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## Planning and Building the Farm Barn.

THE evolution of the farm barn, like that of the farm house, has been very marked in recent years. Rapid strides have been made in the plans for the improvement of farm barns from the standpoint of sanitation as well as the comfort of the live stock housed in them and the convenience which they afford, both for the storing of the forage and grain and the feeding of the live stock in the stabling season. This evolution has resulted in the development of a considerable variety in types of construction, as well as in plans for interior arrangement. Due to the greater economy of storage, the basement type of barn has, however, come to be generally used in all locations where the site is at all favorable for this form of construction, and even on a level location the basement barn is very commonly used with a raised driveway to the barn floor located above the basement. In some sections, however, this type has been varied by placing the threshing floor on the basement level and using it for a feeding floor or for sheep or feeding cattle during the stabling season. The first of the two accompanying illustrations shows a type of this barn which has some advantages, particularly in the cheaper cost of construction. In other cases the threshing floor is dispensed with entirely and the mow above the stable is filled from large doors in the gable ends of the barn, the track for the hay carrier being carried out under an extension of the roof several feet beyond the end of the barn to facilitate the use of hay slings.

But whatever the plan of barn in other respects, the economy of both material and space have brought about the general use of a self-supporting type of roof, one popular and commonly used form of which is shown in the second of the accompanying illustrations, made from a photograph taken while the barn was in process of construction. The round or circular type of self-supporting roof has increased in popularity in recent years and in some sections, where builders have become accustomed to using it, it has attained considerable popularity. In this type the rafters are built up of inch material, which is generally sawed about three inches wide, the rafters being made in a circular form by bending these strips to a circle and nailing them together until the rafter is of sufficient width. The use of this type of roof has materially lessened the amount of timber required in the building of a barn and the elimination of the tie or purline beams facilitates the use of modern devices for unloading hay and grain by horse power.

The plank frame barn has come into more common use in recent years than ever before and undoubtedly will be more generally used in the future than in the past, owing to the greater economy of material. Several types of plank frame barns have been previously illustrated in the Michigan Farmer, hence it will not be necessary to de-

vote any space to their description in this article, the purpose of which is to impress upon the reader some of the factors which should be taken into consideration in planning and building the barn, rather than the presentation of specific plans or the description of details of construction.

### Factors which Should be Taken into Consideration in Planning the Farm Barn.

A great many people who contemplate building barns are constantly seeking ad-

vice with regard to details of plans which would be best suited to their use. This, however, is an individual problem which can be best solved by the builder himself. First, the barn should be of sufficient size to satisfy present and immediate future needs upon the farm. It should be planned to afford the best possible facilities for the keeping of the class of live stock which will be made a specialty upon the farm. For instance,

the farm upon which dairying is to be made a prominent factor in the production should be planned with a special view to promoting economy in production and quality of the product, while the barn for feeding cattle or sheep presents very different problems for solution. In the dairy barn, for instance, the plan should be such that space can be economized in the stable to best advantage. There are two general ideas as to the best plan for stabling dairy cattle. One of them is to have two rows of cows

moderate these two rows of cows, leaving plenty of space for the driveway and a sufficiently wide feeding alley on each side. Or, if only a portion of the barn is to be utilized for cows, then the cow stable can be run cross-wise of the barn. This simply illustrates the difficulty of following out any general plan in the building of a barn which will meet the special requirements of any farm.

For the dairy and horse barn, the cement floor is the only satisfactory kind to use, both from the standpoint of service and sanitation. In the cattle feeding barn and sheep barn no floor will be required, but in all stables adequate provision should be made for the admission of sunlight and some adequate form of ventilation should also be installed. For dairy barns there is no question but that the King system is far superior to any other system of ventilation. This system has been so frequently described in these columns that it is not necessary to describe it in detail in this article. It is, however, a great mistake to build a new barn, particularly a dairy barn, without installing this system of ventilation at the time of building, when it can be done at a minimum of expense.

Another factor which should be considered in the building of a barn is the arrangement of the stables and the convenient location of a silo or two, if two are needed. No new barn should be planned without this factor, as the economy of the silo for the storing of feed for all kinds of live stock has been so fully demonstrated that it can no longer be considered in the experimental stage. The silo is an essential economy for the feeding of any kind of live stock and should be planned upon in the building of a new barn.

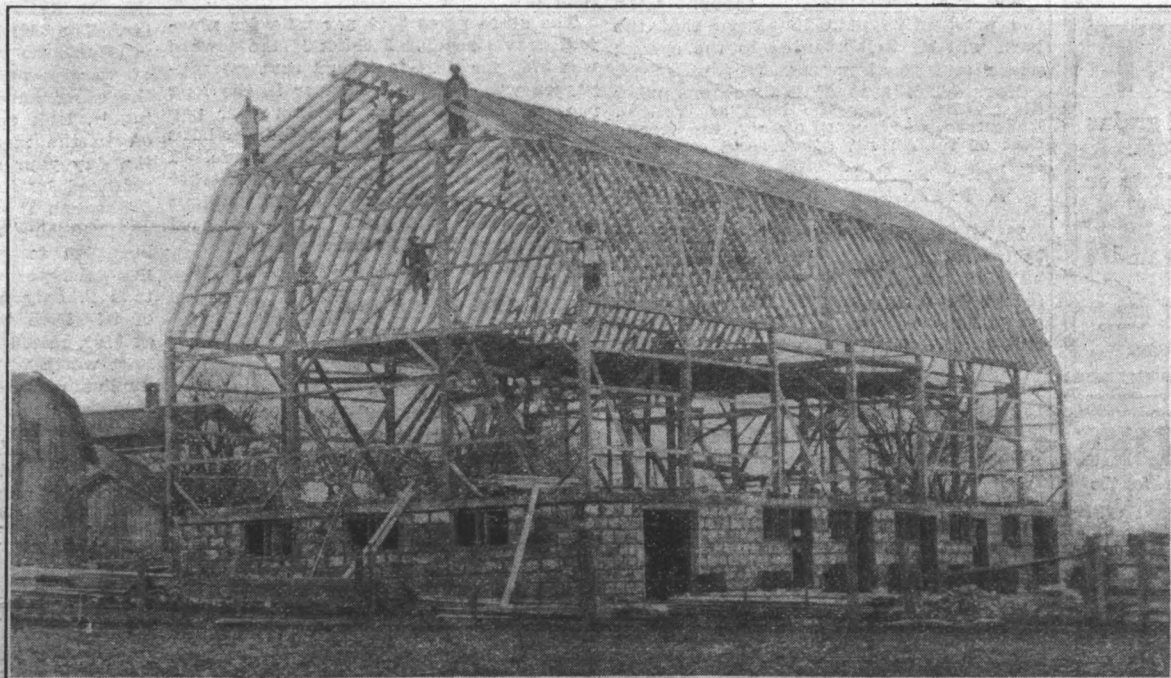
Another factor which should be considered is the water supply. It is comparatively inexpensive to provide for an adequate supply of fresh drinking water for all stock and to arrange it so that they can secure it at pleasure, and there is no one feature of their care which is more important for the economic production of live stock or live stock products than an adequate supply of fresh water.

### Material.

As in the building of farm houses, lumber is and will for some time doubtless continue to be the principal material used. For the building of basements concrete has largely taken the place of stone walls and is far more suitable and adaptable material. Concrete blocks and solid concrete construction also have been used advantageously to some extent in the building of barns as well as silos. But even at the present advanced price of lumber, that is still the cheapest available material and for this reason will doubtless continue to be used most extensively for some years to come. The time will surely come, however, when steel and concrete will be substituted for lumber in the building of barns as it has been in many other lines of



Modern Farm Barn with Threshing Floor on Basement Level.

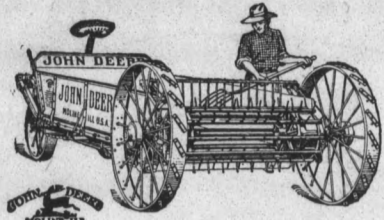


Large Basement Barn in Process of Construction, Showing a Popular Type of Self-Supporting Roof.



## John Deere Spreader

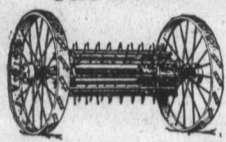
The Spreader with the Beater on the Axle



Take any manure spreader you have ever seen, remove all the clutches and chains, all the countershafts and stub axles, do away with all adjustments and mount the beater on the rear axle.

Rebuild the spreader so that the top of the box is only as high as your hips. Make it stronger. Remove some two hundred trouble-giving parts and throw them away. You will have some sort of an idea of what the John Deere Spreader, the Spreader with the Beater on the Axle, is like.

### The Beater on the Axle



The Beater on the Axle

The beater and all its driving parts are mounted on the rear axle. This construction is patented. You cannot get it on any other spreader made.

Power to drive the beater is taken from the rear axle through a planetary transmission (like that on automobiles). It is positive, runs in oil, and does not get out of order.

### Few Working Parts

The John Deere Spreader is so simple that there are no adjustments. It has some two hundred less parts than the simplest spreader heretofore made.

There are no clutches to throw it into gear. The lever at the driver's right is moved back until the finger, or dog, engages a large stop at the rear of the machine. All the chains and adjustments have been done away with.



Out of Gear

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Easy to Load

Because the beater is mounted on the rear axle, it is only "hip-high" to the top of the box. Each forkful of manure is put just where it is needed. You can always see into the spreader.

Roller bearings, few working parts, the center of the load comparatively near the horses, and the weight distributed over four wheels, make the John Deere Spreader light draft.

Spreader Book Free—Tells about manure, when and how to use it, how to store it, and a description of the John Deere Spreader. Ask for this book as Package No. Y. 5.

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Moline, Illinois

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Will prevent Smut in all grains  
Wheat, Oats, Barley, etc.

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Will treat twenty acres under an absolute guarantee.

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in oats. Guar't'd Simple to treat.  
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construction in recent years. We know of one farm barn for which plans have been prepared for the use of steel and concrete construction, but this form of construction is in its infancy and will not pass the experimental stage for some years to come.

In the selection of material, however, it will pay to make a choice which will promote a desirable degree of permanency in the building. The siding should be of material which will hold paint well, while the roofing should be of a quality which will give good service. Shingles are still most largely used as a roofing material for barns, but within a very few years other types of roofing will of necessity be generally substituted for them. At the present time the better grades of prepared roofing are frequently used with satisfaction, while steel roofing, particularly of the galvanized sort, is finding an increased use in barn construction.

### General Considerations.

Under this head might be considered the matter of location. In comparatively few cases will the Michigan farmer of today be free to consider this problem except in relation to other farm barns and buildings and yet there are many factors which should enter into the choice of the location of the new barn, one of the most essential of which is that it should be so located as to make good drainage possible about the barn and the adjacent yards. Also, it should be so located as to reduce to the minimum the necessary traveling in the care of the live stock which will be housed in the barn. Lost motion is an expensive proposition on the farm, hence the arrangements of the farm buildings should be such as to reduce to a minimum unnecessary traveling in doing the daily chores.

The distance at which the barn should be located from the dwelling is a matter upon which there is not a little difference of opinion among farmers. Some believe in grouping the buildings very closely and others in placing them a considerable distance apart. Where there is a special hazard from fire such as where the buildings are adjacent to a railroad, this is probably a wise precaution, but where this conditions does not obtain too great a distance between the house and the barn necessitates considerable unnecessary traveling during the year.

Another consideration which often presents itself is whether the older barns should be supplemented with a new one of sufficient size to meet all immediate needs, or whether they should be rebuilt and the entire plant gathered in one building. This, of course, will depend very largely upon circumstances, but where other barns must soon be rebuilt in any event there is certainly greater economy in construction in the larger building which will serve all needs for barn room.

In the matter of equipment considerable thought is required in order to secure a maximum of convenience and utility at a minimum of expense. In fact, the considerations which might arise in special cases, could be enumerated indefinitely and we can only reiterate that the building problem is an individual one and should be treated as such by every owner of a farm when the necessity for building new barns may arise. It is a good plan to visit a number of modern barns and get ideas from them and then spend sufficient time and thought upon the prospective plan to insure that the barn will be well adapted to the special needs and requirements.

NOTE.—The first of the accompanying illustrations shows the barn of Wm. F. Robertson, of Macomb county, the second that of Wm. Witt, of Oakland county.—Eds.

### A PLEA FOR WIDER ROADS.

Have not our counties and townships been wasting a good bit of our money by building nine-foot road beds on 24x20-foot wide road grades? A 24-foot wide grade is plenty wide enough for a 14-foot road bed. Then why spoil a good grade by putting on a nine-foot road when it costs less than one-third more to make a good job of it? Fourteen feet is sufficient width for two tracks; that would mean just one-half of the wear on the road. Then we can drive so as to have a wheel on each side of the center and that makes one more track and will be equal to a nine-foot road. So you see we have three times the wearing surface on a 14-foot roadbed that we do on a nine-foot. Then we have a chance to pass other rigs without one or both going into the ditch. Now this is claiming quite a lot for one-third more expense,

but I think a 14-foot road will outlast three nine-foot roads; has a handier surface and is better in every way. If you come up behind a rig you have a chance to get by. If you are driving an auto you do not have to go outside of the hard roadbed and take chances on skidding into the ditch.

A nine-foot roadbed has but one track. Where the wheels run it gets packed perfectly solid and a heavy load will crush all small stones into dust, and the first auto that comes along sucks it up on the front side of the wheels and then blows it clear off the track when they let go. This doesn't seem much, but when from one to 50 or more go over the same track it soon counts. Meanwhile, the horses traveling in the center with iron shod hoofs have kept that dug loose and it gradually works out, leaving the road low in the center where it should be high. Then when heavy rains come, the ridges where the wheel tracks come hold it in and it washes down the center to the lowest level where it runs off at the sides, cutting ditches and causing a bad chuck hole.

This road is hard to keep in repair. If you use a road grader or drag to scrape the sides to the center the wheel tracks are so solid that they will hold up the blades and you will do but little if any good. If you haul on more gravel it will not pack in the center but keep working into the wheel tracks, making them still higher, when they are too high already. If our roads were 14 feet or more in width, then the driving would be all over the whole road, making a hard, smooth surface, and by going over once in a while with a road drag it would keep the center high, the rains would drain off at the sides and not wash down the center and there would not be wear enough in any one place to work or crush the surface into dust to be blown off by the winds or auto.

In the township of Holly we have one mile of state reward gravel road nine feet wide that cost \$1,763.30. They used 1,600 yards of gravel costing \$1,000, which makes five yards to the rod at 62½¢ per yard. Three yards more would make a 14-foot road, or \$1.87½ more per rod, or \$600 more per mile. This extra five feet of gravel would take the place of just so much dirt, saving that much grading, unless it happened to be a cut. But usually we are short of dirt, so I think it is safe to figure one-third less for grading and that would more than pay for the extra leveling and rolling.

And now, Mr. Reader, which do you think is the cheaper, to add \$600 more per mile and have three tracks, or 14 feet of round, smooth road, or nine feet with one track and a ditch down the center and a chance to get off the road every time you meet a rig, or crowd the other fellow off, or both get half way off? You can repair a 14-foot road at any time and it will pack and make a smooth, hard surface, for people will drive so as to hit the whole surface. But not so with a nine-foot road. They will all follow the same track, no matter how crooked the first pattern is. It will be better to build 14 feet or wider in the first place, than to build nine feet and then wider afterward, for it is hard to get a smooth, even surface because the new gravel will work off the old, hard surface, causing a sag on each side which will have to be filled several times before it will get solid enough to match the old road bed.

The state gives \$500 per mile for nine-foot gravel roads. I think if the reward was \$750 for a 14-foot road that we taxpayers would get off cheaper in the long run. I, for my part, would rather pay three times the present tax than to have any more of these towpaths made. I would like to have the editors' and other taxpayers' and owners of autos, opinions on this wider road plan. Yours for good roads and not for paths.

Genesee Co. JOHN DE COU.

### ALFALFA IN LENAWEE COUNTY.

A well-known practical farmer who resides near Tecumseh, in Lenawee county, gave his experiences with the alfalfa crop before the Round-Up Farmers' Institute a short time ago. This farmer is a man who has had several years of successful experience with the crop and ought to be able to advise at least some of the rest of us. During the course of his talk he brought out many important points which the writer will endeavor to enumerate.

That alfalfa is a good soil builder was quite evident from the fact that he had raised it upon one field for six years, cutting three crops each season, and the

seventh year it was plowed up and the field planted to corn without the addition of any fertilizer whatever. The yield of corn speaks for the quality of the soil. It was 130 bushels. What other crop could you repeat as many times and get the same results?

Alfalfa will grow on a variety of soils with good results, sandy or clay loams being preferable. It will grow satisfactorily and produce a good yield on a heavy clay soil, providing the land is somewhat rolling. If it is too level it is apt to be killed out by ice fields, as alfalfa cannot withstand a covering of ice for any great length of time. Gravelly soil will cause the crop to suffer most in extremely dry weather.

In preparing the seed bed, care should be taken to have the soil as fine as possible before seeding as the young plants are very tender and do not relish the idea of dodging around large dry lumps of earth in their endeavor to live and grow. If the seed bed is tilled down to the same consistency as the soil in your garden so much the better. The addition of lime to the soil is almost a necessity on nearly all Michigan soils. Even though your soil may not be acid, lime will improve the physical condition enough to make it pay you well.

The seed which a farmer is expecting to sow should always be a northern-grown variety or one which has been grown in the northwest as these are the only kinds which will thrive under our conditions. Inoculation has also been found to be very important by this Lenawee farmer. He also believes that a nurse crop is ordinarily very unsatisfactory and he terms it nothing more or less than a "Robber-Crop." In regard to the amount of seed to be sown, he stated that he had always sown only from four to six pounds per acre, but he stated that generally his conditions were as nearly ideal as possible and that he had used a special alfalfa drill with which he could easily control the depth of planting. The writer has found through experience on a variety of soils, that 10 or 12 pounds of seed per acre is about the right rate of seeding. However, there may be cases where everything is in ideal condition and where a lower rate of seeding would do fully as well.

The time of seeding should be any time between early spring and the first of July. The middle of summer may be a good enough time, but the above rule is certainly a safe one to follow in Michigan and particularly in Lenawee county. By sowing early you avoid the danger of damage from drought and stand a pretty fair chance of getting two or three good cuttings the first season.

Oftentimes farmers are in the dark as to when the crop should be cut. Cut alfalfa when the new buds begin to appear in the crown, no matter what the weather may be. Cutting too early or late is very apt to prove a serious handicap to the succeeding crop. After the alfalfa is cut and is wilted, it should be put up in small piles to cure. In making the hay it should always be borne in mind that over 40 per cent of the food value of alfalfa hay lies in the leaves, so whatever we do let's try and preserve that all important part of the plant. If you wish to protect the meadow during the winter do not take off a cutting after the middle of September.

Pasturing looks good to many of us, but is it worth while if we consider the great danger we are running of having the meadow killed out during the winter. The alfalfa meadow is generally unprofitable as a pasture when that point of view is taken into consideration. On the other hand, if you insist on pasturing it, look out for it while the dew is on in the morning, as at that time of the day your stock is almost sure to be poisoned by it.

Through the experiences of this farmer, practicing the above methods, he has been led to expect a yield of at least five tons per acre. He stated that five tons is only a small yield. Just think of it! Five tons of alfalfa hay, valued at \$100, raised on a single acre of ground. Is it worth while? Certainly it is. Let's duplicate the results of the Lenawee farmer on our own farms.

Ingham Co.

J. M. W.

### A Word of Caution.

Should a publication, which you do not wish to pay for, be addressed to you and mailed to your post office, be sure that you order your postmaster or rural carrier to have the publisher discontinued. Should it be continued after that, then write to the Third Postmaster General, Washington, D. C., and make complaint. You will find it will soon be stopped; otherwise you will probably get a bill for a paper you have not ordered and do not want.



**RECENT PROGRESS IN AGRICULTURE.**

The feature of the Wednesday evening program at the recent Round-Up Institute was an address by Prof. Eugene Davenport, of the College of Agriculture, University of Illinois. Prof. Davenport is a Michigan man and a product of the Michigan State Agricultural College, having been graduated in '78. For a few years after graduation, he was Professor of Agriculture at M. A. C., but later he went to the University of Illinois as Dean of the College of Agriculture. He is one of the foremost agricultural men in the country and has written a very valuable book on the "Principles of Animal Breeding." His talk was very interesting and consisted in part of the following:

"Although the study of agriculture was known some time prior to the twentieth century, the most of the progress in its practice has taken place since that time. As long as the farmer had to fell trees, grub stumps, plow new land, and do such other work as goes with the clearing and improvement of the land, just so long did the science of farming remain in the background but when all the clearing was done, then agriculture came into its own and that time was not until about the close of the nineteenth century.

"There are four ways in which the recent progress in agriculture has manifested itself, namely: interest in the experiment stations, the progressive attitude of the farmer, the organization of farmers' co-operative companies, and the establishment of the farm management bureau in connection with the various state agricultural colleges.

**The Experiment Stations have Helped the Farmer.**

"During the last 30 years the experiment stations have been doing a great many things to help the farmer but until recently he has not taken advantage of what the experiment stations were doing. The stations have developed the idea of a balanced ration, a proper ratio between the protein and carbohydrates in the stock foods. The Babcock test has not been used as much as it should be. In the past, it has been useful largely in helping great breeders to test out their herds and to permit animals to enter the advanced registry but the majority of the farmers do not avail themselves of its advantages. It is a cheap and efficient test of the value of certain cows in the dairy herd and is very easily made.

"We have also made great progress in the breeding of farm animals. A few years ago we paid no attention to the breeding of our animals but now we are beginning to pay a great amount of attention to this phase of the work for we know that the parentage of an animal will determine its characteristics. There was formerly a great amount of talk about 'foundation stock' but at present we know that the value of 'foundation stock' lies only in the last five generations. Much work has been done on the soil types. Previous to the twentieth century we knew nothing of the soil types but at present this phase of the soil study is receiving a great amount of attention. Progress has also been made in the purifying and refining of beet and cane sugar. However, we have been concerned largely with the physics of agriculture but as yet know very little about the chemical side of this science.

**Progressive Attitude of the Farmer Shows Advancement.**

"As to the farmer, one of the ways in which we know that he has been making progress is in the number of inquiries that he sends to the experiment stations. There are now ten inquiries received as to farm problems where formerly there were but one. The farmer is anxious that his boys should go to the agricultural colleges and get an education in farming, which he was denied. The farmer views the progress of agriculture in a different light. This attitude is very noticeable in the construction of silos. A few years ago the experiment stations began to tell the farmers the advantages of the silos and the last five years have witnessed the largest amount of silo building that the world has ever known. We have commenced to realize the value of alfalfa and the legumes in general, in maintaining the fertility of the soil. Now, the average farmer can apply a simple test and tell whether his soil is acid or alkaline. All of these things mark the progress of the American farmer. He is not following the same plan of raising crops that he did in the nineteenth century. We are

all aware of the wasteful practice of growing wheat or corn on the same land for many years and now this is not practiced but the reason is that the farmer has come to the full realization of the fact that this will ruin his soil in time. **Co-operating Farmers Get Good Results.**

"One of the most interesting developments of the modern era is the organizing of co-operative companies among the farmers. This has taken the form of buying and selling companies. One of the farmers of the great western apple district was asked why they could get such high prices for their fruit and the reply was that they had learned the eleventh commandment which is, 'Thou shalt pack no wormy apple.' The farmer has come to know that if he is to succeed he must be honest in all his dealings and the reason for all of the present distrust of the farmer is that in the past he has been guilty of much dishonesty and the consumers are afraid of him.

"We have also seen progress in the establishment and the investigations of the rural credit system of the Europeans and now there are companies forming in all the large and small cities for the purpose of loaning the farmers money at a low rate of interest so that they will not have to sell their crops at a loss and be at the mercy of the markets.

**Possibilities and Limitations of the Farm Management Bureau.**

"The new farm management field which has just recently been opened is significant of the progress of the farmer. In this system, men are to come into a county and to perform experiments which will demonstrate to the farmers the value of scientific agriculture. Of course, it will be impossible for one man to answer all of the questions which the farmers will put to him, but he is supposed to be the representative of the farmers and to be working in their interest. If he cannot answer the questions which they ask, he is to refer them to the experts of the state college, with whom he is co-operating. At the same time that this system is capable of a great deal of good, it is also very liable to be abused. There are a great variety of men who are applying for these positions and unless the leaders in the movement exercise the proper guidance much danger will result from it. We cannot expect any one man to be an expert in the science of agriculture. All we can expect of him is to know one line of work well. He should not be called an 'agricultural expert' for there is no such thing now. He should be called a 'county agent.' This man should take the lead in the social life of the community but the farmers should not expect him to know too much. Perhaps a better way of solving the difficulty would be to have two or three men in a county who are specialists in the crops of that particular county.

"In passing, the development of agriculture has taken place largely in the twentieth century, and is shown by the progressive attitude of the farmer toward agricultural problems."

**THE PRESENT TREND IN AGRICULTURAL EDUCATION.**

This topic was discussed by Prof. H. C. Price, of Ohio State University, at the Round-Up Institute, who said in part as follows:

"Probably the economic side of farming should interest us the most. The ultimate test of a good farmer, and whether his work is a success, is the net profit. It seems that now the trend of agricultural education is all in that direction. The agricultural colleges are beginning to realize the fact that it is as important to be able to market a crop to the best advantage as it is to be able to grow the same crop well. The recent establishment of the farm management bureau is significant for it has for its object the placing of a man in charge of all the counties and his work is largely to perform experiments for the farmer and advise him in such a way that he will be able to grow his crops more economically and at the same time to market them to the best advantage. We have come to appreciate the fact that the farmer is a business man and his work is viewed from that standpoint. All forces are at work towards that end. We now have highly specialized parts of the agricultural curriculum. We have ceased to call a man who has graduated from an agricultural college a "Professor of Agriculture."

**Rural Communities Need Leaders.**  
"The social side of the farmer's life

# That Necessary Inch



**L**IKE a pole that doesn't quite reach; a rope that is a bit too short; a bar rail that continually drops out of the post; the fertility in ordinary soil lacks the necessary small amount of available fertility for a bumper crop. There is enough

fertility in the soil for many years; but it is unavailable. Only enough becomes available each year to produce small, unprofitable yields; and when all other conditions are right for a large yield the crop fails for lack of available fertility. Available fertility is the kind provided in the

## A. A. C. Co. Fertilizers

Small Fruits—strawberries, currants, raspberries and blackberries should be fertilized with high grade Fertilizer, about 500 pounds to the acre. Those farmers who pay particular attention to market berries of the highest quality and abundant yield are in the habit of using as high as 1,000 pounds of Fertilizer to the acre, worked in around the roots. For strawberries Fertilizer should be applied broadcast before setting the plants, or on an old bed between the rows.

Fruit Trees should have a good dressing of Fertilizer in the early spring, 10 to 15 pounds around each tree, cultivated in about four inches from the surface as far out as the branches extend.

**The American Agricultural Chemical Co.,**  
D Detroit Sales Department, Detroit, Mich.

# Keep the Grain Out of Your Straw Pile

All threshing machines are not alike. There is one different from all others. It has a different way of taking the grain out of the straw. **It beats it out just as you would do by hand with a pitchfork.** All other machines depend upon its dropping out.

This one different machine is the Red River Special and you should insist upon having it do your threshing. It will save all your grain and waste none of your time.

**It saves the Farmer's Thresh Bill.**

It has the Big Cylinder, the "Man Behind the Gun," the patented Grate and Check Plate, the greatest separating devices ever built.

The Big Cylinder drives the intermingled straw, chaff and grain against the separating grate, **beating** the grain through where the check plate catches it and delivers it to the grain pan and mill.

Ninety-five per cent of the grain is taken out right there.

The straw goes over upon the shakers which hold it and **beat it until all the grain is beaten out.** In all other kinds the straw is hurried out of the machine and the grain is expected to drop out.

It doesn't. Thousands of green straw stacks every year loudly say it doesn't.

The Red River Special saves all this. Insist upon its doing your work this year. **It will save your thresh bill. Write for proof.**

**NICHOLS & SHEPARD COMPANY, Battle Creek, Michigan**  
*Builders of Threshing Machinery, Engines and Oil-Gas Tractors*

**To Whom It May Concern:**

I, J. Knudson, farmer, of McHenry County, North Dakota, do depose and say that during the summer of 1908 I bought of Nichols & Shepard Company a threshing outfit, consisting of one 20-horse power, double cylinder traction engine and one 32x52 Red River Special Separator with wind stacker, self-feeder and weigher attached.

That on or about August 23, 1908, I started this outfit near a stack of old straw that had been threshed in 1907 by a separator, and to stretch the belts on the new machine I caused a small load of old straw from the stack in question to be run through the new machine and was surprised to get over sixteen bushels of oats from this load of straw.

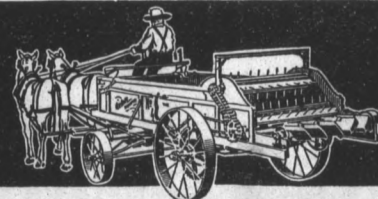
I afterward threshed out the balance of this stack and got 347 bushels of grain.

(Signed) JAMES KNUDSON.

Subscribed and sworn to before me, a Notary Public, in and for McHenry County, North Dakota, this 6th day of Feb., 1909.

[Seal] J. EDGAR WAGAR, Notary Public. My commission expires March 27, 1914.

Original and Only Low-down Spreader.



Pulverizes. Never Clogs. 3-row Spread. Solid Bottom.

Light and Strong.

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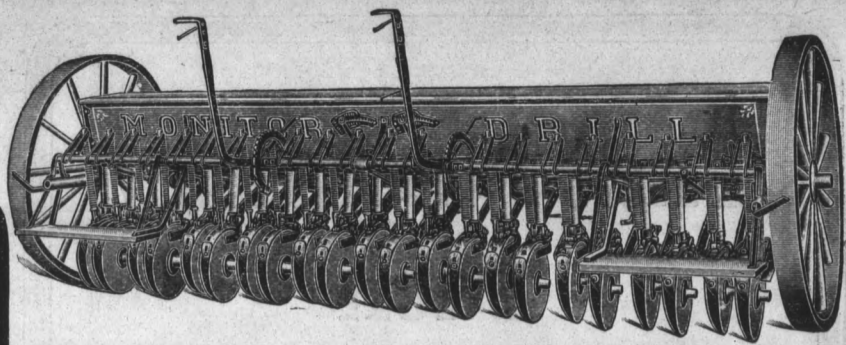
Spreads all Manures.

Not a mere unloader—does not dump in piles. The only spreader with double beaters and revolving distributing paddles, which cut the manure into shreds and spread it evenly over three full rows—5 to 7 feet. No choking. No bunching. Low-down. Easy to load. Tracks with standard wagon. Easy haul for double team. Solid bottom which never warps, breaks or wears out. No cog or bevel gears. Only perfect endless conveyor—cannot slip. All power direct from rear axle. Only two levers to operate. Strong metal wheels. Absolutely necessary for every grain and fruit farmer.

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Hundreds of farmers have carefully tested out the MONITOR DOUBLE DISC DRILL and in every case have found that it increases the yield, usually from three to seven bushels to the acre—raises the grade and saves at least 20% of the seed. It will actually save its cost in a single season.

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It deposits the seed on the downward turn of the disc—at the bottom of the furrow—in two rows, one inch apart and covers it with moist soil and not dry top earth as is done by other drills.

Owing to its uniform depth the seed all comes up at the same time—ripens evenly, insuring better grade—increased yield with less seed—it pays for itself.

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


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Plow Users  
Hardest  
Task Easy

One Nut to  
Remove—  
The  
Job is Done

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 means quick detachable—quick attachable, too. On and off quick is the idea. This new and exclusive feature is the latest development in the art of plow making. As soon as you see it you will want a plow equipped with it. Only new Deere sulky and gang plows have it. Don't waste your time and patience changing old style shares.

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**A. J. KIRSTIN CO.**  
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has and should receive still more attention. We have in the past neglected the social side of rural life. It is a well known fact that a stream never rises higher than its source and before we can expect a great deal of advancement from the men on the land, we must educate their rank and file. We need leaders and it should be the business of the agricultural colleges to so train young men that they can go home to the farm and be leaders in the social realm of the community. We are sadly in need of such men who can go out and lead and train the younger members of the rural population. It is just as necessary that the farmer should be an educated person as that his brother in the city should be educated. The farmer needs to be educated because he is in need of a diversity of knowledge more than any person in any other walk of life. He has a chance to become a specialist in botany and a great many other lines—the soil, for instance. Probably no student in college comes in contact with more plant forms in a year than the average farmer but still the latter has not been trained to use his eyes and to take advantage of the opportunity that is offered.

"The most noticeable thing about the agricultural education of today is the viewpoint which has changed very much in the last decade. The present attitude is to study intensively the social and economic problems of the farmer and then to offer a solution."

#### FARM NOTES.

##### The Formaldehyde Treatment for Smut and Scab.

I would like very much to see printed in your paper the method of using formaldehyde in treating grains of different sorts for smut, also potato seed for scab. Allegan Co. A. J. McC.

In treating seed oats for smut use a mixture of one pound of commercial formaldehyde to 50 gallons of water. Spread the grain out thinly on a tight floor and then sprinkle or spray the mixture on, stirring the grain over thoroughly so that each kernel will become thoroughly wet with the disinfecting mixture. This will require about one gallon of the mixture for each bushel of grain. Then shovel the grain into a compact pile and cover with a canvas or blankets for about two hours. Then spread the grain to dry, shoveling over occasionally as required.

