

# MICHIGAN FARMER

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## Power and Equipment for the Farm.

AMERICAN supremacy in the industrial world is due largely to the superior efficiency of the equipment which is used in American industrial operations. The hard labor of accomplishing any given work is reduced to the minimum by the introduction of labor-saving machinery and the efficiency of the workman is increased by increasing the capacity of the units of equipment with which he works.

This should be as true upon the farm as in the factory, and on practically every farm it is true to some extent. But the farms of the country have not, as a whole, kept pace with the factories in this respect and the farm upon which an improvement could not profitably be made in this respect is the exception rather than the rule. Hence it will be profitable for every farmer to carefully take stock of his equipment at the beginning of the season's campaign, to the end that the productive efficiency of himself and his men may be such as to insure a maximum profit from his season's operations.

In this connection the power with which to operate the farm equipment should be the first consideration. No factory manager would think of trying to operate his plant without sufficient power to enable the machines used to be operated at their maximum capacity, because that would mean an abnormally high cost of output and materially reduce, if not destroy the chance of a profit from the operation of the plant. Likewise the power employed by the farmer to operate his farm equipment should be adequate for the accomplishment of the farm work in a manner to increase the efficiency of the men employed in its operation to a maximum which is commensurate with its maintenance at a minimum of expense.

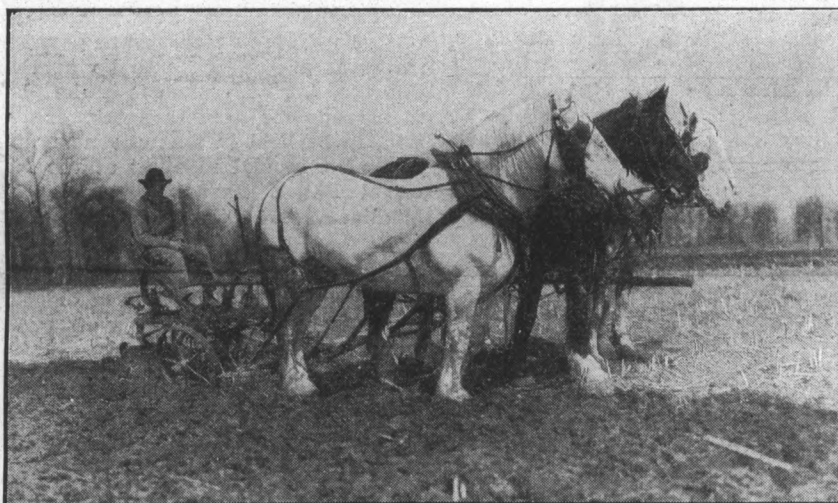
And right here is required a nice degree of discrimination, since the average farmer is handicapped in

comparison with the manufacturer by the fact that he cannot operate either power or equipment continuously throughout the year. The profit from our farms might be increased considerably were it not for the necessary expense of feeding idle horses for several months in the year in order that they may be available for the accomplishment of the farm work when needed, yet on the average farm it is quite impossible to find productive employment for the farm teams throughout the year. The most prof-

most favorable and with a minimum expenditure of time by the farm hands. By this means they are able to cut down the number of horses maintained on the farm and avoid the attendant waste of feeding idle horses. For the man with sufficient land this is undoubtedly the most economic solution of the problem, and it is a matter for the exercise of individual judgment as to how small farm units this may be profitably applied. For many years to come, however, the horse will remain the sole power

age farm. There is far less excuse for the comparatively small farmer to continually lack effective horse power than there is for the larger farmer to hesitate over the investment in a farm tractor, since he can provide them at comparatively small cost by breeding them on the farm, and at the same time find in this way productive employment for part of his idle horses during a portion of the year. There are still a few farmers who argue for the efficiency of the small horse on the farm, but they are generally men who have never owned or used the larger and more efficient units of horseflesh in the field. The man whose farm is not large enough to require more than two or three horses to provide the power for operating the farm equipment will find his labor efficiency in the field greatly increased by the use of a good solid team, such as is shown in the illustration, and he will not have to use "walking" implements to save his horses, either. One good brood mare on the farm will supply all that are needed of these in a few years, and if fall colts are raised she will thus be kept at productive employment throughout the year. But the problem, like most others which confront the farmers, is an individual one and must be studied with particular reference to local conditions if it is to be solved wisely.

The problem of other farm equipment is but secondary to, and closely associated with, that of the power with which it is to be operated, since the size of its units must properly depend upon the power factor. The principle that, within reasonable limitations, the cost of operation will vary in direct proportion to the size of the unit is one which should be carefully considered in the selection of farm equipment, to the end that the size of the units selected shall be adapted to the needs of the farm and prove economical in operation, which

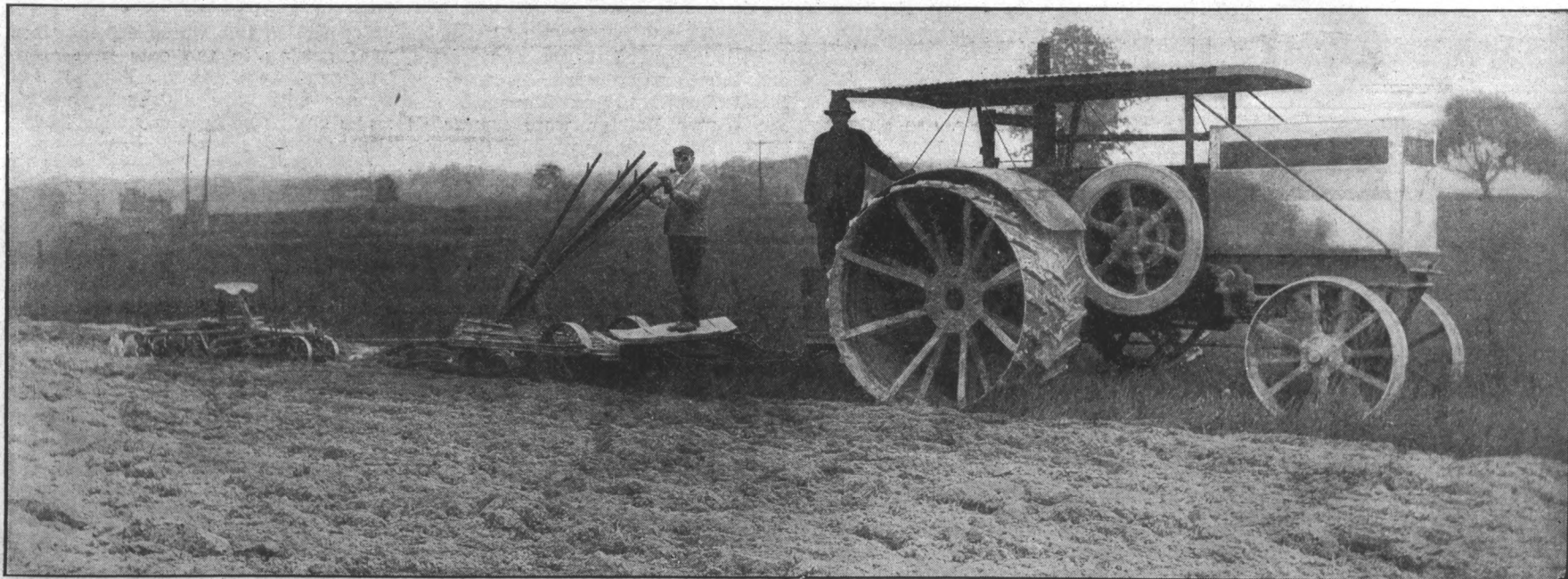


The Farm Team Should be Able to Handle Large Equipment Units.

itable solution of this problem is a subject worthy of the most careful thought and study of every farmer.

American inventive genius has, however, simplified this problem somewhat for the large farmer, as it has many of the other problems to be considered in connection with the equipment of the farm. An annually increasing number of farmers have found the solution of this problem in the use of the farm tractor in plowing and fitting the land for crops, thus enabling them to accomplish this work rapidly when conditions are

used by the average farmer in the operation of the farm equipment used in producing and marketing his crops, hence the average reader must solve this problem in some other way. This he can generally best do by increasing the efficiency of the horses kept on the farm by increasing their size and bettering their quality rather than by adding to their number. There has been a great improvement in the average quality of Michigan farm horses during recent years, but there is still much room for improvement in this direction upon the aver-



The Problems of Farm Power and Idle Horses have been Solved by the Introduction of the Farm Tractor on Many of the Larger Michigan Farms.





### Grain Saved Pays Your Thresh Bill

when the Red River Special does the work. It beats out the grain. C. W. Bowman and four other farmers of Nodaway, Missouri, say: "It will save grain enough that other machines waste, to pay the farmer's thresh bill."

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is of far greater importance than a small saving in first cost.

Perhaps the first item of farm equipment which should receive attention at this season of the year, is the harness, which should not only be placed in good repair but be properly fitted to insure a maximum of service from the horses. Then the various implements for field use should be inventoried with special reference to the needs of the farm and any lack in this direction supplied.

It is not good economy to get along with the bare necessities in the way of farm equipment, such as plows, harrows, cultivators and wagons. Many implements which are not absolute necessities will prove to be a profitable investment, even on the small farm. For illustration, the manure spreader is not an absolute necessity on any farm, yet it will prove, in the writer's opinion, a very profitable investment, even on the comparatively small farm, since through its use the stable manure can be much more evenly and thinly distributed with the result that more ground will be covered and better crops grown over a larger area of the farm. Likewise special implements for the surface cultivation of the growing crops will often pay a high rate of interest on the investment, as well as adequate implements for the fitting of a good seed bed under varying soil and weather conditions.

Aside from these universally profitable, if not wholly necessary, factors of farm equipment, there should be special implements to aid in the economic growing of the staple and special cash crop. Among the former the hay and corn crops are perhaps the more important with the small grain crops next in order. There should be available suitable implements for the economic handling of these crops from start to finish, and if the area grown is too small to warrant the investment in all of them, arrangements should be made with some neighbor to own some of them in partnership, or better still, to purchase different needed implements individually and exchange them in use as required.

The same arrangement can be made regarding the special implements required for the greatest economy in growing special cash crops, such as beans, potatoes, sugar beets, etc., providing the individual farmer does not feel that he can invest in a complete equipment for the purpose on his own account.

