and springers steady.

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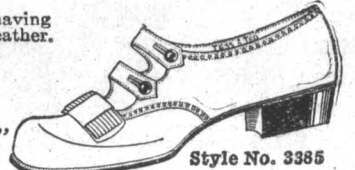
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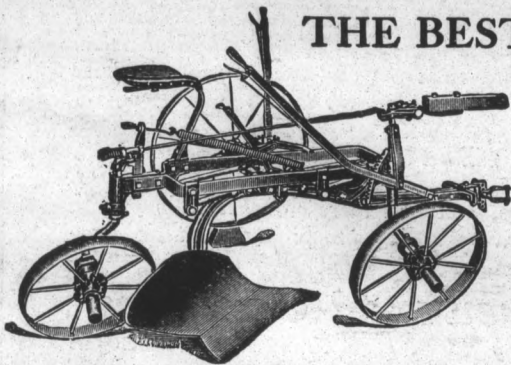
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## Practical Science.

### ACCESSORIES TO FOOD PRODUCTS.

BY FLOYD W. ROBISON,  
Spices.

Accompanying a large list of food products, we have a considerable number of accessories to food products, the value of which, in the dietary is chiefly exhibited from a condimental viewpoint. Among this class of substances, a group of peculiar and special interest is the spice group. There are quite a number of spices which contribute certain special features to the articles of diet in the human dietary. It seems especially necessary that some provision be made beyond the flavor and aroma of the foods themselves to make certain substances in the dietary tempting and palatable. There is real reason for the use of salt, particularly in the diet of potatoes, and with the increased use of salads and articles of like nature, the demand is steadily increasing for the rarer and otherwise less used spices.

#### Spices Not True Foods, But Condiments.

Spices are of great importance from a dietetic point of view. We do not figure the actual food value which they contain, and of course, some of them do have value; but it is the zest-giving feature which they impart which makes the diet more tempting and more palatable, that shows the importance of this class of substances. Many experiments have been made in different experimental stations to determine the effect of the palatability and flavor. This is a difficult factor to establish, but it is certain that they do have influence, either direct or indirect, on the amount of food eaten, increasing possibly the chances for digestion and utilization.

#### Spices Greatly Adulterated.

Spices, aside from being interesting from a standpoint of their dietary relations, have been of great interest to the public analyst because it is this class of substances, more than any other, which has been susceptible to gross adulteration. Years ago, before the advent of the spice mill, the adulteration of spices was not so common, because, of course, the adulterant could be more easily detected in the whole spice than in the ground product. But when the convenience to the housewife of the pulverized spices became evident, the adulteration of the article on a large scale became common practice.

#### Microscope Valuable Aid to the Analyst.

In the laboratory, the most valuable method of detecting adulteration depends on the microscope. An analyst who is skilled in the manipulation of the microscope will have little difficulty in identifying the adulterant used. Almost all of the spices have a definite cellular structure which, when the microscopist once becomes familiar with that particular form, will be a ready means of identifying sophisticated articles. Aside from the microscopic method of detecting adulteration and fraud, chemical methods have very materially assisted the analyst in his work. The greatest obstacle in the way of chemical standard for spices has been the fact that the spices themselves, though pure, vary in a considerable degree, as must be the case when one considers the variety of conditions under which they are grown.

#### Pepper.

Pepper is the dried berry of the pepper plant. It is cultivated in many countries in the tropics, but is especially native to the East India Islands. The plant grows from 12 to 20 feet in height. When the fruit, or berry, begins to turn red, it is then gathered and dried, during which process it assumes a black color and becomes crenated, or crinkly. White Pepper and Black Pepper from the Same Berry.

It is not generally known that black pepper and white pepper come from the same berry; but pepper, whether white or black, is originally from a berry which, when dried, becomes black, or grayish black on the outside, and due to the drying, the shell is crinkly or crenated in appearance. White pepper is produced by removing the outer dark colored shell from the dried berry, after which it is almost milk white, or grayish white in appearance. Sometimes this outer shell or skin is ground by itself; other times, the whole berry is ground, which makes the ordinary black pepper of commerce. There is a variety, or class, of white pepper which is somewhat larger than

the black pepper, and smooth. They are frequently coated with lime which gives them a white appearance. There are a great many varieties of pepper. Some of them are more valuable as a spice than others. Among these may be mentioned Singapore, Mangalore, Acheen, Penang, Alleppi, Samatra, etc.

(To be continued).

### PREPARED INFANTS' AND INVALIDS' FOODS.

(Continued from last week).

#### Invalids' Foods.

By invalid foods, we refer here to foods designed to be used by persons suffering with certain more or less chronic disorders. The one disease which has called forth the greatest number of these prepared invalids' foods is diabetes mellitus. In this disease, the human system seems to be unable to properly reduce the starches and sugars to their final end products. Consequently in diabetes, the starch and other sugars are eliminated in the form of grape sugar. So commonly has this phenomenon been linked with diabetes that the disease has come to be known to the ordinary citizen as "sugar diabetes."

A number of years ago, we went into a pure food restaurant in Chicago, and were attracted by the bill of fare on a certain few tables in this restaurant which were set apart for persons suffering with this disease. A special menu was shown so that they might have served to them the foods which they like, but which would not aggravate the sugar condition in their body. We saw many gluten breads, that is, bread made from flour from which the starch had been more or less completely removed, gluten cakes; no sugar or sweets were served, even coffee, instead of being sweetened with sugar, as is usual, was sweetened with saccharine. Saccharine is the well known coal tar substitute for sugar which we have come to hear so much about in the controversy between Dr. Wiley and the Remsen Board over its admissibility in general into food products. Saccharine, of course, is not sugar, neither is it a food, but it is 500 times sweeter than cane sugar. The last item on the menu, considering the object of the whole bill of fare, was very amusing. It read as follows:

#### Buckwheat Cakes—Choice Maple Syrup.

We were very much interested in knowing why, after the sugar had been so religiously removed from the diet, the very last item on the program would provide a very liberal allowance of this very sugar in the form of maple syrup. This simply serves to show how very inconsistent many dietists have been in matters of these invalid foods.