In the treatment of potatoes for scab use a mixture of one pound of formaldehyde to 30 gallons of water, soaking the tubers in this mixture from one and a half to two hours.

There is also a method of treatment by the use of formaldehyde gas where large quantities are to be treated, but the water solution is probably the best for the average grower.

##### Applying Lime to Wheat Fields.

Will you tell me what will be best to put on wheat field which I would like to put down to clover this spring? I lost part of my clover last year. I have a sandy farm which was run down several years ago. I have not got manure enough to go over the whole field. I can get land plaster at \$5 per ton, also two different kinds of limestone at \$1.65 and one at \$3.75 per ton. When will be the best time to put it on in the spring? We sow our clover seed with a shoe drill. How much limestone will be needed per acre? Allegan Co. G. J. L.

In order to have been of the greatest benefit in securing a seeding of clover, lime should have been sown when the ground was being fitted for wheat last fall. Lime is a soil corrective and not a plant food and simply sowing it on the surface of the ground would not, in the writer's opinion, produce immediate results in correcting soil acidity, providing it existed and was a cause of the loss of the clover seeding.

It is true that gypsum or land plaster formerly produced very noticeable effects on the clover plant where sown in only small quantities in the spring of the year on the surface of the wheat fields being seeded to clover or on meadows. It was not due to any fertilizing effect of the plaster itself, but due to the chemical effect produced by the application through which the unavailable potash in the soil was converted into an available form. As our soils became older and more depleted in fertility, however, the store of unavailable mineral plant food was reduced to a point where plaster no longer produced the same effect which caused its general use in earlier days, and its use as a consequence has been largely abandoned.

As above noted, we do not believe that an application of lime would have an im-

mediate effect in correcting soil acidity if such a condition exists in this wheat field, but if ground limestone is applied in liberal quantities it might be the means of promoting greater success with the clover seeding. At least it would do no harm, and if the soil needs lime in any event, the work would be done. The litmus paper test would help to determine this need. If ground limestone is used a liberal application should be made, preferably in the spring at about the time of sowing the clover.

##### Reseeding Alfalfa.

Last fall I seeded 17 acres to alfalfa in September. I had the ground in fine shape before that but was delayed in getting a car of lime ordered for the field, which made me very late. While the stand came up fine and thick, I fear it has winter-killed, in which case I shall either disc the ground well and seed back in May or plow it and seed to oats and seed with the alfalfa. Which would you do? I want the alfalfa. Also, I have a 30-acre field that I wish to sow to oats this spring. It has been in drilled corn for two years. It is some rolling and the gullies seem to be sour, so last year the corn was very poor in them, while two years ago it was much the larger. Then last spring being very wet the gullies were soft when we planted the corn. Would you advise a heavy coating of lime and how much? I want to seed it to hay. Also, I have quite a lot of corn stubble ground that I want to get into spring crops and the stubble is very thick and heavy. What is the best way to get rid of it so it will not bother the drill or lay in heaps to evaporate the moisture? I saw an article on this in your paper some time ago but have lost track of it.

Ogemaw Co.

SUBSCRIBER.

It is difficult to advise with regard to spring seeding without a nurse crop or with a light seeding of oats. In an ordinary season it has been well demonstrated that a first-class stand of alfalfa can be secured in a spring-sown grain crop, provided the grain is sown rather thinly. Many of the best authorities advise sowing with such a nurse crop and cutting the nurse crop for hay before it draws upon the ground so heavily for moisture as to injure the stand of alfalfa. Much would depend upon whether this land is fairly free from weed seeds as to whether it would be best to sow in this way or alone without any nurse crop.

##### Does the Land Need Lime?

With regard to the rolling field upon which a fair crop was grown on the lower places last year, it would be the writer's opinion that these lower spots would not need lime, providing the balance of the field does not. In fact, the lower places getting the wash of the higher ground might be even richer in lime than would the higher land, and it is probable that the crop failure was due to lack of natural drainage and an excess of water during the wet period of last season, rather than to an acid condition due to the lack of the presence of lime. A litmus paper test will give some indication as to whether or not the soil needs lime.

##### Fitting Corn Stubble for Spring Crops.

Various Methods have been described for getting rid of corn stubble where stubble ground is to be sown to spring crops. Apparently it is not intended to plow this ground up, but if the ground is thoroughly disced to prepare a good seed bed the corn stubble will be pretty well cut up and will not bother as much as one would think. Some use a heavy steel bar, such as a piece of T rail, by hitching a horse at either end and dragging it over the field, claiming that this breaks off the stubble and makes less trouble in fitting and seeding the land. Others roll it, while still others use an ordinary corn cultivator, leaving the stubble in the ground and rolling them down after planting. This, however, does not permit as thorough fitting as can be done where the whole ground is disced, and in the writer's opinion this is the best method to follow.

##### Beardless Barley.

Is beardless barley as good a yielder as the bearded kind and does it contain as good fattening qualities? The trouble in raising barley is that hired help refuse to handle it on account of the beards. Hillsdale Co. B. S.

In some sections of Michigan where beardless barley was largely grown, this grain has not compared at all favorably in yield with the bearded varieties, for which reason it is not now grown to any considerable extent. In one section of central Michigan where barley is quite an important crop, growers state that they did not get more than half the yield of beardless barley that was secured with the barley commonly grown there. In some other sections conditions might be different, but this has evidently been the experience of growers, since very little beardless barley is grown in Michigan.



IMPROVING THE CORN CROP.

On this topic Prof. C. G. Williams, of Ohio, spoke in part as follows, at the recent Round-Up Institute:

"Corn is a very good crop to work with for it is so easily bred and cared for that the average farmer can breed the corn on his own land and take care of it without any inconvenience. Corn is influenced very much by length of season, rainfall, character and richness of the soil, and the degree of temperature. At the Ohio Experiment Station we have performed a great many experiments with corn and I will give you the results of our work.

Tapering vs. Cylindrical Ears.

"We picked out ears which were extremely cylindrical and others which were extremely tapering. These were planted in different plots one year and the following year more cylindrical and tapering ears were selected from the plots previously planted, etc. After a while two plots were given the same soil conditions; one was planted with seed from the tapering ears of corn and the other one was planted with seed from the cylindrical ears of corn. The yield was measured through several years and we found that the two plots gave about the same yield.

Bare Tips or Covered Tips.

"Another experiment was made in nearly the same way as the foregoing with the exception that seed was selected from ears which had bare tips and also from ears whose tips were well covered. The resulting yield was the same.

"Another experiment with seed from long and short ears showed in three years a greater yield for the long ears while one year the yield was the largest from the short ears. This year was one in which there was a severe drouth and the short ears were able to get more nourishment, hence gave the largest yield.

"A similar experiment in which corn was grown from smooth kernels and rough kernels showed an increase in yield of two bushels per acre for the corn of the smooth type, and the grain was also of better quality.

Number of Rows on the Seed Ear is Unimportant in Increasing Yield.

"An experiment was performed to see if there was any advantage in selecting seed ears which had any special number of rows of corn on them.

No. of rows.....	14	16	18
Yield, bushels .....	58.99	58.50	56.17

"This experiment shows that the number of rows on the ear is a very minor affair which does not determine the yield but when the number of rows depart very far from the normal, the result is a decrease in the yield.

Selection and Care of Seed Corn.

"Where one selects his corn from the wagon at the crib or when the corn is husked, he is very liable to pick out the large ears of corn and those which have had an advantage of better soil and cultivation conditions and these tendencies are not transmissible. You can bathe a cow in wine but her calves will be just common cattle, so we see this is not the proper way to select seed corn. It would be better to go into the field at the time of maturity of the corn and select those stalks which have two good, well-formed ears and ones which show that they will mature in your season. These may be marked with a red cloth or a painted stick and left when the corn is harvested. This gives the grower a chance to see all of the conditions under which the corn was grown and three years of such selection will increase the yield of the corn very materially. After this selected corn has been husked, it should be dried artificially if it contains a great deal of moisture. It is well to keep the seed corn on racks and in a room where the air is dry, the temperature even and the corn not liable to be frozen.

A DEFENSE OF FOREIGN LABOR.

Being a subscriber to your paper for a number of years and liking it ever so much, I would like to make a protest to part of an article on "The Farm Labor Problem," by W. D. Korb, in the issue of February 22, in regard to his views of foreign labor. I am a foreigner and am proud of being so. I left Denmark in 1891 and I never was, and never need to, be driven by a "big stick," and I think that foreign labor can be employed to as good mutual satisfaction as the American native. You may find lots of poor help in foreigners, but you can surely find poor sticks of Yankees.  
Kent Co. L. P. JENSEN.

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Are what we are trying harder than ever to furnish our customers. **FREE SAMPLES** will show that we come pretty near doing it. In many varieties we DO IT. Red Mammoth, Alsike, Alfalfa, Timothy, Orchard Grass, Sweet Clover and all others. If seed of any kind to sell, send samples and price. Write today.  
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**FOR SALE.**

Common Red Clover Seed, true to name. Green Mountain Potatoes, great blight resisters. Black Victor Oats, a great feeding oat. Wing's White Cap Corn, thoroughly acclimated, fire-dried. **COLON C. LILLIE, Coopersville, Mich.**

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Moline, Ill.

These drills have fertilizer feeds that do not choke. Knockers keep them clean. This is just what you want. Amount of fertilizer instantly adjusted as desired. Buy a drill that fertilizes and plants in one operation.





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Has every practical feature making for  
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**Examine** other machines called  
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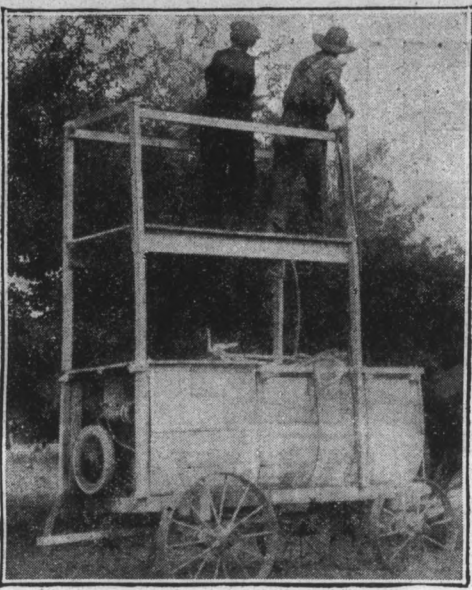
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 spraying needs may be there's a  
**Spramotor specifically built for your  
 purpose—a machine that will do  
 more and better work than any other  
 spraying outfit in its class—a mach-  
 ine that will give you endless satis-  
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Prices range from \$6 to \$350.

State requirements and we will  
 forward interesting facts without  
 placing you under obligation to buy.

**Spramotor Ltd., 1604 Erie St., Buffalo, N.Y**



## Horticulture.

### WHAT IS A GOOD JOB OF SPRAYING?

From the difference in results that  
 two fruit growers will get with the same  
 kind of spray materials, with the same  
 kind of machine, and sprayed at the  
 same time, we can easily judge that there  
 is considerable difference in ideas as to  
 what a good job of spraying is. It may  
 be, though, that two people know equally  
 well what good work is but that one has  
 not the determination to put into prac-  
 tical application his knowledge. Knowl-  
 edge not executed is not worth much  
 more than ignorance.

To my mind a perfect job of spraying  
 is just enough spray to thoroughly cover  
 the tree, evenly distributed over the tree  
 so that not a spot is left untouched.  
 We can only hope to work toward that  
 ideal. There will always be some drip-  
 ping which will be waste, and some few  
 spots that are left untouched. To do  
 good work in spraying requires activity  
 and a watchful eye. The spray rod  
 should be kept on the move all the time,  
 the eye directing its movements to places  
 unsprayed. The men who like to stop  
 and swap stories while the spray is  
 thoroughly drenching a part of the tree  
 and then slight the other parts to make  
 up for lost time, should be set to hauling  
 manure or hoeing weeds out of the corn.  
 They are likely to use enough material  
 to do a good job but without any good  
 results.

Of course, a good power outfit, one  
 which rarely balks, spray nozzles which  
 throw a fine mist and seldom clog, and  
 hose that will stand the pressure, and  
 couplings which will hold, make a good  
 job easier. Spraying at its best is dis-  
 agreeable work, and it is an economy of  
 time and temper, when both time and  
 temper are scarce, to have all of the con-  
 veniences for spraying.

The easiest way to do good work in  
 spraying is to take advantage of the  
 wind. If the wind is from the south,  
 spray from that side, and then wait for a  
 north wind to finish up. To get spraying  
 done at the proper time is almost as es-  
 sential as getting it done thoroughly.  
 The wind seldom changes to suit us, and  
 to wait would make it too late. There-  
 fore the work has to be finished up, even  
 if the wind stays in the same quarter  
 all during the spraying time.

We find it convenient when spraying  
 with a power outfit to have one man  
 spray from the tank and take care of the  
 ground and have from 30 to 40 feet of  
 hose to give him plenty of opportunity  
 to get well around the tree. If the wind  
 is in the southwest, for instance, we start  
 spraying from the south. The men on  
 the tank covers the top and the south  
 side of the tree. The man on the ground  
 works around to the east and west sides  
 of the tree as far as his hose will allow  
 him. The east side is especially well  
 covered as east winds are generally rare.  
 In that way about three-quarters of the  
 tree is covered. After that is done and  
 the wind still continues from the south-  
 west the work is started on the west  
 side of the tree, the man on the ground  
 making special effort to work around to  
 the north and northeast of the tree. The  
 man on the tank touches up such places  
 on the west and southwest sides as need  
 it. In this way the tree can be quite  
 thoroughly covered and the spraying done  
 on time. The man on the ground is the  
 main one. He has the hardest work. He  
 should be one who is thorough and quick  
 and not be very particular as to whether  
 a little spray hits him or not. If a man  
 sprays alone he can do more thorough  
 work from the ground than from the  
 tank, although it is harder to handle the  
 team.

Keep a man who is a good sprayer.  
 The man who will stick to a disagreeable  
 job until it is thoroughly done has some  
 good qualities in him, and he is almost  
 without exception a good worker in other  
 lines of farming.

Van Buren Co. F. A. WILKEN.

### PLUMS AND POULTRY.

Not all succeed in raising plums who  
 set out and tend their trees. Some sea-  
 sons the trees bear profusely but in the  
 main the annual crop is far below ex-  
 pectations. For a number of years after  
 I had planted an orchard, pruned, fer-

tilized and cultivated the same, my plum  
 trees, although usually loaded with bloom  
 and young fruit later on, failed to ma-  
 ture the crop which would eventually  
 drop off so that but a few of the plums  
 ever ripened. Spraying the trees availed  
 but little and I became disgusted finally,  
 with their culture. About this time we  
 had occasion to enlarge our poultry plant  
 and yards and the plums being near this  
 space, we utilized the plum orchard and  
 ran a poultry fence around the whole.  
 It was sodded to June grass but the first  
 season the fowls killed nearly every  
 green vestige and left the surface devoid  
 of vegetation save for the plum trees  
 which that season put on a wonderful  
 growth of trunk and branch. The fol-  
 lowing spring it was a solid bloom but  
 we entertained but small, if any, hopes  
 for fruit. During the ensuing few months  
 before the usual fall of the plums we  
 noticed our poultry actively engaged in  
 scratching underneath and near the trees.  
 Finally, out of curiosity more than any-  
 thing else, I quietly observed them at  
 work and saw they were eating the  
 small immature fruits that had dropped  
 and were now continually falling. Upon  
 examination I found nearly all of such  
 fruit stung and in most a small larvæ  
 or grub was contained. I knew at once  
 the fowls were destroying the larvae of  
 future curculio that were the arch ene-  
 my of my plums. That season with the  
 poultry continually among the trees we  
 had better than a half crop of nice fruit  
 and the subsequent season, by jarring  
 the trees mornings while the dew was  
 still on, when the parent curculio could  
 not fly, but would fall to the ground, the  
 flock would pick them and the damaged  
 fruit clean and full crops were usually  
 assured. A stick or club heavily bound  
 with rags at one end, tied securely, was  
 employed to strike sharply the plum tree  
 trunks when the beetles and damaged  
 fruit would fall below where the chickens  
 cleaned them up. I have known others  
 to succeed with plums in the same man-  
 ner and the shade affords excellent con-  
 ditions for poultry during the heated  
 season of summer. G. A. RANDALL.

### COMMISSION MEN OBJECT TO GIVING BONDS.

There is a fight on in New York state  
 over the second bill introduced by As-  
 semblyman Roosevelt in the New York  
 Legislature, which bill provides that  
 commission merchants will have to pay  
 a small license fee to the commissioner  
 of agriculture and give a bond for \$3,000.  
 It also empowers the commissioner of  
 agriculture to withdraw the license of  
 any commission merchant who fails to  
 deal fairly with shippers, and gives that  
 official authority to establish grades. The  
 bill was endorsed by the New York Fruit  
 Growers' Association at a meeting re-  
 cently held at Poughkeepsie, N. Y. On  
 the other hand, the fruit and produce or-  
 ganizations of the state are up in arms  
 because they hold that this measure is  
 objectionable and will be a great hard-  
 ship to commission men. While the pres-  
 ent bill may be modified it seems certain  
 that some action will be taken to bet-  
 ter protect shippers. Michigan growers  
 are watching the legislation.

### MICHIGAN HORTICULTURISTS MEET AT JACKSON.

The mid-winter meeting of the Michi-  
 gan Horticultural Society will be held at  
 Jackson, March 18-19. W. W. Farns-  
 worth, of Ohio, will give two addresses  
 and the list of speakers also includes  
 Profs. Eustace, Pettit, Patten and Gun-  
 son, of the Agricultural College, Supt. F.  
 A. Wilken, of the South Haven Experi-  
 ment Station, T. A. Farrand, of Eaton  
 Rapids, C. E. Bassett, of Fennville, L.  
 Whitney Watkins, of Manchester, Presi-  
 dent Munson, of Grand Rapids, and oth-  
 ers. Several of the lectures will be  
 illustrated with the stereopticon and the  
 program includes over 50 practical ques-  
 tions. A large attendance is promised.

### OAKLAND COUNTY HORTICULTURAL SOCIETY ANNOUNCEMENT.

The annual meeting of the Oakland  
 County Horticultural Society will be held  
 in the assembly room at the court house  
 in Pontiac on Thursday, March 20. At  
 the morning session Mr. C. E. Bassett,  
 secretary of the State Horticultural So-  
 ciety, will speak on "Practical Co-opera-  
 tion," and in the afternoon on "Modern  
 Orchard Management." Officers for the  
 coming year will be elected and other  
 business of importance will be transac-  
 ted. A large attendance of members, and  
 all interested in horticulture, is greatly  
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IN THE GARDEN.

Peas may be planted early. They will stand quite cold weather without injury. The earliest varieties are lacking in quality, but they are not long in growing.

Dwarf peas are popular because they take up little room and it is no trouble to grow them. The quality is good and as they require no supports there is nothing to do beyond cultivating and hoeing.

The tall or climbing varieties of peas will yield much better than the dwarfs. A strip of poultry netting makes a good support, which they spread over and bear the pods where it is easy to pick them. Sow two rows, six inches apart, set a post at the ends and stretch the netting midway between the rows.

Edible or sugar podded peas are not common to American gardens, though they deserve to be. The pods grow to a large size and are eaten with the peas, like string beans. They are not productive of peas, but the pods make up for this deficiency, so that the total is large. In Europe these peas are commonly grown and have an important place among the garden products.

A Substitute for Squash.

In English gardens there is a vegetable which is called "marrow," that takes the place of the squash in America. It has never been grown very extensively in America and probably does not succeed generally. In some places, however, it does do well and those who have tried speak highly of the flavor. The seed companies do not list it, but they would probably furnish the seed if asked for it, or it might be obtained from the experiment stations.

Cos Lettuce Should be Blanched.

Cos, or celery lettuce, is a type that does not form a compact head, but has long, upright leaves. It is not very good for use as it grows, but should be blanched. To do this the leaves are gathered up over the heart and tied at the tips. In a week or ten days the heart will be nicely blanched, ready for use. It is then tender and excellent for salads. It does not receive much attention in the gardens of this country, though in Europe it is one of the common salad plants. Perhaps the necessity for blanching is the reason why it is not more often grown, though that really requires little labor.

Swiss Chard Renamed.

One of the names recently added to the novelties for the garden is the asparagus beet. A suggestive name it is, a beet whose top is the main part. It is in reality our old friend Swiss Chard, who has been known as such for many years. But the name has not changed the character of this useful vegetable. The valuable part is the top, which is used for greens. The stem is broad and thick and is sometimes served like asparagus, hence the name, though the resemblance is slight indeed. The root does not grow large, so is of little value. The tops may be removed, when other leaves will be sent up, thus keeping up a succession. As it is very productive a few plants will suffice to supply the family through the summer and fall.

Chicory Makes Excellent Greens.

To most persons chicory is best known as a substitute for coffee, but there are other uses of more importance. By sowing the seed in early spring a crop of leaves suitable for greens may be had for summer and fall. The leaves have a strong bitter flavor, similar to the dandelion. In fact, the two plants are closely related. If the roots are left in the ground through the winter and protected by a covering of litter to prevent hard freezing they will send up a crop of leaves in the spring which will be ready for early use. The roots are dug in the fall and stored for forcing during the winter. To do this the roots are stratified in sand and kept moist and in a dark place. Leaves, blanched and tender, are produced which make a salad that is relished by many. In some localities the forcing of chicory is an important part of the gardener's winter work.

Radishes Should Grow Quickly.

For radishes to be brittle they should grow quickly. A check in the way of cold weather will make them tough and unpalatable. So those grown in early spring are liable to be worthless. Nevertheless, it is advisable to plant them as early as conditions permit. If the spring is early and continues favorable there will be early radishes, but if it prove otherwise there is no loss except

a little labor and the seed, but radish seed is cheap. If a plot of ground was prepared in the fall by working it into ridges and these were kept covered through the winter so as to prevent the frost from going deep, it will be ready for planting in the spring before the garden can be worked. If it is on the south of a building it will be still better. Not only radishes, but onions, beets, carrots, parsnips and several other seeds can be planted. It is surprising what even a square rod of ground can produce when given good and careful cultivation.

Oakland Co. F. D. WELLS.

GETTING CELERY STARTED.

Celery is a crop that must be transplanted. The plants must be started in a seed-bed and there cared for until they are large enough to be transplanted, either into a temporary bed or to the field. Celery seed is very small, light, and slow to germinate, taking several days to come up, and for that reason certain precautions are necessary in starting the plants. Methods employed for starting cabbage, onions, or tomatoes, would in many cases, prove failures with celery.

The seedlings, as they germinate, are very delicate, and it takes a few days before they are strong enough to withstand neglect. During this time one must not forget to water the little plants regularly, or else sun and winds will cause many of the delicate seedlings to die.

The seed-bed cannot be too well prepared. I have the soil in the seed-bed about three-fourths of good, rich loam and one-fourth of well-rotted and sifted manure. However, I never use manure that is liable to heat. Mix the soil thoroughly, rake it to a clean, even surface, then roll, or pack, it down. As soon as it is properly dried, drill the seed in as shallow as possible. Sometimes the seed is sown broadcast and covered lightly. While this method usually gives a very good germination, if the seed bed is properly taken care of the drill method will be found preferable.

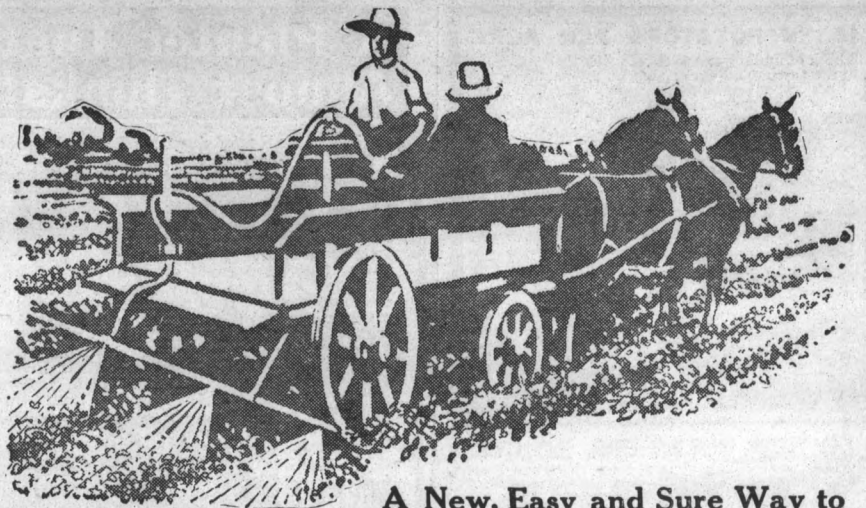
Mark off the rows, one-fourth to one-half-inch deep every three inches, and plant the seed fairly thick. One ounce of seed should be enough for a frame of six by eight feet. Cover the seed one-fourth to one-half inch deep with the finest soil possible. Immediately after my seed is planted the seed-bed is watered, care being taken not to wash the seed out. From this time on careful management is necessary, remembering that the surface soil must not be allowed to become too dry and hard. To keep the soil from baking, it should be watered at regular intervals, and not too much at a time.

While the ideal seed-bed is one that is open, or unprotected, better results in germination, and with less care, can be had when some kind of covering is used for a few days. Straw mats, cloth, gunnysacks can be used to prevent evaporation and to keep the soil from baking. I have used all of these materials on the seed-bed, and in each case the results in germination have been quite satisfactory, but the stand has been more uniform from the beds covered with just white cotton cloth. In covering the beds with white cotton cloth it is generally better to have the seed-bed made in such a way that there will be a three to six-inch space between the covering and the soil. Beds made in the form of a cold frame are very satisfactory.

It is advisable in using the cloth cover to stretch the cloth over a light frame made from inch boards. The frame can be made 3x6 feet or larger if desired, but this is a very desirable size. Such cloth-covered frames are easily handled, and when placed over the beds the wind does not move them about. As soon as the seedlings are well started, the covering can be removed, and should be removed, for if left too long, the plants tend to grow too tall and spindling.

After the plants are well started the seed-bed can be watered when needed, and it is very important to have the celery plants as stalky as possible for transplanting. Good stalky plants can be secured in two ways: They may be transplanted to a temporary bed and from there to the field, or they may be thinned in the seed-bed and sheared off when they become too tall. The plants may be cut back a third or a half of their growth and still be good plants to set out. That does not mean, however, that the transplanted plants are not better, for they are.

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SOME ESSENTIALS IN PLANTING TREES.

Being a regular subscriber and a very interested reader of your valuable paper, I take the liberty to inquire through your paper some information in regard to setting out two-year-old trees of the following varieties: Silver maple, peach, plum, cherry and crab apple. These trees are to be delivered in April. My ground is generally of a dark sandy surface with lighter sand sub-soil but in good condition, also producing good vegetables. I can give them all the water they want as I have city water and plenty of chicken manure. I know nothing about trees whatever.

Bay Co. G. C. T. We take it from the correspondence of the subscriber that he does not wish information on where to plant or the method of laying out the ground, but how to put the trees in the soil so they will have the most favorable conditions for growth. On this point there are several precautions that, if heeded, will materially aid the trees in becoming established in their new position.

And first, the size of the hole dug for the reception of a tree is important. The fact that the earth is to be taken from the hole and immediately returned as soon as the tree is placed, frequently causes men to remove as little earth as possible and then crowd the roots into small space. But the hole should be amply large to receive the roots without crowding them—in fact, the roots should be spread out to give the tree a large foundation. And further, in ground that has a hardpan sub-soil the hole should be even larger than in looser soils because, for a while, the tree will receive practically all its food from the loosened soil, so the more there is of this the greater the amount of plant food present for the plant.

A second essential is the careful pruning of the roots of the trees. The bruised ends should be cut back, broken roots removed, and any of abnormal length shortened. The usual manner of cutting back the roots is to make the incision from the under side outward so that when the tree is in position the cut surface will rest upon the ground.

Keeping the roots of the trees moist from the time the trees are dug from the nursery row until they are set in the garden or orchard, is the aim of the careful tree planter. The sun and the wind quickly absorb moisture from the live bark of the roots and thereby rob it of vitality needed to overcome the shock of transplanting, and so the common practice of scattering the trees to be planted over the ground and permitting them to lay there until a dozen or so are planted, is not followed by men of experience. These men usually keep the trees in a tub of water and remove only one at a time from the tub and that when a hole is ready to receive it. While the details of this practice may be varied the end accomplished of maintaining moisture about the roots should be carefully sought.

Since trees remain where set for a number of years and in that time require a vast amount of fertility, it is wise to make provision for a part of the food supply when planting. One method of giving these trees ready plant food, where the sub-soil is lacking in fertility is to separate the rich surface soil from the sub-soil when digging the holes and then put the surface soil in the bottom about the roots and the sub-soil on top. This brings the plant food and the roots in juxtaposition. Another practice that would pay well, in this instance, would be to dig the holes for the trees deeper than is required to plant them then place a few shovelfuls of the hen manure in the bottom of the holes, cover over with a little earth and then plant the tree. This practice, however, may not be desirable for the peach trees since it may result in a too rapid growth. A still better method for using this manure would be to spread it in liberal quantity within a radius of five or six feet from the location of a tree and then plow, or spade, under. This will encourage a larger and wider growth of roots than where the manure is placed beneath the trees. Commercial fertilizers may also be used to give the trees a good start, but precaution should be taken for one can overdo the matter by forcing the trees to an abnormal growth, making them too tender to stand the rigors of winter. It is wise to encourage growth as early in the season as possible that the wood may be hardened off before cold weather in which instance there is less danger of trouble from winter-killing.

Again the depth of planting the tree should be watched. While the usual rec-

ommendation is to put the tree from one to four inches deeper than it was in the nursery row there may be conditions, especially where the soil is light and the trees exposed to direct winds, that demand deeper planting—it even being found advisable in places where these conditions are extreme to put the plants down a foot deeper than they grew in the nursery row. Under all circumstances they should be planted a little lower, for the earth will gradually work away from the trunk during the first season, however well packed, expose the tender and heretofore protected bark and reduce the resistance afforded against winds.

The replacing of the dirt in the hole around the roots, which, while it does not require any particular skill, demands a great deal of care. Probably more trees die the result of neglect at this point in transplanting than any other. This is because the men fail to get the soil packed closely about the roots, leaving air spaces to dry out the growing tissue, thus making it impossible for the roots to perform their functions. To properly do the work one must put the dirt back in the hole in small quantities and frequently distribute it in among the roots with the hands then several times, while filling, pack it down with a long stick that is small enough to allow it to go between the larger roots. When the soil has been practically all replaced it may be tramped firmly with the feet, after which a little loose dirt drawn over the surface will prevent a too rapid evaporation of moisture. A mulch of straw or other coarse material will accomplish this same end.

Finally, attention must be given to pruning the top. The average person who does not understand the damage that may result from leaving intact the whole nursery-row top, rather resents the idea of spoiling a shapely tree by pruning, but experience will change his attitude, since a live tree, even though for a few months it has ugly stubs of branches, is more sightly than a dead one. The reason why the pruning is helpful is this: Between the top and bottom of the tree, as it grew in the nursery row, there were balanced relations—both the leaves and roots spread out into the air and soil respectively to meet the demands made upon them. But in digging the trees a very large part of the root system is left in the soil, thus robbing that part of the plant of much of its means of supplying water and mineral elements for the top. Now, should all the branches be left after the tree is transplanted the evaporation of moisture from them would be greater than the pruned root system can supply, and a weak, or dead tree would be the consequence. The remedy for this trouble is to prune away the top to correspond with the loss of roots from the bottom, and this, where ordinary methods of digging nursery trees are followed, would mean that one-half or two-thirds of the top be removed.

MARKET NOTES.

Fruit Dealers Fined.

Last week 15 produce men in Portland, Oregon, pleaded guilty to violating the Sherman Anti-Trust law and were fined the aggregate amount of \$8,450. These men acknowledged that they had made a contract with brokers by which the latter were to send produce which the combination did not care to buy, out of town. They also acknowledged that they warned producers not to send products direct to the market except when so ordered by the association. The organization also enabled the firms belonging to it to keep prices of certain commodities up through the above, as well as other means, one of which was to send fruits that were in perfect condition for human use to the garbage incinerator and have it destroyed. This they did to keep down the supply and thus hold up prices.

Direct Selling Must be Economical.

Commission men gave excellent testimony to the advantage of producers dealing directly with consumers or retailers when a delegation appeared at a hearing at the senate chamber at Sacramento, Cal., where a bill is pending making it mandatory upon commission men to divulge the names of their customers. The commission men stated before the committee that such a provision would drive them out of business since it would enable the farmers to know to whom goods were sold, thus opening the road for the farmers doing business direct with the consumers. This competition, the commission men declared they could not compete with.



# Dairy.

CONDUCTED BY COLON C. LILLIE.

## IS THE MILKING MACHINE PRACTICAL AND PROFITABLE?

Would you give me your experience with the milking machine, telling whether you consider it a success or not. I have 16 cows and would purchase one if I could be convinced that they were economical.