Many more suggestions along this line might be offered, but enough have perhaps been made to impress upon the reader the fact that there is a most profitable field for thought and study and planning in connection with this problem of power and equipment for the farm. If so, the purpose of this article will have been fully accomplished.

#### STATE POTATO MEN MEET.

President, A. L. Hopkins, Bear Lake; secretary, C. W. Waid, East Lansing; treasurer, Dr. Ernst Bessey, East Lansing, and J. J. Bale, of Lakeview, and F. J. Stafford, of Elmira, of the Michigan State Potato Association, met in Grand Rapids, March 19. Mr. Hopkins was chosen as head at the time of organization in Grand Rapids, November 18 last, and a second meeting was held in Traverse City, but little progress was made. With new blood and new energy it is now the purpose to do things. The Michigan Agricultural College was well represented at this recent meeting by Dr. Eben Mumford, and a number of his field men in county and district work, also H. G. Horton and Prof. Bell, of Chicago. Large shipping interests were also represented and a few of the leading growers.

The resignation of John I. Gibson as secretary was accepted. Mr. Gib-

son holds a similar position with the Western Michigan Development Bureau, which consumes all his time. A report of finances showed \$106.15 in the treasury. The Michigan Association voted to affiliate with the national body, which was recently organized in Ithaca, N. Y., and now asks every county in Michigan to organize and to affiliate in turn with the state association. State association fees are \$1 annual dues, or \$20 for life membership. Members of county organizations by paying 25 cents annual dues, in addition to their local dues, are entitled to vote and to full privileges as members of the state body.

The state association will have a vice-president in every county and a number of them have already been chosen. The executive board is authorized to complete the list. Each vice-president is expected to act as chairman of the county organization and to take the initiative in starting the ball—or in this case the tuber—rolling. The aim is more potatoes and better potatoes, particularly better graded potatoes for Michigan. It is the purpose to standardize the tuber, adapting varieties to soils, markets and other conditions, to raise fewer varieties, striving toward purer seed, better cultural methods and wiser distribution.

Wisconsin, New York, Michigan, and two of the western states have organized and Illinois will form a potato association in a few weeks. Very good work has been done in Wisconsin during the past year. Michigan will be represented among other states at a conference to be held in Chicago, April 17, when it is the plan to arrange for a great potato exhibition, to be held in that city next fall. The next annual meeting of the National Potato Association comes to Michigan, and will be held in Lansing.

Mr. Bale, of Montcalm county, favored raising one good variety for any territory, instead of a mixture of varieties. Dr. Mumford spoke of the good work that St. Clair potato growers are doing. A live association has been formed and choice seed stock of two varieties has been purchased for planting this year. C. B. Cook, of Allegan county, said that Michigan must standardize its product, find the markets and work together for better results. Dr. Coons, of M. A. C., spoke of the freedom of Michigan stock from powdery scab, black-leg and other diseases, and gave some suggestions as to methods of state inspection with reference to quality, grades and types. J. H. Skinner, of Kent county, suggested the appointment of legislative and publicity committees and it was voted to turn this matter over to the executive board, with power to act.

Large shippers of Michigan potatoes who attended the meeting were questioned closely as to best varieties to plant and the reply was a round white potato, clean, smooth and shallow-eyed. The Potentate and Cobbler were recommended for early sorts, and the Carmen, Rural, Petoskey or Rural Russet, Green Mountain and Sir Walter Raleigh were mentioned among late varieties, though the shippers did not endorse with much enthusiasm any one of these kinds. The point with them is to get a smooth, round, white potato, regardless of variety. It was stated that the Petoskey is admirable in every way except as to dark color, which makes a difference of five cents a bushel in some eastern markets. The Sir Walter Raleigh was reported to be doing well in Newaygo county. John Humphrey, of Casnovia, spoke of the de-hydration plant that is about to start operations there and said that a smooth potato of shallow eyes is needed for drying. He will try the Late Petoskey on the clay soils of that section. One shipper stated that all potatoes for the market should be run over an inch and seven-eighths screen. He

claimed that in great potato raising sections, such as Montcalm county, they are not grading the stock now, having dropped their good methods of a few years ago, when these potatoes brought a premium of 10 cents a bushel on the Chicago market simply because they were well sorted.

Secretary Waid will secure all available information from other states. Less than 100 members are now enrolled and first efforts will be along the line of a greater membership and additional funds. Much valuable information will be supplied the members from time to time.

Kent Co.

ALMOND GRIFFEN.

#### CROP AND FERTILITY PROBLEMS.

##### Clover Seeding Lost—What Crops to Grow on the Ground.

I seeded 80 acres in wheat this last spring and dragged it twice over. I have no clover. Now what can a person do with that ground? I intend to put one 20-acre field to cowpeas. Don't know what to do with the other three fields. I have 40 acres corn stubble to put to oats and 60 acres for corn, enough for the teams to do. I will, if I can, find someone to rent a field for corn and perhaps leave part of one field of the oats and summer fallow it to put to wheat. The trouble is what to do with the fields that I seeded last year. Three of them are 20-acre fields. What can you suggest? My land is clay loam oak opening, some stone, cannot plow with a tractor or steam on account of some fast stone.

St. Joseph Co.

J. S. W.

The great problem in this case is the extra team work. Unless this can be overcome, the problem cannot be solved at all. But if the problem of the extra labor can be solved, then one can get out of this sort of situation fairly well. It will cost something, but it will not cost as much as it will to leave the land bare for one season, by any means. The only way I know is to buy another good team and hire another good man. This probably will enable you to get all of this extra land into spring crops and get it in on time. You could undoubtedly use the extra man in caring for the crops and through haying and harvesting, and then if you didn't need him any longer you could hire him with the understanding that he was to work so long. Then, if the extra team was not needed, it could be disposed of again.

Now, it is supposed that as long as J. S. W. had this ground all seeded to clover that he needs the clover hay, perhaps part of it was to be plowed under to improve the soil. Presumably, however, the first crop would be taken off for hay. Consequently, this hay is needed, and one would try to put in such crops that would furnish hay to take the place of the clover. The cowpeas suggested for a 20-acre field would be a good substitute for clover hay. You don't have to put them in very early in the spring, you don't want to put them in until permanent warm weather comes, so this would not interfere with getting in the oats in season. They will be ready for hay when a farmer will have as much time to make hay as he does any time during the season.

Now for another 20-acre field I would suggest Canada field peas and oats. Mix the peas and oats equal parts by measure, and seed about two bushels or two and a half bushels per acre. These, of course, want to be gotten in just as early in the spring as one can. When the oats are in the milk, cut and cure the hay just the same as you would clover hay. This makes a splendid substitute for clover hay and if the hay season is at all favorable one could expect to get as large a crop as he could with clover hay.

Another field, or the balance, could be put into soy beans. Here the seed is a little bit expensive but this soy bean plant is a promising plant and 20 acres could be sown broadcast and



made into hay. This makes a splendid hay, probably better than peas and oats, and even better than clover hay, because it is richer in protein, and all kinds of stock like soy bean hay. This crop would not have to be put in until time of corn planting. In fact, the corn could be planted and then the fields fitted and put into soy beans, sowing them about one and a half or two bushels to the acre broadcast with the wheat drill, and the other field could also be put into soy beans. Of course, this is quite a little investment for seed because soy beans cost around \$3 per bushel, but this field could be put in in drills 28 inches apart as you would common beans, and then cultivate them to preserve moisture and destroy weeds. Then harvest this field for seed because beans will produce all the way from 15 to 30 bushels to the acre and are as good a crop as wheat where you can get a decent crop. Not only that, they are also a leguminous plant like clover, and will improve the soil. After the crop is threshed the soy bean straw is a very good stock food. Most all stock relish it and it can be fed to horses or dairy cows or growing cattle or sheep.

I don't know how common white pea beans do in that locality, but I should think it would pay to put in a portion of this land to common field beans. They are a good money crop. Some consider them the most profitable cash crop. These would not have to be put in till late. All of the early work could be done, but, of course, they would have to be cultivated and harvested, but with the extra man and the extra team I think this could be satisfactorily accomplished. The white beans not only make a good cash crop, but the bean straw is an excellent food for stock, especially for sheep. I have wintered a flock of 30 ewes this winter on bean straw as a roughage almost entirely. They had some clover straw, that is, the clover chaff after it had been threshed, but the principal roughage fed was bean straw, and the sheep love it dearly. There isn't any roughage crop that sheep like better.

Any and all of these crops will come off in time so that this ground can be put into wheat if one desires to do so. If this would make too large an acreage for wheat, some of it could be left over and put into spring crops again next year. It could be disked and seeded to rye and allow the rye to grow up as a cover crop and plow this under next spring for other spring crops. This would be better than it would to allow it to go bare over winter. This will improve the land enough so that one could well afford to purchase the rye. Probably it would be best to mix sand vetch in with the rye and plow it all down next spring on land that could not be put into wheat this fall.

#### Applying Lime.

Will you kindly advise me as to the best way to use five tons of lime I just bought on my farm land? I sowed a small field to alfalfa last year that I believe does not amount to much. It came up all right. Some of it looked yellowish and such a lot of June grass. I sowed in June. How would it be to replot this field this spring and distribute the lime with the grain drill before sowing it to alfalfa again? I shall have more lime than I need for this alfalfa field. I have a 12-acre field of wheat seeded down to clover and timothy. Would you advise using the remainder of it on this field or putting it on oat field? Does lime take the place of a fertilizer?

St. Clair Co.