#### Many Gluten Foods are Frauds.

Very few of the gluten preparations have been especially meritorious; some of them have been freed from starch to a remarkable degree, but many of them have contained no less starch than raw wheat flour, and in this respect have been absolute frauds. Winton reports the analysis of one known as "pure vegetable gluten," which sold at 50 cents per pound, as follows:

	Per Cent.
Moisture .....	10.78
Mineral matter .....	2.20
Fat .....	3.25
Proteids .....	14.25
Starch .....	56.55

It will thus be seen from this analysis that over half of this so-called pure vegetable gluten is starch, which is the very thing the product is supposed to have eliminated. It is very easily seen that a person suffering with diabetes, who would be led to use such products might be doing himself great injury, supposing the product was what it was represented to be.

Some of these gluten preparations have not been so devoid of merit. Winton also sights several other gluten preparations which contain as low as four per cent starch. Besides flours which have been washed free from starch, which are known as gluten preparations, there have been put on the market products manufactured from casein of milk. These contain no starch, and should contain no sugar, or at the most, only a trace of sugar. Cookies, crackers and biscuit are manufactured from this product, and it seems as though, if the question of palatability can be solved, that they should be desirable for the purpose intended.

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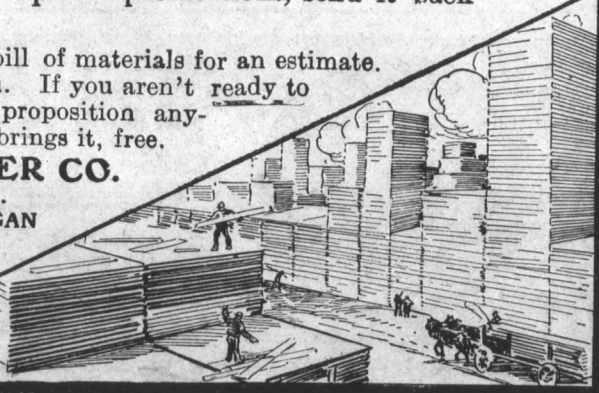
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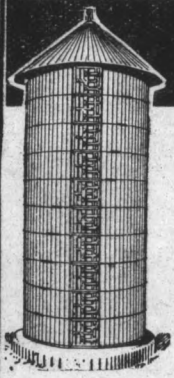


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CONDUCTED BY W. C. FAIR, V. S.

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to someone else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

**Indigestion.**—I have a cow that has not thrived all winter, neither has she given as much milk as she should for some time. Her appetite for grain is fairly good, is fed cob meal, bran, corn fodder, millet hay and good wheat straw. Some time ago she began losing her hair; I applied kerosene and lard, thinking she might have lice, but I fail to find any. T. J. S., Niles, Mich.—Give her ½ oz. of fluid extract gentian, ½ oz. fluid extract cinchona and ¼ oz. Fowler's solution at a dose in feed three times a day. Her bowels should be kept open and you had better discontinue feeding her millet hay.

**Effects of Feeding Unbalanced Ration.**—I bought four pigs of my neighbor on December 1, 1912; commenced feeding them warm separator milk, adding what ear corn they would eat up clean. Two of them continued to thrive and grow, the other two began to show stiffness in hind quarters and found it troublesome to get up without help. I have been feeding them warm milk, oats and some oil meal, without results. These two pigs fail to grow and have been sick for the past three weeks. J. F. Decatur, Mich.—You brought on their rheumatic trouble by feeding too much corn and sweet milk; it is not a balanced ration for pigs. Continue feeding oats, oil meal, roots, and give each one a tablespoonful or two of lime water at a dose three times a day. Apply one part turpentine, one part aqua ammonia and four parts soap liniment to back once daily. Give 10 grs. sodium salicylate at a dose three or four times a day.

**Worms.**—I have a horse that has passed a few long round worms recently and I would like to know what I had better give him. J. H., Freeland, Mich.—Mix together equal parts powdered sulphate iron, ground gentian, ground wormseed and quassia and give him a tablespoonful or two at a dose in feed twice a day.

**Swollen Face—Osteo Porosis.**—My 18-month-old filly is troubled with swollen face which seems to yield to treatment, but the swelling is inclined to return and is now growing hard. I have applied iodine and it fails to do any good. G. E. T., Fenton, Mich.—Your filly has no doubt had an inflammation of bones of face and it is possible that she suffers from constitutional osteo porosis (big head), a very peculiar disease and one that is none too well understood. Some Vets. think it is rheumatic, others believe it a parasitic ailment and the horse seems to be the only animal that is affected. It is possible for it to be the result of a fungus on the grass or fodder. Change her diet completely and give 2 drs. of hypo-sulphite of soda and 2 drs. calcium phosphate at a dose in feed three times a day.

**Thoroughpin.**—I have a twelve-year-old horse that has a large puffy swelling on both inside and outside of both hock joints. A neighbor tells me that he has bog spavin and thoroughpin, but these bunched do not cause any lameness or interfere with his working. W. R., Dearborn, Mich.—The very best advice I can give you is to leave him alone and not treat him until he shows either stiffness or lameness.