Clinton Co. A. N. W.  
I wish I might answer this question by yes or no and say that the milking machine is absolutely practical and profitable, or say that it is not, but I cannot do so. I confess that I do not know. I have used one now for five or six years and we like it and use it, and on the whole I am satisfied with it, and I would not begin to take what I paid for it if I could not get another one. Yet there are problems connected with the milking of cows by machinery which cannot be easily solved. It would take a long, painstaking experiment to determine whether the milking machine is practical or not. No farmer can make this experiment. It takes too much time and costs too much to make the experiment and a simple farmer cannot afford to do it. With the attention that I can give my business I am well aware that should I undertake such an experiment that it would not be reliable, because many of the details, from necessity, would be overlooked. Here is a problem for the experiment station. The Geneva Experiment Station in New York have investigated this question quite carefully and I understand their conclusion is that the milking machine is practical. An experiment station in Denmark has also given this subject very careful consideration and they pronounce the milking machine practical. The milking machine will milk cows and milk them successfully, there isn't any doubt about that. If it does not do the work well the fault is in the operator and not in the machine itself. The machine is capable of doing it, but it requires careful manipulation by the operator. We have never had any bad results from using the milking machine. It does not injure the cows. Whether a cow will give as much milk by being milked with a machine in a year as she would if she was milked by hand, by a good milker, I do not know, and how can you tell, because if you milk the cow by the machine you can't milk her by hand. If you would milk a cow one year with a machine and the next year milk her by hand you couldn't tell very much about it because cows don't always do the same one year with another. We all know that a cow will do better one year than she does another whether she is milked with a machine or by hand.

If you begin to milk a heifer with her first calf with a milking machine the question is, will the milking machine develop the heifer as well as hand milking. Now I confess I do not know, and how can I tell. Some heifers do splendidly with the milking machine and some do not do as well. Now every practical dairyman knows that this is the same when the heifers are milked by hand. All heifers do not develop into good cows whether they are hand-milked or machine-milked. I know that some heifers milked with a machine develop into good cows, and I know that some heifers milked by hand develop into good cows, and I also know that some heifers that are milked with a machine do not make good cows, and I know heifers that were milked by hand, by very careful men, too, did not develop as they ought to.

I am of the opinion that a man ought to have perhaps 30 cows to make the milking machine practical. One man can operate two machines. Each machine will milk two cows at a time and he can milk more than twice as fast as he could by hand, and a man with a herd of 16 cows could do it alone nicely without any assistance whatever, but there are other questions which come in here which a man must answer for himself. Supposing the man is sick, who will operate the milking machine? If you have 16 cows and have a good hired man, he can, in a pinch, if anything happens, milk the cows alone. It would be better to have the milking machine and the hired man. Then, if anything happened, the cows could be milked anyway. With a herd of 16 cows it will sometimes happen that only a few of them are giving

any milk to amount to anything, then it might not pay to use the milking machine for one could milk them easily by hand. When the cow is nearly dry it hardly pays to put the milking machine on her. It is quite a bit of bother to wash the machine and keep it in good condition, and my opinion is that one wants a fairly good-sized herd in order to make it practical, yet I know of men with small herds who think the milking machine is a good investment.

## QUESTIONS ON FEEDING.

I have some heifer calves I wish to raise on separator milk. What can I put in milk to take the place of what has been taken out? I wish to make as good cows out of the calves as I can. I am feeding my new milch cows equal parts buckwheat bran, middlings and wheat bran. Would gluten feed be a good thing to mix with it? Roughage consists of timothy and clover hay mixed and bean straw but will feed clear clover in a short time. I also have a two-year-old heifer due in March. Would it be good policy to feed her the above ration before she comes in? If so, how long and how much at a feed?

Montcalm Co. R. A. B.

## Grain for Calves on Skim-milk.

The best grain ration to feed in connection with skim-milk to take the place of the butter-fat that has been removed, is ground flaxseed meal made into a jelly by mixing one part flaxseed to six parts water and let it come to a boil. Feed a tablespoonful of this when you first begin to feed the skim-milk, then gradually increase until you have a gill or more, and it can be increased then as the calf grows older, but do not increase the skim-milk so very much because too much skim-milk is not a good thing.

## Not Necessary to Add Gluten Feed.

It is not necessary to add gluten feed to this ration. There is a sufficient amount of protein in it now and this would only make it more expensive. As a matter of fact, I think you could add a little corn meal to the grain and cut down perhaps a little on the wheat bran, or the buckwheat bran. You could certainly add the corn meal when you begin to feed clover hay entirely as roughage. It wouldn't be necessary then, to have all of the grain feeds rich in protein because clover hay is rich in protein itself and after you begin to feed the clover hay then I would mix buckwheat middlings, wheat bran and corn meal, equal parts by weight, which will make you a little cheaper ration and will without doubt give you just as good results.

## Feeding a Heifer Before she Freshens.

It certainly will be all right to feed the heifer this ration. Now is just the time to feed the heifer and get her to develop a good udder before she freshens and don't be afraid to give her a good liberal ration. I would begin of course with a small feed at first and gradually increase until I fed her practically as much as I would after she freshened. In this way the heifer, if she is the making of a good dairy cow, will develop a splendid udder and will yield much more milk the first year than she will if she is sparingly fed before she freshens.

## RYE AS A FEED FOR DAIRY COWS.

Would you please tell me the comparative value of rye, ground fine, mixed with bran and fed to milch cows, and also as a feed for horses? Is it far from being a balanced ration to feed 2 lbs. of rye meal, 2 lbs. of bran and 1 lb. of cottonseed meal twice a day with silage and all the clover they can eat up clean for cows giving from 25 to 30 lbs. of milk a day? Would it be advisable to sell rye for 45c a bu. and buy corn for 60c?

Ottawa Co. A. D.

Rye is not considered very valuable as a food for dairy cows. Cows don't like it as well, for instance, as they do corn meal, and yet a small amount of this in the ration works all right. Where it is fed in the proportion given by A. D., two pounds of rye to two pounds of bran and one pound of cottonseed meal, I do not think that it will do any harm. I don't know as it would do any harm anyway, and yet, as I say, it is not considered a good ration for cows. Corn meal is much more palatable and it has a larger co-efficient of digestibility. Cattle like it, and more of it is digested and assimilated than of rye meal, and yet I do not believe under the circumstances, that it would pay to sell rye for 45 cents and buy corn for 60 cents. I don't believe there is that much difference, especially when you take into consideration the labor in making the exchange.

The ration mentioned is a good one for dairy cows. The clover hay and the corn silage for roughage is excellent. We

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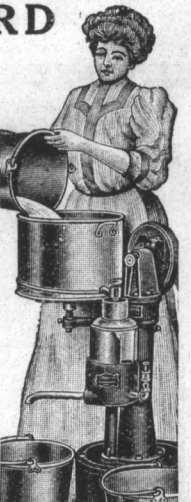
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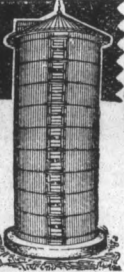
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can get nothing better. And then the mixture of rye and bran and cottonseed meal is the right principle. The cows ought to do well. I do not believe that A. D. could better himself very much by making any change.

#### RATION DEFICIENT IN PROTEIN.

I am feeding my milch cows the following ration: Ensilage, what the cattle will clean up; corn and oats equal parts (cob crushed); shredded stalks about the middle of the forenoon and again about two in the afternoon; silage and grain again before milking then good bright, clean bean pods after milking. Am feeding too much shredded stalks and had I better substitute mixed hay once a day? I don't know but the cows are doing as well as can be looked for as it is not a good winter to feed, being so changeable. Is this ration good?

Livingston Co. J. E. T.

While there is a good variety of foods in this ration, and they are all good foods, yet there is a deficiency of protein. Corn silage and bean pods and shredded corn fodder for roughage and corn and oats for a concentrate will not make a balanced ration. The cows are wasting some carbohydrates and the only way to balance up this ration is to add some concentrated food rich in protein, like gluten feed, or oil meal, or cottonseed meal. I would suggest that you mix 100 lbs. of gluten feed to 200 lbs. of corn and oats; or 100 lbs. of oil meal with 200 lbs. of corn and oats; or if you choose you could feed each cow 2 lbs. of cottonseed meal a day and feed the corn and oats as you are feeding them. This will give you a sufficient amount of protein and I am positive your cows will do much better, at least they ought to, than they are at the present time. Of course, a feed of hay for roughage would be better than the shredded corn fodder but of course I take it that you have the shredded corn fodder and want to convert it into money, and therefore it is all right to feed the shredded corn fodder and the bean pods and save the hay which may be sold later on, perhaps. The hay would help you out a little, so that you wouldn't have to feed so much gluten feed, or oil meal, or cottonseed meal but it would not help you out entirely, you ought to have a part of this ration consisting of one of these concentrates to increase the proportion of protein.

#### SHOULD BEET PULP BE FED MOISTENED OR DRY.

I have three new milch cows and desire to get the best results possible. I am feeding the following amounts of feed per day: Cottonseed meal, 2 lbs.; ground oats, 2 lbs.; dried beet pulp, 6 lbs.; mixed clover and timothy hay, 10 lbs.; stock food, 4 ozs., and what cornstalks they will eat. How much of this feed should I give? Would you advise changing it in any way? Should I feed the beet pulp dry, or moisten it?

Genesee Co. SUBSCRIBER.

In this ration where there is no succulent food, either corn silage, or roots, or anything of that sort, I think it would pay to moisten the beet pulp. If it is wet down, say five or six hours before it is fed, it swells up and assumes something like its former character. I believe that it has some effect as a succulent food. I am quite positive that it would pay where there is no corn silage, to feed wet beet pulp in this way. The ration, as a whole, is a splendid one, about the right proportion of the different grains to make a good ration, and with mixed clover and timothy hay and shredded corn fodder he has a good variety of roughage and cattle ought to do well upon this.

I think, however, you could cut out the stock food, I would not want to feed cows such food every day. It is simply feeding a little stimulant or condiment and will get them so that they will have to be fed something of this sort in order to have the ration normal. I would cut it out and would not feed cows anything of this sort only upon the advice of some competent veterinarian.

#### A RATION WITH DRIED BEET PULP.

I have paid particular attention to the question of balanced rations for cows, and I wish you would tell me how to balance the following: I have silage (with not much grain in it), sugar beet pulp, cottonseed meal and oil meal with cut cornstalks and timothy hay for roughage.

Bay Co. E. L. J.

I would feed about 1 1/2 lbs. of cottonseed meal once a day on the corn silage and about 1 1/2 lbs. of oil meal once a day on the corn silage. Feed one at night and the other in the morning. Then I would feed dried beet pulp for the balance of the grain feed. If you are feeding liberally you could feed each cow as

many pounds per day as she produces pounds of butter-fat in a week, taking into consideration, of course, that you are feeding her three pounds of cottonseed and oil meal, and give her enough beet pulp to make the balance of the ration, or if you are not testing your cows so that you know how much butter-fat they produce in a week, then have the grain ration amount to about one pound of grain to every three and one-half or four pounds of milk. You can feed the beet pulp night and morning at the same time you feed the oil meal and the cottonseed meal, or you could feed them separately. It does not matter particularly about this. I would not advise however, trying to mix the oil meal, the beet pulp, and the cottonseed meal together and feeding in that way because it is hard to get a uniform mixture of cottonseed meal and beet pulp, and if you don't then you are liable to feed cows more cottonseed meal than they ought to have. I don't think any fresh cow ought to have over one and one-half to two pounds of cottonseed meal a day and she ought not to have any before she freshens.

#### MILK MEN MEET IN GRAND RAPIDS.

Price of Milk Must be Advanced to Meet Increased Expense of Production.

The Grand Rapids Milk Producers' Association met in Grand Rapids, March 5, and elected the following officers: President, E. A. Hoag; vice-president, A. R. Harrington; secretary and treasurer, C. Hunsberger; executive board, H. D. Perkins, I. H. Haven, D. C. Boylan, E. W. McNitt and H. Washburn. The new milk ordinance in Grand Rapids requiring herds to be tuberculin tested will take effect May 1 and Dr. Slemons, city health officer, and Dr. Schuh, of the Grand Rapids Veterinary College, defended the ordinance, while the negative side was presented by H. H. Stroud, of Hopkins, M. W. Willard, of Grand Rapids, and others. It was argued by the producers that the tuberculin test is still in the experimental stage, that its use aggravates the mild cases, that Germany and three of the states have recently modified their laws regarding this test, and that if the disease were wiped out today, unsanitary conditions would bring us back where we were before in five years. The argument of the city health officers was that tuberculosis is not a disease to be trifled with or winked at, but is a real menace, and that every farmer should clean up his herd for his own financial gain if for no other reason. Dr. Schuh stated that 25 to 40 per cent of the cases of garget are of tubercular origin. He argued that while there are many mild cases you never can tell when the tubercles will break down and affect the whole body and spread the disease through the herd. In the inter-derman test there is no danger of aggravating mild cases. A cow with tuberculosis has a fever and her milk is not normal. It was shown that tuberculosis in cattle is a barn problem, a matter of sunlight, ventilation and cleanliness. The doctors agreed that pasturizing the milk doesn't solve the problem, for while you may kill the germs, who wants to drink a graveyard.

Colon C. Lillie, of Ottawa county, was called on for remarks and gave an excellent talk. He supported the city health board, saying that it was not only saving the babies of Grand Rapids, but was doing the farmers a favor as well in requiring clean herds and sanitary barns. He said that this is a fight that will not down, and while the milk producers by a strong organization, may bring about an easing-up of the ordinance the gain will only be temporary and the question will not be settled until settled right. He emphasized the fact that milk is far too cheap as an important food product, and has always been so, when compared with meats, etc. Most of the milk sold in Grand Rapids today retails for seven cents while the price in Kalamazoo is eight cents and in some cities even higher.

Kent Co.

A. GRIFFIN.

Corn feed meal is the sifting obtained in the manufacture of cracked corn and table meal made from the whole grain.

Cottonseed feed is a mixture of cottonseed meal and cottonseed hulls, containing less than 36 per cent of protein.

#### Good Demand for Dairy Shorthorns.

Davidson & Hall, Tecumseh, Mich., say: "Please cut out our advertisement for dual purpose Shorthorns, as the six heifers have been sold. There is quite a demand for dairy Shorthorns if the letters we received are any indication."



\$ 19.65

For 200 lb. Capacity

Lowest Price! Longest Guarantee!

No need to do without a separator now. We have put the price within the reach of all. Only \$19.65 for a FULL SIZE 200 lb. capacity machine. Guaranteed a Lifetime against defective material and workmanship. Skims 1 1/2 quarts a minute and gets ALL the cream. Has all the latest improvements—many exclusive features. For instance,

The Maynard

Cream Separator has a One-Piece Skimming Device made of aluminum—light—rust-proof—easy to clean. Has no discs—no "hard-to-re-set" places to wash. Easy to turn. Easy to clean. Easy to buy.

60 Days' Free Trial

Write a postal for our big Free Special Separator Catalog today. Shows five sizes, from 200 lb. capacity up to the big 600 lb. capacity shown here—all sold at low prices—all guaranteed a lifetime. 2 months' free trial. Thousands in use. Don't buy until you get our catalog—compare machines and prices. See the big money you save.

The Charles William Stores, Inc. Dept. A 17 56 Pine St., NEW YORK CITY Quick Shipments from New York, Chicago and Kansas City



CAN GOOD CALVES BE RAISED ON WHEY?

I would like to send my milk to the factory, at the same time I wish to raise my calves (without stunting them) to good cows. Can I do this by feeding whey and giving a liberal ration of grain and oil meal? Should use the ground meal containing the oil, or could I use the pressed kind? My cows will freshen about March 1 and some about April 1. Would like to send the milk by May 1 or May 15.

Genesee Co. J. B. U. If you will start your calves on milk until they are three or four weeks old and then will be careful and not feed too much of the whey, by using oil meal in the whey you can raise very good calves. I have seen fine calves raised on whey. Whey is not as good as skim-milk but it is very much better than nothing of this sort. Where whey is fed the oil meal that we buy on the market is better to supplement this feed than the ground flaxseed meal because the whey is deficient in protein, the protein or casein of the milk having been taken out of the milk in the making of cheese while in the making of butter the casein is left in the milk and nothing but the butter-fat removed. With the whey you want the oil meal, which is rich in protein, and with the skim-milk you want the ground flaxseed, which is rich in fat.

Most people make a mistake by feeding young calves too much whey. They think because the whey is cheap that they can afford to feed a lot of it, but you ought not to feed over five or six pounds to a small calf at a feed. Then encourage him to eat hay and grass and grain to get the rest of his ration but don't increase the whey. Calves that are not dropped until March 1 are much better kept in the barn in box stalls by themselves during the summer than turned out into the pasture. It is a pretty hard proposition to turn calves that are not dropped until March 1, out into the pasture to fight flies and stand the rain and the cold and the inclement weather. If you will keep them in the barn, not feed too much whey at a time, feed oil meal in connection with the whey, and give them clover hay or green clover, then when they get old enough give them a little ground oats and a little whole oats or shelled corn or corn meal, in fact, almost any kind of grain that is of good quality that they will eat in connection with the whey, you can raise good thrifty calves that will grow up to make good dairy cows. There is no question about this because lots of people have done it, but most people, as I say, make a mistake in feeding too much whey to the young calves. Don't feed over four or five pounds to a small calf and then give him clover hay or alfalfa hay or green cut clover with some ground oats for the balance of his ration and he will do well, but if you give him excessive quantities of the whey your calf will have stomach trouble.

There is a scarcity of prime milkers and springers in the markets of the country, owners almost invariably refusing to part with them. The dairy districts jealously treasure every high-grade cow, and they are trying to secure more, but extremely few cows worth \$75 to \$85 per head are seen in the Chicago or other stock yards.

INSURE YOUR COWS Against Disease



Don't sell your unprofitable cow to the butcher until you have given her a chance. Very likely she is sick—and sick cows need medicine just as human beings do. You may not be able to name her disease, but something is sapping her life and vigor. Nature needs assistance, and with Nature's food and proper treatment you can have a profitable cow.

Kow-Kure is the one remedy that is essentially a medicine—a preventive and cure for the ills of cows only. It has wonderful medicinal properties that act on the digestion, purify the blood and tone up the generative organs. Thousands of delighted customers testify that Kow-Kure is a positive cure for Scouring, Bunches or Red Water; especially valuable in cases of Abortion, Barrenness, Retained Afterbirth, Milk Fever or Lost Appetite. Here is a sample of the letters that come in every mail:

Dairy Association Co., Lyndonville, Vt.

Dear Sirs: I have found that it always paid to feed Kow-Kure whenever my cows went down on the quantity of milk. I have cured several severe cases of milk fever, one that a veterinary gave up and said would not live until morning. I gave her a dose of Kow-Kure once in two hours all night, and in three days she was giving a pailful of milk. I have cured several cows that were down and could not get up. I recommend it as the best cow medicine on earth. Wm. E. STARKEY.

Kow-Kure is not a stock food; it is a medicine. It does not stimulate temporarily—it repairs. Be sure you have a supply constantly on hand. Use it according to directions to cure and to prevent sickness. Sold by most feed dealers and druggists in 50c and \$1.00 packages. Ask your dealer for a copy of "The Cow Book"—free—or send to us.

DAIRY ASSOCIATION COMPANY,

Lyndonville, Vermont



264 Page Book On Silos and Silage

1913 copyrighted edition just off the press. Most complete work on this subject published. Used as text book by many Agricultural Colleges. Gives the facts about Modern Silage Methods—tells just what you want to know, 264 pages—indexed—over 45 illustrations, a vast amount of useful information boiled down for the practical farmer. Tells "How to Make Silage"—"How to Feed Silage"—"How to Build Silos"—"Silage System and Soil Fertility"—"Silage Crops in Semi-Arid Regions." All about "Summer Silos" and the Use of Silage in Beef Production. Ninth Edition now ready. Send for your copy at once. Enclose 10c in coin or postage stamps and mention this paper.

10c

Silver Manufacturing Co., Salem, Ohio

FRESH PURE AIR FOR YOUR BARN



will keep it dry and at an even temperature.

The best and most economical way to provide this ventilation is to place on your buildings a

Buckeye All-Metal Cupola - Ventilator

The Buckeye not only does the work but lasts the longest. It is the only Cupola-Ventilator made entirely of metal having a heavy metal base. A handsome weather vane mounted with horse, cow, sheep or hog free with each one.

Every owner or prospective builder should have our helpful book, The Ventilation of Modern Farm Buildings. It is free. Write today. THE THOMAS & ARMSTRONG CO. 28 R.R.St., London, O.

THE ROSS SILO



Only silo made with these combined features. Doors on Hinges. Continuous Door Frame. Refrigerator type of Door and Door Frame. Oval Door Frame to fit exact circumference. Not a bolt in entire door frame or doors.

Extra Heavy Hoops and Lugs. Roof Rafter and Anchors furnished FREE. Backed up by 63 years of experience. Write for catalog which explains all. AGENTS WANTED.

THE E. W. ROSS CO. Box 14 Springfield, Ohio

More and Better Milk

Is what the dairymen want. More milk is secured when the physical condition of the cows is improved; better milk follows the introduction of sanitary methods. The combination is a winner.

Pratt's Animal Regulator is the best conditioner for dairy cows on earth. 25c, 50c, \$1. 25-lb Pail, \$3.50

Pratt's Disinfectant makes the stables sweet, clean, sanitary. "Your money back if it fails"

1913 Almanac FREE at dealers, or write us.

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



Make Your Own Drain Tile

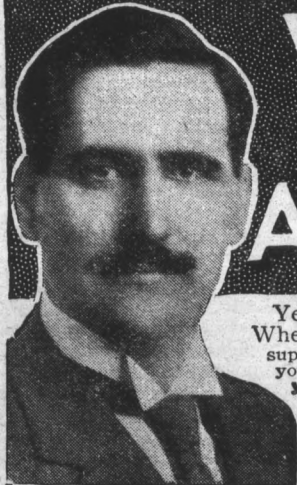
THE FARMERS' CEMENT TILE MACHINE

Makes tile 3 to 8 inches in diam., 12 1/2 inches long. One man or boy operates it by hand or power. 500 tile per day by hand, 1,200 by power. Tile thoroughly cured by patent process. No tamping or use of pallets. This machine and tile used by Experiment Stations of Agricultural Colleges and the U. S. Dept. of Agriculture. 5,000 farmers have doubled the yield of land by underdrainage, and saved 75% of cost by using our Machine. You can do the same. Save cost of hauling and breaking. Make perfect tile \$3 to \$5 per thousand. MACHINE SOLD DIRECT FROM FACTORY TO YOU. TEN DAYS' FREE TRIAL. SEND NOW for 36-page Illustrated Catalogue. Tells you about great benefits of underdrainage, how to take levels and get grades, make and lay your tile at low cost.

FARMERS' CEMENT TILE MACHINE CO.,

Box 307, ST. JOHNS, MICH.

Will You Take This Marvelous New Galloway Sanitary Separator And Use It For 3 Months FREE?



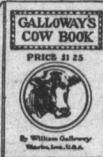
Yes Sir, I mean just that! I don't ask you to buy it nor even promise to buy it. I don't ask you to pay me one cent for the Free Trial. When I say free—I mean it. I just want you to let me ship one of my wonderful, new Galloway Sanitary Separators so that you can judge its superiority for yourself by actual use right on your own farm. Give it every test you can think of—the harder the better. If anybody else is trying to sell you a separator, make them give you the same offer. If they won't do it, you'll know the reason. Never mind what any dealer or any salesman says. It's your money you're spending and you decide. At the end of the free trial if you can't honestly sit down and write me, "Galloway, the machine you sent me is better than I ever thought a Separator could be"—then I want you to send it right back to me at my expense. Yes, I'll even pay the transportation charges both ways so that the trial won't cost you a single cent in any way, shape or form.

The Only Way Is the Galloway Selling Direct From My Factory to Your Farm

Remember, every single piece of this Separator is made right here in my own mammoth, modern factories under the direct supervision of the men who designed it. When you buy from me you pay me just the actual cost of the material and workmanship, only, with just one small factory profit added—that's all.

Write for Special 1913 Offer

Here's the biggest, finest and most liberal offer I've ever been able to make and I want you to get it right away. If you will write me at once I'll tell you how you may get one of these wonderful Galloway Sanitary Separators either partly or entirely FREE. No canvassing, no work, no soliciting. How can I do it? It's too long a story to tell here, I'll explain it in a personal letter. But get this offer sure, right away.

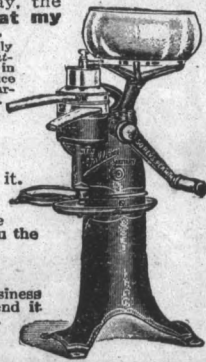


You'll Save \$25 to \$50 Sure If you decide to keep the separator after having had the free trial, I'll absolutely guarantee, not only to give you the very best separator that has ever been produced, but to save you \$25 to \$50 on the first cost alone.

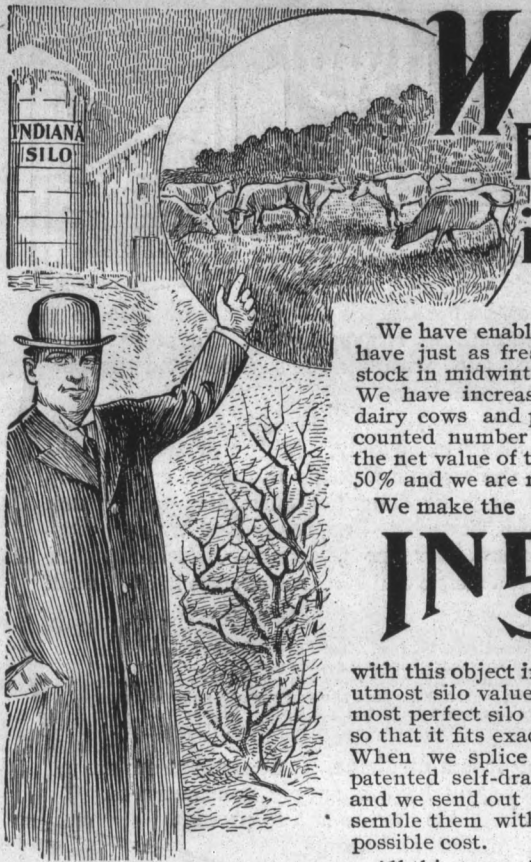
Get My Great \$1.25 Cow Book FREE!

Just off the press—the only book of its kind ever written. A complete manual of practical dairying for the business farmer. Priced regularly at \$1.25—will be worth hundreds of dollars to you but it won't cost you a cent. I'll send it free together with my handsome new separator catalog and full particulars of my remarkable offers. But write now.

Wm. Galloway, Pres., WM. GALLOWAY CO., 643 Galloway Station, Waterloo, Iowa Separators carried in stock at Chicago, Kansas City, Council Bluffs, Minneapolis and Winnipeg, Canada.







# We Make Pastures Green in January

We have enabled more than 25,000 farmers to have just as fresh and economical feed for their stock in midwinter as they have in the springtime. We have increased the milk flow of millions of dairy cows and put tons of prime meat on an uncounted number of feeders. We have increased the net value of the crops of 25,000 farms by almost 50% and we are ready to do as much for your farm.

We make the

## INDIANA SILO

with this object in mind. We build it to give the utmost silo value for the owner. We use only the most perfect silo material. We shape every stave so that it fits exactly and makes an air-tight seam. When we splice Indiana Silo staves we use our patented self-draining all-wood mortised joints, and we send out Indiana Silos so that you can assemble them without trouble and with the least possible cost.

All this means better silage for you. It means that you can feed your stock as profitably and as economically in winter as in the spring. It means more milk, more meat and more profit, with less expense, less labor and less waste.

We have 700 Indiana Silos in a single county in Ohio. We have four great factories with a capacity for making 150 Indiana Silos a day. We are the largest Silo Manufacturers in the world.

Let us build an Indiana Silo to your order now, and we will make delivery when you want it.

### THE INDIANA SILO COMPANY

Factories:  
 Anderson, Ind. 382 Union Bldg.  
 Des Moines, Ia. 382 Indiana Bldg.  
 Kansas City, Mo. 382 Silo Bldg.

WRITE today for our catalogue and a free copy of the book "Silo Profits", which is the story of the Indiana Silo as written by scores of owners of Indiana Silos. And ask us for the name of our representative in your locality

Remember you don't need cash to buy an Indiana Silo—"It buys itself."

# Live Stock.

### A DANDY FEED RACK.

Cut as many sections as racks desired, 16 feet long, from the ordinary woven wire farm fencing, fencing having 12-line wires and stays six to eight inches apart is best, now of good 2x4's cut lengths four feet long, spike three together near the center, forming an X, saw-buck fashion. Three of these crosses thus formed are required for each rack. To the insides and at their top ends nail 2x4's reaching the whole length of rack desired, also at the bottom in the V thus formed secure a 2x4 the same length; cross pieces at the ends and ties across the legs of the center X hold them securely. Next bend the length of fencing in a trough fashion to conform to the V in the upper portion of the three crosses made and with ordinary fence staples secure it along the two edges and to the bottom piece with these and it is complete. Light wood 2x4's should be used, as pine, elm or basswood, this makes a very light, durable and sanitary feed rack, hard to beat for sheep and young stock, when feeding hay, bean straw, ensilage, etc. The woodwork may be of dressed material and painted, when they will last for years. One man can easily carry them about in yards and, being light, they may be readily stored away in summer time or when not in use. The wider space fencing should not be used as the openings are too large and stock may thrust their heads through, bending and damaging the wire, besides endangering their lives. I have used different racks but like these best.

Gratiot Co. G. A. RANDALL.

determined to discover the cause of death if a post mortem would reveal it. I proceeded to cut up the carcass and at once found an explanation. The stomach was stuffed with coarsely ground corn, and was so large that I wondered that there was room for it, and I believe it was the over-filled stomach interfering with heart action that caused death. No doubt it was aggravated by the jarring of the wagon, like running produces a headache in children when indulged in just after a hearty meal, as most boys and girls can testify.

Later I read an account in a farm paper of a man who fed his hogs finely cut alfalfa hay steamed and mixed with ground grain, and lost several. These too, had overfilled stomachs and it was believed there was something poisonous about the alfalfa diet. My belief expressed in reply to a query relating to the case, was that the only fault was that the feed was too tempting and the hogs not being limited to a reasonable quantity, ate more than was good for them.

It is with such proofs as these in mind that I assert that many losses which are ascribed to "over heating" when marketing hogs, are due to overeating and are brought about by the cupidity of the owners themselves who do not seem to learn any better.

During the warm season this is very dangerous, and they should always be handled with much care. During the cooler season it is not so dangerous, but is not exactly the right practice anyway.

Illinois. R. B. RUSHING.

### OVERFEEDING HOGS BEFORE SELLING.

Since the days when the first drover "watered stock" to add to his market day receipts, there have always been men who considered the prospect of getting meat prices for feed and water, sufficiently alluring to tempt them to "fill up" their animals before marketing them.

Buyers in the big markets would discriminate against such stuff, but in the home market there is no disposition to do this, hence some who do not know they are inviting loss in doing so, feed and water the last thing before starting to market.

I have in mind a man who often loses hogs when hauling them to market, though taking all ordinary precautions against such troubles, except to desist from stuffing them with tempting food just before loading.

Unmindful of the misery which the jolting of the wagon causes them, if the hogs reach their destination in a sick or dying condition, he charitably ascribes it to "overheating." I call it simply sickness and death from over-eating, and I will relate an incident which contributed to this conviction.

I purchased a pure-bred gilt one fall when corn was just past the roasting ear stage. She was to be called for when convenient, and I drove past the place on my way home from town in order to save time, reaching there shortly after the hogs had been given their noon meal. As it was stipulated I was to have my choice for the money, which had already been paid, more corn was thrown in the pasture lot to call the hogs together and much of this was eaten in the time consumed in making a choice.

Of course, the young corn was tempting, after a diet consisting mostly of grass and dry grain during the spring and summer, and the hogs, with their voracious appetites, did not stop because the stomach called insistently, no more, being in this respect like gluttons of the human family. The gilt was loaded in a roomy crate which afforded free passage of air and was well protected from the sun's rays. I had about three miles to drive, but as the road was rough, my progress was rather slow, and when about half way home I saw symptoms of acute distress in the animal. I did not know what to do, but stopped to see if there was anything neglected for her comfort. Feeling that whatever was the trouble I could do nothing till reaching home, I drove on, but before I could reach home the gilt died. Of course, I very much regretted the loss, but was

### IT PAYS TO CLIP FARM HORSES.

I shall never forget the experience I once had with one of our old family horses. The tendency is for a horse as it grows in years to grow a heavy coat of hair during the winter time. The tendency is also for the old horse, by reason of comparative weakness, to sweat very easily when driven or worked during the early spring time. This sweat will mat the hair, when the horse sweats severely from the heat of early spring.

I had that experience with one of my old mares; she was naturally slow, but that spring I noted that she was more than usually so. She had always taken good care of herself by never suffering herself to be overtaxed. I did not believe that she was sick—I knew that she had been well fed and cared for.

I took the horse clippers and gave her a good shearing, then drove her on the road as before, and the change was decidedly remarkable. I gave her the protection that her old coat had given her by using a blanket when she needed it, and I relieved her of that old coat when it was a burden, by the clipping she had received.

The experience I have stated can be applied, with some variations, to the young and vigorous work horses. When they have grown a thick coat of hair during the winter, and the heavy work of spring with its warm days are upon them, then take a day and clip them. They will do the work of spring much easier. They are also kept clean with much less labor, which is no small consideration on the farm, when the days are crowded with many things to be done. I have done this to my own satisfaction. When I have failed to do it, then I think I have made a serious omission.

Now, in case horses have been thoroughly groomed through the winter season, as many horses are in stables where there has been plenty of help and time to do it, then this clipping is not so necessary. This, however, is not true of most farm horses. They get but little grooming through the winter; they are turned out more or less, which is good for them, and that tends to produce a growth of heavy hair. The lack of grooming also has a tendency to an accumulation of dirt. In such cases one should clip to a certainty, and follow with grooming, such as will be given during the season of the spring work.

Illinois. W. H. UNDERWOOD.

Reports come from central Indiana that after farmers have been putting up silos, they have no cattle for fattening, and some of them realize that the time to breed stock has arrived at last.