M. C. M.

We haven't had experience enough in applying lime so that we can settle down to any particular manner of applying. In fact, we don't know as much about how badly lime is needed, how much to use, how to apply it or when to apply it, and particularly on what crop, as we ought to know, but we are trying to find out where the soil is acid and we must correct this acidity by the use of lime if we want

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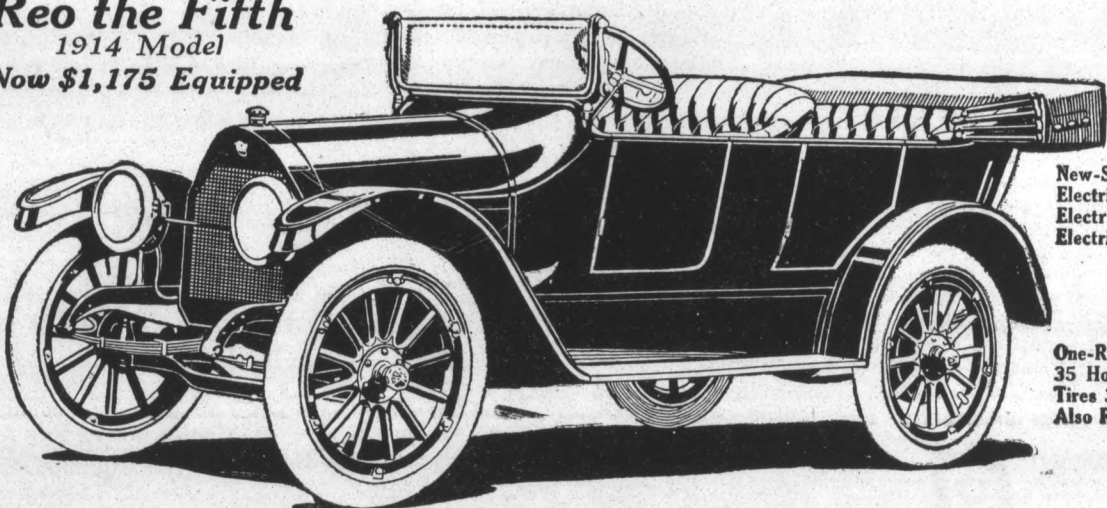
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Dept. 26

MOLINE, ILL.

to grow leguminous crops luxuriantly. Without any question, alfalfa is very susceptible to an acid soil, and experience seems to show that in most all instances where alfalfa does not do well it comes from a lack of lime in the soil or from the fact that the soil was not inoculated with nitrogen gathering bacteria which belongs to this legume. The first field of alfalfa which I sowed did not get a very good start. It took about two years for it to get established. I put lime on the soil and mixed it in, too, but I didn't inoculate all the seed, and I think that some of the seed that I did inoculate didn't do any good because I didn't take pains enough to keep it out of the sunshine. It looked quite feeble the second year in many places but later on it improved, and it is probably due to the fact that the soil has become inoculated.

Now perhaps your alfalfa will improve. Perhaps it isn't the lime so much as the lack of bacteria, and it may be that if you will leave this until next year you will see quite a marked improvement. You can put some lime on a strip through the field and harrow it in thoroughly and leave this field and see what effect the lime has on these yellow spots. And then you could sow another small piece of alfalfa this year and thoroughly lime that before you put the alfalfa in. This would help you to solve some of the problems about lime.

It is probably not advisable to sow lime on the wheat ground this spring that is already seeded to clover and timothy. The lime can do no good on top of the soil. It has got to be mixed with the soil. The particles of lime have got to come in close contact with the acidity. Chemical action has got to take place before the acidity is neutralized. Now the lime cannot do this if it is on top of the ground. In this case you cannot put the lime on top of the wheat and then harrow it in because the harrowing won't injure the alfalfa, it will do it good, on the other hand. As long as you are experimenting it might be a good thing to sow a strip across this wheat field and then note results. For the balance I would suggest that you take small strips on other plowed fields that you are going to put into different crops and after the fields are plowed put on a strip of lime and work it into the soil when you are fitting the seed bed, and then note if you can see any difference on the different crops. Make these strips so that when you come to seed these fields to clover in your rotation you can see if the liming doesn't have a good benefit upon the new seeding of clover. If it does, then it certainly will pay you to use lime because we must grow luxuriant crops of clover if we want to get the most out of agriculture and nature.

Lime does not and cannot take the place of fertilizer. Even if the soil is so deficient in lime that the plant needs some for plant food, it only requires a very limited amount of it, and the principal foods of plants obtained from the soil are nitrogen, phosphoric acid and potash. As a matter of fact, fertilizers give better results on a neutral soil than they do on an acid soil for the very reason that it doesn't do any good to feed the clover plant potash or phosphoric acid if the soil is acid, because it won't thrive anyway, so you don't get any good out of the fertilizer. On the other hand, if you would sweeten this soil or neutralize it with lime, then the clover can use the plant food which you apply in the form of commercial fertilizer and you get some benefit from it.

COLON C. LILLIE.

### FARM NOTES.

**Maintaining Fertility on Sandy Soil.**  
Is sandy ground that received 20 tons of stable manure per acre every three years likely to be in good physical condition after three or four ap-

plications? When such land will produce 200 bushels of potatoes per acre will it be likely to grow a fair crop of wheat, say 20 or 25 bushels per acre? If one has plenty of stable manure (horse) is it safe to use it altogether for potatoes or would it be better to use some fertilizer along with it?

St. Clair Co.

F. S.

A sandy soil which is devoted to a rotation of crops receiving the amount of stable manure above mentioned every three years, would undoubtedly be maintained in an excellent physical condition. Where as much manure as this is applied, it would undoubtedly pay to use ground rock phosphate or acid phosphate in connection with it. Such land will produce very good wheat when gotten into the condition suggested. Land of this character when new, produced excellent crops of wheat, but after it had been farmed until its humus content was depleted, wheat has not generally proven a profitable crop on this kind of land. For potatoes, it would be profitable to use some fertilizer with the manure, although no nitrogen should be needed where this amount of manure is applied. Better results will be secured, however, if the mineral elements of fertility are applied in the form of commercial fertilizer at some time during the rotation, and there would be no better time to do this than for the potato crop.

### Seeding Alfalfa in Oats.

Would it be profitable to sow oats on land plowed last spring (heavy sod) and put to corn, now plowed, and put to oats and alfalfa, 1½ bushels of oats to the acre? How much alfalfa should I sow to the acre? Clay loam soil.

Monroe Co.

E. H.

Under ordinarily favorable conditions, a good seeding of alfalfa can be secured in a thin seeding of oats on land which has been handled as that described in this inquiry, providing the soil is in suitable condition to favor the growth of the bacteria peculiar to the alfalfa and essential to its profitable development, otherwise it may be necessary to apply lime to correct any soil acidity which may exist, and inoculate the soil or seed with the nitrifying bacteria. Ten to twelve pounds of alfalfa seed per acre are now considered sufficient by most growers, and few now sow as much seed as formerly, when 15 to 20 pounds per acre was the rule, although some still favor heavy seeding.

### Caustic Lime vs. Ground Limestone.

I have eight acres of wheat on which I intend to sow clover seed next spring and harrow it in. The field is acid and needs lime. Do you think it could be improved by sowing the lime broadcast with the grass seed? I can get caustic lime for \$5 per ton and ground limestone for \$2.50. Which is most economical to use and how much should I put on? Two years ago I sowed one acre to alfalfa. I did not inoculate the field but last year when I plowed it turning on the corners I did not cut all the roots and the plants grew as tall as the oats and the roots are full of nodules. Could I use some of the dirt from that field to inoculate the field I prepared for sowing next June?

Grand Traverse Co.

F. P.

As noted in reply to another inquiry, very much better results may be expected from the application of lime when it can be worked into the soil than from applying it in the spring at the time of sowing clover seed. The writer had an experience a couple of years ago, however, which indicates that a light application of caustic lime in the spring might be productive of some benefit. Hydrated lime was being applied in a field next to a piece of alfalfa. A check plot had been left next to the fence in the alfalfa field to which no lime had been applied. The wind chanced to blow in the direction of the unlimed check plot when the lime was applied in the adjacent field, and as the lime distributor was filled at this end of the field, some of the lime was blown through the fence onto the unlimed portion of the alfalfa field. The result was noticeable in an improvement of



the unlimed plot of alfalfa, or that portion of it next to the fence above mentioned, the following summer. Of course, the amount of caustic lime that got on the land in this way was comparatively small, and we are uncertain as to whether it would be advisable to make an application as proposed in this inquiry, or not. There would be no danger from an application of ground limestone, however, and this would be the safer and better form in which to use the lime. At the prices quoted the agricultural lime might be the cheaper source of calcium, but owing to the greater safety in the use of the ground limestone this would, in the writer's opinion, be the better form in which to apply the lime at the comparative prices given, using around two tons per acre.

#### Soil for Inoculating Alfalfa.

The soil where the nodules are present would be suitable for inoculating another field, but results would be more certain by taking it from the portion of the field where the plants are still growing.

#### Applying Ground Limestone on the Surface.

Would it be any benefit to a crop of wheat now on the ground and the clover I will soon sow, to apply ground limestone on the wheat field this spring? I sowed 200 lbs. of commercial fertilizer per acre last fall.

Branch Co.

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The best time to apply ground limestone is when the soil is being fitted for a crop, as at that time it can be thoroughly mixed and incorporated with the soil. Some results might be secured by sowing it on the surface as suggested in this inquiry, but conditions would have to be very favorable if much benefit resulted the first season, at least. The reason for this is plain. The greatest benefit derived from the application of ground limestone is considered to be in its effect in producing an alkaline condition of the soil. This action is hastened by having the particles in contact with the soil water. Where the limestone is mixed with the soil this condition will be continuous, but where spread on the surface it will be intermittent and dependent on the rainfall. But while this is not the best way to apply limestone, it might be profitable. At least it would be an interesting experiment and no loss would result, because ultimately the full benefit of the lime would be secured.

#### Flax as a Farm Crop.

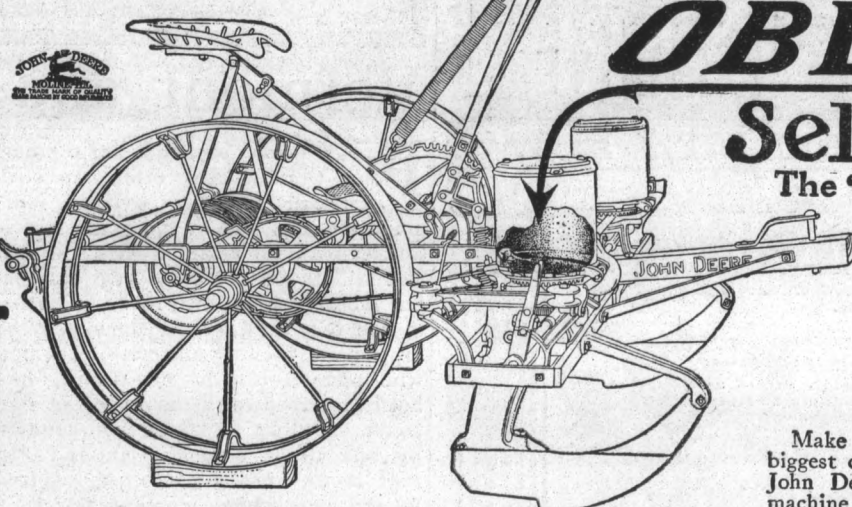
I wish to hear through your paper about raising flax. Is it a profitable crop to raise for a concentrate? Have used it in feeding calves, with success; also to colts that were out of condition, and it was the best conditioner I ever used. How much per acre does it yield? How much per acre does it require for seed? Any information given will be gladly received.