**Indigestion.**—I have a horse that is inclined to hold his head high and open lips frequently and his dung is covered with slime. When I feed him salt and stock tonic, it makes him worse. Had him examined by two different Vets.; one of them thought he had kidney trouble, the other that he had heart disease. L. S., Mayfield, Mich.—Give your horse 1 dr. ground nux vomica, ½ oz. ground gentian, ½ oz. powdered fenugreek and 1 oz. bicarbonate soda at a dose in feed three times a day. A change of feed, giving him plenty roots will do him good.

**Warbles.**—I have a two-year-old Jersey cow that has several small hard lumps on back that have been there for a few weeks. She appears to be well and is giving 12 quarts of milk daily. W. C., Battle Creek, Mich.—The bunches you mention are warbles that have not yet matured. The skin should be opened and the grub squeezed out and killed, then apply boracic acid to wound once a day. Rub iodine ointment on small bunches once a day.

**Abnormal Heat.**—I have a three-year-old heifer that had second calf some time ago and I bred her three weeks after she came fresh and she has been in heat continually ever since. I am anxious to have her get with calf and would like to have you tell me what to do for her? C. C. H., Constantine, Mich.—You had better breed her to another bull and are you sure that she does not suffer from contagious abortion?

**Nervousness—Lacks Appetite for Grain.**—My eight-year-old horse is nervous and will not eat enough grain to keep him up in flesh when working hard. By changing his feed I find he thrives best. R. C., Vassar, Mich.—His grinder teeth may need floating. Give him ½ oz. fluid extract gentian, ½ oz. fluid extract cinchona and 1 dr. fluid extract nux vomica at a dose three times a day.

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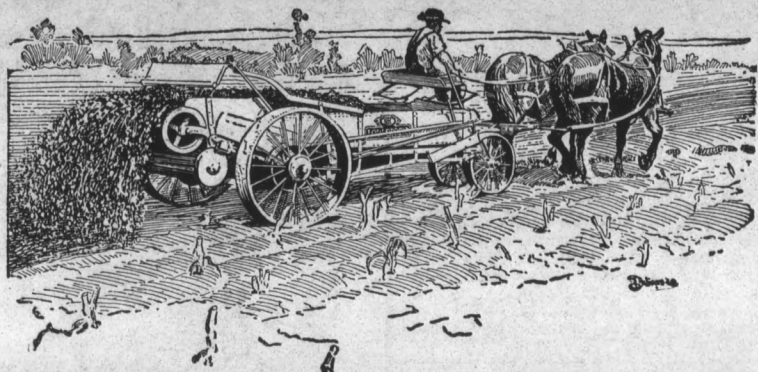
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## Soil Management in the Orchard.

**S**OIL management in the orchard should provide and regulate the supply of plant food and moisture to secure maximum benefits during the season. It is a local problem. Before deciding it, a man should make a comprehensive study of the various systems advanced and adopt one that conforms to his particular conditions of soil and climate. It is essential that the system be elastic enough to afford means of contending against unusual seasons and unfavorable factors.

Inasmuch as there is not commonly held a full conception of the many sidedness of tillage operations; inasmuch as there is a tendency on the part of growers to look to artificial plant food rather than to developed plant food for the trees; inasmuch as the ease with which commercial fertilizers may be bought and the inadequacy of farm labor tend to cause neglect of tillage operations; on all these accounts it seems worth while to discuss in detail the functions of fertilization and tillage to the end that they may be better done.

### The Function of Tillage.

The commercial fertilizer does but one thing. It furnishes food for the trees. If it is a good fertilizer, it may do the one

A one-horse plow is better adapted for working in close to the trees. Disc and cutaway harrows are serviceable and convenient for shallow tillage early in the spring. They may be set to throw the dirt either way. On loose, friable soils they will give better cultural results than the plow. The spring-tooth and the drag harrow can be used to break the crust after rains, and to refine the surface after it has been loosened with the cutaway or disc. A spike-tooth harrow may be used to stir the surface after it has been worked by other implements. The most valuable implement we have ever used in our orchards and vineyards is the large V-shaped cultivator. It is a two-horse implement with big shovels or teeth. If used after the ground has become firm after a rain it leaves the surface of the soil in nice condition for the spring-tooth harrow to prepare a deep, dust mulch.

### The Moisture Problem.

Tillage regulates the supply of moisture in the soil. After we have thoroughly manipulated the soil to get at the supply of plant food, the most important object of tillage is to regulate the supply of moisture in the soil. We all know from experience the effects of long, protracted seasons of drouth. Tillage is the most



Apples Stored in a Large Farm Cold Storage Plant with Chemical Pipes Showing Overhead. (See page 502).

thing very well; but it is only one thing. Tillage, however, performs many functions. It does manifold things, things chemical, biological and physical. It increases the fertility of the soil by making available more of the plant food already present. Tillage modifies soil texture by refining the soil particles. By modifying the texture of the soil and increasing porosity it makes the conditions more favorable for the multiplication of bacterial life. Tillage in conserving soil moisture perhaps more than in any other way promotes the growth of the trees and the production of fruit. That tillage in some degree does what commercial fertilizer does, besides performing other valuable functions has not always been recognized by fruit growers.

Too many growers look upon tillage as a means of destroying weeds. While this is one of the most important objects, I do not look upon it as by any means the most important. As I understand the purpose of soil manipulation, it is that we may get still further at the plant food which is in the soil. It seems to me that many have a wrong idea of the fundamental principles involved in tillage. There is abundance of plant food still in the soil, and tillage, in its most intelligent sense, is the means of getting at this unavailable plant food, or of getting more of it.