## "Farmers' Pride"

A General Purpose Saddle That Fills Every Need. Special Price \$9.67 for March and April

Seldom is an opportunity offered to buy a good saddle at a low price, and never has so fine a saddle as our "Farmers' Pride" been offered at anywhere near the price we are quoting. Just another example of Sears, Roebuck and Co.'s policy of distributing dependable merchandise at prices based on production cost plus one profit.

This is the way we make it:

- TREE—13 1/2-inch, Morgan style, steel fork and horn; sheepskin covered bars, making the saddle easy on the horse's back.
- SKIRTS—21 inches long.
- RIGGING—Double cinch rigged, with 1-inch tie straps to tie; 4-inch soft hair cinches.
- SEAT—Half leather covered, roll over.
- STIRRUP STRAPS—1 1/2 inches wide, full length, to buckle; fenders, 6 1/2 inches wide, 13 1/2 inches long, attached; 3-inch Texas bolt stirrups.
- Weight of saddle, about 13 pounds; packed for shipment, about 20 pounds.

No. 10W351302 1/4 Price.....\$9.67

Send us an order for either or both of these items and we will ship promptly. Your money back if you are not pleased. Take advantage of these low prices now, as hides are scarce and leather is steadily advancing in price. This is an opportunity that will not be presented again. Our complete line of exceptional values in harness, saddlery and accessories is shown in our beautifully illustrated 80-page Special Harness Catalog. Write "Harness" on a postal card, sign your name and address and we will mail you this catalog postpaid. Act now and send us an order and save money.

## Our "Mansfield" Farm Harness

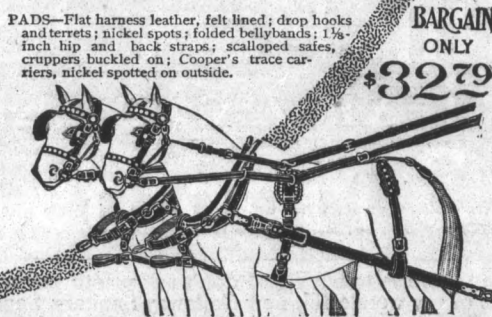
is still another money saving bargain in a strong, serviceable double farm harness worth almost twice the price we ask for it.

Following are the specifications:

- BRIDLES—3/4-inch short cheeks, round side reins, sensible blinds, nickel spots.
- LINE—1 1/2 inches wide, 18 feet long.
- HAMES—Wood, iron bound, square staple; Moeller hame tugs, jointed Concord clip attachments; 1 1/2-inch breast straps and martingales, with collar straps.
- TRACES—1 1/2 inches wide, Moeller clip cock-eyes.
- TRIMMINGS—XC buckles.
- Weight, packed for shipment, about 80 pounds.
- No. 10W3537 1/4 Price, without collars.....\$32.79

We guarantee this saddle or harness to give you satisfactory service.

Sears, Roebuck and Co. Chicago, Ill.





## Prevent Sore Shoulders

Ventiplex Pads keep the horse's neck and shoulders in good healthy condition—clean, dry and free from irritation.

### Ventiplex Pads

are made of our porous, patent Ventiplex fabric. Permits a free circulation of air and absorbs all sweat and moisture. Prevents sores, galls, rubbing, etc. Makes the horse more willing to throw his weight into the collar—to pull and work harder. See Ventiplex Pads at your dealer's. If he hasn't them, write us. Ask for booklet.

BURLINGTON BLANKET COMPANY Makers of the famous "Stay-on" Blanket Dept. 49 Burlington, Wis. Canadian Address—Windsor, Ont.





STARTING THE LAMBS.

One most important feature in the management of a profitable flock of sheep is starting the lambs right. Much thought and study may be directed to the care of the ewes during pregnancy and throughout the nursing period, but the greatest success can not be achieved without concentrating a great deal of attention to giving the lambs proper feed and care during the early stages of bone and flesh formation. The profitable lamb is one that is born full of life and vitality and never wants for physical sustenance. A lamb may be well born and the mother possessed of the capability of properly nursing her young, but through neglect and imprudent feeding are not encouraged to accomplish the purpose for which they are maintained. The flockowner who is anxious to develop his flock through the transmission of parental superiority to the progeny must not only see to it that the young are well born, but properly started along the road of life.

Ewes properly cared for during the pregnant period drop lambs possessed of necessary strength and vigor to make a good start in life. Nature when encouraged to perform her work well, never fails to avail herself of every opportunity to further her purpose. Well-born lambs are always supplied with a surplus amount of reserve energy. This reserve energy will carry the newly born lambs along for a short time, but it is the intention of nature that before this reserve supply has become exhausted the good flockmaster will take up his work of proper feeding to encourage muscle and bone development. A lamb can not survive long without proper care nor can its mother supply sustenance unless she is likewise provided for. It has always been my experience and observation that ewes and lambs respond to treatment in the same measure it is administered.

Let us assume that the lambs have been well born, of ewes that have been properly cared for during pregnancy. The initial thing, then, is to see the young lambs receive plenty of nourishment. To supply this the ewes must receive first consideration. Ewes that have come through the parturition period successfully are ready for business. As the sustenance of the young is dependent upon the mother the first few weeks of life, attention must be directed to feeding her properly and encourage her to develop her full capability. Many good ewes are immeasurably handicapped in the performance of their work simply on account of neglect and inattentive care during the nursing period. No animal of any kind can develop her full capacity for work unless she is provided with the necessary material to perform her mission.

As soon as the ewes have recovered from lambing they should be fed for milk production. Too much stress cannot be laid upon the importance of supplying a ration properly compounded with the essential ingredients to induce a uniform flow of highly nutritious nourishment for the young lambs. Some ewes respond to proper feeding more readily than others so that it will be advisable to take into consideration the average of the flock. If the ewes are thrifty and in good flesh condition it will not be as necessary to feed heavily upon flesh-forming foods. Ewes that have come through the winter in low flesh should receive a ration somewhat higher in carbohydrates than ewes that are carrying a uniform covering of flesh. Nursing ewes to milk well must be in a vigorous healthy condition physically.

While the ewes are confined to dry feed extra attention should be paid to supplying plenty of succulent matter in the ration. If the flock can be turned to pasture on a meadow field that is to be plowed for corn or beans in the spring it will greatly stimulate the milk flow. Sheep are able as soon as the snow is gone in the spring, to find a large amount of highly nutritious feed from old meadow lands. If a natural supply of succulency is not available some storage food should be supplied. Roots, of course, are first, but dried beet pulp is excellent and can be purchased at a very reasonable price. Ensilage should not be fed in large amount to nursing ewes as it is apt to cause bowel trouble among lambs of weak digestion.

As soon as the lambs are five weeks old they should be supplied with a light grain ration in a "creep," either in the yard or in one corner of the barn. Little lambs at a very early age begin to nib-

(Continued on page 354).

# Imperial

## Test the Value of This Car by Close Comparison

Imperial "44"—50 H. P.—\$1875

Experienced automobile buyers have learned that a car that measures up to the highest possible standard of quality is invariably the most economical and satisfactory purchase in the long run.

The real problem which any intending buyer has to solve is to obtain this quality at the lowest possible price.

The car which perfectly meets both these demands, unquestionably offers the absolute maximum of value.

It is a significant fact that the majority of Imperial owners have learned to appreciate the unparalleled value which the car offers, through critical and thorough comparison with other cars.

A careful comparison of Imperial cars, feature by feature, with other leading makes priced at \$1500 to \$2000 more, will furnish a welcome revelation to you. The time spent in making such a test will repay you a hundred fold. Through this means, men who previously be-

lieved that their requirements could not be satisfied in a car costing less than \$3000, have found that the Imperial more than fulfils their highest expectations besides saving them from \$1000 to \$2000 on first cost alone.

For instance, the Imperial "44" at \$1875 offers an opportunity to purchase a five passenger, fifty horse power touring car, whose superb beauty and comfort render it distinctive at first glance among the highest priced cars on the market. Motor 4 3/4-inch bore, 5 1/2-inch stroke, 122-inch wheel base, 36x4-inch tires: Every modern refinement of proven value including a positive Electric Starting and Lighting system and center control levers. Equipment—Genuine silk mohair top, dust hood, windshield, speedometer, tool kit, repair kit, demountable rim jack, pump, hub cap wrench, tire irons, spare rims, mountings black and nickel.

Complete..... \$1875

### Electrically Started and Lighted FOUR OTHER TYPES

Imperial "54"—7-pass'r Touring Car, 6-cyl.; 60 H. P.; 4-inch bore, 5 1/2-inch stroke; 137-inch wheel base; 36 x 4 1/2-inch tires. Electric Starting and Lighting System. Complete equipment \$2500

Imperial "34"—5-Passenger Touring Car, 45 H. P.; 4 1/2-inch bore; 5 1/2-inch stroke; 118-inch wheel base; 36 x 4-inch tires. Electric Starting and Lighting System. Complete equipment.... \$1650

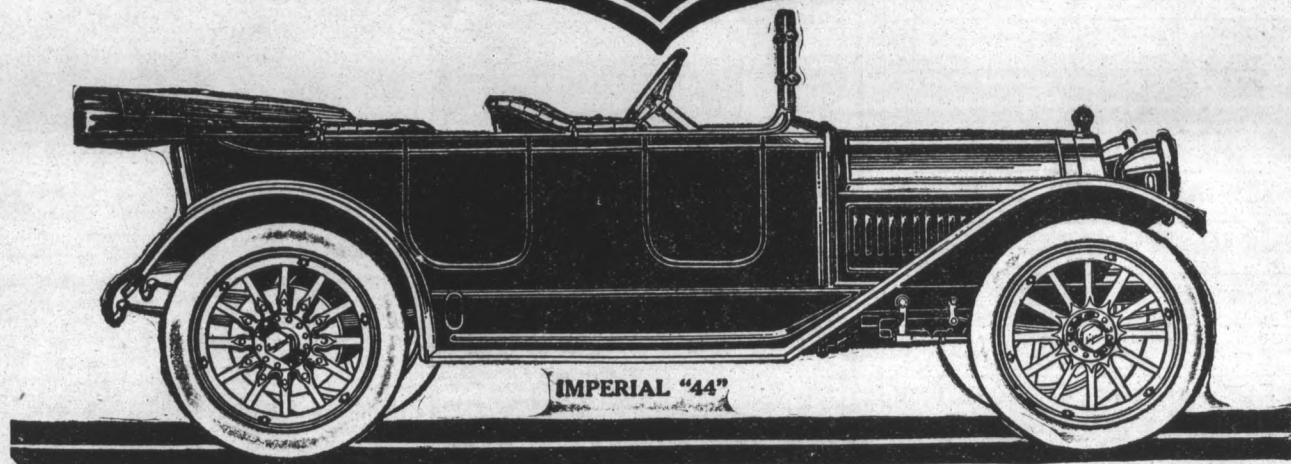
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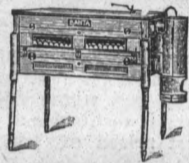
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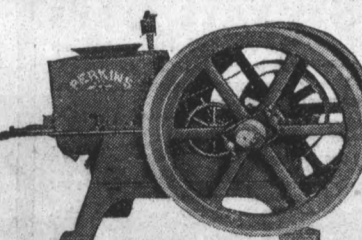
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54 KINDS AND SIZES



## Poultry and Bees.

### White Diarrhoea in Chicks.

White diarrhoea is one of the worst diseases with which the poultryman has to contend. Farmers and poultrymen alike are more or less familiar with its destructive character. The writer has visited many farms and special poultry plants in Wisconsin, Illinois, Indiana, Ohio, Pennsylvania and New York, and on every farm visited, where incubators were used for hatching, some signs of white diarrhoea were noted. The mortality on eight or ten farms was over 50 per cent; on some as high as 90 per cent. Some may say that I am confusing bowel trouble with white diarrhoea, but I have been in business long enough to be able to distinguish the one from the other by both appearance and smell.

A good many poultrymen firmly believe that any of the following may cause the deadly white diarrhoea: Weak breeding stock; improper incubation; faulty brooding; chilling; overheating; overcrowding; filthy quarters; improper foods and feeding; and improper ventilation. Any of these may affect the kidneys in such a way as to cause the secretion of a more or less chalky matter, which gives the droppings an unhealthy appearance. Some have called the common bowel trouble, when accompanied by a more or less whitish discharge from the kidneys, white diarrhoea. This, however, is a mistake, because white diarrhoea is a much more virulent disease. But any one of the above named causes may bring on white diarrhoea, provided the specific bacterium or germ is present.

#### Symptoms of White Diarrhoea.

A few chicks generally die soon after hatching without showing much of any symptoms, but if it becomes epidemic the characteristic whitish discharge will soon make its appearance. The discharge is of a sticky, pasty nature and generally of a whitish or creamy color. The voidings as a rule stick to the down, more or less, often enough to seal up the vent and cause what most of us call "pasting up behind."

The chicks soon become listless and sleepy, and appear to be cold all the time. In daytime they can often be seen standing or huddling in the sun, with eyes closed and wings drooping. They will also remain under the hover much of the time. Their appetite appears to be nearly gone. Some individuals peep and chirp much, the sound being shrill and sharp as that of pain. Often when voiding they can be heard to utter sharp twitters, doubtless on account of pain. The chicks become weaker and weaker until they are scarcely able to support their own weight. Dr. Prince T. Woods describes their appearance in the following way: "The weakling is almost always big-bellied, the abdomen protruding to the rear so that it bunches out behind, well out of line with the vent, with the result that the chick looks as if the tail-piece and backbone had been pushed forward and in, just above the vent."

From Circular 128, of the U. S. Department of Agriculture, I take the following: "White diarrhoea of chicks is an inflammation of varying severity, of the ceca, or blind intestinal pouches, caused by the presence of Coccidium tenellum, an intracellular parasite belonging to the lowest division of the animal kingdom. The disease claims as its victims mostly chicks between two and five weeks of age. The symptoms are dullness and weakness, accompanied by a white, pasty fecal discharge. Postmortem examination reveals the blind pouches, or ceca, remarkably distended and packed with a yellowish-white cheesy material, which sometimes exudes into the abdominal cavity through perforations in the cecal wall."

#### Treatment and Preventive Measures.

Treatment of this disease in chicks is almost futile. An attempt might be made by the use of calomel, one-tenth of a grain, or a few drops of castor oil containing 1 to 3 drops of turpentine. Along with this, 5 to 10 grains of sulphate of iron (copperas) should be dissolved daily in a gallon of drinking water.

The essential work in battling with this disease, however, consists in prevention. This must begin with the eggs used for hatching, which should be thoroughly and

antiseptically cleansed by wiping in 95 per cent alcohol. If artificial incubation is used (and in this lies the great hope of success) the incubator, if used before, should, previous to receiving the eggs, be carefully washed with an antiseptic solution and exposed to the sun. The egg tray should be scalded or flamed. The floor of the nursery should be movable, so that it may be taken out and sterilized; if made of burlap, the old piece should be torn off and a new piece mounted on the sterilized frame. The same precaution should be used with brooders. The soil to which the chicks have access should be well covered with lime, then dug up and exposed to the drying effects of sun and air.

Another good preventive, and to a slight extent a remedy, is to feed charcoal freely. Obtain from your druggist some tablets of mercury bichloride, 1-1000th of a grain drug strength each. Use 12 of these tablets dissolved in a quart of drinking water, allowing the chicks no other drink. Give this remedy less frequently when the chicks show improvement, and discontinue it as soon as they have apparently recovered.

Satisfactory results have also come from the use of turpentine and vaseline. Give each chick 2 or 3 drops of turpentine internally and bathe the vent with vaseline. In slight cases this treatment has often proved beneficial.

After many years' experience, and careful study of the work of others, including several experiment stations and colleges, I am positive that the virulent disease is caused by a bacterium, especially where, through some faulty method of handling, the chick's constitutional vigor has been lowered to an appreciable extent.

New York.

F. W. KAZMEIER.

(Since preventive measures are recognized as about the only effective means of combating white diarrhoea, the above article is timely just now. Time and labor given now to making the surroundings of the breeding stock such as will promote health and vigor, and precautions taken to prevent the infection of the unborn chick through carelessness or slovenliness during the incubation period, will prove good insurance against losses late in the season.—Eds.)

#### HANDLING EGGS FOR MORE PROFIT.

Carelessness in the production of eggs is to a great extent responsible for the low prices ruling during spring and summer. Consumers might better pay more, and be enabled to always obtain choice eggs. Where hens have sat upon eggs for any considerable time, or where eggs have been subjected to the heat of the incubator until the first test is made, and found infertile, they have become unfit for human consumption. Eggs not intended for hatching should be unfertilized, as they will have much better keeping qualities.

Often hens are allowed to lay in unclean nests, and other places, and their eggs become filthy, and require washing. To wash them means to take the gloss off from the shell, which knocks quite a number of points from the price—not because the gloss is gone but because the dealer knows that where eggs have been washed the porous shell is little protection from unsanitary conditions, and the contents may have suffered deterioration. Many times eggs are kept for weeks before they are marketed, and often in places of high temperature. Under such conditions they must be separated into many different grades.

Why not provide clean, inviting nests for the hens at all times, gather the eggs carefully and often, keep them in a clean, cool, dry place and market regularly? We can also grade them as to quality, size and color, and sell them directly, or nearly so, to the consumer, to the great advantage of both producer and consumer. This, unless one is a heavy producer, means co-operation, either with some neighbors, or community co-operation. High cost of distribution eventually must and will terminate in the "Nomid System."

New York.

W. D. KORB.

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and Almanac for 1913 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chicken-dom. You need it. Only 15c. C. C. SHOEMAKER, Box 911 Freeport, Ill.

### BEEES WANTED

—any style hive or box —any quantity. A. W. SMITH, Birmingham, Mich.



**SOME ADVANTAGES OF EARLY HATCHING.**

While snowdrifts remain in evidence it seems early to the general farmer to attempt the hatching of chicks, whether with hen or by artificial means. However, from experience by which I profited two years ago I consider the present month a very advantageous time for the following reasons:

First, the price of eggs is about as low as at any time during the season. Second, it is a time when the feed of the layers must be of great variety and it is therefore more expensive to keep up egg production. Third, the ground is not yet in condition for outdoor scratching, so the hens may as well be inside where it is dry and warm. The fourth reason, which I consider the best one, is that vermin are not yet active or numerous enough to do much if any harm. Some may think it requires an unusually warm henhouse to insure success along this line but I have proven the opposite, as it sometimes freezes water where I have had a 90 per cent hatch about April 1.

Great care should be taken in selecting a place that is free from drafts, either from below or above. Line the nest box with heavy wrapping paper or several thicknesses of newspaper; this means on every side except the front. Now with hay make rope-like strands and lay in closely until about four inches deep.

Place the hen upon this nest about 24 hours before you give her eggs as this insures warming of the nest before the eggs are placed and also gives a permanent shape to it. About nine eggs are enough for an early sitting unless one has an extra large hen.

Each day when the hen comes off to eat, place a brood-protector over the nest at once, thus obviating all risk of chilling the eggs. This protector may be made of cardboard lined with heavy cloth, like men's coat cloth. Or a heavy piece of cloth may be used with a drawstring around the edge by means of which it is made to fit any nest. In case your hen is a little slow in taking her dust bath, or you forget to return and take the protector off in time, there has been no harm done. In this way one may take care of several nests at the same time with very little trouble.

Another thought is that the farm work in general is not so pressing this month as it will be later and the men may have time to assist.

Emmet Co. JOSEPHINE SMITH.

**SOURCES OF HONEY IN MICHIGAN.**

(Concluded from last week.)

Mustard (*Sinapis arvensis*).—Produces a good grade of white honey, pronounced by many equal to white clover. As there is good sale for the seed, this would be profitable for the bee-keeper to raise for artificial pastures.

Beans and peas produce a good quality of white honey and where raised extensively are the source of considerable quantities.

Blackberry.—Not a very heavy yielder.

Squash and Pumpkin.—Produce more pollen than honey.

Touch-me-not, or Swamp Blossom.—As this plant blossoms quite late in the fall it makes a valuable acquisition to our bee pasturage. The pollen from this plant is white, and as the bees get it dusted upon their backs in the process of getting in and out of the blossom it gives them the peculiar appearance of having been painted with white paint.

Hazlenut, radish, parsnip, sorrel, turnip, crowfoot, and burdock are mentioned as honey plants, but none of them is of very much importance, except perhaps in isolated cases.

Ragweed.—This is classed as a honey plant, but I believe that it produces nothing but pollen. If I am mistaken in this I shall be very glad to be corrected.

Honeysuckle.—This is considered a very important honey plant where found extensively, as it produces a large amount of honey and blossoms from spring till fall. As to the quality of the honey I am not prepared to say, as it always comes mixed with other honey in this locality. However, if I were allowed a guess I would say that it would be of good quality, but perhaps not as light as clover honey.

Boneset (*Eupatorium perfoliatum*), otherwise known as thoroughwort.—This is in some localities a very important honey plant, blossoming early in the fall.

Buckwheat (*Fagopyrum esculentum*).—Produces abundantly in the right kind of a season. The peculiarity of this plant is that, to do its best in the pro-

duction of honey, it requires just the opposite kind of weather from any other of the important honey plants. We bee-keepers, as a rule, pray for hot dry weather with just enough rain to keep the soil moist, but when buckwheat comes in blossom that is not the kind of weather we want at all. You have probably noticed that the bees work on buckwheat, ordinarily, only until about ten to eleven o'clock in the morning, but if we get a rain during the day you will find the bees out and at work again until the buckwheat is all dried off. I remember one summer when it seemed that it rained almost continuously while the buckwheat was in blossom, and the way those bees carried in honey was a caution. There would be a downpour of rain, and then the sun would come out. Away the bees would hie until it was almost as if a swarm were passing all the time between the bee-yard and the buckwheat fields. Perhaps the stuff would hardly get dry from that rain before we would get another shower, and then out would go the bees again. I had the heaviest yield of honey that year from the buckwheat that I ever secured.

Asters.—There are almost innumerable species of asters and they are to be found almost anywhere along roadsides and on swamp lands. They produce



One of the Many Species of Aster found in this State.

quite a lot of honey of dark color and rather rank flavor. Coming as it does at the same time as buckwheat and golden-rod, either one of which is better flavored, I have sometimes thought it would be much better if we had none of it at all. Buckwheat honey in its purity, while it is dark in color and somewhat strong flavored, is not distasteful to most people; mixed, as it so often is, with the aster honey, it takes on a disagreeable flavor which very few people like.

Golden-rod (*Solidago*).—As stated above, this plant yields honey about the same time as the buckwheat and the asters, so we seldom get any of it pure, although there are places where they get it practically pure. Where this is the case it is claimed to be of very good quality, and the product has a beautiful golden color.

L. C. WHEELER.

**UTILIZING CHICKEN FEATHERS.**

Hen's feathers are not highly appreciated because of their hard and piercing qualities. Where many fowls are killed in the course of a year, by shearing them before scalding the foregoing objection is avoided and a soft downy filling for cushions and pillows is obtained.

With housewives, at least, chicken wings have an industrial value, yet who has ever tried to commercialize their worth? If those who command the supply realized how much such a convenience is coveted by many who have it not, there would be an expanding of the petty pin-money schemes to embrace little bunches of wings attractively tied with bright ribbon.

Oceana Co. M. A. H.

**BOOK NOTICE.**

"Field Crops," by A. D. Wilson, Supt. Farmers' Institute and Agricultural Extension, College of Agriculture, University of Minnesota, and C. W. Warburton, Agronomist U. S. Department of Agriculture, is essentially a text book suited to the needs of schools in which secondary agriculture is taught. It is a practical work treating on the factors of successful field crop culture, explaining the underlying principles involved and giving a detailed description of most effective methods of growing, harvesting and marketing each crop. Five hundred and forty-four pages, 5 1/2 x 7 inches, 161 illustrations, price \$1.50 net or \$1.68 postpaid. Webb Publishing Co., St. Paul, Minn.

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DETROIT, MARCH 15, 1913

CURRENT COMMENT.

**The Potato Market.** With the near approach of spring, farmers who have been holding their potatoes for the late market are becoming uneasy over the situation and are wondering whether it is better to continue holding for a possible improvement or let their stock go at present values. Hence a review of the situation at this time will be of more than passing interest.

The potato market throughout the season has been an unusual one in that values have been very steady, shipments having just about satisfied demands with offerings sufficiently plentiful to produce a gradual decline on the market since it opened last fall. Nor has there been a wide spread in prices between the figures given at loading stations and the price paid by consumers in marketing centers, for the reason that the open winter has favored the drawing in of potatoes from nearby sections to cities in Michigan and other producing centers, including cities of even the size of Detroit, which until recently has derived a considerable proportion of the general supply from farmers who marketed their products direct to retailers or consumers.

This condition of affairs is one which should tend to stimulate consumption, as also should the abnormally high prices of meat products and some other of the necessities of life. Movements of potatoes have, however, continued to be quite general, not only in Michigan but as well from other states. More particularly is this said to be true in Wisconsin where movements have been unusually free during the winter, while at the present time the Minnesota surplus is being rapidly moved.

On the other hand, New York growers have been more persistent holders and Michigan stock at present is finding a ready sale at New York, Pennsylvania and Virginia points, while a good many potatoes are being placed at Ohio points, the middle western market not having been attractive to Michigan shippers so far this season.

Another factor which it is thought will influence the late market to a considerable extent, is the fact that stock has rotted badly in some sections of the country, the Thumb section of Michigan being in this class while the states to the south of us have large areas in the same predicament, so that a good many potatoes will be required to supply these points which under ordinary conditions produce sufficient for home consumption and a small surplus for shipment. At the present time prices being received by shippers in Pennsylvania, Virginia and Ohio compare favorably with those secured at any time during the present season and it is believed by many well informed shippers that if growers who have been holding stock for the later

market do not let go of them too rapidly at this time there will be a gradual firmness develop in the market which will insure a little better prices from now on than have prevailed during the winter.

If, on the other hand, all who are holding a part or all of their crop should become discouraged with market conditions and unload their surplus stock in order to get them out of the way before spring opens, there would undoubtedly be a further demoralization of the market. Owing to the reassurance afforded by the government crop reports, which showed a rather large surplus of potatoes in the country this year, the trade has been a strictly hand to mouth one during the entire year and it is conceded by all that there are no accumulations of stocks in any of the large markets. Consequently it is incumbent upon growers to offer that portion of the crop which is left only as fast as the market will absorb it without further shrinking of values if they are to get the best possible returns from same.

Whether or not there will be a residue left after market needs are supplied none can say with authority. We believe, however, that with the increase in population in the country, the increase in consumption due to the relative cheapness of potatoes as compared with other foods, the loss from rot and the future demand for seed that the market will take the balance in growers' hands at even better prices than those which now prevail, provided a conservative course is pursued in marketing the balance of the crop. Very high prices should not be expected in view of the large crop last season and could only come as a result of a reaction from a waste incident to too profuse marketing and to a demoralization of prices during the early spring season.

**Constitutional Amendments.** Through the action of the Legislature a number of constitutional amendments will be submitted to the electors of Michigan at the coming spring election on April 5. The most important of these, because it is the second occasion at which it has been submitted to a vote of electors, is an amendment providing for equal suffrage. As previously noted in these columns, the advocates of woman's suffrage began a campaign for the re-submission of this question at the spring election directly after the final canvas of the November vote indicated that the proposition had been lost at the fall election.

Notwithstanding the opposition of those opposing equal suffrage to the re-submission of the proposition at the spring election, on the ground that the spring vote would not be as representative of the sentiment of the whole people as the vote of a general fall election, the proposal to submit the question to the people again this spring was carried by a substantial majority in both houses of the Legislature. As an evidence that public sentiment may be taken as an index of legislative action, it is stated by those who have made a canvas of the situation that, while only something like eight members of the Senate are personally in favor of equal suffrage, 21 members of that body voted for the re-submission of the proposition at the spring election because they believed that the electors of the state desired another early opportunity to vote upon the proposition.

The text of this amendment as well as of others pending will be given in a future issue previous to the date of the election. Briefly summarized, the proposed amendment differs from that submitted at the last election only in that it requires the same qualifications for foreign born women as the present law demands in the case of foreign born men.

Another proposed amendment of interest to all electors of the state provides for the initiative and referendum within certain limitations and for the recall of minor officers.

These propositions will, as above noted, be given further publicity in future issues previous to the election, to the end that every Michigan Farmer reader may be fully advised as to their import and be prepared to cast his ballot for or against them, as he may be disposed.

**An Important Investigation.** The investigation which is at present being conducted by a committee

of the Legislature into the causes which contributed to the present financial embarrassment of the Pere Marquette Railroad may well be considered as an important one, even though it may lead to

no immediately practical results. It was at first thought that the legislative committee did not have sufficiently broad powers to make this investigation as thorough as might be desired, since the road is in the hands of receivers appointed by the federal court, but the court having signified a readiness to facilitate the investigation by granting to the investigating committee authority to examine all books and records of the road, this obstacle is removed.

It is probable that the results of this investigation will be of an educational rather than a remedial character, but this does not in any way detract from its importance. The policy of government control of railway rates is now an established one in both state and nation. In addition to a supervisory control of railway rates within the state our Michigan Railroad Commission has supervisory control over proposed bond issues on railroads within the state. Only shortly prior to the present receivership the Railroad Commission was petitioned by the officers of the Pere Marquette Railroad for authority to make a new bond issue, which authority was denied by the commission. The trend of modern legislation, both state and national, has been to increase the supervisory control of the government over public service corporations, and in view of this fact the public can not be too well informed concerning the financial condition of such corporations or, where this condition is bad, of the causes which have led up to same. An important railroad system, traversing all parts of the state as this one does Michigan, is a very considerable factor in the business prosperity of the state. The state has a right to demand that it be made to contribute to its prosperity to the maximum degree consistent with fair returns on the investment involved, and if this desirable end has been thwarted by exploitation in "frenzied finance," as has been alleged in this case by those who should be in a position to know the facts, an adequate remedy should be hastened by the giving of publicity to the facts. At least this investigation should serve to clear the atmosphere of conjecture to a degree in a matter in which the whole people of the state are at least indirectly interested.

**The New Secretary of Agriculture.** According to our Washington correspondent, considerable surprise was expressed in official circles when President Wilson sent to the Senate the nomination of David Franklin Houston as Secretary of Agriculture. Many names had been suggested for this place, but little inkling was had that the Missouri man would receive the honor, which, however, is apparently merited by his previous attainments.

Dr. Houston is one of the leading educators of the south. He has served as superintendent of city schools in Spartanburg, S. C., associate professor and professor of political science, dean of the faculty and president of the University of Texas, president of the Agricultural and Mechanical College of Texas, and chancellor of the Washington University, of St. Louis. He is a member of the Southern Educational Board, a trustee of the John F. Slater fund, a fellow of the Texas State Historical Society, a member of the American Economics Association, and president of the Harvard Graduates' Club. He is now the chancellor of the Washington University, of St. Louis, from which institution he is on leave of absence to fill the position of Secretary of Agriculture.

Secretary Houston was born in Union county, South Carolina, February 17, 1866. His parents were William Henry and Cornelia Anne Houston. He was graduated from the South Carolina College in 1887 and five years later received his master of arts degree from Harvard. In 1903 he was made an LL. D., by Tulane and three years later received the same degree from the University of Wisconsin.

In the year of his graduation he became a tutor in ancient languages in South Carolina College. The following year he became superintendent of the public schools of Spartanburg, S. C.

After leaving this office he went to Texas. He became an instructor in the University of Texas in 1894, associate professor three years later and in 1900 professor of political science. He held this professorship for two years and then resigned to become president of the Agricultural and Mechanical College of Texas. In 1905 he was made president of the University of Texas. He held this

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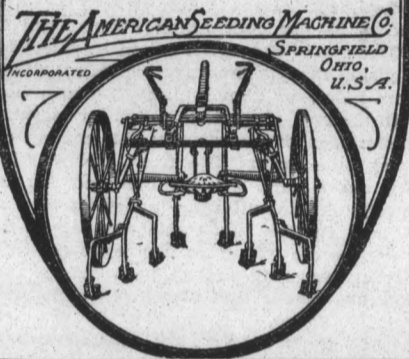
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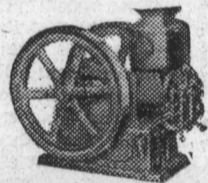
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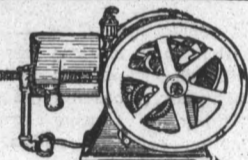
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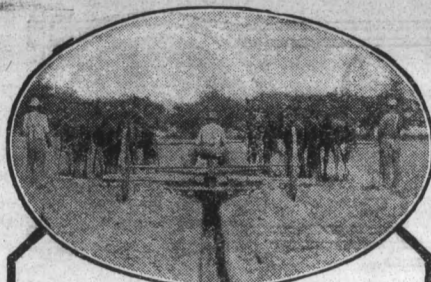
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office for three years and then accepted the appointment of the chancellorship of the Washington University, St. Louis, Missouri.

### HAPPENINGS OF THE WEEK.

#### National.

The city of Chicago is asking the legislature of the state of Illinois to approve a bill providing for the establishment of classes in agriculture and kindred subjects in the schools of that city.

The condition of Hon. Levi P. Morton, of New York, former vice-president of the United States, was slightly improved Monday.

Two important personages in the history of the women's suffrage movement in Michigan, died in the city of Detroit last Sunday night. They are Mrs. Helen P. Jenkins and Mrs. Mary L. Doe. Mrs. Doe was the first vice-president of the state suffragists' society and Mrs. Jenkins second. They have been connected with the movement for nearly 25 years.