Livingston Co.

M. B. C.

It would not be a profitable proposition to grow flax as a foodstuff for the reason that flaxseed is very rich in fat and would not be a suitable feed with which to balance up a ration for live stock. The commercial oil meal is a by-product from the manufacture of linseed oil from flaxseed. It has had the fat taken out and the residue is a feed rich in protein, which is not the case with the flaxseed before the oil is extracted. Some flax was formerly grown in Michigan, but the bulk of the flax crop is now grown in the spring wheat states of the west and in north-western Canada. The flax grown in Michigan was largely grown for the fiber. At present values it would not be a profitable crop to grow in Michigan for the grain, except perhaps in a limited way to provide a grain rich in fat for feeding calves in connection with skim-milk. A new idea in this connection is to mix in a little flaxseed with the oats when sowing this crop. When grown alone for seed two to three pecks per acre are sown as soon as the ground is warmed up in the spring.

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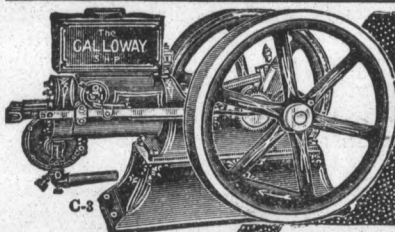
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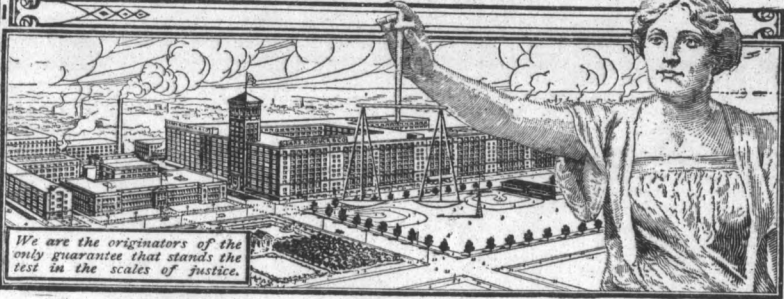
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## Live Stock.

### Vermont and Her Merinos.

**I**N our early boyhood days when homage and obeisance to these good our worthy sire often traveled eastward for the wrinkly Vermont Merinos and in the years which followed as we attained man's estate and still found a Merino ewe our foster mother, there was ever a desire to see that land where Merinos were first made famous and visit the men who made Merino history such as has been inscribed on Time's book of live stock breeding in no age or country by any other domestic animal. So that it was not an interest inspired by the spur of the moment, nor by a sudden activity in the development of sheep breeding which led our footsteps to old Vermont in the closing days of the year. Rather was it a reverence and admiration of the men and their work which was inborn and had been cultivated by years of intimate acquaintance with their results that drew us with irresistible force.

As we traveled northward from the capital of the Empire state on an ideal sunny December morn, we intuitively knew that we were crossing into the realm of the Green Mountains when we saw numerous flocks of sheep as we viewed this country for the first time from a car window. As the train wended its way up the narrow valley between the low mountains, through hamlet and village, to the city of Rutland, our first impression, which strengthened with acquaintance was of a state of mountains and marble whose fame Morgans and Merinos had spread to all the world. It was the spell of the latter that drew us quickly on to that old-time Mecca of their breeders, Middlebury.

A pretty little city lying on either side of the swiftly flowing Otter creek, it is distinctively a collection of homes. One marble factory represents its sole industrial activity, while Middlebury College adds its exclusive intellectual tone to the place. Near by Uncle Samuel has added the prestige of his power by the establishment of a government breeding farm. Large and artistic buildings furnish dignity and practical importance. Erected by men of wealth who made their fortune in the nearby metropolitan cities of Boston and New York, and have sought this quiet, secluded place among the verdant hills and sparkling lakes to pass their latter years, these masses of brick and granite will long stand as their monument. The houses are old but substantial, and men point with pride to dwellings erected for more than a century which still stand as plumb and true and well preserved as when first built. Ancient oaks and widespread maples lend their size and beauty to the general plan.

#### The Air of Age.

Over all hangs a perceptible and yet intangible air of age, of experience, of things well done and past. The people are old. On every side grayhaired men and women seem to impress the stranger with the ever prominent fact that they have lived there long: when you talk to them they tell you of times and deeds in the distant past. Perhaps it impressed us so because we visited here when the sands of the passing year had well-nigh run their course, perhaps because we met and visited men who themselves had seen the snows of many winters and who told us enchanting tales of other times which listened like stories of another world, perhaps it was because we sought this knowledge and heard with this spirit of age. Whatever it was which made our eyes see thus, we pay all

homage and obeisance to these good men of Vermont, many of whose bears and contemporaries joined with them in producing and developing the first distinctively American breed of improved pure-bred live stock, Merino sheep.

A third and a half century ago all this country was covered with flocks of Merinos. No man could find place in Addison county who neither raised nor handled Merinos, nor attended the wants of men who did. The infection spread all over the state, and to the adjoining states. For years Vermont was the breeding ground of wrinkly, heavy-fleeced Merinos, and her breeders boasted that she could ever maintain her supremacy as the fountainhead. Times change. The world moves. Ever travels the star of empire on its westward course. To-day almost on the fingers of one hand can be counted the flocks of Vermont Merino sheep in the land which saw their greatest fame.

#### Few Old Flocks Remain.

And yet here can be found a man who has persistently bred his flock of Merinos on the farm where he was born, more than three score and ten years ago. How many flocks or herds of any breed of live stock can be found in America with such record? E. N. Bissell is breeding wrinkly, heavy-fleeced Merinos today, even as he always has. Proudly did he show us his breeding ewes, his lambs, and his stud rams. They were wrinkly and greasy even as they were in their palmy days of popularity. He showed us a ewe which shore 26 pounds her second fleece, at a year's growth. How are they improved? They have stronger constitutions, they are better formed, wider chested, and better hams; the folds are larger, the staple seems longer, the oil flows more freely. They are a wool producer without an equal. In discussing the importance of folds and oil to maintain density and weight of fleece he showed us a plain ewe with as fine, long Delaine fleece as we have seen in a long time, and he declared that even with the greatest care in breeding the tendency is always to revert to the plainer type.

His market for these sheep is the export trade and the best American flocks, principally in Ohio and West Virginia. In late years he has made annual shipments to South America, principally Uruguay, and to South Africa. He sends these animals by express, without an attendant, they are six weeks to two months on the voyage, and he has yet to lose one on the way. Surely it must be a hardy animal which can endure such shipment and care. His prices for these sheep amount to as much, and often more, per head than an average farmer obtains for a choice cow or a good horse.

It may also be interesting to learn that he was the first American to land Vermont Merinos in Australia and successfully dispose of them to Antipodean breeders, while he later acted as American agent for the Australian sheep king, Samuel McCaughey, in securing what was probably the largest single consignment of American-bred live stock for export. He has also since made numerous shipments to Australia.

#### A Pioneer Exporter.

Near to Mr. Bissell, close to the banks of Lake Champlain, lives the man who was the first to take American live stock to South Africa more than twenty years ago. He was also one of the pioneers in the Argentine.

(Continued on page 360).



## HOGS AND FERTILITY.

In undertaking enterprises we have become accustomed to figuring on the outlay and the income, and if the income exceeds the outlay by a considerable, we have learned to say that is a good business. In live stock raising and general agricultural pursuits we figure and calculate after the same manner. If we sow a field of grain we figure out the cost of the labor, and, perhaps the rent or use of the land, and if the amount of the income from the crop is considerably greater than the sum of all the expenses, we conclude that such a crop, during that year, was a profitable one. We do not consider the value of the fertility which the crop has taken from the ground.

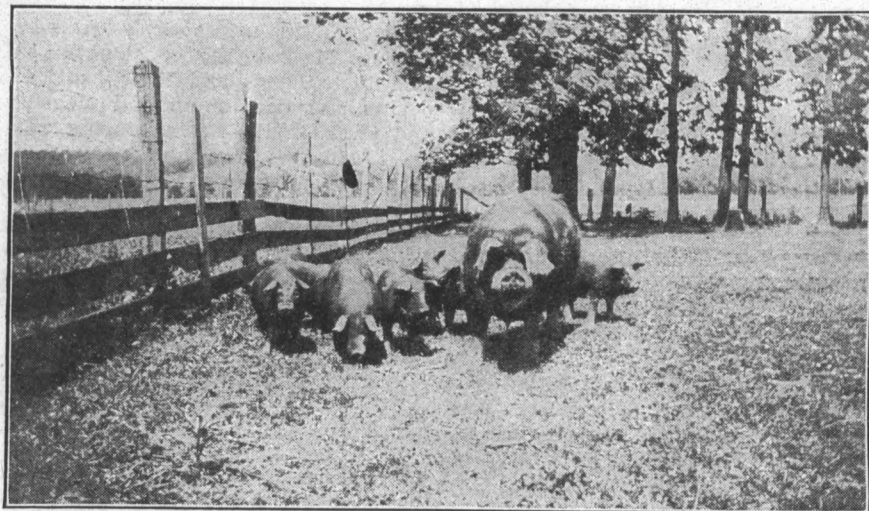
On the other hand, if we keep live stock on the farm, and raise young stock to sell, we figure the cost of raising, fattening and selling, and if the price received in the market exceeds the cost of raising and selling, we calculate that the venture has paid, and the profits are measured by exactly the difference in the costs and the amount received. We have not yet reached the point where we give much, if any, credit for the fertility left by the animals raised, although if measured at its true value, the amount may reach considerable proportions.