### The Proper Implements.

Of first importance is the selection of suitable implements. We should have plows, harrows and cultivators which will pulverize the soil thoroughly and deeply in the spring and leave the surface fine and loose to a depth of about three inches. We want implements which will in every process of manipulation make more available plant food. There is poor excuse for a man to spend money for commercial manures and fertilizers until he has made use of that which is abundantly in his soil. Some soils need additional plant food, but not until they are depleted of that within reach of labor.

For plowing in the orchard the ordinary walking plow is better than a riding plow.

successful means of combating the effects which follow long drouths.

To discuss the manner in which soils lose moisture intelligently we should have a knowledge of the upward movement of the water in the soil. The dryer the condition of the atmosphere and the higher the temperature, the more rapid becomes this upward movement of the water and hence it passes off rapidly by evaporation and the crops suffer unless we understand how to control the moisture. The principle by which water rises in the soil is called capillary attraction. It is rather difficult to explain, but it is a fact, however, that there are passages through which water is seeking the surface at all times. Now one of the great objects of tillage in dry seasons is to hold back, or keep down, this soil moisture; or at least to control it that it shall pass through the plants that are upon the soil rather than pass out and be evaporated without being utilized by the plants. The roots of the plants penetrate to a certain depth of the soil, and they take up the moisture that is constantly pressing upward towards them. Fine tilth, fine culture at the surface, will seal over the openings of these capillaries so that it will be possible in a period of drouth to carry an orchard through successfully. If the season is very dry the cultivation should be frequent and the surface should be kept as fine as it is possible to make it. This fine soil will form a blanket and the moisture as it presses to the surface will be held underneath it. The result will be that the trees will receive more moisture and go through severe and protracted drouth with better success. So tillage means, first, making available, as far as is possible, the plant food that is still in the soil, and, second, the holding back of the supply of moisture, that the trees may utilize it. We must look upon tillage from these standpoints if we secure maximum benefits from our work.

### Tillage Makes Necessary Soil Feeding.

Thus far I have described only one side of the tillage problem; that of making more plant food available and controlling



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the supply of soil moisture. If tillage alone is depended upon to maintain the fertility of orchard soils there is nothing being grown on the soil except, of course, the trees and nothing added to it in the way of vegetable matter. By clean cultivation and maintaining a loose dust mulch, the soil moisture is very effectively retained. However, there is another side to the tillage problem. We are constantly drawing on the land's stored-up fertility without renewing the supply. When it becomes necessary at last to apply fertilizers we are up against an expensive proposition.

Now one thing that would add very largely in this whole matter, both in obtaining more plant food, and also in helping to control the moisture, is the incorporation of green manure plants. I wish to be clearly understood upon this important phase of the subject. One of the reasons why drouths are so severe in their effects upon trees and fruit crops is the fact that much of our soil has lost so largely of its vegetable matter. It has become depleted of its supply of humus which is always present in a new soil. In new lands the supply of humus is usually adequate, and the more humus, or the more vegetable matter, the soil contains the greater is its ability to resist drouth. Since, through tillage, we have taken so much production from the soil we have reduced or destroyed largely its vegetable matter, one of the first matters to be considered is to re-incorporate vegetable matter. Now the question arises, how can this most economically be done? In my next article I shall endeavor to describe a system of cultivation with cover crops which experience and exact experiments have proven will meet these requirements.

New York.

W. MILTON KELLY.

### SPRING CARE OF THE STRAWBERRY PLANTATION.

The first essential in the spring care of strawberry plantations is the removing of the mulching material from over the plants to between the rows where it shall serve as a moisture conserver. This mulching which has been on through the winter has protected the plants from the freezing and thawing of winter and spring, which breaks off many of the fine feeder roots by heaving, and leaves the plant in condition so as to dry out easily.

This heaving is one of the main causes of lack of vigor in plantations in spring, still a mulched strawberry patch is an exception rather than the rule. There are strawberry growers and stawberry growers. The matter of mulching or not mulching determines, probably more than anything else, whether a man belongs to one class or the other. The "really and truly" strawberry grower will always mulch.

The mulching should be removed as soon as spring weather has arrived. If the plantation is in a frosty place the mulching might be left on a little later than usual so as to keep the plants in check some, or if it is desired that varieties should bear a little later than usual the plants should be allowed to grow through a thin mulching.

If the mulching is on very thick, care must be taken to not leave it on too long, otherwise it may smother the plants. Mulching an inch thick is sufficient for a winter covering.

Ordinarily the mulching should be left between the rows until after the fruiting season is over. Here it has two important functions, that of conserving the soil moisture and that of keeping the berries clean. Both are highly essential in successful strawberry growing. Sandy and dirty fruit is discounted every time on the market.

Should the plantation lack vigor in spring, it may be advisable to put the mulching to one side and cultivate it several times, and then replace the mulching. A couple of applications of nitrate of soda will do as much good in invigorating the patch and not entail as much work. One application made in spring when the growth of the plants starts and another close to the fruiting time will greatly invigorate the plants and will also encourage better fruiting. One hundred pounds to an application is sufficient. Care must be taken to keep the nitrate of soda off of the plants, otherwise serious injury by burning will result. Making the application along each side of the row will give the desired results.

If the plantation has not been mulched through the winter, spring cultivation would help the patch. As the fruiting

season approaches some mulching material should be used so as the fruit will be kept clean.

Van Buren Co. FRANK A. WILKEN.

### WHITEWASHING FRUIT TREES.

Is it beneficial to the orchard trees to whitewash them in the spring? If so, is there any special way of preparing the whitewash?