The interstate commerce commission has instituted an investigation into the operation of private car companies. This work is regarded as one of the most important yet undertaken by this commission. The United States Steel Corporation, the Standard Oil Company, the big packers, brewers, and fruit growers' associations are all operating such lines and are greatly concerned in this investigation.

An investigation is being made by a congressional committee into the cause of the disturbance and the ill-treatment of women in the suffragist parade at Washington which preceded the recent inaugural ceremonies.

Practically the whole business district of the little town of Carmel, 20 miles to the northwest of Indianapolis, was reduced by flames following a premature explosion of nitroglycerin placed in the post office safe by robbers. The loss is estimated at \$50,000.

Investigations of a considerable scope are to be undertaken in five states, including Michigan, into the vice conditions of those commonwealths. One feature of the work will be an attempt to determine to what extent low wages contribute to vice and particularly to the "white slave" traffic, and already such an inquiry has been instituted in Chicago.

In spite of the discourtesy of local hospitals and a number of medical societies of New York toward Dr. Friedman, who brought to this country a treatment for tuberculosis, he is now being given an opportunity to try out his discovery before the United States government surgeons. Thus far the work is progressing satisfactorily, and patients under treatment show improvement, according to press reports.

President Wilson has pleased the anti-liquor adherents by putting the ban on wines and liquors at the White House.

The disastrous explosions of dynamite on the government transport ship in the harbor at Baltimore, which occurred last week and killed 50 men, is believed, after investigations, to have been the result of spontaneous combustion in the coal bunkers of the vessel.

The breaking of a tire on a moving Peré Marquette freight engine wheel at Okemos, Mich., dethed the train and instantly killed an employe and seriously injured two others.

#### Foreign.

The British steamer Lugano hit on a Florida reef Sunday afternoon while en route from Spain to Cuba. United States station at Key West and a tug were notified by wireless of the situation of the vessel, whose imperiled passengers numbering 116, were later removed to safety.

Mexican rebels are massing along the American border line and towns there are being menaced by their presence. In other parts of the Mexican republic, however, order is being restored and the formerly frequent Zapatist outrages are being stamped out.

It is stated that the Americans living on the Isle of Pines are seeking annexation of the island to this country. In their petition they state that a majority of the population are people for the United States and that they own 95 per cent of the land of the island. The island is now under Cuban control.

A terrific dynamite explosion at Irvine, a town 20 miles from Glasgow, is reported to have caused a number of deaths and the wreckage of a large amount of property.

A fire in a moving picture theater near La On, France, caused a panic in which 40 persons were killed and 25 others injured.

Reports are current that an uprising may be expected in Central American countries at any time and that this government may be called upon to protect lives and property in that part of the western hemisphere. Information from a number of sources points to this conclusion.

Up until Monday the Dominion Parliament had been in continuous debate for 129 hours excepting for a respite during Sunday, over the naval bill now before that body. So far there appears to be a deadlock on an amendment offered by former premier Sir Wilfred Laurier, leader of the opposition, providing for the speedy organization of a Canadian naval service in co-operation with the Imperial navy as a substitute for the government proposal to appropriate \$35,000,000.

A dispatch from Vienna reports that 68 women were drowned from a boat on Lake Scutaria. No details are given.

On March 10 Emperor William and the Prussian people began the celebration of the centenary of the rising against Emperor Napoleon which culminated in the battle of Leipsic in October, 1813.



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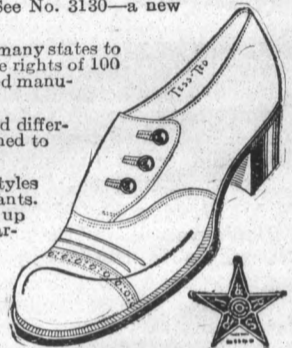
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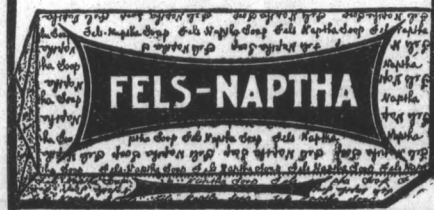
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# Woman and Her Needs

## At Home and Elsewhere

### The Art of Living Together.

I COULD live with anybody," said a bright young woman the other day, "If the other party to the agreement would leave me alone. Brother Jack and I get on capitally, when we run the house alone. He minds his own affairs and I mind mine. He isn't always rushing into my room to see if I remembered to sew shields in my waists, and if I remembered to put on my heavy flannels this morning because it is colder, or to ask if I realize it is half-past eight and I am due at school at nine o'clock. And I am not nagging him to wear rubbers every time there is a sprinkle nor insisting on knowing what girl he took home from church Sunday night nor fussing at him because he talks ten minutes over the 'phone. We just take it for granted that the other thinks, and let it go at that. If a person has human intelligence enough to think, surely he or she can take care of little things without being eternally nagged. Living together is very simple if you just mind your own business. It is when someone minds it for you that you want to live on a desert island."

I couldn't but think that the young woman had struck the nail on the head. Living with folks is a complex problem for most of us, but it is so simply because none of us have learned to let the others alone. We have not enough respect for the individuality of the other. Mother doesn't want father to dring his tea out of the saucer, and as he has done it all his life he can't seem to remember to change. Father doesn't like onions and he thinks mother has no business to eat them, and she, having read somewhere of the valuable medicinal qualities of the vegetable, thinks she is only conserving her health if she partakes of them. Both father and mother want the children to be quiet, orderly and well-behaved, and when one isn't after the luckless youngsters the other is. The children, deep in the study of grammar, notice the slipshod ways of speech most of us acquire as we get farther and farther from school and they are always correcting their parents. Grandmother thinks the whole family is wrong. As seen from the viewpoint of three-score and ten the present day manners and customs are all wrong and she tries to set the whole family right. Aunt Matilda wants to advise everybody about their clothes and Uncle Jonathan is the authority on how you should spend your money. Everybody is going about telling the rest what to do, instead of cultivating the garden of his own soul and mind, and so the art of living together becomes a difficult one.

It could be simplified at once if the adults would let each other alone. Granted John has many faults, Mary has just as great ones. Therefore when Mary is about to complain of John's cigar or habit of tipping his chair back, or his loud guffaw, which grates on her refined ears, she should remember that all those things have become with John fixed habits which she is not going to change by nagging, any more than she can change his habit of being kind to his stock and his family and generous with his money. Let her think of his good qualities, and ignore the bad. John, too, should remember that Mary's fondness for order and neatness are what give him a comfortable home and should drop his habit of grumbling at her "eternal cleaning." The children, there is the problem. How can we leave them alone when they constantly need direction and discipline? Well, couldn't we discipline them a little more by example and a bit less by nagging? Many an otherwise well-behaved child is nagged into a demon by perfectly well-meaning parents. (And after a child is 15 or 16, why is it necessary to be constantly watching him? If children have been properly taught previously they should by that time be pretty well able to look out for themselves. And the mother who is con-

stantly fluttering around fussing over rubbers, hair ribbons, neck muffers and pink pills, is little short of a nuisance. I really don't blame some boys and girls for leaving home, when I think of the clucking old hen who has pestered the life out of them with well-meant but pernicious attentions all their life.

What sane, healthy boy who goes out with the horses wants to feel that his mother's nose is glued to the window pane watching for his return, and have her rush out the minute he drives in to see if he really got back unhurt? What girl wants to be constantly warned not to stand in a draught or go with wet feet, or be catechized about every move

she makes when she is away from home? She is perfectly willing to have her parents know everything she does, but she doesn't like to be questioned like a criminal every time she goes out and comes in again.

The inability to let other people alone starts half the warfare between the "in-laws." Father-in-law or mother-in-law on one side or the other just naturally can't help advising the young folks, and the young folks, feeling that if they are old enough to get married and start a home are old enough to run it themselves, resent the interference.

A pretty good rule for us all is not to interfere with advise or suggestions until we are asked. If we followed this rule the problem of living together would be solved.

DEBORAH.

### The Annual City Vacation.

By Hilda Richmond.

Since there are so many opportunities for country young men and women to earn their own money, and since the fall and winter afford many leisure times, vacations are quite common with these young people. Summer is apt to be too strenuous for much vacation time except the occasional picnic and day's outing, but every young person should spend a few days in a city each year, and the summer is a very poor time to see such a place at its best. Any time from October to May is a good time to go to a city, for there is always something going on, and the weather is much better for such a trip than in summer. A trip to a city combines pleasure and profit so charmingly that every young person should plan for a short vacation amid scenes entirely different from those of daily life.

The first question is always in regard to cost, and young men and women who think nothing of spending money on horses, buggies and even automobiles, often imagine that a trip to a city is entirely beyond their means. Of course, the railroad fare is fixed and settled, but beyond that the vacation may be cheap or expensive, according to the taste and the plans of the individual. There are luxurious hotels that demand enormous prices for lodging and meals, and there are humble boarding houses where one may lodge almost as inexpensively as in one's own town. And there are friends in almost every large city whom the country people have "received and lodged courteously," who will open their doors to their country friends and relatives, thereby making the trip even less expensive. There are hundreds of young women who might have an annual vacation in a city, who hesitate to take it, fearing they will appear ill at ease and countrified beside their stylish city friends. This notion is fast disappearing, and there is a mutual interchange of visits between country and town people that is very helpful to both.

Perhaps the young ladies put clothes before expense, for most young people have their own spending money, and they want to appear their best when in town. This is another stumbling stone, since a stranger attracts no more attention on the streets of a city than a sparrow, and any girl who has a neat suit can get along very well during a two or three weeks' stay, as far as street wear is concerned. If she is to be entertained she will need to carry her party frock along, and any other dresses she wears at home may go into her trunk, but she will probably find on her first visit to the city that people dress very plainly when away from home. A neat, small hat, good gloves, a trim umbrella and comfortable shoes should be included in her outfit.

Her brother can get along easily without a trunk, unless he expects to be entertained a great deal, as his bag will hold plenty of clean linen and small articles, and laundries and stores are on every hand to help out in emergencies. Indeed, it is pleasant to go with just as

little as possible and then shop for new things. In this way often enough money can be saved to pay a great part of the railroad fare, for city stores abound in bargains. However, the primary object of the vacation should not be shopping, as there are art galleries, libraries, parks, fine buildings, concerts, lectures, churches and school buildings that are worth infinitely more than the best of bargains.

A very good way is to have a definite plan for spending the time unless you are to be with friends, in which case they will be able to tell you how to see the most in the least time. For example, in Washington, one of the most interesting cities of our country, the buildings many of them are open only from 10:00 a. m. to 2:00 p. m., therefore the parks and the outdoor sights must receive attention mornings and evenings. The congressional library is always fascinating, and can be visited at night, but other buildings must, necessarily be closed early. Every city has its peculiar interests, and by studying them up thoroughly the time can be spent to good advantage, even a vacation that lasts only a few days. Then, too, the fun of studying up and planning and enjoying everything in anticipation is worth much to bright young people, and geography, history and literature are all fresh in the mind for months before and afterward. It is very common to hear thoughtless people say, when listening to an account of a trip, "Why, I didn't know that was there!" but it is only because they did not study up before taking the trip. Knowing what there is to see, and the best way to get to it, is half the battle in taking a brief trip to a city.

Set out early in the morning, eat your lunch where you happen to be, and conserve your patience and strength, for tramping up and down city streets is hard work. It is very pleasant and profitable work, but it tires the body and bewilders the brain. That is the reason so many young people, and elderly ones, too, shun the city when they want to "rest up." But the after effects of such a trip are not to be compared with a mere rest by shore or in mountain cabin. For a city vacation sends the young person home more content with his quiet life, more in love with his peaceful surroundings and more convinced than ever that there are as many chances for success in the country as in town. And when the "tired" wears away, plans for the next annual vacation in another city will begin, and all life will be the richer and stronger for the outing.

Household Editor:—What are Franconia potatoes?—Mabel B.

Potatoes pared and baked with the roast. They are better if parboiled ten minutes before putting in the roaster.

Household Editor:—Will someone tell me what I can do with a window shade that has become streaked and fly-specked? It is for a large window and is too good to throw away. Could I paint it?—M. K.



WHAT'S THE USE?

BY MARIA B. TOPPING.

What's the use of there being slipshod women on the farms? We are clamoring for blooded stock, and thoroughbred chickens, and better crops, why not demand better looking, trimmer women while we are about it?

We all have to work, some of us 16 hours a day, city women as well as farm women; and when we work it is a detriment to our health to wear tight corsets or snug clothes, as well as being bad for the clothes. But there is a long road from a straight front corset to a Mother Hubbard.

There is nothing so injurious as a straight front corset when a woman has to stoop a hundred times a day. There is nothing so bad as a straight front corset, anyhow. Then, too, there is nothing so unsightly as a Mother Hubbard. It never answered any purpose in the world except to cover a woman, and if you wonder why there are not more of the ugly things worn, you'll get your answer by watching a woman trying to work in one.

A woman's work, especially a farm woman's, is the most gymnastic work in the world. She reaches up, she stoops, she works her four limbs, in every kind of a pushing and dragging motion. She sits, she stands, she almost runs at times. To do this her clothing must be loose and easy, yet be out of her way, and adapted to all kinds of weather.

The present style of short waisted, scant skirted, one-piece dresses are the most sensible and convenient that have ever been devised. They do away with the corset and the harsh bands across the unprotected stomach, and at the same time a woman can look trim and tidy if she is only clean. With three or four of these in her closet, one of denim for garden work, she can always be clean.

It is laziness in a woman, no matter how hard she works, to grow bow-backed, or hump-shouldered. The wrong muscles have been used, just because the others were a little stiff. If the back is bent along the spine, half way between the shoulders and the hips, as so many women's backs are while churning, or washing, and all heavy tasks, she must expect to present a silhouette like a gaunt grey wolf sneaking along the top of a hill against the sky.

To stoop, swing the body at the hip joints. That's what those joints are made for, and if they are not used they will get rusty like an unused door hinge. When you remember, it is easier to bend that way, and you certainly look better. When you sit or stand, do not shove out your chin, and bring the back of your head where the front ought to be; rest on your back bone, then you will be able to look up, if you ever do, without making a letter S of yourself.

You women who grub from morning until night—that's what you do, you grub—if you will think differently, your life will be brighter. Instead of a grub or a field mole, be like the horse in the field. He is never so busy that he can not look up, and if one of his kind goes along the road he greets him. It is strange when you think of it, but nevertheless true, that a miser is always portrayed as cringing and grovelling, while an angel always stands erect and looks aloft.

If you see a woman coming toward you on the street with protruding abdomen and dress shorter in front than in the back, you can make up your mind that she is more concerned about the price of butter than she is about the color of the sunset. What's the use? You sell your butter as a means to an end, and that end is not to pile up the silver, either. You are supposed to sell it for the comforts of life, and you scrimp and worry that you cannot pinch a penny or two, and make yourself as uncomfortable as possible.

Many a farm woman who could have things about her own way and enjoy life to the limit, who might have a fresh clean gown every day and not have to wash them herself, either, drags herself miserably and disgracefully about in her last year's best gown, and makes herself odious to her family by living on about half what her less fortunate neighbor does. This might be a virtue if it got the woman anything, but does it? Is she happy? She is usually a chronic groucher. In fact, she is about as near a perfect disappointment to herself and family and friends as a human being can be, and she falls far short of fulfilling her destiny.

Then, sister, what's the use? You can-

not carry any of this money over the Great Divide, then why not spend it for something you want? Your children should be as well equipped to make money as you were in the beginning, and they would be glad to see you enjoy it. How much good will it do them, anyhow, when in all probability when you die they will be old enough to have some of their own? If they do not want you to spend it, there is something radically wrong about them, and you ought to teach them something.

Then take your money and buy yourself a ticket to Europe, or spend it for an automobile. You know very well that that's what the lawyers will spend it for, when they get a slice of it, as they are sure to do.

When you go out in your trim one-piece gown to gather the eggs after you have had your bath and rest after dinner, just look up into the sky and the trees. Notice the birds, how happy they are. They get along. When you are tending those fluffy balls of fur that roll out of the eggs under the old hen, instead of thinking how many dollars and cents they will bring, just think about the wonderful process of their creation, and the Power that placed them in the egg, and made it possible for these things to be. Then will you be better prepared to meet Him face to face, than you will if you have made of yourself a beast of burden. There's going to be an end of saving some day for you, and it will take but a small nest egg to pay out at the last. Forget sordid things occasionally and look Heaven in the face, and you will be better acquainted when you get there.

There is so much agitation about the children going to the city now-a-days. Don't you suppose that, if the children had a mother who combed her hair the first thing in the morning, and washed her face, put on a clean dress and wore a smile, that they'd hate more to leave her? Don't you believe, if you should run out to the bee hives once in a while to see the bees work, and rested a few minutes to see the chickens eat, and played a game of croquet after dinner, or sat in the hammock and read while the children played, and sort of kept them peaceable, it would take the burden of labor off their shoulders and they would be more willing to stay because they enjoyed home?

Do you ever go out with them on Saturday afternoon and rake, and burn bon fires, and go to the woods and get flowers or nuts, or do you read to them on Sunday, or talk about how beautiful you might make the yard? Do you plan with them to have a thorough-bred flock of chickens, and tell them how many children in the city would be glad of those fresh eggs, or that good drink of milk? Do you ever try to present your life to them in an attractive way as an ounce of prevention? For when the fever gets them, there is only one thing that will cure it, and that is the hard rubbing from the city itself. They will get that all right, if they do go.

If you haven't ever done these things, just think of it, and see if you can't make yourself believe it is worth while.

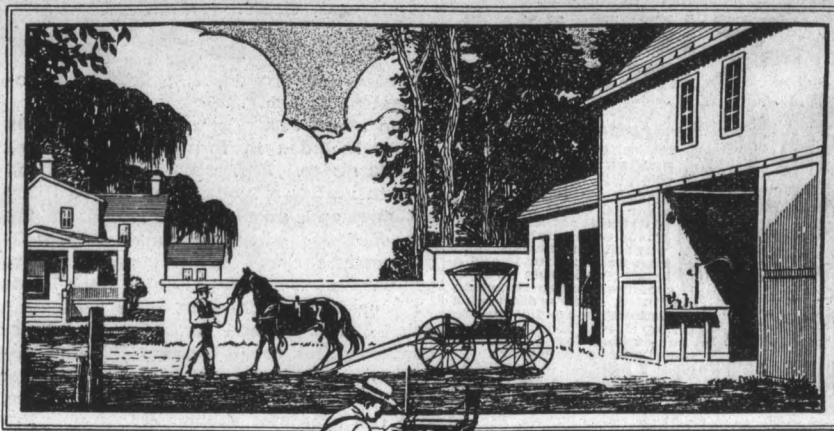
FLORAL NOTES.

BY RUTH RAYMOND.

When Easter days draw near we begin to plan the flower garden and consult the floral guides to know what is best for the coming summer's bloom. Petunias, which are rightly named "The busy woman's flowers," give a wonderful amount of blossoms for the care they require. They like plenty of sunshine and a moderately rich soil. They will bloom early and late until frost cuts them down. If the soil is not disturbed some of the plants sometimes survive the winter. Petunias should be cut back about midsummer so as to put forth new branches and make a fine autumn display. They require but little cultivating but the weeds and grass should be kept from binding them and they should have a supply of water in the dry season.

Asters should be started in boxes in April and transplanted to the garden in May, giving them plenty of room and a good rich soil. They do well in a partial shade.

Cosmos is a favorite with those who have tried its cultivation. Some get the plants directly from the florist, others plant them in boxes in the house and transplant into the garden the first of May, or when the seedlings are about six inches tall. The soil should be rich and porous and the cultivation should not be neglected as they will give extra bloom for the care given them.



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**DIET.—No. 10.**

**Milk.**

Water, 87; protein, 3.3; fat, 4; carbohydrates, .5; ash, .7.

The above analysis will show why milk is not included in the list of beverages in this series. For, while milk is a drink it is in reality a food rather than a thirst satisfier and should be included in the list of foods when we consider a well-balanced ration. Milk contains more protein and fat than potatoes, fresh beans or squash, and more fat than bread and dried beans. Bread contains but 1.3 per cent fat and dried beans 1.8, while potatoes are down on the list for 0.1 per cent fat. Milk is low in carbohydrates, but the excess of fat helps to supply this deficiency. When we stop to consider that milk is the sole food of the infant, we see at once that it must be considered as a food and not simply as a drink as we think of tea, coffee and cocoa.

This conception of milk will explain in large part why it disagrees with so many people. If milk is to be consumed in any quantity there should be a corresponding decrease of some other foods or we get more than the body can take care of. As a result there is indigestion, which is blamed wholly on milk, and we say milk does not agree with us. Do not condemn the milk until you have experimented to see if it is not an excess of food that ails you.

When milk stands, practically all the fat rises to the surface in the form of cream, leaving the protein and the small percentage of carbohydrate and ash in the solution. The carbohydrate of milk is milk sugar. Skim-milk, which many consider only fit food for the pigs, is in reality a valuable food for human beings, as it contains all the elements except the fat. In fact, many infants that can not assimilate whole milk, or milk with the cream, thrive at once if given skim-milk. Skim-milk is also a good food for adults who find difficulty in digesting fat, and helps some who have thought themselves confirmed dyspeptics.

Milk very quickly takes up impurities and odors, and it is for this reason that it so frequently forms a home for bacteria of all sorts. Bacteria thrives best in a warm place, and for this reason milk should be cooled as quickly as possible after milking. Every up-to-date farmer knows he must take care to keep all impurities out of the milk during the milking process, but as so much depends on the purity of food, calling attention to the fact again can do no harm. Because of its tendency to absorb odors, milk and butter should never be placed near onions, cabbage or other strong-smelling foods.

The protein of milk is in the form of casein and is digested by the gastric juice in the stomach. The acid of the digestive juice turns the casein into curds and if milk is swallowed rapidly and in large quantities these curds are large and difficult of digestion. This explains another reason why milk "disagrees" with some. If you have been in the habit of drinking milk hastily in large mouthfuls, try sipping it slowly, and see if you can not digest it. A bit of bread or cracker nibbled between mouthfuls will also hinder the formation of large curds.

Scalded milk can often be digested where raw milk does not agree with one. It should be scalded, though, not boiled. Leave it on the stove only until bubbles appear around the edge of the utensil. For this a double boiler is better than putting directly over the blaze. Sterilized milk or milk from which all bacteria has been taken, is milk which has been raised to a temperature of 212 degrees and kept there 30 minutes. It is not so nourishing as fresh milk as the extreme heat has acted on the casein and made it more difficult of digestion. Pasteurized milk, which is only brought to a temperature of between 140 and 167 degrees, is better. Milk is pasteurized much as we now cook fruit in the cans. It is placed in fruit jars and the covers loosely put on, then set in a vessel on something which will keep the bottoms of the cans off the bottom of the dish and cold water is poured in until it is as high as the milk in the jars. Then the water is slowly heated until the thermometer registers 171, and the kettle removed to where it will remain at this temperature for a half hour. It may be pulled to the back of the range or removed altogether and covered with a heavy pad to retain the heat. At the end of half an hour cool as quickly as possible without breaking the glass. Peptonized milk retains its fresh flavor

and is often easily digested by persons who can not digest it fresh. Pancreatin must be added to peptonize it, the usual process being to thoroughly mix one-fourth teaspoon of the pancreatin, one-fourth teaspoon of soda and a half cup of cold water, then add a pint of fresh milk and shake thoroughly, after which place the bottle or can directly on ice. In using milk prepared in any of these ways always keep the container closed or fresh bacteria may enter.

Koumiss is another milk preparation which is often safely taken by those with weak stomachs.

**HOME QUERIES.**

Household Editor:—Would you urge a baby 18 months old to walk?—Mrs. B.

It is usually wisest not to urge a baby to do anything. As a general thing, nature will see that the baby does everything in the right time for the particular baby. If the baby is very heavy perhaps its limbs are not strong enough yet to bear its weight. If it is not heavy there may be some defect in feeding which results in imperfect health. If it does not show some inclination to walk in a few weeks I would consult some reliable physician about the food and have him examine the limbs and back. Then, if everything is normal, wait until baby gets ready to travel upright.

Household Editor:—To settle a dispute will you tell us which is correct, "They presented him with a watch," or "They presented him a watch?"—John D.

"They presented him a watch" is right. A preposition should never be placed between the transitive verb and its object.

Household Editor:—How do you cook macaroni?—X. Y. Z.

Break the macaroni in inch pieces and boil rapidly in a good deal of water until tender. Thirty minutes should be long enough. Then drain, rinse in cold water and prepare with cheese, tomatoes, or with meat. To serve with cheese make a good white sauce, place a layer of the macaroni in a baking dish, cover with grated cheese, sprinkle with salt and pepper, dot with butter and pour in white sauce to come up around the pieces. Then prepare other layers in the same way until the dish is full, sprinkle with crumbs and put in a hot oven for 15 or 20 minutes, until the cheese is melted. Some like macaroni with a white sauce and one or two eggs beaten in and without the cheese.

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The business man, especially, needs food in the morning that will not overload the stomach, but give mental vigor for the day.

Much depends on the start a man gets each day, as to how he may expect to accomplish the work on hand.

He can't be alert, with a heavy, fried-meat-and-potatoes breakfast requiring a lot of vital energy in digesting it.

A Calif. business man tried to find some food combination that would not overload the stomach in the morning, but that would produce energy.

He writes: "For years I was unable to find a breakfast food that had nutrition enough to sustain a business man without overloading his stomach, causing indigestion and kindred ailments.

"Being a very busy and also a very nervous man, I decided to give up breakfast altogether. But luckily I was induced to try Grape-Nuts.

"Since that morning I have been a new man; can work without tiring, my head is clear and my nerves strong and quiet.

"I find four teaspoonfuls of Grape-Nuts with one of sugar and a small quantity of cold milk, is delicious as the cereal part of the morning meal, and invigorates me for the day's business." Name given by Postum Co., Battle Creek, Mich. Read the little book, "The Road to Wellville," in pkgs.

"There's a Reason."

**Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.**

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Long winter evenings made pleasant by **KERO-VAPOR LAMP.** Gives a steady, brilliant white light, odorless, noiseless, so simple a child can operate it. Flame is always uniform, cannot "creep up" and blaze out of chimney. Lights from top of chimney without removing mantle or glassware. **45 HOURS OF MODERN GAS LIGHT** From 1 Gal. COMMON KEROSENE. Sold on 30 days free trial; pay when satisfied. Write for circular, etc. **AGENTS WANTED.**  
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**A. B. Farquhar Co., Ltd. Box 108, York, Pa.**



# Practical Science.

## THE VARIOUS RETAIL CUTS OF MEAT.

BY FLOYD W. ROBISON.

We will now enumerate, beginning with the hind shank, the various retail cuts of meat on the side of beef. The hind shank, of course, represents the portion of the hind leg just below the round. The round steak on the average consisting of perhaps 14 or 15 average cuts, lies between the knuckle soup bone and the pot roast on the leg end of the carcass and the rump or upper corner by the tail of the carcass. Directly in front of the round and the rump are the various loin cuts, beginning first with the butt end sirloin steak and including in regular order, wedge bone sirloin, round bone sirloin, double bone sirloin and hip bone sirloin. Following this, working toward the head of the carcass, is the hip bone porterhouse steak, followed by the regular porterhouse steak cuts. Following the porterhouse steak cuts are the few cuts of club steak. Underneath the sirloin and the porterhouse are the flank steaks, and following the loin cuts toward the head of the carcass are the several rib cuts, usually worked into roasts. The rib roasts, of course, working from the club steak, take in first the twelfth and eleventh ribs, then the tenth and ninth, then the eighth, seventh and sixth. The chuck division of the carcass begins with the fifth rib, which is a roast usually, and then a half-dozen or more cuts which are usually designated as chuck steaks. The remaining portion of the chuck which is forward of the shoulder and toward the neck, is divided into four or five pot roasts and then follows the neck piece. Underneath the rib and the posterior chuck cuts, and running between the fore legs is what is known as plate. The upper portion of the fore leg constitutes the fore-shank, consisting of soup bone and stew shank.

### Retail Costs of Various Cuts.

The relative retail costs to the consumer of these different cuts of meat in the Detroit market are as follows:

**The Soup Bone Cuts.**—The fore shank end, knuckle, and middle cuts, together with the hind shank end, knuckle and middle cuts, retail for from 5c to 8c per pound. The boiling and stewing pieces vary more in price, the neck retailing at 8c; the fore shank and flank stew at 9c; the brisket and rib ends at 10c; the shoulder pot roast, shoulder clod, and round pot roast retailing at 12c per pound.

**The Roasting Portions.**—The rump retails at about 14c; the fifth rib chuck at 18c, and the other ribs varying between 19c and 25c per pound.

**The Steaks.**—Beginning in the order of their cheapness, the chuck steaks are approximately 14c; round steak, 18c; flank steak, 19c; the various sirloins, 25c; club steaks, 25c; porterhouse steak, 30c per pound.

### Retail Cost no Criterion of Value.

A very interesting feature in connection with the cost of these meats, one phase of which was described in our article of the preceding week, was that the cost of these various cuts is not at all a clear index of the economic value to the consumer of these meats. Of course, in the cheaper cuts of meat the real difference is not so marked as in the more expensive cuts. It may be that the cost of lean meat in some of the cheaper cuts is just as high as in some of the more expensive cuts, but in the cheaper cuts we may not consider the lean meat necessarily the most important item.

We should not ignore the fact that the edible fat in meats is of considerable value, but this value should be more or less disregarded or at least allowance made for it, especially in those cuts of meat, the cost of which is so much in excess of the retail value of those fats. To be a little more specific on this point, we may not object to a liberal amount of fat in a pot roast, for example, which retails at 12c per pound because we are conscious that all of the fat which can be recovered is of use for cooking purposes in the house and 12c per pound is not necessarily excessive for that fat. Again, in the case of the soup bone stock which may be obtained, perhaps, at from 5c to 8c per pound, any edible fat which may be in these various stocks is not purchased at an exorbitant price. When

we come to the steaks, however, and the more expensive roasts, varying from 14c to 30c per pound, it is very desirable that these cuts contain as little fat as is possible, for the price at which these portions retail makes exceedingly excessive the cost of the fat therein.

It is, therefore, interesting to make a comparison of these various general retail cuts, from the standpoint of the cost of the lean meat contained therein.

### Cost of Soup Bone Stock.

	Per lb.
Fore shank, end	34c
Fore shank, middle cut	15c
Fore shank, knuckle	20c
Hind shank, hock	78c
Hind shank, middle cut	9c
Round knuckle	31c

### Stewing and Boiling Pieces.

	Per lb.
Neck	11c
Fore shank stew	11c
Flank, stew	14c
Brisket	19c
Rib ends	20c
Shoulder, pot roast	16c
Shoulder, clod	14c
Round, pot roast	13c

### Roasts.

	Per lb.
Rump roasts	21c
Fifth rib chuck roast	28c
Prime rib roast, last cut	31c
Prime rib roast, first cut	50c

### Steaks.

	Per lb.
Chuck steak, last cut	18c
Chuck steak, first cut	21c
Round steak, last cut	24c
Round steak, middle cut	22c
Round steak, first cut	22c
Flank steak	22c
Sirloin steak, hip bone	38c
Sirloin steak, double bone	33c
Sirloin steak, round bone	33c
Sirloin steak, butt end	30c
Club steak	38c
Porterhouse steak, hip bone	46c
Porterhouse steak, regular	48c

## LABORATORY REPORT.

### Does Commercial Fertilizer Deteriorate in Storage?

Will you please inform me as to whether commercial fertilizer will depreciate in value if sacked up and stored away in open building (such as barn or shed) from a year to 18 months? The reason I ask this question is because we have a case of this kind at home with one of our dealers and as I am going to use some fertilizer this spring I do not want to be deceived along this line.

Grand Traverse Co. C. L. P.

If commercial fertilizer is kept stored in a perfectly dry place there is no reason why there should be any perceptible depreciation during the time specified above. We will say, however, that we have known acid phosphates to depreciate one or two, or even more, per cent, in the availability of the phosphoric acid, in fertilizers which have been stored for some time. We think, in the majority of instances, however, this may be due to improper methods of storage. Generally speaking, with fertilizers containing acid phosphate, it is not a bad idea to have them as fresh as possible or in lieu of this, a sample analyzed by the experiment station or elsewhere would determine whether there had been any lowering in the availability of the phosphoric acid present.

### Oyster Shells for Soil Acidity.

The past two years I have been a reader of your valuable paper and found many helpful suggestions in relation to building up, or renewing, our wornout soil. However, I do not recall any article treating on the value of ground oyster shell as a substitute for limestone to neutralize soil acidity. A local dealer in seeds and many other farmers' supplies, advocates its use strongly and offers it at 40c per cwt., advising the use of 200 to 300 lbs. per acre. Do you advise using this on land that was in corn last season in seeding to clover this spring?

Berrien Co. J. R. T.

With reference to the use of oyster shells for fertilizing purposes we will say that if they are not too expensive and are very finely ground they should be as good, probably, as finely ground limestone. We do not think they would be of any greater value and at 40 cents per hundred it is our opinion they are entirely too expensive to be used in this connection. The best purpose for which oyster shells may be used on a farm is as an adjunct to the feed for poultry. They are quite serviceable in this regard. Giving them practically the same value as ground limestone as a fertilizer, it would necessarily follow that in order to be of economic value they should be purchased for the same price, and, of course, ground limestone may be obtained for considerably less, we understand, than 40 cents per hundred.

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If all of the water which has been pumped by Aermotors could be collected in one great body, it would form a sea on which all the navies of the world could maneuver. But you do not have to pump oceans of water to supply your own needs. What you want is some reliable and economical power which will supply plenty of water for your house, barn and fields.