Of all the animals raised on the farm, the hog has been cursed the most and given the least credit for

farms, we can begin to realize the importance of selecting and adapting the best methods by which the manure can be saved. A plan that will save the major part of the hog manure means, if put into practice, an addition to the fertilizing ingredients, material that will help the crops where applied for several successive years. It is a cold manure that lasts, and is not quickly exhausted by fermentation.

One fact should be kept in mind: The liquids have a fertilizing value about equal to that of the solids. That fact indicates the value of absorbents in the pens. In addition to the strawy material used for bedding, absorbents like ground rock phosphate, gypsum and dried muck will take up the liquids and carry them along to the field. Where such absorbents are used they add greatly to the bulk and value of the manure.

The hog is an omnivorous animal and requires a great variety of food in order to do his best. The cheapest gains in growth and weight are made while allowed free access to green feeds that grow in the fields. If the small colony pens, which can be readily moved from one part of the field to another, are used in the summer time, the swill and grains fed carried to the hogs, the manure can be distributed on all parts of the field and practically all of it will be saved, and will be utilized by the subsequent crops. One of the best crops of corn it has been my privilege to



Feeding Hogs on Pasture Conserves Soil Fertility.

what he is capable of doing in the way of helping to maintain the fertility of the land. He has been treated as though he had but one mission to perform, and that is to convert grains into marketable meat. Although it has been known that the manure from the hog is very rich in fertilizing ingredients, it is quite generally ignored, and too frequently allowed to go to waste. When it accumulates in the pens it is too often thrown out on the ground, and allowed to be drenched by the rains, and, at least one-half of the value is lost. If it is mixed with the horse and cow manure as fast as it accumulates, and is taken along to the field with those manures, the fertilizing value of the whole mixture will be improved. This statement can be verified by anyone who will take the pains to try the plan and observe the results.

Roberts, in his book, "Fertility of the Land," says that the manure from a pig from birth to the time he weighs 150 pounds, is worth \$3.25. If that statement is correct, it is safe to calculate that the pig raised under modern practices and conditions in pasture and pen, by the time he has reached the 250-pound market weight, he has voided fully \$5.00 worth of manure. Then the ten-pig litters farrowed in the spring, fed in pasture and pen until they average the 250 pounds each, should be given credit for \$50 in fertility left on the farm.

## Saving the Manure.

When we consider the value of the manure from the hogs kept on the

inspect was raised on a field where the hogs had been kept on alfalfa the previous year, and the colony pens had been used.

The colony house plan can be adopted on any grass pasture, clover, oats and peas, or rape. When handled in such a manner hogs may justly be called the animals with a golden hoof. They make profitable returns for the feed consumed, and distribute fertility which insures increased yields of crops raised on their pasture lands for several successive years.

Wayne Co.

N. A. CLAPP.

## FEEDERS' PROBLEMS.

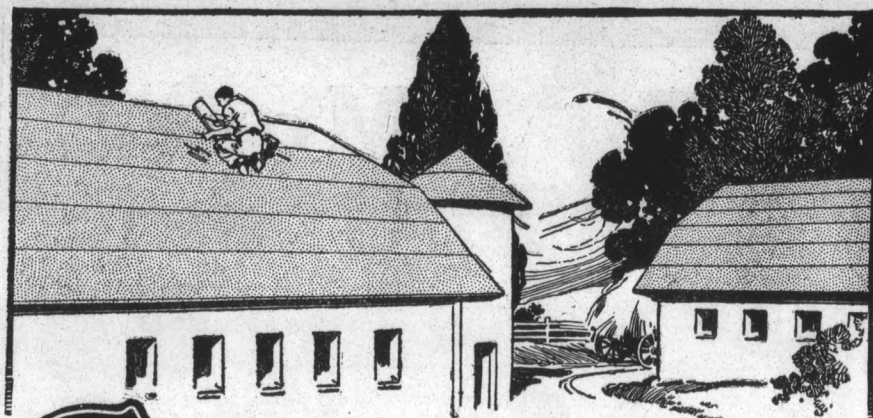
## Ration for Growing Pigs.

What proportion should I mix the following grains to make as near as possible a balanced ration for small pigs from weaning time until they weigh 100 lbs., when running on clover and June grass pasture: Corn, oats, barley and cull beans? Would I get better results if I cooked the beans? I haven't any milk.

Isabella Co.

F. H. B.

A ration composed of equal parts by weight of these different grains fed on clover pasture, should make a fairly well balanced ration. For very young pigs, however, it would be better to add some middlings to this ration. Cooked beans are more palatable to hogs than bean meal, but if fed in connection with other grains, it is probable that very nearly as good results would be secured by grinding the beans with the other



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**How I Envy Man.**

**TAKE OFF THE HORSE'S COAT ALSO**

Do you go at the spring work with your overcoat on? Of course you don't. Coats are a burden—you even roll up your shirt sleeves. Then how can you expect the horses to show proper energy under the hot sun with the same heavy coats on that they have worn all winter and which hold the wet sweat and dirt? Clip them before the work begins with a

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They will get all the nourishment from their feed—be healthier and look better. They will dry off quickly, be more easily cleaned and feel better generally—that means work better. The Stewart Machine is not an expense—but a highly profitable investment. It turns easily, does more and closer work than any other machine—can't get out of order. Gears all file hard and cut from solid steel bar—protected and run in oil. Includes 6 feet new style easy running flexible shaft and celebrated Stewart's Single-Tension Clipping Head. The only machine that can be used without change for horses, mules and cows. You can make money clipping your neighbors' horses while yours will do better work. Each machine guaranteed. If it doesn't give perfect satisfaction, return it and get your money back.

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from your sheep, longer, better wool that will bring you from 15c to 20c more from each sheep. Your flock will feel better and look better also. The

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

will more than pay for itself the first season. Any boy can run it all day without tiring. All joints ball bearing with ball bearing shearing head. The equipment includes four sets of knives fully guaranteed. Price **\$11.50** anted. If your dealer hasn't it, send \$2.00 and pay balance C. O. D.

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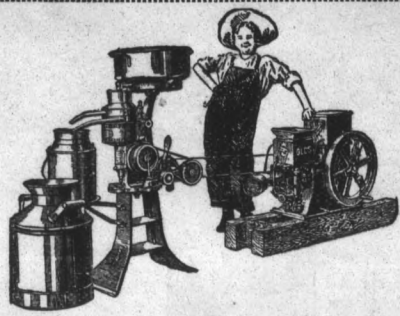
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WHOLESALE ONLY. DETROIT. ESTABLISHED 1880.





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**Make Better Walls**

Less mortar exposed between joints—yet every joint as solid as rock. This means stronger, more durable walls—better settling of silage—less chances for frost. Write us for these facts on

**LANSING Vitrified Tile Silo**

Costs no more than most other silos but is far more durable. Reinforced with twisted steel; has continuous doorway, easy climbing ladder. Special ship lap block provides cement reinforcing that lasts for ages. First cost—only cost. Write for catalog 309

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Get our offer on Clinton Silage Cutters and Bidwell Threshers.

**It Pays to Feed Dried Beet Pulp**

Increase production at a lower cost. Better try it, you can't lose. Write

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Canada offers a hearty welcome to the Settler, to the man with a family looking for a home; to the farmers son, to the renter, to all who wish to live under better conditions.

Canada's grain yield in 1913 is the talk of the world. Luxuriant Grasses give cheap fodder for large herds; cost of raising and fattening for market is a trifle.

The sum realized for Beef, Butter, Milk and Cheese will pay fifty per cent on the investment.

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**160 ACRE FARMS IN WESTERN CANADA FREE**

**Selected Seed Potatoes**—Sir Walter Raleigh, purity guaranteed. Write us for prices. Stuart Acres Fruit Farms, Marshall, Mich.

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represents "up-to-the-minute" perfection in this line of machinery. It is substantially built along correct lines which insures the right kind of lasting service. It is easily operated by one man, is of the picker-arm type and can be furnished with either disc or runner openers. The "Dayton" has the unique Steel Hopper, hence there are no bags to rip or canvas to rot. Every little mechanical detail is worked out so perfectly on the "Dayton" that we feel sure it

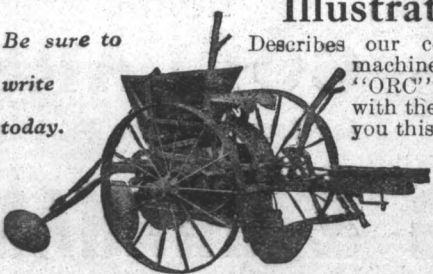
### Makes Raising Potatoes a Pleasure

It rides as easy as a sulky. High, broad wheels and perfect balance make pulling easy for the team. Change of distance of drop is easily and quickly accomplished. Covering discs are separately operated and enable you to cover at just right depth for your soil. Special descriptive circular explains all.

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Describes our complete line of labor-saving farm machinery. Shows the real reasons why "ORC" implements are a perfect success with the most critical farmers. Let us mail you this fine catalog, together with name of our nearest dealer.



**The Ohio Rake Co.**

Dept. C, Dayton, Ohio

### VERMONT AND HER MERINOS.

(Continued from page 358).

Now he is content to pass his days breeding a choice flock of wrinkly Merinos. An interesting story was the relation of his experiences in Buenos Ayres in introducing Merino sheep and showing the speed of American trotters in the days before the revolutions. A little later, in 1891, he learned there were millions of sheep in South Africa, but no Merinos. Forthwith his sagacity and enterprise impelled him to make a shipment there. His narrative of how he landed at Cape Town a stranger in a far-away land, with a shipment of Merino rams, of his methods of arousing the interest of Cecil Rhodes and the Cape Parliament and showing them the importance of American sheep to their country, demonstrated his willingness to take a chance, and especially his ability as a salesman. On a later trip to that dark continent he took more Merinos and Holsteins far into the interior, and at Johannesburg sold Paul Kruger a Holstein-Friesian bull but a day or two before the Jameson raid. Vivid are his descriptions of these men and places which wrote deep on the pages of the world's history in the closing years of the last century. It was a Merino ram that took these shrewd, daring Yankees to the farthest parts of the globe and displayed the skill of American breeders.