Midland Co.

J. M.

Not many years ago when the present knowledge of the science and art of spraying was a closed book to our fruit growers and students, the whitewashing of fruit trees was a common practice among the more progressive and thrifty orchardists, and the practice no doubt had merit. But the good coming from whitewashing is now secured by spraying and since the latter practice has possibilities that cannot be obtained through the earlier way, it would be unwise to attempt to control troubles of the fruit trees by the old method. The chemicals used in spraying will make the bark of the trees smooth and give it that lively appearance that used to follow whitewashing, and besides many insects, fungous diseases are controlled. The whitewash most commonly used was the ordinary material consisting of diluted lime water.

### TOMATO PLANTS DYING.

I have tomatoes planted in the house and they seem to die from something bothering around the roots. They turn yellow and shrivel just below the top of the soil. There are some little black bugs in the boxes. Do you think they cause the trouble? What can I do to kill them? Would also like to know what to do to make onions ripen. This is sandy soil and they grow too long and don't get ripe.

Lake Co.

A. S.

We cannot satisfy ourselves as to the cause of the trouble with the inquirer's tomato plants. It is possible that the little beetles of which he speaks are the common flea-beetles and that they do the damage. They can be brought under control by spraying the plants and soil about with Bordeaux mixture containing an arsenate, such as Paris green or arsenate of lead. How to make the Bordeaux mixture was described in detail in a recent number of The Farmer. The arsenate of lead is used at the rate of one pound to 50 gallons of the Bordeaux, and the Paris green at the rate of one pound to 100 gallons of the mixture.

We are of the opinion, however, that the trouble is not due to the beetle, but that it is the result of a disease known as "damping-off." This disease is of a bacterial nature and its activity is due largely to environment. Its depredations are confined almost entirely to plants grown indoors and generally comes from improper watering and ventilating of the house where the plants are growing. The disease is also aggravated by damp cloudy weather.

These suggestions may help to save the unaffected plants. Water them at midday that the soil may dry off before evening. Ventilate the house every day that it is possible to do so, taking precaution that the plants be not placed in a cool, damp current of air. Sprinkle warm dry sand over the surface of the soil, or apply some air-slaked lime, or a little dry sulphur. It is also wise to spray the plants with Bordeaux mixture, and since the little beetles are present it would be well to add the arsenate as specified above to destroy them also inasmuch as both can be done by the same operation.

A sure method of making onions mature where they have a tendency to continue growing is not known. The habit may be the result of seasonal conditions and until man can control the weather he is not likely to succeed in having his onions ripen every year as he would like, or it may be from poor seed, a situation that can be remedied. The customary expedient is to break the tops down when the season has arrived for ripening. This is easily done by rolling some light object, like a barrel, over the tops. The philosophy of the scheme is that the breaking of the stems holds the plant sap into the bulb and thereby causes them to more quickly develop and ripen. The plan, no doubt, helps but in seasons like last fall there is pretty apt to be trouble of continuous growth even where this plan is carefully practiced. Avoid planting seed that has been grown in a moist climate and where the growing season is long.

It is policy to run a little spray mixture through the hose and nozzles before training the material upon the trees.



### The Lasting Spray for Potato Bugs is HERRMANN'S ARSITE

because it sticks to the leaves even through heavy showers.

**SURE** because it contains a high percentage of arsenic, and is sure death to leaf-eating insects.

**SAFE** because there is no free arsenic to burn the foliage.

**EASY** because you have simply to stir the contents of a can into your Bordeaux mixture or solution of freshly slaked lime.

**ECONOMICAL** because it is sure, safe and easy and one pint does the work of 3 to 6 pounds of Paris Green and 10 to 12 pounds of Arsenate of Lead.

If you don't use Bordeaux or lime buy Herrmann's Calite—another form of Arsite—ready to stir into clean water and spray.

Arsite is sold in 35c half-pint cans and in 65c pints; Calite in 30c pints and 50c quarts. We can supply you if your dealer can not.

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For Insecticides and Fungicides

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Sole Manufacturers of Herrmann's Hi-Grade

Pure Paris Green



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Ask for prices on high grade tested farm Seeds such as:

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**WINTER VETCH** "Vicia Villosa"  
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**SOY BEANS** (Northern Grown)  
**COW PEAS**  
**SPRING VETCH**  
**FIELD PEAS**

**SEED OATS**  
**BARLEY**  
**SPRING RYE**  
**SEED CORN**  
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in variety for gardeners and others. All transplanted and well grown. Price list free. E. J. SHEAP & CO., Plant Growers, Jackson, Mich.

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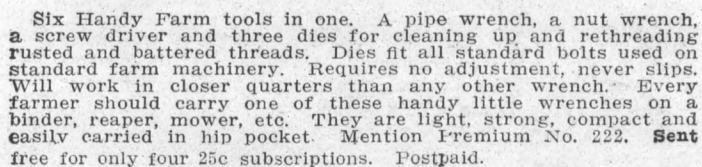
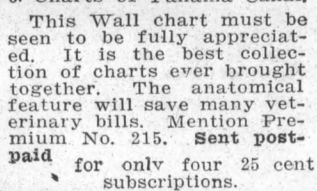
**For Sale**—Green Mountain Potatoes, great blight resisters, fire-dried. **COLON C. LILLIE**, Coopersville, Mich.

**WHITE CAP DENT CORN**—Fire dried, 99% germination, \$2.50 per bu. Bags free. Yield 130 bu. per acre. **GEO. E. LAPHAM**, R. 8, St. Johns, Michigan.