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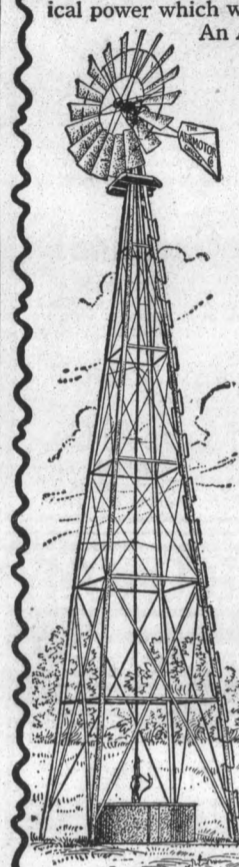
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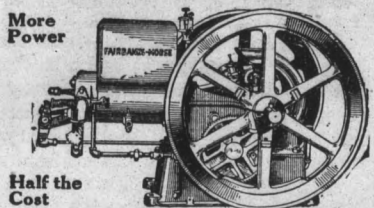
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**Farm Commerce.**

**FRUIT PACKING AND GRADING.**

During the work of the horticultural demonstration by Prof. Eustace and assistants at the recent Round-Up Institute, the following points were brought out relative to the packing and grading of fruit:

The Sulzer apple package and grade bill was passed by Congress in August, 1912. All apples packed under this bill must have a label which states "Standard Grade" and also gives the minimum size of the apples in the package, together with the name of the grower. There is nothing compulsory about this bill but when a grower puts his label on a barrel or package of fruit and states the above information, and the package does not conform to the specifications, he is liable to prosecution. Apples packed under the Sulzer bill must not contain more than 10 per cent of wormy, diseased or bruised fruit. If a shipper does not want to use this bill he does not have to and the buyer of the apples does not know the quality of the fruit which he is purchasing. This bill is for the protection of the buyer and when he has once bought fruit with the label in compliance with the Sulzer bill, he is at once assured that the fruit is of first-class quality.

**Why Western Apples Demand High Prices.**

The people of the east are anxious to get the fancy prices which are gotten by the apple growers of the west but they will never get them until they are willing to throw away as many of their apples as do the westerners. Out there, their trees do not grow large and the growers practice a very rigid plan of selection. At the time when the buds are forming, the grower goes into the orchard and thins out the buds and all through the season the trees are sprayed—usually six or seven times. The horticulturist of Michigan will never obtain the western apple price until he is willing to throw away as many apples as the western man, and the question is, whether it will be possible or economical to do this. Out there they have a rigid system of grading and packing which is not practiced in the east. Many times they buy a single piece of machinery to do the sizing of the apples. They are called grading machines but properly speaking, they are not grading machines, for no machine can grade an apple. Only a man or woman can grade an apple because this implies the throwing out of the wormy and diseased fruits.

**Packing is the Most Important Part of Grower's Work.**

The packing of apples is very important and the successful grower must pay a great deal of attention to the proper packing of his apples if he wishes to get the maximum price for them. There are several kinds of packs in common use, chief among these are the jumble, the straight, offset and diagonal.

**Straight Pack is Easy to Make but not Desirable.**

Before any of the standard packs are made, the apples should first be properly and rigidly sized. The straight pack is easily made. The apples are laid on their sides and placed one just above the other in rows, as many as the package will hold. All apples should be laid the same way, that is, the stem end of one row should be placed against the blossom end of the next row, and so forth. Although this pack is easy to make, it is very hard on the fruit, which is liable to rot in storage or be badly bruised in transportation. The stems sticking up the way they do is very liable to injure the skin of the apples above.

It has often been said that a rotten apple in the barrel will spoil all the others but this is not the case. Apples will not be so injured unless their skins have been punctured, which gives the spores of the rot a chance to germinate. In Michigan, we have no diseases which can burrow their way through the perfectly healthy skin of the apples, so it is very necessary in the packing of apples to have the skin uninjured.

The offset pack is a modification of the straight pack, the only difference being that the apples are placed in rows in such a manner that the blossom ends of the apples of one row will fit down

into the spaces which are left between the apples in the tier below. This way of packing is not so hard on the fruit. Diagonal Pack is the Most Desirable to Shippers and Consumers.

Perhaps a word should be said as to the preparation of the apples previous to packing. In packing all of the apples should be placed on their sides. When the apples are picked they should be handled as eggs. Be very careful not to jam or otherwise injure the skin of the fruit. In times past, it has been a custom of apple growers to pick their fruit and then allow it to lie around in piles under the trees or on a barn floor until a week or ten days later, when it would be packed. Now, some growers go into the orchard in the middle of the day, pick the fruit, pack it immediately, and hurry it away to cold storage. Neither of these practices are the best. Where the apples are picked and packed in the middle of the day and then hurried away to cold storage, there is a tendency for the apples not to cool off in two or three days and they will undergo more or less of a sweat. It would be far better if they were picked and packed during the day and then allowed to remain over night in the orchard and then in the early morning, the packer should go out and put on the heads of the barrels or boxes. This will insure the rapid cooling of the fruit, after which it should be taken to the cold storage where it will keep much longer than if packed in either one of the two ways mentioned above.

**Properly Sized Fruit Brings Highest Prices.**

All the apples in a given package should be of about the same size. Consumers do not object so seriously to fruit that is small if all of the fruit is of the same size, but when a small apple is put in a barrel of good-sized ones, the presence of the small apple makes the buyer think he has been cheated when, on the other hand, if all of the apples had been small ones, he would have thought nothing of the small one and would have been perfectly satisfied.

So we see that if a grower wishes to succeed, it is imperative that he give the packing and grading of his fruit the utmost care and attention.

**THE NOMID SYSTEM—A PLAN FOR DISTRIBUTING FARM PRODUCTS.**

**VIII.—(Continued). Butter.**

Butter and eggs are two products that enter into the commerce of the farm more generally than any other. They are particularly important items in direct dealing with customers in cities since they are commodities that are used every day of the year and also that deteriorate in value if held for any considerable length of time, making it necessary to deliver them frequently throughout the different seasons.

There is probably no kind of human food that receives more criticism than butter. The general use to which it is put is such that it may effect, in one way or the other, the enjoyment of many other items of a meal, for should butter served at a meal prove poor it frequently causes one to question the wholesomeness of the entire menu, while, on the opposite hand, good butter often covers a multitude of defects in cooking and serving. For these reasons it is important that a producer in sending this commodity directly to consumers, be extremely particular about having the quality high and uniform for all shipments. The person who furnishes butter that regularly measures up to a high standard will never want for a customer, while the one who fails to make his product good and keep it so is certain to be constantly hunting for new patrons. It would seem fitting, therefore, that a few suggestions be made here on how to make good butter.

**How to Make Good Butter.**

While we have too little room to elaborate on the methods of making a high grade dairy butter, some essentials in performing that work can be mentioned. It goes without saying that the milk should be produced in clean barns, by healthy cows and handled in perfectly sanitary utensils by careful persons. Then the cream should be ripened, i. e., per-



mitted to sour, which requires to be held for 12 hours or more at a temperature of about 70 degrees. This process can be hastened by adding a pound of well-flavored sour milk at the point of curdling to each 10 pounds of cream. Do not add sweet cream to the batch just before churning. In the small dairy the barrel churn gives as good satisfaction as any. Scald the churn with very hot water and rinse with a pail of cold water. Strain the cream through a strainer. A good time to add the coloring is before the cream is churned; the amount depends upon the kind of cows that produced the cream, less being required for cream from Jersey cows than that from Holsteins, also grass-fed cows give a fat with more natural color than do cows fed dry fodder. After the coloring is added close the churn and revolve it. Open the vent frequently during the first few minutes of churning to relieve the pressure resulting from the mixing of the moisture and the air within the churn. Churn until the granules of butter are about the size of wheat kernels. Wash with pure water, using about the same amount as there was of cream, except when the butter is soft, more water may be used even to twice the amount of cream. In salting the taste of the consumer should be consulted but the average amount used is one ounce for each pound of butter. If the butter is not thoroughly drained more salt will be required; however, the additional moisture enables one to get the salt better distributed. Work butter to take out excess moisture and to get the salt well blended. It is best to work it twice: At the first working simply manipulate enough to get the salt fairly well distributed. Then set aside and after six or seven hours work again sufficient to remove any white streaks or mottles that may have developed, but no more. Divide the churning into rolls, or pack in crocks or firkins and put in a cool place, clean the churn carefully by first cleansing with hot water, then with boiling water containing a little alkali, and finally with hot water again.

**Packing and Delivering.**

The method of packing the butter will depend upon the time of year and the manner of making the delivery. In the warm summer months if the shipments go any distance, they must be protected with ice. Special boxes are provided by dairy supply houses for this purpose, or the product may go forward in crocks, or firkins. In the winter season the rolls are packed in a suitable box which is nailed up and forwarded, the shipper exercising care in wrapping each roll in parchment paper. If the delivery is made in the producer's rig the receptacle need not be sealed in any way; however, it should always protect the butter from dust and look neat and inviting. In shipping by common carrier the container should be sealed and properly addressed with the addresses of both the shipper and the consignee. Shipment by parcel post for local delivery either from the office of mailing or on any rural route starting therefrom may be done when so wrapped or packed as to prevent damage to other mail matter. When inclosed in an inner cover and a strong outer cover of wood, metal, heavy corrugated pasteboard, or other suitable material, and wrapped so that nothing can escape from the package, butter will be accepted for mailing to all offices in the first zone. For shipment to other zones the requirements are so rigid and expensive as to make it impractical to forward by parcel post. (See section 22 of parcel post regulations).

(Continued next week.)

**CROP AND MARKET NOTES.**

**Sanilac Co.,** March 7.—After about two weeks of moderate weather we are again having zero weather. March came with plenty of snow, fields are well protected and sleighing is fine. Ice houses are all well filled with a pretty good product except what was obtained from Lake Huron. Wheat seems to be in a healthy condition but will need a good spring. Rough feed is plentiful. All kinds of stock selling well at auction sales. Hay still on the downward trend. The general idea is that we will have an early spring, based on the fact that Easter is so early. Some apples still in farmers' hands and are keeping well.

**Emmet Co.,** March 7.—Considerable snow fell during February, with a generally low temperature prevailing, several below zero snaps, 19 degrees below zero being the lowest point reached. There was considerable drifting of snow impeding travel. Fields fairly well protected with snow. Hay lower, selling at \$14, pressed. Pork and beef higher. Eggs selling from the stores at 25c.

**Saginaw Co.,** March 5.—If it is true that when March comes in like a lion it will go out like a lamb then we can

depend on a good early spring. The first four days of March have been the best winter weather of the year, and winter work is being rushed while the good sleighing lasts. A curtailment of the sugar beet crop for next season is evident, and more beans and corn are planned than for the last two seasons. Some good stock is being brought into the county, and farmers are planning to raise more horses, cattle and dairy stock. Prices of cattle are good. Since the holidays poultry prices have been very good.

**Shiawassee Co.,** March 4.—A hard northeast snow storm is passing over this section of the county. Roads are somewhat blocked and telephones are out of working order. A large amount of logging is being done since the snow came to make sleighing. Several farmers are getting out barn frames to put up large barns in the spring. Wheat is coming through the winter in fairly good condition. Rye is doing well. Farmers are finding it difficult to dispose of their hay crop at a satisfactory price. Hundreds of tons will be carried over until another season unless better prices are offered. Beans are moving very slow. Many farmers complain of the potato rot doing a great deal of injury to their pitted potatoes. On every hand farmers are going into the dairy business. Farmers are slow to contract for raising sugar beets claiming that the price is too low to give good returns. Lamb feeders are filling up their barns for the second feed.

**Lapeer Co.,** March 1.—Wheat on the ground does not seem to be much damaged as yet for all it has already passed through some very bad weather and been hard pinched by severe cold weather, with bare ground. Some potatoes have been moving marketward. But few potatoes left in farmers' hands to sell. Beans have dropped in price, and the price for horses is about out of reach for some to buy. Buzzing wood seems to be what many are at nowadays, and lucky are the favored that they do not have to buy coal. Live stock seems to be in a healthy condition. There is lots of grain yet in farmers' hands, and possibly low prices ahead for the same. Contrary to expectation, eggs have dropped in price, while butter remains steady.

**Washtenaw Co.,** March 7.—So far March has proved the coldest month of the year. The year, as a whole, has been a fine one, the absence of bad storms being especially good for stock, which are wintering in good condition. Also the mild weather has been a great saving of feed of all kinds, in marked contrast to last spring. Hay plentiful and the best selling for \$10 per ton, and corn bundles that sold last year at ten cents a bundle go begging at two and three cents each. So it is ever with the farming industry. It requires a good deal of thoughtful planning to wisely conduct a business as essentially dependent on conditions over which we have no control. And still the man who sits in his store, and year after year caters to conditions that never change, imagines that it does not require much brains to run a farm. More farms and farmers changing than usual. The landscape has been very profusely adorned with auction bills for the last month and more up every day. Horses a little slow at these sales. Cows and hogs out of sight. A good many very ordinary cows selling at \$60@70 and even up, to \$100. Breeding ewes close to \$8.

**Pennsylvania.**

**Erie Co.,** March 4.—March came in like a lion. Considerable thawing and freezing. Live stock wintering well. Good sale for all kinds of stock. Cows and horses exceedingly high. Some snow occasionally, with some sleighing. Good prospects for wheat but acreage is small. Oats, 32c; wheat, \$1.05; corn, 45c; hay, \$8@10; potatoes, 50c; apples, 50@60cc per bushel.

**Ohio.**

**Wayne Co.,** March 10.—The weather for the month of March has been quite stormy, with rain and snow nearly every day so far, with the mercury nearly at zero several times. The wheat has not suffered much so far, as there was a light coat of snow covering it. Looks about as good as in February. Farmers' chief occupation is getting wood, hauling manure and attending auction sales, of which there are quite a number. Lots of moving being done around here. Some farms being sold and others changing renters. Hay, \$8@10; wheat, \$1 per bu; clover seed, \$12.25 for mammoth and medium, and \$14.50 for alsike; butter, 30c; eggs, 20c.

**Carroll Co.,** March 3.—Last week we had warm and rainy weather down here. Last Sunday, March 2, it got colder. Today it is very cold and windy. All live stock looks good. Most of the corn fodder is in bad condition this winter. Roads have been very bad. Eggs, 20c; butter, 30c; corn, 55c; wheat, \$1; oats, 40c; rye, \$1; No. 1 timothy, \$15 per ton.

**Indiana.**

**Laport Co.,** March 8.—March is here now with its zero blast, five below on Sunday morning, March 2, and from 8 to 20 above since. Light sleighing this week and predictions for a warm wave. Stock wintering well and prices above usual average; good cows \$103@106 for registered stock or eligible. Wheat is registered failing in exposed fields. Steers mostly sold, but few left on feed. Jersey cows are not for sale, all busy making 40c butter. Some inquiry for sheep but few offered. Eggs declined to 25c; corn, 40@45c. Cow peas and soy beans are being sought for seed. Hay plentiful and cheaper. Fruit trees will be sprayed this year with lime-and-sulphur mixture. Potatoes and apples in only light demand.

It appears to be the plan of the new administration to confine the special session of Congress announced for April 1, to the consideration of the tariff question.



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It's a valuable outfit that should be in every stable. Those who know the horse best have agreed that to clip him at the proper time improves him in every way. He looks and feels better, does more work, rests better and gets more good from his feed. Insist on having the "Stewart." It's the easiest to turn, does the fastest work, stays sharp longer and is more durable than any other clipping machine ever made. Get one from your dealer, or send \$2.00 and we will ship C. O. D. for the balance. Your money and transportation charges back if not pleased.

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**Stewart No. 9 Ball Bearing Shearing Machine**

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Kendall's Spavin Cure is the old reliable, safe remedy for all cases of spavin, splint, curb, ringbone, bony growth and lameness from other causes. It keeps the horses working—not loafing. What it has done for others it will do for you. Keep a bottle of

**Kendall's Spavin Cure** handy so you can use it quickly when the need arises. A one dollar bottle may save a horse for you. It's worth while to be ready. Ask your druggist the next time you are in town. Tear this advertisement out to remind you. Sold by druggists everywhere, \$1.00 a bottle; 6 for \$5.00. Keep it in the house for family use, as well as in the stable. Get a copy of "A Treatise on the Horse" at your druggist or write to

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**WANTED, PURE BRED AYRSHIRE Cows and Heifers.**

Give full description including color, age and price. DAVID ROBERTS, 512 Grand Ave., Waukesha Wis.

**Breeders' Directory—Continued.**

**Lillie Farmstead Jerseys** (Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

**Dairy Bred Shorthorns**—No stock at present. J. B. HUMMEL, Mason, Michigan.

**Dairy Shorthorns**—Large Cattle—Heavy Milkers. No stock for sale at present. W. W. KNAPP, R. No. 4, Watervliet, Mich.

**Scotch Shorthorn Bulls and Heifers For Sale.** W. W. KNAPP, Howell, Michigan.

**2 YEARLING SHORTHORN BULLS** from good milking dams for sale. W. C. OSIUS, Hillsdale, Michigan.

**FOR SALE**—7 Reg. S. H. Bulls from 8 to 14 months by Victor Robin sired by International Winners. JOHN SCHMIDT, Reed City, Michigan.

**SHEEP.**

**Reg. Rambouillet Sheep, Pure Bred Poland China HOGS and PERCHERON HORSES.** 2 1/2 miles E. Morrice, on G. T. R. R. and M. U. R. J. Q. A. COOK.

**SHROPSHIRE & DUROCS** KOPE-KON FARM, Kinderhook, Michigan.

**Leicesters**—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berk shire swine. Elmhurst Stock Farm, Almont, Mich.

**"OXFORDOWN SHEEP"**—Descriptive and illustrated article sent free. PARSONS, "The Sheep Man of GRAND LEDGE, MICH. the East," R. No. 1.

**HOGS.**

**Durocs & Victorias**—A Desirable Bunch of Sows of Either Breed due April and May. M. T. STORY, R. R. 48 Lowell, Mich. City Phone 55.

**BERKSHIRES**—Yearling Sows bred for April & May farrowing. Also a few open Gilts. A. A. PATTULLO, Deckererville, Michigan.

**Quick Maturing Berkshires**—Best breeding; best type or money refunded. O. S. BARTLETT, Pontiac, Mich.

**O. I. C.**—TWO BOARS fit to head any herd. I all pigs ready to ship. C. J. THOMPSON, Rockford, Michigan.

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

**O. I. C.** Swine, both sexes. Males weighing 100 to 225 lbs. Herd registered in O. I. C. Association. GEO. P. ANDREWS, Dansville, Ingham Co., 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.**—Boar pigs all sold, choice gilts. Place your order for spring pigs with me. Your money's worth or your money back. Fred Nickel, R. 1, Monroe, Mich.

**THIS O. I. C. SOW WEIGHED 932 LBS. AT 23 MONTHS OLD.**

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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. Pigs** of September and October farrow for sale cheap. JOHN BERNER & SON, Grand Ledge, 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.

**O. I. C.**—1 extra quality last March gilt Wt. 395 lbs. due to farrow April 14th, price \$125. Bred to Scott No. 1 Grand Old Champion. If interested write Otto B. Schulze, 1/2 mile west of depot, Nashville, Mich.

**O. I. C.** Choice gilts bred for April farrow. Sired by Just Right No. 35100 Vol 15. O. I. C. Bred to Lengthy Prince No. 38161, Vol. 16 O. I. C. A. NEWMAN, Marlette, Michigan.

**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.

**Duroc Jerseys** For sale—A few first class fall pigs of both sexes, weight 150 lbs. to 200 lbs. price \$25 each. M. A. BRAY, Okemos, Michigan.

**Duroc Jerseys**—for sale: 20 fine service boars of fancy breeding and individual quality. Prices reasonable. John McNicoll, North Star, Mich.

**Reg. Durocs**—Bred sows \$20 to \$50. Boars \$20 to \$25. Pigs old enough to wean \$8 to \$12 satisfaction guaranteed. F. B. COOK, R. R. 2, Stanwood, Mich.

**DUROC-JERSEYS—Nothing For Sale at Present.** CAREY U. EDMONDS, Hastings, Michigan.

**Duroc Jersey SWINE.** Spring and summer pigs for sale, both sexes, pay express, 25 years experience. J. H. BANGHART, Lansing, Mich.

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

**Large Type P. C.** all sold, have some good gilts and Oct. pigs that have size, bone and quality. Write your wants or come and see. Expenses paid if not as represented. Free livery. W. E. LIVINGSTON, Parma, Mich.

**A BIG TYPE POLAND CHINA BOAR**—Cheap or 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. P. D. LONG, R. No. 8, Grand Rapids, Michigan.

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

**P. C. BROOD SOWS**—bred for April and May farrow. Big bone, Prolific. Also boars ready for use. Maplewood Stock Farm, Allegan, Mich.

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**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.

**Yorkshire Swine**—Aug. farrowed gilts for sale. Weaning pigs ready May 1st, akin to Champion York and 2nd best carcass at I. L. S. Breeders' Swine Show at E. Lansing, Jan., 1913. GEO. McMULLEN, Grand Ledge, Michigan.

**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.

When writing advertisers please mention The Michigan Farmer.



Markets.

GRAINS AND SEEDS.

March 12, 1913.

Wheat.—The bears scored again this past week when they succeeded in reducing wheat values from the lower figures prevailing a week ago. The most important influence in cutting down values seems to be the heavy supply in the hands of growers. The government report on the amount of wheat still held by farmers shows that on March 1, 1913, there were 156,000,000 bushels as compared with 122,000,000 bushels a year ago. While this amount is not as large as many of the bears had predicted, yet it compares with the average estimates by a majority of dealers. So, since prices had already fallen to accommodate the market to this condition the actual report itself did not disturb trading to any large degree. Primary receipts have been large, the cash demand for wheat slow and flour is not enjoying an active trade. European markets are a little uneasy because of war news, but their prices have been influenced somewhat by reports on this side. The growing crop in the United States is at present very promising. One year ago No. 2 red wheat was quoted at \$1.01 1/2 per bu. Detroit quotations for the week are:

Table with columns for No. 2, No. 1, Red, White, May, July and rows for Thursday, Friday, Saturday, Monday, Tuesday, Wednesday.

Chicago, (March 11).—No. 2 red wheat \$1.01@1.05; May, 89 1/2c; July, 88 1/2c per bushel.

New York, (March 11).—No. 2 red wheat, \$1.10 f. o. b. afloat; May, 96 1/2c; July, 96c per bu.

Corn.—Not only have last week's prices been sustained in this cereal on the local market but a fractional advance is noted. The government reports on Monday showed 41.3 per cent of the 1912 crop still in farmers' hands. This means a total of 1,289,000,000 bu., against 884,000,000 bu. in 1912, and 1,165,000,000 bu. in 1911. The reserves for the present time are the highest they have ever been except in 1907 when they exceeded the present figures by 9,000,000 bu. There has been rather free marketing recently, but prices have been held steady by liberal buying. One year ago the price for No. 3 corn was 69 1/2c per bu. Local quotations for the week are as follows:

Table with columns for No. 3, No. 2, No. 1, Yellow, White and rows for Thursday, Friday, Saturday, Monday, Tuesday, Wednesday.

Chicago, (March 11).—No. 2 corn, 50@51c; May, 52 1/2c; July, 53 1/2c per bu.

Oats.—Local values in oats followed the trend of corn rather than that of wheat and local prices are a fraction above those of a week ago. The government report indicates that over 42 per cent of the 1912 crop of oats remains in farmers' hands; this means over 604,000,000 bu., as compared with 290,000,000 bu. in 1912 and 443,000,000 bu. in 1911. Present prices are about 22c below those ruling a year ago. This difference would indicate that present values are on a normal basis considering supply and demand, and probably will not change a great deal from their present position until conditions in outside countries and the crop of 1913 encourage a change. One year ago standard oats were quoted at 57c per bu. Local prices for the week are:

Table with columns for Standard, No. 3, White and rows for Thursday, Friday, Saturday, Monday, Tuesday, Wednesday.

Chicago, (March 11).—No. 2 white, 34@34 1/2c; standard, 33 1/2@33 3/4c; May, 33 1/2c; July, 33c per bu.

Beans.—There is nothing new in this deal, the local market being inactive and the nominal price about 5c lower than a week ago. Immediate and prompt shipments are now quoted at \$1.90; May, \$1.12 per bu.

Chicago, (March 11).—Prices here rule from eight to 10c lower than a week ago. The bulk of the beans grade low. Hand-picked beans, choice, quoted at \$2.12 1/2 @2.15; prime, \$1.95@2; red kidneys, new, \$2.25; do. old, \$1.75@1.85 per bu.

Clover Seed.—A little firmness crept in this market the past week and prices advanced a few cents for common seed while alsike is a shade lower. Prime spot sold Tuesday at \$11.30 per bu., while alsike went at \$12.70.

Toledo, (March 11).—Prices here have changed the same as at Detroit, prime spot and March delivery being quoted at \$11.30 while prime alsike is slated at \$12.70 per bu.

Timothy Seed.—No change noted in local prices. Sixty bags sold Tuesday at \$1.65 per bu.

Toledo, (March 11).—Values a shade higher, prime cash and March quoted at \$1.65; April, \$1.67 1/2 per bu.

Rye.—This deal is lifeless and quotations are a fraction lower, cash No. 2 rye slated at 62c per bu.

Chicago, (March 11).—Prices here are 1c lower than last week, No. 2 being quoted at 61@62c per bu.

Barley.—Chicago, (March 11).—Prices are off about 1c and now rule at 47@70c per bu., according to grade.

FLOUR AND FEEDS.

Flour.—Jobbing lots in 1/2 paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.80; second, \$5.40; straight, \$4.90; spring patent, \$5.30; rye flour, \$4.60 per bbl.

Feed.—Detroit jobbing prices in 100-lb. sacks are as follows: Bran, \$24; coarse middlings, \$24; fine middlings, \$29; cracked corn, \$25; coarse corn meal, \$22.50; corn and oat chop, \$21 per ton.

Hay.—While quotations remain unchanged, the market is oversupplied and demand is sluggish. Carlots on track at Detroit, No. 1 timothy, \$13.50@14; No. 2, \$11@12; light mixed, \$12.50@13; No. 1 mixed, \$11@12 per ton.

Chicago.—All kinds and grades are steady. Choice timothy, \$16@17 per ton; No. 1, \$14@15; No. 2 and No. 1 mixed, \$12@13; No. 3 and No. 2 mixed, \$6@10; clover, \$6@11; alfalfa, choice, \$17@18; do. No. 1, \$15@16.50 per ton.

Straw.—Lower. Car lot prices on wheat and oat straw on Detroit market are \$8 @8.50 per ton; rye straw, \$9@10 per ton.

Chicago.—Rye straw steady; other kinds lower. Rye, \$7@7.50; wheat straw, \$5@5.50; oat straw, \$5.50@6 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Revival of interest in packing goods appears to be the feature in butter this week, the increased demand in that direction having a stiffening effect in practically all markets. Values have seen little change, the few advances coming on undergrades as a rule, but conditions in all markets are pretty satisfactory. Locally no change is recorded, jobbing prices ruling as follows: Fancy creamery, 35c per lb; firsts, 33 1/2c; dairy, 22c; packing stock, 20c.

Elgin.—Market firm at 35c.

Chicago.—Packing stock firm and higher, quotations on other kinds being well maintained; lots well up to grade commanding a slight premium over quotations. Quotations are: Extra creamery, 35 1/2@36c; extra firsts, 35c; firsts, 32@34c; seconds, 29@31c; dairy extras, 32c; firsts, 27@28c; seconds, 25c; packing, 12@23c as to quality.

New York.—Firm with packing goods and undergrades higher. Creamery extras, 36 1/2@37c; firsts, 35@36c; seconds, 33@34c; thirds, 31@32c; state dairy, best, 34@35c; good to prime, 30@33c; common to fair, 25@29c; packing, 18@22 1/2c as to quality.

Eggs.—Offerings continue exceptionally heavy in all markets but consumption is about equally strong and prices show no very marked changes. Locally a decline of a full cent or more is recorded. At Detroit current offerings, candled, and cases included, are quoted at 18c per dozen.

Chicago.—Values fractionally lower than last week but business is active and a firm feeling prevails. Miscellaneous receipts, cases included, are quoted at 17 1/2@17 3/4c; do. cases returned, 16 1/2@17 1/4c; ordinary firsts, 16 1/2@17 1/4c; firsts, 17 1/4c.

New York.—Prices here have suffered more than at most other points, but the market is steady at the lower range. Fresh gathered extras, 19@20c; firsts, 18 1/2@18 3/4c; seconds and lower grades, 17 1/2@18c per dozen.

Poultry.—Scarcity of chickens in western markets has sent values to almost prohibitive figures. Locally chickens and hens have advanced a full cent the past week. Quotations: Live—Spring chickens, 17@17 1/2c; hens, 17@17 1/2c; No. 2 hens, 15c; old roosters, 12c; turkeys, 19@20c; geese, 15@15 1/2c; ducks, 19@20c per lb.

Chicago.—Another 1c advance on chickens is noted. Geese quoted 1c lower. Quotations on live are: Turkeys, good weight, 15c; others, 10c; fowls, good, 16c; spring chickens, 17c; ducks, large, fat, 17c; do. thin, ordinary, 15@16c; geese, full feathered, 12c; do., plucked, 8@10c per lb.

New York.—Dressed stock quiet with practically no change in values. Fresh killed western chickens, 14@15c; fowls, 14@17c; turkeys, 14@24c per lb.

Cheese.—Wholesale lots, Michigan flats new, 15@15 1/2c; old, 17@17 1/2c; New York flats, 18 1/2@19c; brick cream, 16@16 1/2c; limburger, 18 1/2@19 1/2c.

Veal.—Detroit.—Steady and unchanged. Fancy, 13 1/2@14c; common, 10@12c.

Chicago.—Fair to choice, 80@110 lbs., 13 1/2@14c; extra fancy stock, 14 1/2c; fair to good chunky, 12 1/2@13c.

FRUITS AND VEGETABLES.

Apples.—Low prices encourage good movement for this season, but heavy offerings prevent advances. The Detroit quotations now are: Fancy, per bbl., \$2.50@3.50; ordinary, 75c@1.50 per bbl.

Chicago.—Fancy No. 1 apples, especially Baldwins, Greenings, Northern Spies and Golden Russets are moving fast at firm prices. Lower grades sell at buyers' figures. Quotations ruling from \$2@4 per bbl.

Potatoes.—Liberal offerings gave buyers the advantage in this market and prevented any local price improvement this past week. Michigan stock in car lots, 43@45c.

Chicago.—With an ample supply of potatoes and a weak demand values remained scarcely steady the past week. Fancy Michigan stock, 44@47c per bu; best Wisconsin, 42@47c; Minnesota, 43@47c.

New York.—Michigan stock continues to occupy a prominent place here and these offerings are in comparatively good demand on a basis of 58@60c delivered.

Cabbage.—The local market is still flooded with offerings and prices remain at the low point occupied this winter, \$1@1.25 per bbl. In New York the finest offerings free from frost are lower at \$8 @10 per ton. The market at Chicago is without life and Holland is going at \$5.50 @6 per ton.

Onions.—Market continues depressed

with prices unchanged. Local sales are for 50@55c per bu for good stock.

MISCELLANEOUS.

Wool.—(Boston).—Rather liberal transfers of wool occurred this week, due largely to holders desiring to clean their bins for the new clip. The values were lower than those prevailing for some time. Territory wools are in fair demand and some good sales of fleeces are reported. There is scarcely any bidding for the 1913 clip as yet since western growers are determined to hold for high quotations. Among the leading domestic quotations on the Boston market are: Michigan fleeces, fine unwashed, 22c; de-laine unwashed, 24@24 1/2c; 1/2-blood unwashed, 27@28c; 3/8-blood unwashed, 28@30c per lb.

Provisions.—Mess pork \$20; family pork \$23@24; clear backs, \$21@23; hams, 16 1/2@17 1/2c; briskets, 12 1/2@13 1/2c; bacon, 16@17 1/4c; shoulders, 15c; picnic hams, 12@12 1/2c; pure lard in tierces, 11 1/2c; kettle rendered lard, 13 1/2c per lb.

Honey.—Choice to fancy comb, white 17@18c per lb; amber, 14@16c; extracted, 9 1/2@10c per lb.

DETROIT RETAIL PRICES.

Eastern Market.—This market did business Tuesday on practically the same basis of values as prevailed the previous week. The bulk of offerings consisted of apples, potatoes, and cabbage. The market is still receiving inferior apples which are sold around 40c per bu. For the better grades values range from 60c @81 per bu., selected Ben Davis selling around 70c and the best Steele Red at \$1. Potatoes are easy at 50@55c per bu. Cabbage found sale around 25c for white and 35c for red. Onions, 50@60c; parsnips, 35c; beets, 30c; carrots, 30c per bu. Rhubarb, 30@35c per large bunch; lettuce per basket of about 6 lbs. 65@90c; butter, 35c per lb; eggs, 25c per dozen. Loose hay is lower at \$14@18 per ton.

Grand Rapids.

The potato market shows weakness this week. Greenville buyers have dropped prices to 35c and the market is weak at all loading points. The bean market continues dull, some of the local mills paying only \$1.55. Eggs are very unsettled and will remain so until April 1, when buying for storage purposes will begin. Meat prices are higher, dressed hogs bringing around 11c. Live poultry is scarce and firm, hens bringing 13@14c.

THE LIVE STOCK MARKETS.

Buffalo.