There are other men here who have done things. We met and visited an old-time friend who has been the financial backer of nearly every shipment of Merinos that has gone for export. He has bought sheep in every part of the United States and sent them across the waters. A man now past the allotted three score and ten, he is still seeking new markets in distant lands, for he confided that the first shipment to any new country has always been the most profitable. Only this last year he sent a shipment far into the interior of South America, near the southwest boundary of Brazil. There his shipment found sole competition in that of one from Australia in the hands of an old-time native Vermonter whom he had introduced years ago to the risks and ventures of carrying live stock over seas.

#### The Passing of the Golden Hoof.

Aside from the few flocks still remaining and these venturesome spirits who follow the export game, there is but little left of Vermont Merinos and their fame on their native hills, but the memory of the times when they were worth their weight in gold. Men of today who knew not of those times should learn that Merino rams sold as high as \$5,000, that \$10,000 in cash was actually refused for a single ram, that \$2,500 was paid for one ewe, \$4,000 was refused for one famous ram, and he afterward earned in stud fees \$6,000. Single service fees were as high as \$100. Do you wonder that men remembered those days and believed that history would repeat itself? Most of them have gone to their reward while the few that are left are still strong in their faith. One good man who has spent a long life in breeding heavy fleeces asked me how long I thought it would be before the west would have to have his style of sheep, and averred that he believed it would be soon. Who knows that they will not again be wanted at long prices?

This is a hilly, rocky country, interspersed with level spaces of meadow lands. It is a natural sheep country. With the passing of the Merino has gone the wealth-producing element from their farms. Hay and milk are now practically the sole products. Hay grows less year by year. The cows bring in a small monthly income, with much labor attached. Close to markets where lamb and mutton command high prices, few

indeed are the farmers who seem to be able to realize the profit in sheep. They remember but the wrinkly, greasy woolbearers of olden time and their high prices, and seem to know not of the mutton Merinos of today and their commercial value. When the boom times of high prices passed and the new conditions of this great country felt less and less the need of a sheep which produced wool only, they failed to adjust their flocks to the new demands.

Those who were natural breeders and salesmen have made money in maintaining and improving their flocks along the old lines, and nowhere else in America can be found such persistence and continuity of purpose in breeding. But for the great majority this could not be. The Vermont Merinos did a great work in their time. No one can gainsay its value. But when the necessity for a continuous increase in the weight of fleece ceased and the importance of mutton as the end of all sheep developed, another type of Merino was demanded. With the consequent lack of market for breeding stock, and little practical market value of the products which these sheep supplied, passes the incentive for general farmers to raise an exclusively wool sheep. With all the natural advantages which this section possesses, the same skill and effort used in producing the heavy fleeces might have been turned to developing a smooth, tidy, well-formed sheep which would shear a reasonable fleece and furnish a handy weight, profitable carcass on the hooks. With a practical, everyday business Merino they could again enrich their farms and their bank accounts and once more find pleasure and profit in the flocks grazing over their hillsides and marketing their hay upon their own land. It seems like a case of too much looking back without regarding the lessons of experience and not enough consideration of the conditions and the demands of today and tomorrow.

Washtenaw Co. Roscoe Wood.

#### CLIPPING THE WORK HORSES.

With the approach of the season when the farm horses must be put at hard work, the question arises as to whether it would be preferable to clip them or not. For the horses with rough, heavy coats, the argument is on the side of clipping. Animals performing work with a long coat suffer an unnecessary strain on the system, as well as the attendant discomforts. The perspiration of horses is not a mixture of water and salts, but of water, proteid and salts, and the loss of flesh attendant on working the soft horse which perspires freely, without clipping, is thus explained. The discomfort of the horse when brought to the barn with a heavy, wet coat of hair, will also be reflected in his condition, even if the danger of chill and attendant colds be otherwise eliminated, it is unquestionably both humane and profitable to their owners to clip the work horses before the hard work of the spring campaign is begun.

#### GROWING VS. FATTENING PIGS.

Can Poland China pigs, after weaning, become too fat to grow properly? Mecosta Co. P. M. B.

If pigs are fed on the right kind of a ration after weaning, there will be no danger of getting them too fat to make a good growth, but to accomplish this they should be fed a well-balanced ration, preferably on clover or other green pasture. If fed too much corn and not enough bone and muscle-forming food, the pigs will be stunted in growth, although they will carry plenty of fat. This is entirely a proposition of the character rather than the amount of feed fed them.



## Practical Science.

### A CRITICAL STUDY OF THE CITY MILK PROBLEM.

BY FLOYD W. ROBISON.

In the very many articles that are written from time to time on different phases of the milk industry, so much of the really ideal is presented that the writers in their enthusiasm ignore the question of the practicability of their plans.

#### Will it Pay?

In discussing the practicability of any new industrial operation the question of first consideration must, of necessity, be "Can this project be made to pay financially?" The milk problem especially insofar as it may apply to city milk, is not different from other industrial propositions.

#### How to Get Certified Milk in a Community.

It took several years for the city of Lansing to have as a possibility certified milk. During all those years the physicians of the city and others particularly interested in securing a purer and better milk supply, were constantly urging upon the city council the desirability of providing by law for certified milk. We suggested at that time that an eminently more practical way of securing certified milk would be to guarantee to some milk producer a market for his milk at a fair margin of profit to himself. It can scarcely be expected that milk producers, more than anyone else, should run the risk of a financial depression in business to satisfy the ideas of any one or a set of men. If physicians and others prominent in civic affairs will by their actions signify a willingness to back up a project of this kind financially, we apprehend little difficulty will be engendered at any time, in any place, in securing a milk that will meet any special requirements. There is quite an investment represented in the supplying of milk and, of course, a bigger investment in the furnishing of certified milk. If the dairyman who is anticipating the supplying of certified milk or to whom the community looks for the supply of a high-grade article of this kind can be assured of a market at a reasonable price he will not hesitate very long in producing the article in question. It is not an easy matter, however, to get a market for milk even though it be of superior quality when a considerable advance on the regular price is asked. Nor is this always the fault of the consumer. Too often certified milk is certified in name only. When a medical milk commission puts its certification on a bottle of milk, the contents of the package ought to be up to the terms of the label. That this is not always true is a matter of altogether too common information. There is no excuse for this and it usually is brought about by laxness of the inspection methods used.

#### Let the Consumer Know the Real Cost.

Milk is not, however, the most expensive article of food, even at the prevailing prices which are asked for certified milk. However, when one pays 15 cents or 16 cents per quart for milk there should be no chances for doubt on her part as to the quality of the milk purchased. A little better appreciation on the part of the consumer of the responsibility entailed and the financial investment necessary in the production of milk, will, we think, make her more charitable with the milk producer.

#### Can a Dairyman Make Money on a Borrowed Capital?

We have attempted to get together some data comparing the milk business from the producer's point of

view with that of other commercial enterprises. We have talked to the farmer about providing a better and cleaner milk, but curiously enough, we have said very little to him about making the business a little more remunerative to him in so doing. Few dairymen, we apprehend, realize the extent of their real investment and the amount they must realize from this investment to make it of financial promise to them. Like many another farming occupation, the farmer has been content to live from year to year without considering the extent of his profits and losses in the business. One thing they do know, however, and that is that rarely is it possible for a farmer to borrow money at the prevailing rates of interest and make the farm pay. Yet any other business man figures his costs and his profits on such a basis as having borrowed the whole sum of money at a bank to conduct his business enterprise with. A manufacturer of automobiles takes into consideration in establishing the selling price of his product everything, just as though it were a business conducted on borrowed capital, which in many instances it in fact really is. A manufacturer of cloth; or agricultural implements; grocery stocks, and the like, conducts his business on this same basis. That is, considering the value of the property in which the business is conducted and a proper interest rate upon the capital involved, whether it is in reality borrowed or is taken from a man's own private income, the selling price of his commodity is large enough to cover the cost, plus all of these items of interest and a profit is figured above this.

We know of no business except the farmer's, in which these business propositions are ignored. In fact, the farmer's business is the only one that could be conducted year after year and have these items ignored. The land under most ordinary conditions of treatment and abuse will yet respond to give a man his living, meagre though it at times may be. We are thinking, not only of the producer's interest when we maintain that it is time that the farmer began to consider the real costs of business and to regulate the prices which he charges accordingly. In fact, we believe that if the consumers once realized (and were emphasis laid on these points), the real cost of the production of milk, they would be more than willing to give the dairyman a price for his product which would make it possible for the dairyman to conduct this business at a profit.

#### Popular Opinion.

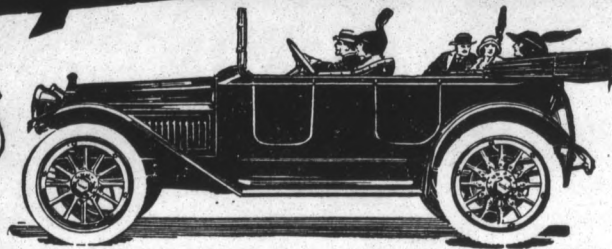
Something, sometime, will be done to get this business on a satisfactory footing. It is generally believed among consumers, and producers as well, that the consumer pays too much for this commodity and at the same time the producer gets too little. The taking of the public into our confidence in the matter of real cost of the articles produced will do more than anything else in equalizing these different factors. No one knows at the present time just what it costs to produce a quart of milk and market it in the city of Detroit. What the real cost of the distribution of this milk is, is likewise an unknown factor as far as the consumer and producer as well are concerned.

#### The Cost of Milk.

Ordinary commercial milk costs the consumer nine cents per quart delivered in Detroit; certified milk, 16 cents per quart; a difference of seven cents per quart. Surely this difference is not represented by the in-

(Continued on page 363).

# Imperial



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Quality, Power, Endurance, Comfort,  
Lowest Upkeep Cost.

All these you get in —

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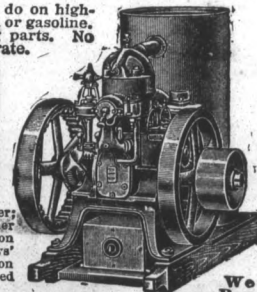
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Some things are "dear at any price." When it comes to feed for your cows, the saving of a few cents on a bag may lose you three times as much in the value of milk produced. **Look beyond the price tag.** You feed your cows to get more milk and lots of it, and if the cheap feed does not produce the milk it's a dear feed.

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Cut out the "too high-priced talk." Small feed bills often mean small milk checks. *Profits* are what count—and we guarantee better profits from Larro-feed than from any other feed you can use.