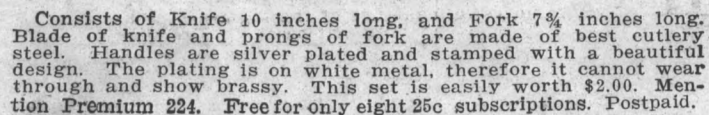
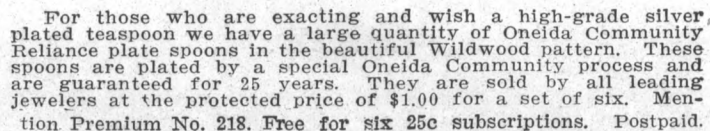
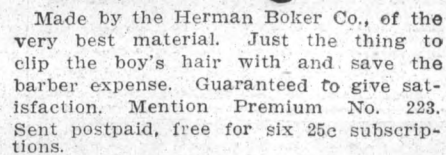
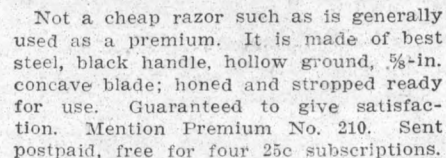
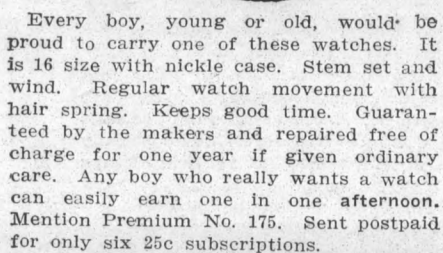
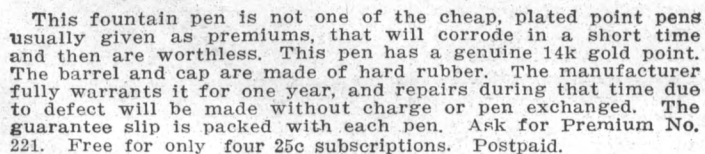
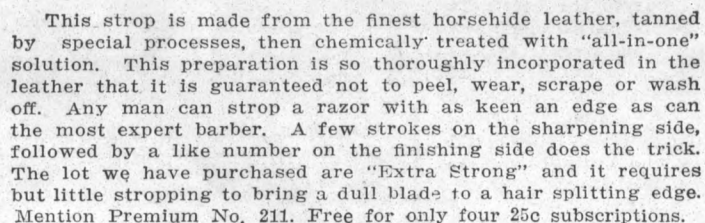


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## Farmers' Clubs

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

### Associational Motto:

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

### Associational Sentiment:

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

### CLUB DISCUSSIONS.

**Discuss Practical Topics.**—The Berlin and Almont Farmers' Club, of Lapeer county, met at the pleasant home of Mr. and Mrs. James Tripp to hold its March meeting. Roll call was responded to by an Irish Witticism. "Bean culture and the effect of crop on the soil," by Alex. Braidwood. He said to rotate beans in the place of corn, in the usual crop rotation. That when kept clean, by cultivation, they did not take from the soil more than other crops, nor as much as oats. At the price beans have been for several years, one could afford to use enough commercial fertilizer to keep the soil in good condition. When dragged in on bean ground, it also benefited following wheat crop. "Our Almont roads and preparation for a corn show," by L. F. Chandler. He said if we would withdraw from the county system and build our own roads, with the \$2,800 we now furnish the county road system by the two-mill tax, we could build four miles of state reward road where we now build one. To prepare for a corn show he would suggest two committees be appointed: One to solicit funds to be used for prizes, one for judges. Some shows use the following points to score from: Greatest yield per acre, 30; best ten ears, 20; best written history of crop, 20; best showing of profit on yield, 30.

"How to raise hogs and what kinds." C. B. Scully said it was not so much the kind of hog as the care taken of it. A hog, to do its best, should have a dry pen, be fed a ration calculated to produce bone and muscle till ready to fatten. His experience is when a pig has reached 100 lbs. to feed what it can eat in one-half hour, twice a day, is as much as a hog can assimilate.

"The Clover Crop."—George Rider said we could not farm without the clover crop, especially June clover. He said a ton of June clover was worth as much to him, to feed, as a ton of bran. He liked best to seed wheat ground, though he had had good clover on oat ground. The Club adjourned to meet with Mr. and Mrs. Roy Hallock the second Wednesday in April.

**Corn Day.**—A goodly number of members and friends of the Looking Glass Valley Farmers' Club gathered in March at the Woodman Hall in Wacousta, where they spent a very pleasant day. The meeting was called to order by the president, after which the opening exercises were rendered and officers were elected for the ensuing year as follows: President, King Lee; vice-president, Bert Oliver; secretary, F. C. Openlander; treasurer, Chester Miller. Mrs. Maier then gave a report on the lecture course and announced that Mrs. Pooler, a reader and impersonator, would be here on March 21 to give a number on the course in place of the magician who failed to come as was expected. The Reverend Pollock, of Grand Ledge, then gave a very interesting and instructive address on the question of local option, which was followed by one on the same subject by Mr. Carpenter. Both addresses were very much enjoyed and held the entire attention of everyone present. It being corn day several brought specimens and it was decided that in spite of the hail some very fine corn had been raised. Claud Miller gave a short talk on "How I like my silo," followed by F. Shaddock and others. Mr. Winegar and F. Howe then gave short talks on "What is a top notch farmer?" Adjourned after a very pleasant time to meet on April 8 at the home of Mr. and Mrs. H. Welton for the annual sugar social.—Mabelle Wesseler.