March 10, 1913. (Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York). Receipts of stock here today as follows: Cattle, 100 cars; hogs, 85 double decks; sheep and lambs, 85 double decks; calves 1200 head.

With 100 loads of cattle on our market here today, everything sold strong and higher on an active market, and all sold at the close. The heavier cattle, weighing from 1200 up sold at about 15c per cwt. higher than last Monday, and the butchers stuff strong 15@25c per cwt. higher.

We quote: Best 1350 to 1500-lb. steers, \$8.75@9; good to prime 1200 to 1300-lb. steers, \$8.50@8.60; good to prime 1100 to 1200-lb. do., \$8@8.40; coarse, plainish 1100 to 1200-lb. do., \$7.75@8; medium butcher steers, 1000 to 1100, \$7.50@8; butcher steers, 950 to 1000, \$7.25@7.75; light butcher steers, \$6.75@7.25; best fat cows, \$6.75@7.50; butcher cows, \$5.50@6.50; light butcher cows, \$4.75@5.50; cutters, \$4.50@5; trimmers, \$3.75@4; best fat heifers, \$7.50@8.25; medium butcher heifers, \$7@7.50; light butcher heifers, \$6@6.50; stock heifers, \$5@6; best feeding steers, dehorned, \$7@7.50; light common stockers, \$6.50@7; prime export bulls, \$6.75@7; best butcher bulls, \$6.25@6.75; bologna bulls, \$5.50@6; stock bulls, \$5@5.50; best milkers and springers, \$65@80; common to fair kind do., \$40@50.

Receipts of hogs today were about 85 double decks, a fair supply and too many for general conditions. Chicago reported 70,000 and a much lower market, and it hurt our trade bad, and the consequence was a 20@30c drop from Saturday. A few loads of heavy weights sold at \$9.15; the bulk of the yorker and mixed grades at \$9.20@9.25; pigs and lights up to \$9.30; roughs, \$8@8.25; stags \$7@7.50.

The sheep and lamb market was active today, with prices about a quarter lower than the close of last week. Most of the choice lambs selling from \$9.15@9.25; yearlings from \$7.50@8.50. Look for little better prices the last of the week, with moderate receipts.

We quote: Choice lambs, \$9.15@9.25; cull to fair do., \$6@9; yearling wethers, \$8@8.50; yearling ewes, \$7@7.50; wethers \$7@7.25; handy ewes, \$6.50@6.60; heavy ewes, \$6@6.25; cull sheep, \$3.50@5.25; bucks, \$4@4.75; veals, choice to extra, \$11.50@11.75; fair to good do., \$8.50@11; heavy calves, \$4.50@6.

Chicago.

March 10, 1913. Cattle. Hogs. Sheep. Received today .....26,000 70,000 26,000 Same day last year..27,115 53,822 24,406 Received last week..42,795 129,766 80,020 Same week last year..53,777 174,093 105,316 Following last week's substantial advance in cattle prices, country shippers furnished a larger supply today, and buyers were slow in taking hold, so far as steers were concerned. Bids were few, and a somewhat lower market prevailed, but butcher stock sold freely at well maintained values. The unusually big run of hogs came as a surprise to many, although the boom in prices last week naturally stimulated the shipments from

all directions. The receipts were estimated at 70,000 head, but later in the day it looked as though they would considerably outrun that number. The general market was called 15c lower, although there was an \$8.92 1/2 top for prime light hogs. Not much was done above \$8.85, however, with coarse, heavy packing hogs selling around \$8.25. The hogs received last week averaged in weight 235 lbs., compared with 232 lbs. a week earlier, 229 lbs. a month ago, 217 lbs. a year ago, 238 lbs. two years ago and 211 lbs. three years ago. Sheep were in good request at last week's prices, but bids on lambs were 10@15c lower, with prime lambs going at \$9.05.

Cattle have had some liberal advances recently that landed them at the highest prices for most kinds witnessed in a long time, and this time the choicest offerings participated in the boom, while selling far below the figures recorded in the latter part of 1912. The cheaper lots have been going at unprecedentedly high prices, however, and the great bulk of the steers crossed the scales at a range of \$7.90@9, the best class of finished weighty heeves fetching \$9@9.30, while the common to fair lighter weights brought \$7.15@8.15. A medium to good class of short-fed cattle found buyers at \$8.20@8.60, and good corn-feds brought \$8.65@8.95, with desirable lots of yearling steers going at \$8.40@9. Butchering cows and heifers were good sellers at \$5.10@8.50, with not much offered prime enough to go above \$8, while cutters brought \$4.50@5, canners \$3.30@4.45 and bulls \$5.15@7.15. The market for stockers and feeders has shared in the general upward trend, with limited offerings and as large a demand as could be expected at such high values, stock steers going at \$6.15@8 and feeders with weight at \$7.60@8.25. Calves, too, sold much higher, the range of sales extending from \$10@11 for the better class of light vealers all the way down to \$5@8 for the heavier and coarser lots, and a few scattering sales at \$11.25@11.50. Milkers and springers were salable at \$45@85 per head, the demand being chiefly for choice cows, with the poorer ones taken principally by slaughterers. The present condition of the market is strong, although prices are always subject to reactions after sharp advances, a boom being apt to bring out a temporary increase in the receipts. Reports from most feeding districts are that there is a marked falling off in cattle supplies, and feeders are held dangerously high, besides being extremely scarce. At such a time owners should make their cattle fat before marketing. The general cattle market averaged 25c higher for the week.

Hogs have kept on their upward course recently, bringing the highest prices seen for the season and reaching the highest level witnessed since last October. It has been all along simply a case of far too few hogs offered here and at other western and eastern markets to satisfy existing trade requirements, and apparently no one thinks that the market will fail to go much higher still. The Chicago packers have followed the advances with reluctance, being forced to submit by their urgent need of supplies for their enormous fresh pork trade, to say nothing of the need of increasing their stocks of pork, lard, ribs, etc., to something approaching normal proportions. Eastern shippers have been lively competitors with the local packers, for the east some time ago marketed most of its hogs, and this outlet has absorbed much of the time 30 to 40 per cent of the offerings, the best hogs of the lighter weights being wanted to ship east. It is this class of hogs that continues to top the market, with strong weight pigs also selling extremely well, as these are well adapted for the fresh pork trade. Provisions have been advancing sharply in sympathy with hogs on good buying and short supplies. The close of the week saw hogs selling at \$8.40@9, the highest figures yet reached, comparing with \$8.10@8.50 a week earlier. Pigs sold at \$6.85@8.65.

Sheep and lambs have undergone recent sharp upward turns in prices due to greatly inadequate offerings for satisfying the good local and shipping demand. Even the less desirable flocks that were too heavy in weight to just suit the existing requirements of slaughterers sold high, while going at quite a marked discount from the top figures paid for medium weights of lambs, yearlings and sheep. Lambs have been comprising something like three-fourths of the daily runs, with the big share hailing from Colorado. Feeders sold high, with limited offerings and a strong demand. Sheep and lambs showed advances for the week of 25@50c, lambs advancing the most. Lambs sold at the close at \$6.75@9.15; yearlings at \$7.25@8.30, wethers at \$6.70 @7.10 for good to prime killers, ewes at \$4.75@6.75 and bucks at \$4.50@5.25. Aged sheep sold the highest in nearly a year, and feeding and shearing lambs brought \$7.50@8.30.

Horses have been meeting with a rather better demand than heretofore, although not until spring really opens is any large volume of business expected. Farm chunks are the most frequently called for, these horses selling usually at \$140@210 per head. Inferior horses go as low as \$75@85, drivers being slow at \$100 @200 and a very fair grade of drafters taken at \$175@225 and scattering sales of extra choice heavy draft horses reported at \$260@320.

A short time ago a shipment of five car loads of cattle raised on a big Mexican ranch owned by President Madero, the president of that country who was killed recently, was marketed in Kansas City, there being three loads of steers and two of cows. The cattle were shipped from Colorado, where they had been fed on beet pulp, having been imported last fall. The steers brought \$7 per 100 lbs., and the cows \$6, the steers averaging 900 lbs., probably the highest price ever paid in Kansas City for such stock.



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.

DETROIT LIVE STOCK MARKETS.

Thursday's Market. March 6, 1913.

Cattle. Receipts, 1262. Market strong at Wednesday's prices; 10@20c higher than last week.

We quote: Best steers, \$8; steers and heifers, 1000 to 1200, \$7.25@7.75; do. 800 to 1000, \$7@7.50; grass steers and heifers that are fat, 500 to 700, \$6@6.50; choice fat cows, \$6@6.50; good do., \$5@5.50; common cows, \$4.25@4.75; canners, \$3.50@4; choice heavy bulls, \$6.50; fair to good bolognas, bulls, \$5.75@6.25; stock bulls, \$5@5.50; choice feeding steers, 800 to 1000, \$6.50@7; fair do., 800 to 1000, \$6@6.25; choice stockers, 500 to 700, \$6@6.25; fair stockers, 500 to 700, \$5.75@6; stock heifers, \$5@5.50; milkers, large, young, medium age, \$60@70; common milkers, \$35@50.

Bishop, B. & H. sold Thompson Bros. 2 cows av 925 at \$4.75; to Mason B. Co. 5 steers av 1054 at \$7.75, 1 cow weighing 830 at \$5.25; to Hammond, S. & Co. 2 do av 1015 at \$5.75, 1 bull weighing 1010 at \$6.50, 4 steers av 982 at \$7.50, 2 heifers av 740 at \$6.50, 2 bulls av 1170 at \$6, 4 canners av 855 at \$4, 6 cows av 855 at \$5.50, 4 do av 900 at \$6.25; to Parker, W. & Co. 19 steers av 1146 at \$7.85, 9 cows av 974 at \$6, 3 do av 783 at \$4; to Newton B. Co. 5 do av 912 at \$4.50, 3 do av 1013 at \$5.75, 2 butchers av 870 at \$6.75, 15 do av 952 at \$7; to Sullivan P. Co. 14 do av 707 at \$6, 15 do av 708 at \$6.40, 1 canner weighing 1040 at \$4, 4 cows av 880 at \$5.25, 14 steers av 943 at \$7.50, 4 cows av 900 at \$4.50; to Mich. B. Co. 4 do av 790 at \$5.85, 2 do av 1000 at \$6, 6 do av 1000 at \$5.25, 8 steers av 775 at \$7; to Newton B. Co. 4 steers av 1012 at \$7.50, 2 cows av 1010 at \$5, 1 do weighing 920 at \$4.50, 1 do weighing 1080 at \$5.50, 1 do weighing 1430 at \$6.50, 2 do av 910 at \$4.25, 4 cows and bulls av 1107 at \$6, 5 steers av 966 at \$7.50, 2 do av 1360 at \$7.75, 2 do av 825 at \$7.

Spicer & R. sold Mich. B. Co. 1 bull weighing 1520 at \$7, 1 steer weighing 1150 at \$8.75, 2 cows av 1075 at \$6; to Mason B. Co. 3 do av 1137 at \$6, 1 do weighing 900 at \$5, 4 steers av 912 at \$7.25; to Hammond, S. & Co. 19 do av 976 at \$7.60; to LaBoe 2 cows av 825 at \$4.35; to Thompson Bros. 2 do av 900 at \$4.75, 3 heifers av 690 at \$5.50, 1 cow weighing 1120 at \$4.75; to Sullivan P. Co. 2 steers av 915 at \$7.25.

Sharp sold Mich. B. Co. 8 cows av 1050 at \$6, 4 do av 937 at \$4.15, 1 steer weighing 1270 at \$8.25, 1 bull weighing 1040 at \$6.

Youngs sold same 1 cow weighing 800 at \$4.75, 10 cows and bulls av 878 at \$6.50.

Bigelow sold Mason B. Co. 5 steers av 1054 at \$7.75, 1 cow weighing 830 at \$5.25. Allington sold Newton B. Co. 17 cows av 850 at \$5.50, 3 do av 843 at \$4.50.

Lowenstein sold Marx 11 butchers av 900 at \$7, 8 do av 961 at \$6.25.

Veal Calves.

Receipts, 525. Market strong at last week's prices. Best, \$10@11; others, \$6@9.50; milch cows and springers steady.

Roe Com. Co. sold Mich. B. Co. 2 av 120 at \$8; to Sullivan P. Co. 4 av 135 at \$10, 4 av 130 at \$8; to Nagle P. Co. 20 av 140 at \$10.50, 6 av 155 at \$10.50, 4 av 155 at \$10, 2 av 155 at \$11, 1 weighing 200 at \$8; to Rattkowsky 5 av 95 at \$7.50; to Barlage 1 weighing 150 at \$11, 1 weighing 150 at \$10.

Sheep and Lambs.

Receipts, 3143. Market strong at Wednesday's and last week's prices on all grades. Best lambs, \$8.75; fair lambs, \$8@8.50; light to common lambs, \$5.50@6.50; fair to good sheep, \$5.25@5.75; culls and common, \$4@4.50.

Bishop, B. & H. sold Mich. B. Co. 19 lambs av 80 at \$8.25, 6 do av 58 at \$6.50, 3 sheep av 115 at \$5.25, 19 do av 135 at \$5.75, 13 do av 110 at \$5.75, 11 lambs av 70 at \$7.50, 37 sheep av 115 at \$5.50, 28 do av 95 at \$5.85; to Patrowski 44 lambs av 46 at \$6; to Youngs 13 do av 75 at \$8.50, 40 do av 82 at \$8.25, 51 do av 75 at \$8; to Sullivan P. Co. 31 do av 65 at \$7, 35 do av 55 at \$7, 16 sheep av 90 at \$5.25, 7 do av 135 at \$4.50, 8 lambs av 60 at \$6.50; to Nagle P. Co. 22 do av 85 at \$8.50, 60 do av 70 at \$8.25, 114 do av 68 at \$8.25; to Costello 12 do av 60 at \$6.50, 24 do av 70 at \$8.25, 19 sheep av 80 at \$4.25; to Sullivan P. Co. 16 do av 90 at \$4.50, 34 lambs av 70 at \$7.50; to Youngs 66 do av 82 at \$8.65, 39 sheep av 105 at \$5.75.

Roe Com. Co. sold Sullivan P. Co. 2 sheep av 125 at \$4.50, 1 lamb weighing 70 at \$8; to Nagle P. Co. 25 sheep av 110 at \$5.50, 62 lambs av 75 at \$8.75; to Barlage 54 do av 75 at \$8.50, 1 sheep weighing 170 at \$4.50.

Hogs.

Receipts, 3457. Market 5@10c higher than Wednesday and 35c higher than last week; none sold up to noon.

Range of prices: Light to good butchers, \$8.70@8.75; pigs, \$8.75; light yorkers, \$8.70@8.75; stags one-third off.

Bishop, B. & H. sold Parker, W. & Co. 1910 av 160 at \$8.75.

Roe Com. Co. sold Sullivan P. Co. 197 av 190 at \$8.75.

Sundry shippers sold same 675 av 175 at \$8.75.

Haley & M., on Wednesday, sold same 510 av 190 at \$8.70.

Friday's Market.

March 7, 1913.

Cattle.

Receipts this week, 1685; last week, 1529. Market strong at Thursday's prices on all grades. We quote: Best steers, \$8@8.25; steers and heifers, 1000 to 1200, \$7.25@7.75; do. 800 to 1000, \$7@7.50; do. that are fat, 500 to 700, \$6@6.50; choice fat cows, \$6@6.50; good do., \$5@5.50; common cows, \$4.25@4.75; canners, \$3.50@4; choice heavy bulls, \$6.50@6.75; fair to good bologna bulls, \$5.75@6.25; stock bulls, \$5@5.50; choice feeding steers, 800 to 1000, \$6.50@7; fair do., 800 to 1000, \$6@6.25; choice stockers, 500 to 700, \$6@6.25; fair do., 500 to 700, \$5.75@6; stock heifers, \$5@5.50; milkers, large, young, medium age, \$60@75; common milkers, \$35@60.

Veal Calves.

Receipts this week, 733; last week, 747. Market steady at Thursday's prices. Best \$10@11; others, \$5@9.50; milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 4080; last week, 5964. Market strong at Thursday's prices. Best lambs, \$8.75; fair do., \$8@8.50; light to common lambs, \$5.50@6.50; fair to good sheep, \$5.25@5.75; culls and common, \$4@4.50.

Hogs.

Receipts this week, 4479; last week, 4704. Market active and 15c higher than on Thursday. Range of prices: Light to good butchers, \$8.90; pigs, \$8.90; light yorkers, \$8.90; stags one-third off.

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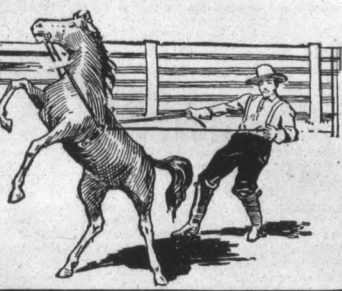
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(Continued from page 340).  
ble on the leaves of clover and alfalfa and if provided where easily obtained will soon learn to feed quite greedily on this form of roughage. In the creep there should be a low V-shaped trough in which a grain ration of oats, wheat bran and a little oil meal can be fed. This ration can be kept constantly before the little lambs without danger of causing indigestion. As soon as the young lambs discover where the grain is they will spend a great deal of their time in the creep, thus obtaining a large amount of easily digestible food that will gradually take the place of the mother's milk. Salt should also be constantly kept before the young lambs. A good plan is to keep the salt in one end of the grain trough where the lambs can find it when after grain.

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### LIVE STOCK NEWS.

The unprecedentedly high prices paid in the Chicago and other leading markets of the country for calves are bringing large numbers to the stock yards, and while many consignments are made up of lots shipped from dairies that are not worth maturing as beef cattle, it is an unfortunate fact that a goodly number of beef grade calves are arriving and going to slaughter houses. There is the usual wide range in prices between the coarser lots of heavy calves and good to prime light-weight vealers, and while the latter have been bringing from \$9.50 @10.50 per 100 lbs., the former kinds have sold for \$4.50@7.50. There has been a great deal of talk regarding the heavy slaughter of veal calves that could be raised and marketed finally as choice beefees, and in various quarters legislation has been advocated that would forbid the slaughter of calves, but while this plan has worked in South American cattle raising countries, it is manifestly unconstitutional in the United States, and will not be adopted for this reason. The packing interests are urging farmers throughout the country to save their beef calves for maturing, however, and Swift & Co. some time ago issued the following circular letter on the subject: "The United States is the greatest veal consuming country in the world. Its demand for veal is so great that the number of calves slaughtered has increased 100 per cent in the last decade. In the United States last year there were slaughtered eight million calves. These calves did not average over 70 lbs. in weight. If they had been allowed to live one year they would have averaged 600 lbs. of good beef and would have given to the country 4,800,000,000 lbs. of beef instead of only 560,000,000 lbs. of meat. According to a conservative estimate, this four billion pounds would furnish a city of 350,000 people with its total meat supply for 25 years. This gives some idea of the country's immediate loss of beef by slaughter of calves."

In speaking of the recent course of the Chicago hog trade a reviewer remarks that whenever the packers entertained doubts as to the sentiment existing among stock feeders regarding prices all they had to do was to depress prices for swine from 10@15c per 100 lbs., and the response was always prompt in the way of curtailed receipts from all directions. The average owner now believes his hogs are legitimately worth fully eight cents per pound on the farm. March is noted always as a month of moderate hog receipts, and recent reliable advices from the region of country tributary to Chicago and the Missouri river packing places agree that most stockmen have sent their swine to market as fast as they were ready, leaving no large numbers for future marketing. Hogs have as a general rule, carried more fat than a year ago, for feed at that period was scarce and high in price, while this winter it has been superabundant and unusually low in value. Hogs have been increasing pretty steadily in weight since the beginning of this year, with recent receipts in the Chicago stock yards averaging 12 lbs. per head heavier than during the last part of December and 15 lbs. heavier than a year ago. The extremely heavy hogs are the poorest sellers of all, although with meager holdings of lard everywhere, the packers will have to begin increasing their lard holdings before long. For several weeks past light hogs have been prime favorites with the packers and small butchers, this being attributable to the enormous requirements of the fresh meat trade.

A short time ago an Iowa stock feeder sold a mammoth Poland-China stag on the Chicago market for \$7.50 per 100 lbs., the hog fetching \$61.50 gross. As it was a stag, the animal was subject to 80 lbs. dockage, but it brought above the average cost of the cows coming on the market these times. On another recent day a stag weighing 860 lbs. was purchased for \$53.

A prominent seller in the Chicago market says: "There is a very wide range of prices between the medium weight lambs and the heavy weights, and anything weighing more than 85 lbs. now is selling at a discount. The heavier they are the greater the discount. It has been a good many years since the 90-lb. lambs were as unpopular as they are now, and they are really selling more out of line than anything else in the sheep and lamb business. However, it is simply because the trade does not want them, and slaughterers would rather buy a half-fat 75-lb. lamb at a discount of 50c per 100 lbs. than pay the top market price for a good fat 90-pounder. The same condition prevails in the sheep market, and killers will buy handy weight sheep at a strong premium over the heavy weights."

# Veterinary.

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

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

**Suppurative Lymphangitis—Indigestion.**—I have a brood mare that had an attack of lymphangitis four weeks ago; the swelling has left leg and now she is broken out in boils between fore legs. I have a bunch of fall pigs that weigh about 100 lbs. each; they are bent on rooting. M. J., Vermontville, Mich.—Give your mare a dessertspoonful of Donovan's solution at a dose in feed three times a day for ten days, then give her 1 oz. of bicarbonate soda at a dose in feed three times a day. She should be fed some roots, be well salted, and exercised some every day. Give your pigs a teaspoonful each of the following compound powder: Gentian, ginger, quassia, cinchona and bicarbonate soda at a dose in feed twice a day.

**Septic Infection.**—Eight days ago my cow calved, but did not clean, we tried to take afterbirth but only got part of it. Since then she has had a bloody discharge, has given very little milk and has about lost her appetite. P. B., Prosper, Mich.—Give your cow 1 oz. hypo-sulphite soda and ½ oz. Fowler's solution at a dose in feed three times a day. Dissolve 1 dr. permanganate potash in a gallon of water and inject her once a day until the discharge ceases.

**Lice on Cattle.**—Last winter I read of a lice killing remedy in the Michigan Farmer, and my recollection is it contained kerosene and soapsuds. H. W., Holland, Mich.—One part kerosene and ten parts soapsuds is a fairly good lice-killing remedy; however, you will lessen your work by applying kerosene and leaving it on only a few minutes, then wash it off; by doing so the hair will not be disturbed.

**Hip Lameness.**—I have a two-year-old colt that is some lame in hind leg and is inclined to touch toe on ground very lightly. His leg can be moved back and forth without causing pain. B. W. C., Haslet, Mich.—It is possible that the whole trouble is in hip joint and it may be either a rheumatic ailment, a severe sprain or possibly a fracture; however, I hardly believe it a fracture. Apply equal parts spirits of camphor and alcohol to hip two or three times a day.

**Thumps—Palpitation.**—I have had several little pigs die from thumps and I would like to know if it is a disease or not. I am told it is caused by feeding the sows certain kinds of food before farrowing. Some of them breathe quite short and are only sick a few days, while some of them live for ten days. J. R., Royal Oak, Mich.—Thumps is a tumultuous action of the heart, and is sometimes caused by acute indigestion and it may come on from over exertion of the heart. Singultus, or spasm of the diaphragm (hiccough) frequently is mistaken for thumps, but this ailment seldom lasts more than 20 minutes, while thumps last much longer. In young pigs very little can be done for thumps for the heart may be abnormal. Feed warm food to them, exercise them daily and put some ginger and cooking soda in their feed. In some cases give stimulants.

**Strangles (Distemper).**—Six weeks ago my horse took distemper and has been in bad shape ever since. His throat swelled, opened in four places and laterly his legs stock and I might say he is badly out of condition. J. G., Vassar, Mich.—Give your horse ½ oz. of Fowler's solution at a dose in feed three times a day. Also give him ¼ oz. powdered saltpeter at a dose once daily. Feed some well salted bran mash and roots to keep his bowels active.

**Stricture of Aesophagus.**—I have a horse that is not thriving, has poor appetite, is hide-bound and every day or two his throat and neck swells, causing him great agony and slaving. These attacks come on almost daily, but seldom last longer than an hour. G. S., Newygo, Mich.—Apply one part chloroform and five parts olive oil to throat, where the swelling is greatest, which is usually on left side, and give him 1 dr. fluid extract belladonna in 3 ozs. of olive oil, which will perhaps give him relief. Hand-rubbing the part will assist in removing the choke. His feed should be dampened and ground grain is better than whole.

**Ringbone.**—I read the veterinary column and get much good out of it. Have a 12-year-old horse that has ringbone, which began causing lameness three months ago. How shall I treat him? F. R., Midland, Mich.—In order to cure ringbone, the horse should have absolute rest; this means that he should be kept as quiet as possible. Apply one part red iodide of mercury and six parts cerate of cantharides to bunch once a week. If this treatment fails, have him fired.

**Rings of Contraction on Hoof—Indigestion—Stocking.**—I have a horse that shows lameness when driven on hard road, but goes sound in mud. His fore hoofs have rings much like an old cow has on her horns. I also have a mare that had lymphangitis last winter and now her legs stock, but she is all out of condition. E. S., Wayne county.—Hoofs that have rings of contraction are usu-

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ally the result of founder. Apply lanolin to hoofs once a day. Blister coronet with cerate of cantharides every week or ten days. Mix together equal parts of ground gentian, ginger, and powdered nitrate of potash and give her a tablespoonful at a dose in feed two or three times a day.

**Chronic Cough.**—My eight-year-old mare has a cough, runs at nose, and has been in this condition for several months. J. E. S., Levering, Mich.—Give your mare 1 oz. powdered licorice, 2 drs. of ground ginger, 1 dr. ground nuxvomica at a dose in feed twice a day; also give her 1 dr. guaiacol at a dose three or four times a day.

**Infected Udder.**—My five-year-old cow will be fresh in a month. She is only giving half a pint of milk at a mess and I would like to know what is wrong with her. Lumpy milk comes from one teat. W. M. R., Dearborn, Mich.—Dry her as promptly as possible and apply one part iodine and 15 parts lard to diseased quarter once a day.

**Sore Teat.**—I have a ten-year-old cow that had an enlargement come on end of one teat which is about the size of a walnut. When milking her a sort of core came out of this bunch and now it discharges a thick bloody pus. E. T. C., Constantine, Mich.—Apply one part oxide of zinc and four parts vaseline to sore on end of teat twice a day. You had better use a milking tube when you milk her and leave a teat plug in between milkings.

**G. C., Marlette, Mich.**—Fatten your sow for she will never breed.

**Preventing Pig Eating.**—For the benefit of your readers, I am writing to say that I have a remedy that prevents a sow from eating her pigs. Give one-half pint of whiskey to sow every day for two or three days before she farrows and she will not eat her pigs. I have had some sows that would eat about one-half of their litter and some of them ate every one of them, but have never had it occur since I commenced giving them whiskey. C. C., Bancroft, Mich.—I fail to understand how whiskey given a few days before farrowing would affect the sow's disposition and tendency after she had her pigs. It is true the quantity given would slightly intoxicate her, but the effect would soon pass off.

**Blocked Teat.**—I have a five-year-old cow, fresh last October, who gave a large amount of milk up to a week ago, since then one of her teats and quarter of udder is a little blocked, but not caked. E. D., Nottowa, Mich.—Hand-rub udder and apply one part extract belladonna and eight parts lanolin twice a day.

**Scours.**—I am anxious to know what caused my pigs to take scours bad enough to produce the death of two. These hogs seem to lose all control of their bowels. I have another one showing the same symptoms which I am feeding ground corn and oats, but, of course, I scald their feed. C. T., Lawrence, Mich.—Give 10 grs. salol and 20 drops of laudanum at a dose every three or four hours and perhaps you had better give some sub-nitrate of bismuth.

**Rheumatism—Indigestion—Weak Tendons.**—I have a horse that is somewhat crippled in hind quarters and during damp weather gets up with difficulty. His appetite is good, but he fails to lay on much flesh. I also have another horse that is troubled with weak tendons. A. P., Scottville, Mich.—Give the horse 1 dr. sodium salicylate and a teaspoonful powdered nitrate of potash at a dose in feed three times a day. Also give him 1 oz. of ground gentian and ½ oz. of ground ginger at a dose in feed twice a day. Apply equal parts turpentine, aqua ammonia and raw linseed oil to weak tendons three times a week.

**Alsike Poisoning—Abscess.**—While running in alsike pasture last fall my three-year-old filly commenced stocking in hind leg and sometime later a bunch came on just below hock which opened and discharged pus; now the leg is considerably swollen and I would like to know what will reduce it. L. E. H., Silverwood, Mich.—Apply iodoform to wound and as soon as it is healed, apply one part iodine and ten parts lard to leg twice a week. The hair should be clipped off before the medicine is applied.

**Sore Leg.**—I have a four-year-old Percheron mare that is quite lame in left hind leg. The leg is somewhat stocked and tender, but I am positive she was not kicked. E. J. MacM., Grand Ledge, Mich.—Dissolve ¼ lb. sugar of lead in a gallon of water, adding ½ pt. fluid extract opium and apply to swollen tender leg three times a day. Are you sure that her foot has not been bruised?

**Bruised Knee—Spinal Paralysis.**—We have a six-year-old mare with foal that had a bunch come on knee about two months ago. I thought she had bumped it on the manger, but now the leg is swollen to body and very tender. I also have a ewe that seems to be losing use of hind quarters, appears dizzy and her sight is affected. C. L. G., Cross Village, Mich.—Put one pint tincture arnica, one pint alcohol and one pint extract of witch hazel in a gallon of water and apply to swollen leg two or three times a day. Give your ewe 5 grs. potassium iodide and one-thirtieth of a grain of strychnine at a dose three times a day. If her bowels are not loose enough, give equal parts castor oil and olive oil, (½ oz. of each) daily until the desired effect is produced.

**Blistering After Firing.**—What kind of a blister should I apply to a sidebone after it has been fired? W. O. C., Rudyard, Mich.—It is not good practice to blister too soon after firing, for when it is done sloughing between iron marks may take place, causing a large scar. One part red iodine mercury and six parts lard is a proper remedy to apply to sidebone and in my practice I seldom blister earlier than three or four weeks after the firing has been done.

**Solidified Bursal Bunch.**—I have received much useful information by read-

ing the Michigan Farmer, especially the veterinary department, but failing to notice a similar case to mine, I write asking what can be done for a colt that sprained leg, causing a soft swelling below hock. This bunch at first was soft, caused no lameness, but now it hardens causing some lameness. J. T. W., Standish, Mich.—You will obtain fairly good results by applying one part red iodide mercury, one part iodine and eight parts fresh lard every few days to bunch; however, you must expect it difficult to reduce an enlargement of this kind.

**Teething of Male and Female.**—I read the veterinary department of the Michigan Farmer with much interest and would like to have you answer the following question: Does the male or female colt shed their teeth at about the same age and at what age should they have a full set of permanent teeth? M. B., Gaines, Mich.—The male usually sheds his temporary teeth a little earlier than the female. A horse has a full set of permanent teeth at five years of age and a filly a month or two later.

**Kicked in Head—Tongue Hangs Out of Mouth.**—My mare received a blow in head, causing her to hang tongue out of mouth, which interferes with her eating, also in drinking water. One of my other horses kicked her. T. J. F., Temperance, Mich.—Dissolve a tablespoonful of salt in a quart of water and apply to tongue two or three times a day. Also apply tincture of iodine to bruised parts once a day. It is possible that a little surgical work should be done on the head at seat of injury.

**Spasm of Muscles.**—A short time ago I started out to drive my 18-year-old horse 11 miles from home and back again. When six miles from home he commenced to travel crooked and going side-ways and kept it up until I got home; next day he seemed to be all right. What occurred to him and what can be done for him if he has another attack? A. B., Muir, Mich.—Apply spirits of camphor to muscles that are cramped.

**Indigestion—Dropsy—Roosters Pluck out Feathers.**—I have a seven-year-old horse that is in an unhealthy condition, neck glands swollen, sheath swelled and legs stocked. Our local Vet. says he has scratches and he also has a ravenous appetite. Our roosters seem to be pulling out their feathers, but the hens do not. J. N., Carsonville, Mich.—Mix together equal parts ground ginger, gentian, bicarbonate soda and fenugreek and give him two tablespoonfuls at a dose in feed three times a day. Give your roosters some salt and green cabbage or roots. Feed them a balanced ration and give them more exercise.

**Goitre.**—I have a mare that has swollen throat and breathes a little as though she had heaves. E. E. C., Cadillac, Mich.—Give her 2 drs. potassium iodide at a dose in feed three times a day. Also apply one part iodine and ten parts lard to throat three times a week.

**Poll-evil—Azoturia.**—My horse has a painless bunch on back part of head and upper part of neck and this same horse is inclined to have azoturia. J. A., Breedsville, Mich.—Apply one part iodine and 15 parts fresh lard to bunch two or three times a week and if it softens, you had better open it and wash it out with one part carbolic acid and 30 parts water. Also put in some iodoform to bottom of cavity once a day. To prevent azoturia, feed extremely little grain while your horse is idle and increase the grain supply when working; also avoid having him too fleshy. Be sure and exercise him every day. Feed your colt some roots and increase his grain supply, but feed oats instead of corn.

**Colt Coughs.**—I have a two-year-old colt that is troubled with a cough and our local Vet. has prescribed for him, but he don't seem to get well. H. H., Hersey, Mich.—Give him two tablespoonfuls of ground licorice, half teacup of molasses and ¼ dr. powdered opium at a dose in feed two or three times a day.