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Let us show you how to save money on a new silo and make your old one better than ever.

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are guaranteed to make first-class butter in 5 to 7 minutes or your money is refunded. They are built on scientific principles for best results in shortest time. Their practical construction gets all the butterfats, as told in many testimonials from 200,000 satisfied customers. Let us prove what we say by writing for FREE Descriptive Circular today.

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THE SAGINAW SILO has always led in silo improvements. This continual progress in silo construction has put the Saginaw Silo in a class by itself. Each feature has made the Saginaw Silo better. Each Saginaw feature is absolutely necessary in the building of a silo that will give you satisfying silo service.

### The Saginaw Spine-Dowel

Here is the greatest development in Saginaw Silos—a vital point in silo construction. The Saginaw Spine-Dowel is a steel plate inserted to lock the stave sections in four places. It makes an airtight joint. It is made of copper-bearing steel galvanized—rust-resisting and corrosion-proof.

Two Spine-Dowels in each stave unite the adjoining staves. This prevents any shifting or tilting of staves. They can't move. Furthermore, it prevents staves buckling. It makes a solid, rigid, immovable wall. Strain on any one stave is distributed throughout the entire wall.

Learn about this wonderful silo improvement. See the Saginaw agent. Write for Saginaw Silo Book No. 117.

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### DAIRYING IN MICHIGAN.

There is no question but that dairy farming is destined to become one of the leading industries of Michigan in the near future.

In the first place, a large part of the state is being cleared of its timber and much of it is a light sandy loam. Such a soil is easily built up and as readily depleted. A system of farming that will conserve soil fertility is essential and is being quite generally considered by farmers, and those who are intending to farm. Our soil requires humus and lime. The action of lime in sufficient quantities destroys the humus. This makes our soil fertility problem a difficult one and requires considerable skill to work out successfully.

### Soil Fertility.

The proper quantity of lime to be added to a given soil cannot be determined by the average farmer. The litmus paper test will give a fair idea. If the blue paper turns dark pink, it will indicate more acid than a light pink. The American litmus paper, however, is not as delicate or sensitive to acid as the German litmus. The acid test, which consists of adding a few drops of hydrochloric acid to a sample of soil, is very simple. If lime is present, a bubbling or foaming will take place. If the soil is acid, no effervescence occurs. In either of the above tests the exact quantity of lime to be used can only be estimated. This generally ranges from one to five tons per acre. Some Michigan soils require ten tons of lime per acre, but they are exceptions. I prefer to add lime in the finely ground rock form. It is more readily available in this form than in large rock form. If applied in the acid phosphate form, it is much more readily available, but acts so quickly on the humus of the soil that it can only be used in small quantities.

The question of humus must be considered in all successful farm operations in Michigan. Dairy farming more than any other branch of agriculture returns large quantities of humus to the soil.

### Dairying Profitable when Properly Conducted.

If a crop rotation, including clover which is plowed under every two or three years, is adopted, a considerable amount of humus may thus be added. It cannot be supplied in sufficient quantities in this manner, and should be supplemented with barnyard manures.

Dairying, when conducted under systematized, simplified management, is very profitable. Many farmers do not have dairies because of the work and drudgery connected with it. The drudgery should be eliminated and everything arranged for convenience, as is being done in most of the modern dairy barns and milk houses.

With water piped to the barn or drinking tank, feed alley convenient to silo and feed room, water system for cooling milk, oil stove or other arrangement for heating water for washing in the milk house, etc., dairying is not a difficult task.

### Dairy Cows Getting Scarce.

I do not advise those who detest milking and are not interested in caring for cows, to undertake dairy farming. They will very likely make a failure of it. Those who have a desire for such work, however, should do it on as large a scale as his farm will permit. There is no danger of an over-supply of good dairy products, and there is a great danger of an insufficient number of dairy cows to meet future demands. For many

years past, too many dairy farmers have sold their calves to the butcher. Carloads of them are shipped to the Chicago, Cleveland and Detroit markets from Michigan every year. This has greatly increased the price of dairy cows and the demand at present can not be supplied. I received a letter from a friend in Omaha, Neb., last week asking for ten carloads of Holstein heifers. His is only one of many firms who are scouring the country for dairy cattle. Someone must raise more calves and there will be good money in it from now on.

The dairy farmer of Michigan should size up the situation according to his local conditions, sell milk, cream, or butter, according to market, build up his soil by growing alfalfa and clover for his cows, and return all barnyard manures to his fields. Thus a rotation from the farm to the cow and from the cow back to the farm may be most profitably maintained.

Oakland Co.

C. W. MELICK.

### A CRITICAL STUDY OF THE CITY MILK PROBLEM.

(Continued from page 361).

Increased cost in distribution. There cannot be a very great difference in the cost of the distribution of the certified milk and the distribution of ordinary milk. It all is bottled, although the certified milk, it is true, is bottled on the farm, or should be, while the ordinary milk is bottled in the distributing plant. Much of the ordinary milk, however, which retails at nine cents per quart, is pasteurized, which, of course, is an additional operation and tends to increase the cost of this article, while the certified milk is not pasteurized. It seems to us that one cent per quart might be a fair amount to figure as representing the increased cost of the distribution of certified milk. That leaves, then, six cents per quart, which we may say, represents the increased cost of the production of certified milk. This seems to us an enormous figure based solely on the costs which are accredited to the milk producer. We venture to assert that if this six cents were given the producer of the milk there would be little difficulty in getting plenty of certified milk in the city of Detroit. Suppose it should prove even that one-half of this would make to the producer a financially remunerative proposition. The public would then be enabled to buy certified milk at 12 cents per quart and if these figures are correct, or approximately so, the milk producer would be getting a very satisfactory price for his commodity.

### Watch the Figures.

The above figures are merely approximations. In our next paper we shall go more particularly into the actual investment figures represented in supplying retail milk. We are desirous of securing for the consumer in the city, milk at a price which is within his reach. We are not unmindful of the fact that as far as the intrinsic merit is concerned, the consumer may well afford to use more milk and less of other animal food products from an economic point of view. Therefore, while we are interested, as we say, in securing for the consumer in the city, milk at as reasonable a figure as it is possible to get it, we are at the same time of the opinion that the best and quickest way to secure this milk of satisfactory quality is to take into consideration and become appreciative of the financial problem in which the dairyman is involved, and to be willing to give him as great a margin of profit as is attended in other general lines of business.

The study of nature, the natural source of investigation for mankind in his pursuit of knowledge, is so limitless that no individual, however inspired, can hope to acquire but a small portion of that knowledge.

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Thousands In Use giving splendid satisfaction justifies your investigating our wonderful offer to furnish a brand new, well made, easy running, easily cleaned, perfect skimming separator for only \$15.95. Skims one quart of milk a minute, warm or cold. Makes thick or thin cream. Different from this picture, which illustrates our low priced large capacity machines. The bowl is a sanitary marvel and embodies all our latest improvements.

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# BOTH COTTONSEED MEAL AND OIL MEAL NOT NECESSARY.

Kindly balance a ration for my cows from the following feeds: Corn silage, clover hay, and shredded cornstalks for roughage, and corn meal, wheat bran, cottonseed meal and oil meal for grain.

F. R.

Ingham Co. Cottonseed meal and oil meal are the same kinds of food; that is, both are rich in protein, and it is not necessary to have both of them in a ration. However, it would not be objectionable to feed a smaller amount and feed both of them, if desired. The foods you mention are fine and very easily balanced.

You have a splendid selection of roughage. There is nothing better than corn silage and clover hay and the shredded fodder will also come handy. Feed corn silage, all the cows will eat up clean, twice a day, then all the clover hay they will eat, once a day, and shredded fodder once a day. There is no particular use in weighing this to make a balanced ration. What we want to do is to feed cows all they will eat up clean, but give them enough variety so that they can get the right proportions themselves.

If your clover hay is good your cows will eat it practically all up. On the other hand, if it is not choice there will be considerable of it which they will not eat. We don't expect cows to eat all of the corn fodder, as very much of it is low in digestibility and palatability, so we can feed corn fodder liberally and allow the cows to pick out the best portion of it. The balance of it can be utilized as bedding.

Now, for a grain ration, mix corn meal and wheat bran, equal parts by weight. There is nothing better than this, but it won't contain quite enough protein to balance up the ration of corn silage and clover hay. Then feed a small amount of either cottonseed meal or oil meal, or both. You can buy a pound of digestible protein cheaper in cottonseed meal than you can in oil meal, therefore it probably would be economy to select the cottonseed meal. I wouldn't want to recommend feeding over two pounds of cottonseed meal to a cow per day. Therefore, I would say, feed two pounds of cottonseed meal per day to the best cows, and for those who do not give so much milk you can cut this down a little. Add enough of the corn meal and wheat bran so that you will give the cows from three-fourths to a pound of grain per day for every pound of butter-fat which they give in a week, or one pound of grain for every four pounds of three or three and one-half per cent milk, and feed one pound of grain for every three pounds of four and one-half or five per cent milk. This and the roughage mentioned will furnish the cow food material for maximum production.

## CAUSE OF MOULDY SILAGE.

Last fall I built a silo and filled it about two-thirds full of corn. The cornstalks were rather small and a little too dry for good silage, so after filling I sprinkled several barrels of water over it. Now I find pink spots and moldy silage in the middle of the silo. I should like to know the cause of pink places and the mold. I forgot to say that the pink is right over moldy spots and when I dig in I find that it is quite hot. Should I feed the pink and moldy silage; would it hurt the cattle?

SUBSCRIBER.

Without any doubt the mold in the silage is due to the fact that you put your corn in too ripe and too dry. Silage is much better if it contains the natural juice of the plant when it is mature. If you let it get too ripe or too dry then you must add enough moisture so as to have as much moisture as the corn had originally when it was mature. The proper time to put corn in the silo is just when the earliest ears are glazed and dented. That is, when it is in the most val-

uable development so far as feeding is concerned. If you leave the plant a little longer the ears will be better, because much of the nutriment in the stalk will go into the ear, but you are not relying on the value of the ears alone, you are figuring on the value of the entire food content of the corn crop, and you will get the most out of the cornstalk if you put it into the silo at just about this stage of development.