**Rural Betterment.**—The Salem Farmers' Club held its March meeting at the pleasant farm home of Mr. and Mrs. J. M. Crane. This was one of the most profitable meetings held by the Club. The main feature of the afternoon was an address by Rev. Arthur Mumford, of Webster, which was one of the finest we have had the pleasure to hear. His subject was "Rural Betterment." He began by showing the value to the community of the rural church with all its influence in the way of higher living—Christian culture and general uplift. He told us something of the ideal environment in the farm home which induces the boy and girl to stay on the farm. He said, make the boy a partner in all your plans for the betterment of the home and surroundings, citing instances which had come under his own observation showing how the added interest ties a boy to his home, with the happiest results. He gave a fine plea for the centralized rural high school, and gave instances showing its value, also its practicability and economy. This subject was discussed by a number of the Club members, also by the Rev. Knowles, showing greatly in favor of the central school if it can be brought about in our township. An original poem was read by Miss Mae Atchinson, and the Club adjourned feeling they had spent a profitable and pleasant day.—H. C. T., Cor. Sec.

## Grange.

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

### OTTAWA PATRONS AND TEACHERS HOLD GREAT MEETING.

The Ottawa County Grange, Teachers' and Patrons' Association held a third successful meeting in Nunica, March 27-28, and again demonstrated its right to exist. Among the features of intensely practical interest may be mentioned a talk by J. H. Skinner, agricultural advisor of Kent county, containing good practical suggestions to teachers of agriculture as well as to the farmers present. He strongly advised testing seed oats, either at home or at school, since in Kent county many samples are showing only 45 to 60 per cent germination test. He scored Michigan farmers for dishonest methods in packing apples, thus lowering the standing of our fruit and demoralizing our markets. He believes the greatest opportunity of the rural teacher is in improving the social conditions of the country.

Rev. Moore, of Coopersville, in his address on "Country Community Building," urged the co-operation of home, church, and school, emphasized the need of greater play privileges for the country child, and the good to be derived from parents visiting the schools, and from teachers calling at the homes of pupils.

Many practical truths were given by Mrs. F. D. Saunders in her address on "Sanitation." Among other things she said: "Our bodies are given to us to use, and it is irreligious for us to abuse them or neglect to properly care for them. Our power to do is lessened by disease." She discussed the importance of recognizing the trinity of health—pure air, sunlight, and cleanliness, and making them a part of our daily plan of living. The dark, damp cellars found in many farm homes are unsanitary and should receive attention before other parts of the house. We should strive to eliminate the "typhoid fly," by thorough screening, cleaning up our back yards and looking after other breeding places of these pests now recognized as carriers of scarlet fever, typhoid, tuberculosis and diphtheria. We must strive to make the country a good place in which to live—for only by making the farm home healthful, beautiful and its social conditions good, may we hope to keep the child on the farm.

Miss Georgia Cook told the story of her Mothers' Club in an interesting way, bringing out the importance of what mothers suggest to their children about school, before school opens. With this idea she called the mothers together and asked them to co-operate with her by suggesting to their children that they were to have a good school. The mothers meet at the schoolhouse each month and discuss with the teacher matters of interest to both. At these times, exhibits of sewing, nature study and examination papers are inspected by parents. Miss Cook said she thought it required "unusual ability to teach a country school well. Any ordinary person could fill a high school position but vastly more is required of the rural teacher."

Manor Smith, lecturer of Western Pomona Grange, gave a very able talk on the topic, "Can not the most of us work but one-half the land we now do and still maintain our present income?" He said that in a few instances this might be possible, but in general he should answer "no." While it is certain that more efficient methods of farming will double the yield per acre, he questioned whether it was possible to do this at present with profit. He feared flooding the market with produce and cited last year's apple crop as an illustration. When the times make greater demands of the American farmer he believes he will be equal to the occasion.

Prof. French gave an address on "Agriculture for the Rural Schools," which was both broad and deep in its scope. He said that "education should discover to the child the line of work he will enjoy." It is not so important that he become wealthy as that he "enjoys living." If a man is making a good, complete, clean living on the farm and enjoying it, he is all right. The farmer should not be envious of men in other occupations. Prof. French outlined quite fully the things to be taught in agriculture, and suggested apparatus for carrying on such work in the rural school.

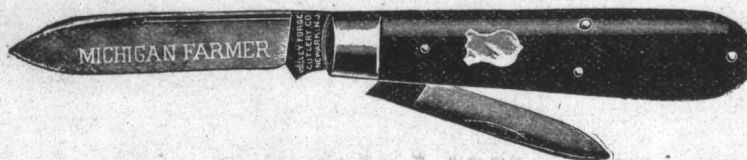
A short business session of the association was held Friday afternoon at which time the following officers were elected for the ensuing year: President, Melvin Smith; first vice-president, Fred Gordon; second, Myrtle Trel; third, Kate Kelly; secretary, Myrtle Brown; treasurer, N. B. Spencer; executive committee, L. A. Vandenburg, Charles Dunning, Laura Hosmer.—Myrtle B. Brown, Sec'y.

**Kelley Memorial Proposed.**—Fredonia Grange No. 1, of Chautauqua county, N. Y., the oldest subordinate in the United States, its organization dating from April, 1868, has fittingly started a movement for the erection of a memorial to the late "Father" Kelley. The resolution recently adopted by that Grange proposes that a monument, surmounted by a marble or granite bust of the Grange's honored and revered founder, be erected in the building or upon the grounds of the Capitol at Washington, as a lasting memorial of his life and work. It has been suggested that the necessary funds be secured by asking each Grange in the United States to contribute according to its membership, and the movement will no doubt be given definite form at the next meeting of the National Grange.