**Sprained Fetlock.**—My mare sprained her ankle about six months ago, leaving the joint thickened, and I am anxious to reduce this swelling. W. W., Fostoria, Mich.—Apply one part powdered cantharides, one part red iodide mercury and eight parts lard to bunch once a week.

**Spinal Meningitis.**—During the past four weeks two of my horses have died. They got down and did not appear to have any pain, but had very little use of hind quarters. They were only sick two days and suffered some for a few hours before they died. C. W. C., Central Lake, Mich.—Your horses died the result of spinal meningitis which is almost an incurable disease. I am not able to tell you what brought it on, but am inclined to believe it the result of either food or water infection.

**Feeding Horses Alsike.**—Would like to know if it will injure horses to feed alsike clover hay? G. R. E., McBain, Mich. A moderate amount of well-cured alsike clover will do horses no harm, but badly cured alsike should not be fed to horses.

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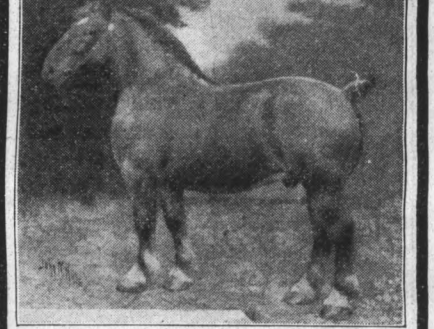
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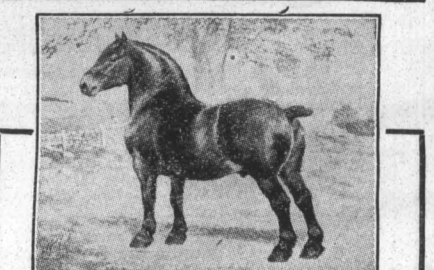
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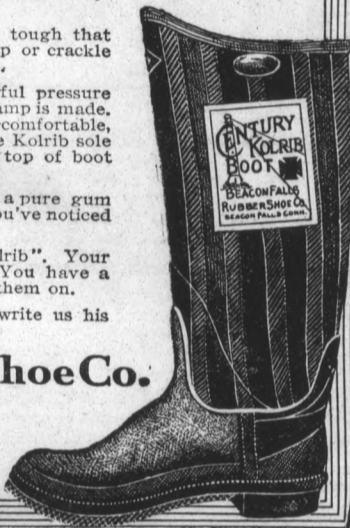
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# BRAMBLE HILL

By ROBERT CARLTON BROWN.

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"Turtle Creek!" cried Doodle, swinging around and clapping his hand on the nomad's knee and asking breathlessly, "You said this girl had lived on Fifth Avenue?"

Doodle's question had been prompted by a thought that had been lurking subconsciously in his mind since he had remarked the similarity between Elizabeth Walters and Jim's description of Jerusha Wattles. The fact that this girl the nomad was describing must be Jerusha Wattles had attracted his attention first. Then he had caught at the statement that she had lived on Fifth Avenue. Neither Jim nor Sid had ever mentioned that fact concerning Jerusha Wattles. Doodle was startled into real wonder. Here was a stranger, and even in his description of a girl, who must from the outside facts be Jerusha Wattles, Doodle was reminded of Elizabeth.

"How did she happen to mention that she'd lived on Fifth Avenue?" cried Doodle breathlessly.

"We talked of flowers and the great parks. She spoke of the wonderful flowers clumped about the Sixty-fifth Street Entrance to Central Park. I asked if—"

"The Sixty-fifth Street entrance!" cried Doodle, grasping the knee tighter. "You're sure?" His anxiety was due to the fact that the Clendenning was situated on Fifth Avenue close to Sixty-fifth street and that in strolling through that gate he and Elizabeth Walters had often mentioned particularly the gorgeous flowers there.

"Yes, I am sure; she said she had lived near there," answered the nomad.

"At the Clendenning?"

"She didn't say what hotel."

"You say she had black hair and black eyes that looked deep at you, almost through you sometimes?" cried Doodle. "I didn't say that," smiled the other slowly, "but that describes her eyes. She was most captivating. A plain dress and a quaint brown canvas apron."

"Made of one of those Volendam sails, I'll bet!" cried Doodle, half rising and still clasping the fellow's knee. Holding his gaze steady he demanded in a breathless gasp, "Did she have a little mole on her forehead?"

"I'm sure I couldn't say, sir," replied the straggler, looking at Doodle curiously. "Do you think you know the young lady? You are indeed fortunate if you do. None more fair, none more—"

"Think! Wasn't there a tiny mole by her right eye?" Doodle cut him off.

"If there was it only pronounced her beauty and I must have overlooked it. I am sure, sir, that—"

The wayfarer stopped abruptly and threw up his hands in surprise, flitting the fingers in the direction of Doodle who had jumped up and was already rushing along the walk between the park benches. He had forgotten his cane in his hurry, and his mind was working so fast with the new thought that he didn't even miss it.

At the first building he came to he turned in and rushed through the lobby to a small telegraph office. There he snatched up a blank and wrote out the following so violently that a messenger boy, dozing behind the counter, was awakened by the vigorous scratching of the pen:

Sidney Edgeworth, Turtle Creek, Ill.  
Think I've made a discovery more important than Columbus's. Has the girl, J. W., who helped you against the railroad, an infinitesimal mole on her forehead, near her right eyebrow? Answer immediately.  
Doodle.

Chapter XVIII.—An Achievement.

Doodle waited impatiently for an answer to his telegram until noon next day. Then he took a flyer for Chicago and went right out to Turtle Creek. He was surprised to find that Sid was not at home, and as he entered the hall of the Edgeworth mansion the first thing he saw was his own telegram to Sid. It was lying in state on the card tray, sealed and addressed in proper form. Hornbill came in answer to Mother Hubbard's call, recognized Doodle by Sid's descriptions of him, and made him welcome.

"There's a telegram from you to Sidney over there," he announced cordially, indicating the sealed yellow envelope.

"Yes. It's from me, but how did you guess it?" asked Doodle.

"Oh, Hermann told me. What's the discovery you made? I'm sorry Sidney wasn't here to answer immediately, as you said in the telegram."

"Is Hermann the intelligent gentleman of German extraction who wears a bandana about his throat and asks everyone who alights on his station platform if he hasn't got off at Turtle Creek by mistake?"

"Did he dew that?" smiled Hornbill. He grew serious in a moment and finished, "Hermann has his failings, to be sure, but be that as it may, he's the best station agent this city ever had."

Doodle found much to occupy himself in the three days he was forced to wait for Sid. On an inspection trip of the farm the afternoon of his arrival he fell through a trap-door in the hay-mow and landed on his back, and a feed bucket, in a box stall. The next day he poked his cane into the fat side of a steer and, in dodging the rush of the infuriated animal, stepped into a rabbit hole and twisted his ankle.

When Sid arrived from Chicago, disgusted and disgruntled because Doodle had not answered his frantic telegrams, Hermann was on hand to advise him that Doodle had arrived on the 12:32 three days before. Sid raced home and could hardly believe his eyes when he saw Doodle sitting on the front porch, his ankle bandaged, shooting at gophers and sparrows with a small .22 calibre rifle.

Sid fell on his neck and embraced him. Doodle appeared decidedly peevish. Having greeted Sid he eyed him slowly and calmly for fully half a minute.

"Got the gout?" queried Sid, as Doodle gave a bitter glance at his coddled foot.

"No," growled Doodle.

"Tell me. Has your Elizabeth Walters a mole near her right eye?" Sid burst out, not waiting for Doodle's reply.

"Yes!" Doodle started from his chair and sank back with a scowl as a twitch of pain from his ankle shot through him: "Has Jerusha Wattles got one?"

"Yes."  
A full minute of reflective silence ensued.

"They're one and the same," said Sid with finality, his manner quite self-conscious. "I wired you when I learned that Jerusha was traveling with a Mrs. Raimer. I felt sure from that minute it must be your aunt."

"I must have left just before your wire came," replied Doodle. "My message, to you was sent when I learned that Jerusha Wattles had lived on Fifth Avenue. The wire's inside. You can read it now; everybody else in town has."

Doodle spent the month of August with Sid. Together they had quite a jolly time. Being young, they sought companionship, society. Doodle met Susan Dunlap and became interested in her. Sid had a gayer time, in spite of himself, with the young people than he had had since coming to Turtle Creek. He was still in disrepute everywhere, and Harold Ewer's neck still swelled and grew a violent red when Sid happened to be one of any social gathering which included Ewer; but Doodle was always along and Sid didn't mind.

Both Sid and Doodle had written independently to Aunty Raimer, telling her of their discovery of the dual identity of Jerusha, and Aunty Raimer wrote back a joint letter confirming their fathoming of the mystery. Both were somewhat embarrassed by the fact that their interest had been so plainly disclosed to each other; for since they were certain that Jerusha and Elizabeth Walters were one and the same, both had denied any absorbing interest in the girl. It is ever the way with friendly rivals.

Aunty Raimer wrote that Jerusha was with her at the time (the letter was dated from a quiet seaside resort in Maine) and that she was rapidly re-adjusting herself to the idea that Watts was gone. The cutting short of Jerusha's dream of going back and making the cottage attractive for Watts and caring for him, Aunty Raimer said, had left Jerusha so stunned that she hadn't been herself. She asked them not to write to Jerusha until the fall, when she hoped

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that she would have adjusted her mind to her loss and assuaged her disappointment, and would probably be glad of offers of friendship.

Both of the young fellows were much excited over the letter, but neither let the other know his full interest. Both regretted now the wild words with which they had formerly praised Jerusha in the presence of each other. Doodle was particularly chagrined, for he had raved more desperately than Sid. To prove to Sid that he wasn't crazy over Jerusha and hadn't rushed off to Turtle Creek for a sight of her, Doodle called alone often on Susan Dunlap and went twice to Bayview to see Miss Bettes. In fact, Doodle acted his interest in Susan Dunlap so well that when September came he decided to stay out the month with Sid. There was no reason why he shouldn't, as he hadn't anything to do but wait in the hope of being where Jerusha was some time that winter.

On the morning of the fourth of September Sid received a letter that caused him to rush downstairs, grab Brigadier General Hornbill by his hard, trembly old hands and dance him around the room in a crazy fandango. "Hooray!" he shouted, as he finally released Hornbill and the old fellow slumped back into a deep chair. "Read that!" shouted Sid, thrusting the following epistle into Hornbill's hands:

Sidney Edgeworth, Esq.,  
Turtle Creek, Ill.  
Dear Mr. Edgeworth:—At a meeting of our construction committee yesterday the question of sidetracks being built on the property in your vicinity, called Bramble Hill, was considered and voted down.

It was deemed advisable, however, to build an extensive yard on or near your property. I recalled our conversation and am now writing to ask that you call at my office as soon as possible that we may come to terms on a suitable strip of your land. Very truly yours,  
Benjamin Hartley,  
President.

It didn't take Sid long to get to Chicago. He had nine days' absence from Turtle Creek due him from his recent short trip and he took advantage of it to go down and call personally on the president of the railroad company.

He was surprised when he entered the office to find the official very affable and anxious in manner. Having passed over the formalities, the railroad head asked abruptly: "Will you take thirty thousand dollars to settle for both the right of way and the land for the yards?"

The suddenness of the question caught Sid off his guard. He stammered for a moment and was about to reply when the telephone on the president's desk tingled.

As Sid sat revolving the offer of thirty thousand dollars in his mind the president's conversation over the 'phone penetrated through his thoughts and he suddenly turned his whole attention to the words.

"You're sure there's no chance to finish one time?" the railroad official was saying.

Evidently the reply was an emphatic affirmative, for the president sat silent, moving his lips thoughtfully. Finally he asked, "Hasn't anybody been able to figure out an idea, one that will be legal and effective?"

The worried frown on the president's countenance was assurance of a negative answer to his question.

"Well, something's got to be done," he jerked out abruptly. "Put Hartridge on it. He's got to figure out some way."

The president listened to a long reply and then cut off sharply, hanging up the receiver. "Well, don't mind the expense. Figure out some way."

As he turned back to Sid he seemed a different man. His face had settled into a defensive frown and he gazed at Sid absently, as though he'd never seen him before. Recollecting his former conversation he repeated suddenly, "Yes, thirty thousand for the right of way and the yards. Will you accept it?"

"I said I wouldn't take anything less than forty thousand," replied Sid firmly.

"We can't offer you a cent over thirty thousand. That's final," replied the official, turning back to his desk.

"Wait a minute," cried Sid, fearing the interview had come to a close. "Wouldn't you pay my price if I told you a sure way of legally tying up work on your railroad for six months?"

"What do you know about that?" demanded the president, turning back abruptly and glancing up at Sid shrewdly through his heavy eyebrows.

"I know a sure way for you to get time on that franchise," replied Sid firmly.

"What is it?"

"If you'll agree to pay my price, forty thousand dollars for the right of way and land for the sidings I'll tell you."

"It's a good price. I see you are still very fond of money."

"It's no more than the land is worth." "That's not the question." The official paused a moment in doubt.

"I overheard your conversation on the 'phone," Sid put in quickly. "I know you are pressed for time, that you can't finish within the franchise date, and that if work isn't stopped on your railroad very soon you'll lose a great deal more than the extra ten thousand I'm asking for."

"But you couldn't have any idea that would legally stop work immediately?"

"I have," Sid snapped, confidently. "It's probably some very impractical notion. You don't know anything about business, young man."

"It's a very practical idea," retorted Sid hotly. "I read a little law last winter. I know what I'm talking about."

"Well, if your idea were adopted how soon could you tie up work for us on the railroad?"

"Tomorrow morning." The president started. "You could?" he cried.

"Yes, sir." "Well, here!" he drew a check-book to him. "I'll write you a check for fifty thousand dollars if you can do that! We've had a good many men working on it for about a week."

"Good!" Sid reached out his hand to shake on the bargain before it could be withdrawn. "It's a very simple idea. I suppose on account of its very simplicity your lawyers never thought of it."

"Well, what is it?" cried the president impatiently.

"Order your representative at Turtle Creek to send a car-load of ties up the track to Edgeworth Farm. Tell him to have the men dump the ties on my private property, well past the right-of-way land."

"Yes, and then what?" asked the official, leaning forward anxiously, his fingers ceasing to tap nervously with the paper cutter.

"Then I'll proceed at once—this afternoon, in fact—to get an injunction against you for trespassing on my property and storing your supplies there. The injunction will restrain you from continuing your work on the railroad until you have satisfied my claim for damages. You are protected in your franchise against loss of time through such injunctions. All you have to do then is to refuse to remove the railroad ties and we can stretch the fight out for six months in court."

"You're right!" cried the president, reaching over to press a button. His secretary entered and the railroad official despatched the order Sid had suggested. That done, and the secretary gone, he sat looking steadily at Sid for a full minute. Finally he drew the check-book to him and scratched in Sid's name and the amount. Tearing out the check he handed it to Sid with the curt remark, "There is your money. You've earned it."

He turned abruptly to his desk and began fingering some papers, showing plainly by his manner that the interview was at an end.

Sid glanced at the check. It read "fifty thousand dollars." His hand was steady and he remained perfectly calm as he thrust it into his breast pocket, said good-day, and left the office.

The minute he was out on the street he took a deep breath, threw back his shoulders and hurried off to the bank on which the check was drawn. There he slid the slip of paper through the window and had it duly certified. After that he hurried off a note to Brigadier General Hornbill, briefly explaining the plan, which he had already discussed with Hornbill, and instructing him to start injunction proceedings.

While Sid had been able to bluff the railroad official and communicate his idea of holding up the work, he wasn't acquainted with the ways and means of actually getting out an injunction. But that he could easily trust to Hornbill.

Sid stayed in Chicago only long enough to buy a stock of Utopia cigarettes, for Doodle. The dealer offered him a sample cigarette of a new brand and Sid, not to appear prudish, lighted it and took several puffs. But the moment he had left the shop he made a wry face and flung the cigarette into the gutter, getting out his old pipe and stuffing it with fragrant tobacco. Since Sid had stopped cigarettes he felt bigger. His lungs seemed broader and the air he

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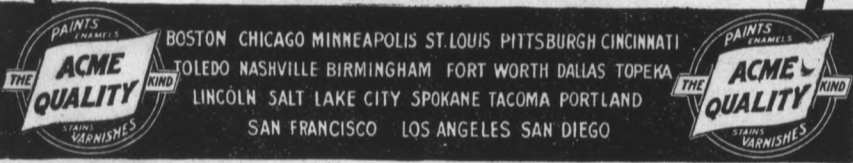
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But whether you have the girl and sleigh or not—there's lots and lots of pleasure in a big, red tin of Velvet. It's so mild and rich and fragrant that you can't help but enjoy it. And snow, rain or shine—winter or summer—you can always have this delightfully smooth tobacco.

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breathed was sweeter and fresher. He could think better, and when he got up in the morning he didn't feel so tired. Oh, the country had taken Sid unawares and had done much to make a man of him.

He took an early afternoon train for home, as the city had no hold on him. There wasn't that old-fascination about it. He didn't even stop in at a bar to try a glass of anything. He was full of excitement, and every three minutes he rubbed his hand across the breast pocket, just to make sure by the crackling of the certified check that he had won. From the station, just before leaving, he had sent a long telegram to both Jerusha and Jim.

While quite intoxicated with success he was all the time conscious of a rumbling dissatisfaction. To be sure, he had achieved a great thing. He had made fifty thousand dollars out of the farm already. The suddenness of the president's offer and the despatch with which it had all been performed, took his breath away again when he thought of it. But there was still that irritating thought that he had only half won. To secure his final success he must make over forty thousand dollars more, for he could count on the profits of the farm figuring up to about eight thousand dollars in the four years.

There was still a great deal before him, but he did feel that he had beaten the railroad. There was something in that. In fact, a great deal.

Riding home that day he summed up the situation to himself. He'd been in Turtle Creek about two years and two months. He had lived along most of that time in doubt as to whether or not he really loved Susan Dunlap. He had felt that the will was influencing him. Then when Jerusha had come home and gone away again and he had seen Susan Dunlap once more he had made sure. He didn't love her. Now that he had made more than half the money required by the will, and his chances looked favorable, he was certain he did not love her. There was only one thought in his mind. He was trying to figure out a scheme for earning that final forty thousand dollars. If he could do that, and his grandfather's fortune should finally become his, he knew what he would do with it. Yes, he was quite certain of the sort of investment he would make of his fortune and his life. But there was a great deal to do before that. He had forty thousand dollars to make first. So he put up his pipe and began figuring seriously on the wrapper of the cigarette package. He had suddenly thrust himself into business. He had caught Jerusha's impetus and he was going to work out something for himself this time. There was still a year and ten months coming to him by the terms of that will. As he looked forward he hoped there wouldn't be an idle minute in that time. He wanted to achieve. His surge of spirit recalled the night he had built the dam. It all dated from then. He had flung everything aside and gone ahead. Mentally he took his coat off again and went to work.

### Chapter XIX.—Esperanto of the Eyes.

Another year had been ticked out by the stuttering clock in Niles Pash's store. The cuckoo bird, as it fluttered out of its box each hour, had noted many changes. The year had been a fruitful one in Turtle Creek. Aloisious Stimpson's bristling beard had added an inch to its proud length; a canning factory had been built on the outskirts of the town as a result of the growth given Turtle Creek by two competing railroads; Niles Pash had added \$148.37 to his yearly net profit; Bud had struck a growing streak in his even life and had shot up two and one-half inches, had begun being conscious of the down on his upper lip, and blushed when his voice cracked; Ed. Humphrey's capacity had increased to three bottles of rye whiskey a week, and the church had been reshingled.

Oh, Turtle Creek hadn't been idle in that year since Sid Edgeworth came to the rescue of the railroad people and managed to help them hold their franchise. By slippery elm time that year the railroad was clear through the township; by summer, its regular traffic began, and then the canning factory had blossomed, garnering in the corn, tomatoes, peas and things and canning them as they came along in season. The factory brought business and Turtle Creek prospered.

Now it was walnut time, hickory-nut time, butternut time; the frost had fixed hangin' around talkin' above how to up-the hazel nuts for the squirrels and the

village boys had been beaten. In Niles Pash's store the prune box had been put on top of the coffee canister in anticipation of winter.

Aloisious Stimpson, in his medium-weight underclothing, sat comfortably on the porch of the store, a bit bothered by the increasing interruptions as Niles was called from the circle to wait on a clamorous customer, usually some newcomer whose father or husband worked at the canning factory.

"It's scandalous the way the town's boomed," reflected Lafe Turner, sitting on the right hand of the village father, sucking a "peppermint."

"It's ridiculous," agreed one of the ladylike old gentlemen always present.

"It's a darn good thing," snapped Aloisious Stimpson turning on Lafe Turner. "You never would be happy unless you was miserable, would you?"

"No," the wrinkled little fellow blinked like a Rhesus.

"Don't contradict me," cried Stimpson like a stern father. Then he continued reflectively, "It's a darn good thing. I sold that half-acre lot of rocks what used to be in the south pasture to the cannin' people fer a round sum."

"Two hundred dollars, I heard yeh got," drawled Ed. Humphrey, looking up from his humble station on the porch floor.

"Tain't none of yer durn business what I did git," cried Aloisious. "It's a wonder yeh couldn't take example from some of the young fellers in this town an' do somethin' yerself thet would be a credit to the town, instead of sittin' around disputin' with your elders."

"Like what young fellers?" demanded Ed, moving out of range of Stimpson's toe.

"Well, like—like Bud here—" Stimpson said lamely, looking up at Bud, who leaned against a porch pillar, pulling at a very large corn-cob pipe and blushing as Stimpson made reference to him.

"Bud! Hah, hah!" laughed Ed Humphrey. "Why, he ain't done nothin' but switch from smokin' corn silk to Duke's Mixture."

One of the ladylike old gentlemen cackled at that and poked Bud in the ribs slyly.

Encouraged by the appreciation of his wit Ed. Humphrey continued, "Say what yah mean, Aloisious; say Sid Edgeworth if it kills yah."

"Well, Sid Edgeworth then," flared Aloisious, champing his liver-colored stogie. "You could learn a lot from him."

"Yes, you're jest like Sam Dunlap. When a feller's down yah sit on him. When he bluffs a railroad out of fifty thousand dollars yah say you wisht yah had a daughter fer him to marry."

"Shet up!" growled Stimpson irascibly, his toe stealthily reaching out in the direction of Ed. and his eyes flaming.

"Yah can't deny it," bawled Ed., excited into flourishing the lash now that he knew from the awkward silence of the others that he had the whip hand of Aloisious. "Yah'd a done just the same as Sam Dunlap did. Yah'd a offered Bramble Hill to the feller that would marry Susie, and yah'd be meanin' Sid Edgeworth, too, just the same as Sam Dunlap does."

"Yeh're a d-d blasphemous scoundrel!" Stimpson lurched forward and launched a kick in the direction of Ed. But Ed. had anticipated the action and dodged around the corner of the store.

Aloisious had hardly recovered his balance and dignity before Sid Edgeworth himself came around the corner and ran up the steps.

"Good morning, gentlemen," he called cheerily to the assembled fathers, waving his hand to them.

"Good morning!" Stimpson himself led the burst of greeting, adding when it had subsided, "Well, how's the buildin' comin' along?"

"First rate, thank you!" answered Sid. "We were lucky to get the foundations in before frost."

"Yeh sure were. Yeh sure were," admitted Aloisious Stimpson, "gol darn lucky!"

"It's been keeping me on the jump," said Sid. "I've got to meet a gang of brick-layers on the 12:32. We ought to have the factory complete in time to begin filling orders by spring." He nodded to Stimpson and hurried into the store. (Continued next week.)

"I wonder," said the youthful student, "how the prodigal son came to go broke?"

"I suspect," replied Farmer C. Bossel,

"It was because he spent his time in town hangin' around talkin' above how to up-the hazel nuts for the squirrels and the lift the farmer."



## Farmers' Clubs

### 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.

### WHAT THE LOCAL CLUBS ARE DOING.

**Maple River Club, of Shiawassee County.**—This Club was represented by Ex-Associational President A. B. Cook, who stated that this was one of the old Clubs of the state and had been active in both the State Association and in the County Association of Farmers' Clubs in Shiawassee county. The membership dues of the Club are \$1 per family. At the start they were made 25 cents, then increased to 50 cents, then to \$1. The membership is limited to 20 families. One of the fine features of the Club is the manner in which the young people have been kept interested, one generation of Club members having passed and been succeeded by another during the history of the organization. The programs are prepared by a committee appointed annually, but are prepared from month to month instead of for a year in advance, as it is believed by the members that in this way the programs are kept closer in touch with the trend of the times. This Club holds no fairs but has a meeting each month throughout the season. Thanksgiving day is observed by a special meeting, the meetings being held on the third Thursday of each month. An original scheme of the assignment of the meetings to the homes of the members is used by the Club, the meetings being held in a certain rotation so that each family knows just when they are to entertain the Club. The hostess furnishes the meal, as the ladies would rather do this once in 20 months, in which time the rotation of the meetings is completed, than to furnish something for each month. The hostess only invites visitors to the Club meetings so that she knows how many people to expect other than the members. It makes a strenuous season for the hostess but is over for some time when the meeting is once held. The social feature is emphasized by this Club, although its influence intellectually and morally is a potent one in the community.

**Columbia Club, of Jackson County.**—The delegate speaking for the Columbia Club stated that the Club was organized in 1886 and is still thriving. Eleven meetings are held during the year and printed programs are used. This Club holds a fair as a special feature each year and the meetings are generally well attended. At one meeting a state speaker was secured from M. A. C. and the programs are made as attractive as possible each month.

### CLUB HISTORIES.

**The East Cambria Farmers' Club, of Hillsdale County,** was organized four years ago last month, (February). For some reason our corresponding secretary has never broken into the columns of the Michigan Farmer, so it devolves upon a private in the ranks to give a short sketch of our Club. For the four years of our life we have had an average membership of about 70. We have held 11 monthly meetings and a picnic in August each year, and an oyster feed at our December meeting. We belong to the State Association and have sent a delegate to the last two state conventions. Our annual dues are 25 cents per family, with a free-will offering for a flower fund and to pay for oyster dinner. Our program is made up from month to month and our members entertain the Club in alphabetical order. Our March meeting was held at the home of John Jennings, a member who has sold his farm in the neighborhood and moved nine miles away but we followed him up in sleigh loads and had a "whale" of a meeting. After a big dinner and the usual exercises, the bill now before the legislature, providing a pension for teachers, was discussed. All were in favor of education and also in favor of paying good wages to good teachers but none were in favor of a pension for any particular class or vocation. It was unanimously voted to have our secretary write our members of the legislature, protesting in the name of the Club, against the passage of the bill. We are sorry to note that our representative, Dr. Whelan, is the member who introduced the bill. Our officers for this year are E. D. Cheney, president; Mrs. Cora Franks, vice-president; Mrs. Libbie Kalder, recording secretary; Mrs. J. E. Southern, corresponding secretary; A. J. Franks, treasurer; Bert Kalder, parliamentary critic.

## Grange.

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

### NOTICE TO GRANGE SECRETARIES.

The Michigan Farmer recently sent to each Subordinate Grange secretary an announcement of a piano contest arranged for all the Granges in Michigan.

Some of the secretaries have not as yet sent us the post card we enclosed for a reply. We urgently request that all secretaries who have not already sent the card do so at once, as the contest is such that the members of each and every Grange ought to at least be given an opportunity to decide whether or not they will enter.

Any secretary of a Michigan Grange who failed to receive our announcement will greatly oblige by notifying us to that effect and the proposition will be sent at once.

The contest is for a \$400 piano to be given to the Grange sending the most subscriptions for the Michigan Farmer from March 1, 1913, to April 20, 1913.

Also each Grange that enters the contest receives a cash prize, and one member of each Grange receives a 42-piece dinner set.

It is certainly a liberal and fair contest and we feel certain that every Grange will be interested. It is not too late to start, as no Grange has yet an advantage.

### PATRIOTIC MEETING OF INGHAM POMONA GRANGE.

February 22 is becoming famous in the annals of Ingham Pomona as a day when loyal patrons from all parts of the county, and many from adjoining counties, gather with the young people and children to commemorate the natal day of that great man who was "first in war, first in peace and first in the hearts of his countrymen." The above quotation headed the special program that announced the meeting, beneath which was a reproduction of "Old Glory," printed in colors, the color scheme being continued throughout the program, also in the decoration of the assembly hall and dining-room. Forty American flags were artistically draped about the walls, while a larger banner waved over the master's desk. The master of the entertaining Grange, by the way, is R. S. Hudson, who has his B. S. degree from M. A. C., is foreman of the farm and instructor in animal husbandry, and yet finds time to assist in county Grange meetings besides being ever at his post in his home Grange.

Too much credit cannot be given the teachers of the Okemos schools, for their active participation in the literary work of the day, as all were delighted with the patriotic orations, readings and songs rendered by the pupils. Mrs. A. C. Hart of Capital Grange, read a very carefully prepared, and a very original, article on "Patriotism as regards the girls in the farm home." F. E. Liverance, of Cedar Grange, gave a very interesting talk on "Washington and Mt. Vernon," he having spent some time in the vicinity of Mt. Vernon and being able to give many facts that were new to his hearers.

"The life and influence of Lincoln" was the subject of an intensely touching discourse by James Hulett, of Cedar Grange, made the more affecting by the fact that Mr. Hulett recollected and lived through the thrilling times of sixty-one.

A member of Pomona Grange said, "Let us not have a paid orator with a prepared speech, but a real patriot who comes to the meeting from motives purely patriotic," and such a man was present in the person of C. E. Holmes, superintendent of the School for the Blind, whose address was the crowning glory of the day. Mr. Holmes chose for his theme, patriotism as evinced in our home life, in our community lives, in our schools, our churches and our Granges; our loyalty and reverence towards the gallant defenders and protectors of our country. He said: "Washington lived to an ideal; lost all idea of self; never was actuated by motives of making for himself a great name. When the Conway cabal was revealed to him, personally he cared not; he thought only of the effect it would have on the troops and on the country. His was the highest type of patriotism." Patriotism, Mr. Holmes said, is a virtue not to be lived merely on July 4 or February 22, but something we should live every day of our lives.

Patriotic songs were sung by the Grange. About 300 were present and enjoyed the oysters served by the ladies of Okemos Grange. The question has been asked, "What would have been the attendance had the roads been good and weather conditions favorable?"—Mrs. E. J. Creyts, Lect.

### COMING EVENTS.

#### Pomona Meetings.

Genesee Co., with Davison Grange, at Davison, Friday, March 21.  
Newaygo Co., with Hesperia Grange, Wednesday and Thursday, March 19-20.

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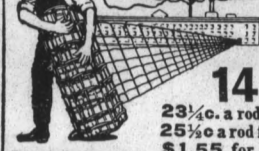
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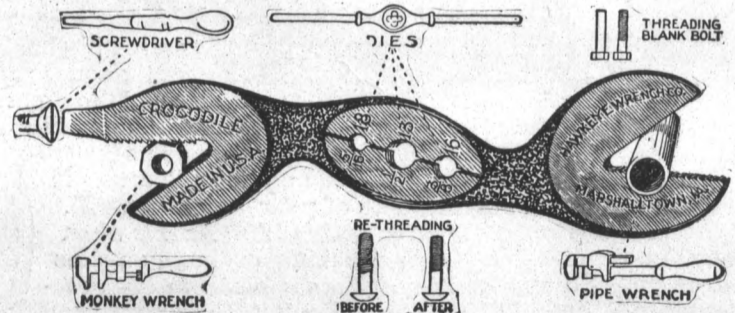
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Phelps is glad to pay the postage on his big book just to get it into your hands. He knows that once people *know* about Split Hickory Buggies and the great Phelps' offer it's hard to satisfy them with anything else. There's *no obligation* to buy. Phelps is *glad to give away this great work* on buggies. Because if you don't buy, maybe some of your neighbors will. And *it's a good book to have on hand for reference* when any question about buggy making or buggy prices comes up. So don't delay. *Send a postal to Phelps today*. Just write "Send me your Buggy Book." Sign your name and address plainly and then write on the other side of the postal:

H. C. PHELPS, President

The Ohio Carriage Manufacturing Co., Station 32, Columbus, Ohio

Send that postal right now and the great buggy book will be mailed to you *at once*.



**Wouldn't Want a Better Buggy.**  
Chesapeake, Ohio, March 22, 1912.  
H. C. Phelps, President,  
The Ohio Carriage Mfg. Co.,  
Columbus, Ohio.  
Dear Sir:—I have bought two buggies and one surrey from you and I have my first one yet. I would not want a

better buggy than you put up as I have given them a hard trial. When I get ready to buy I will place my order with you so just rest easy on that, and I will not ask you for 30 days' free test; you will get your money with the order. I am not afraid to trust your honesty as I have done that before.  
Yours truly,  
A. K. SUITER.

**Runs Seven Years and Good Yet.**  
North Star, O., March 6, 1912.  
H. C. Phelps, President,  
The Ohio Carriage Mfg. Co.,  
Columbus, Ohio.  
Dear Sir:—I have one of your buggies now and have run it about seven years, and it is good yet, and is the lightest running buggy I ever saw.  
Yours truly,  
F. B. HARICK.

**Hard Usage for Eleven Years,**  
Quaker City, Ohio, Feb. 1, 1912.  
H. C. Phelps, President,  
The Ohio Carriage Mfg. Co.,  
Columbus, Ohio.  
Dear Sir:—I am in need of a set of wheels for my Split Hickory Buggy. Send price list and catalog. Our buggy has been in hard use for 11 years and this is the first repair. Yours truly, B. BATES.