## A FEW MORE ARTICLES

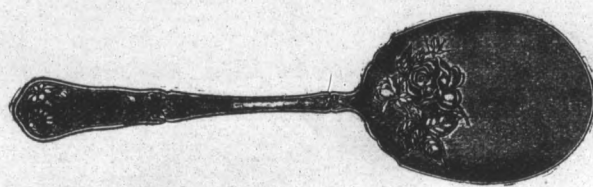
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### Farmers Extra Quality Pocket Knife

Made by the famous Valley Forge Cutlery Co. Two blades made of best razor steel. Ebony handle. Brass lined and well finished throughout. Guaranteed to give satisfaction. Mention Premium No. 217. Sent postpaid for four 25c subscriptions.



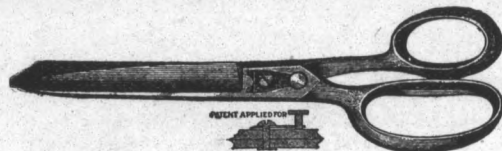
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Made by the Oneida Community in the beautiful Wildwood pattern. Extra heavy plate, guaranteed for 25 years. Length 8 1/4 inches; Bowl 2 1/4 x 3 1/2 inches. Mention Premium No. 195. Sent postpaid for six 25c subscriptions.



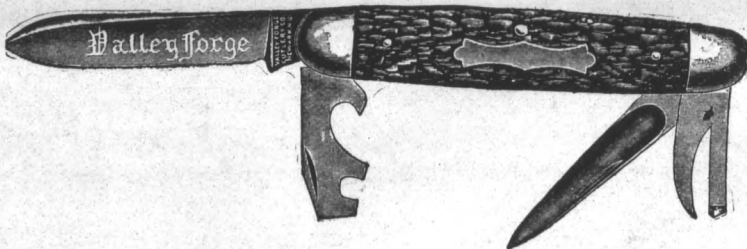
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These spoons are made of the same metal throughout and are guaranteed to last a life time. They can be kept looking bright by cleaning them with a good cleanser. The design is beautiful and the spoons are good enough to use on all occasions. Mention Premium No. 216. Sent postpaid for four 25c subscriptions.



### Patent Tension Shears

Good quality of material, 8 inches long, with patent adjustable spring tension bolt, preventing the blades from spreading and giving a clean cut the full length. We have sent out thousands of these with excellent reports from users, and they have been one of our most popular premiums. Mention Premium No. 159. Sent postpaid for four 25c subscriptions.



### Handy Combination Knife

Six handy tools in one. Contains large knife blade, screw driver, tack puller, patent bottle cap remover, punch blade and can opener. Made of the very best steel. Guaranteed to give satisfaction. Mention Premium No. 225. Sent Postpaid for six 25c subscriptions.

### Rapid Rotary Egg Beater



The most practical Egg Beater ever devised. Works with simple pressure of one hand. Nothing to get out of order. Easily kept clean. We advise every housewife to secure one of these while they last. Premium No. 229. Sent postpaid for four 25c subscriptions.



### Magnifying or Seed Glass

Something that every farmer should have and really needs, especially for examining seeds, insects or fungous pests.

The experiment stations are constantly urging farmers to make use of these glasses. The children also find them interesting. Premium 113. Sent postpaid for four 25c subscriptions.



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American farmers have already taken more than twice as many Overlands as they bought last year—and the season is only half gone.

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There is an Overland dealer near you. Look him up and ask to see this car—the best buy in America. Catalogue on request to the factory. Please address Dept. 86.

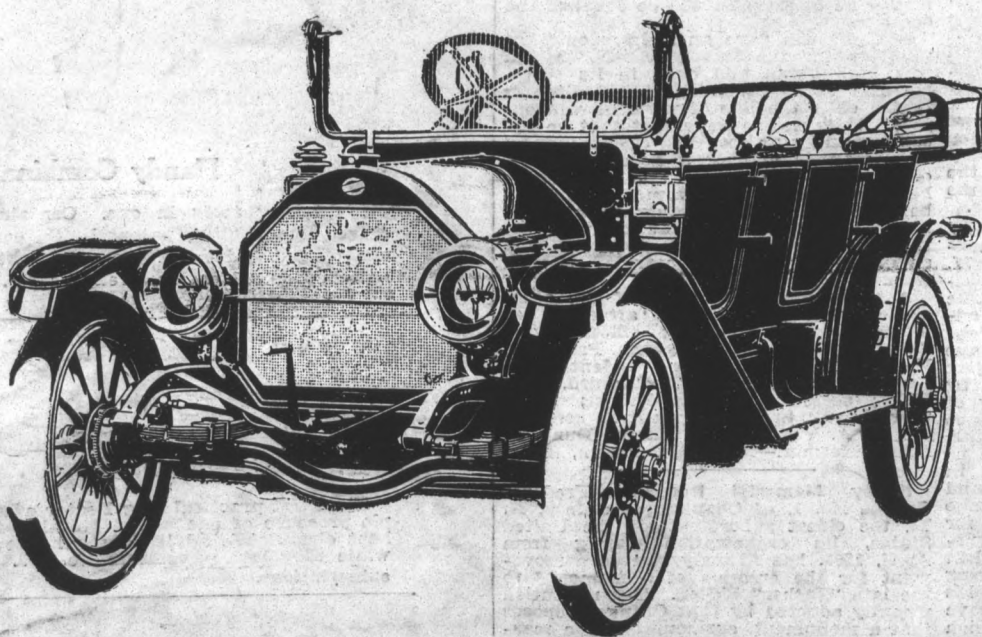
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