Putting a little water on top of the silage in moldy condition after the silo is filled, amounts to very little. The heat from the silo would cause the most of this to evaporate and it would not sink down into the silage very far. The moisture has got to be put in as you fill the silo and the only way to do it is to have a stream of water running into your blower elevator constantly while you are filling. This saturates the stalks and is the best way possible of moistening or dampening ripe corn. Some people run four or five loads into the silo and then turn on the hose and wet it down. This is better than putting it all on top after the silo is filled, but not nearly as good as it is to let the stream of water run into the blower elevator.

I would not want to feed very much of this moldy silage, and would try and throw out the worst of it when I fed it to the cows. I think the pink color comes from coloring matter in the corn, which is brought out by the fermentation. I doubt whether the moldy silage would injure the cows, as they would not eat very much of it, but I would try and work out all of the worst that I could when I fed the silage.

## DON'T GET RESULTS WITH SILAGE.

I have used silage for four years and during this time I have had different cows and different breeds of cows, but I fail to get satisfactory results at the pail. The cows get fat instead of giving milk. I have for general feeding, besides silage, corn fodder; wheat, oat and pea straw for roughage. We have most all kinds of grain but have had best results from wheat middlings and cottonseed meal, equal parts. Is the whole trouble because I do not have clover hay? I was the first one here to build a silo. Neighbors ask my advice and I don't like to tell them that I am not getting the amount of milk I ought to. Kindly advise me.

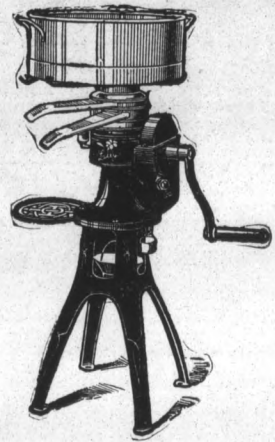
Wexford Co.

A. W.

If you cannot get good results by feeding corn silage with cornstalks for roughage, and some straw, and then by feeding cottonseed meal and wheat middlings, it simply goes without saying that you haven't got good dairy cows. You have got beef cows instead of dairy cows. The cows are probably not to blame for this, because they have been bred for a long time with the idea of putting their feed into meat upon their backs instead of putting it into the milk pail. If you keep the beef breeds of cows you can't get results at the pail. They were bred, and have been selected and bred for generations, for an entirely different purpose, and you can't make good dairy cows out of them. Some Shorthorns are splendid dairy cows, the dairy type of Shorthorn, while others are not at all profitable producers at the pail. Their feed runs to beef rather than to milk.

If you raise good corn and allow it to properly mature and put it into a good silo and feed it with straw and cornstalks for roughage, of course hay would be better, but you can readily fix the hay proposition by feeding a little more cottonseed meal or gluten feed to get the protein and then, with plenty of good grain in connection the cows ought to respond. If they do not, it is not the silage that is to blame, it is the cows, and give a good liberal flow of milk. you are not the only man that has cows that don't respond to good liberal feeding. They are not bred right, they haven't got milk capacity,

# International Harvester Cream Separators



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Your local dealer should have one of these machines on sale. If he has not, write us before you buy and we will tell you where you can see one; also send you an interesting book on separators.

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DETROIT, MARCH 28, 1914.

## CURRENT COMMENT.

Statistics relating Country vs. City to the money wages received by farm labor as compared with factory wages recently made public by the Office of Information of the United States Department of Agriculture, afford some interesting comparisons. This report states that the money wages of farm labor increased an average of about 2.5 per cent during the past year and about 11 per cent during the past four years, and that since 1902 this increase has been about 36 per cent. Considered for a longer period of time, the report shows that wages of farm labor tended upward during the '70's, remained practically stationary during the '80's, and declined from 1892 to 1894, since which time there has been a steady upward trend. Farm wages at the present time compared with the low point in 1894 are about 67 per cent higher.

From the data upon which these statistics are based, the average rate of farm wages in the United States, including board, is found to be \$21.38 per month, \$1.16 per day other than harvest, and \$1.57 per day during harvest. Without board, the comparative figures are \$30.31, \$1.50 and \$1.94.

In comparison with this rapid rise in the wages of farm labor, the average wages of men employed in the manufacturing industries is found from the census reports to have increased more slowly. The increase from 1890 to 1910 being only 23 per cent as compared with 55 per cent increase in wages of farm labor during the same period.

An interesting feature of these statistics is the report on foreign agricultural labor. Wages in foreign countries have increased in about the same proportion as in the United States, although the pay of the farm laborer is very much less than in this country. In Russia, for instance, in 1910 the average wage per day for farm labor was 55 kopecs, or 27.8 per day, and harvest time 87 kopecs, or 44.8 per day, an increase of about 45 per cent since 1901. The relative increase in other foreign countries has been similar, although the wages received by farm labor are still pitifully small.

The feature of greatest interest in these figures is the fact that the trend of labor cityward should be automatically checked by this relatively greater increase in the rise of farm wages as compared with factory wages in the country. The increase in land values has been relatively great-

er than has the increase in farm wages during the years covered by this report. Owing to the higher value of the land, however, it would appear that the interest earned upon its capitalized value is lower rather than higher than at the beginning of the period covered by the report. It is thus a logical conclusion that the farm laborer has participated in the profits of his employer to a greater extent than has the factory worker in recent years.

Time was when some of our central Michigan counties ranked

near the top in the annual value of agricultural products. In a recent statement issued by the Bureau of Census the eight leading counties in value of total agricultural products are given, but no Michigan county is included among these. A study of the figures presented in this report will be of some interest to Michigan readers, however, as illustrating the comparative profits from specialized and general farming.

The leading county in the value of crops is Los Angeles county, California, where fruit is the leading specialty. The total value of the crops raised in this county was \$14,720,900, or \$35 per acre. Lancaster county, Penn., came next with a total production of \$13,059,600, or \$28 per acre. Here dairying is the specialty, with staple grain crops second in importance. Then follow a number of counties where general rather than special agriculture prevails, including four Illinois counties and one county in Washington. While the total value of crops is high in these counties as is necessary to give them their relative rank, the value per acre of farm products is very much less than in the counties above noted where agriculture is specialized, being from \$18 per acre as a maximum down to \$14 per acre in the Washington county. The explanation of this lies in the fact that a larger percentage of the arable land in these counties is devoted to crop production for market purposes. The eighth among the counties given is Aroostook county, Me., where the production amounts to \$23 per acre. Here, again, specialized farming shows up to advantage.

The average crop value in the United States for the same year was \$16 per acre. When the Michigan counties above mentioned were among the leaders in crop production, this result was largely due to the same cause which has placed the Illinois counties in the front at the present time. When any Michigan county is again found in the lead in total crop production, it will no doubt be due to the general development of some special type of farming within that county.

The wonderful progress of agriculture during the past generation is even

more marvelous than the great industrial and scientific developments which have been made along other lines. Scarcely more than a generation ago agriculture did not occupy a high place in the general business world, and it was not an uncommon ambition among those who followed farming as a business more from necessity than from choice, to give their boys an education which would fit them for some other occupation so that they would not be compelled to "farm it" for a living as their fathers had done. Today the outlook is very different. No longer is the business of farming looked upon as a degrading occupation, or those who follow it as a business made the butt of derisive remarks by their city cousins. Today the farmer who is not glad to have his boys stay on the farm is the exception rather than the rule, and many men in other fields of business and professional activity are turning toward agriculture as offering the

most attractive career for their boys.

While this general change in sentiment toward agriculture has in some measure been due to changed economic condition which have favored agricultural progress, much of it is due to the application of inventive genius and scientific research to the solution of the problems of the farm, and not a little of it to the changed attitude of the farmer himself. In this stage of transition, which has marked the progress of our agriculture, the young men who have become active in agriculture have been most important factors. A majority of the older farmers have also kept pace in large measure with the progress of agriculture, often tempering the optimism of youth with a conservatism born of years of practical experience. But perhaps a majority of the older generation of farmers err as greatly by being over-conservative as their younger contemporaries do through lack of their wealth of practical experience. Habit is a powerful influence, and we are prone to keep on doing things in the manner which has become habitual to us instead of adopting new and better methods.

Right now, when planning out the farm campaign for the coming season, every Michigan Farmer reader will do well to reflect on this very human trait; and carefully consider possible improvements in his plans or methods. Now is the time to make use of the up-to-date ideas which have come to our attention through the medium of our trade paper, the farmers' institute, the experiment station bulletin or through observation of object lessons which have been afforded us on the farms of our more progressive neighbors. In farming, as in other lines of business, we must continue to progress in a personal way, if we would keep pace with the progress which has been made in our business during the past generation.

Each summer the familiar slogan, "Swat the Fly," is

very much in vogue. That it is a very good slogan, and productive of beneficial results cannot be denied, but far greater results along the same line could be assured by adopting the slogan, "Prevent the Fly," at this season of the year. To this end, the breeding places of flies should be eliminated as far as possible, both on farms and in the towns. This will prove far more effective in diminishing the numbers of this pest during the fly season than any amount of "swatting." A little attention to this sort of sanitation during the spring cleaning season and from then on will go far to mitigate this pest in the country as well as the town.

## FARMING LIKE MANUFACTURING.

In many ways, farming is similar to manufacturing.

The farmer has a "plant"—his farm—and he may operate it to make a dividend, or permit the overhead expense to eat up all the profit.

He may waste part of his material, or he may utilize it. He may get full value out of his animals and his fields, or he may get only half what they should produce.

The manufacturer succeeds best when he plans his work, uses machinery and sells a completely finished product, just as the farmer succeeds best who does the same.

The advertisements in the Michigan Farmer will help you farm better, if you make use of them. Frequently there is something offered that should make your work more profitable.

## LOOK OUT FOR THIS MAN.

Subscribers have reported the activities of an agent who is canvassing sections of the state, under the name of Baker, and who claims to represent

the Johnson Seed Co., of Philadelphia. He is selling small packets of an alleged new variety of beans which he calls "New Creation," and for which superior qualities are claimed. These are sold at 10 cents per package, and according to the estimates of our correspondents at the rate of about \$100 per bushel. The seed company whom he claims to represent state that he is not and has not been in their employ or connected with them.

## HAPPENINGS OF THE WEEK.

## National.

A large dormitory of Wellesley College, occupied by the girl students, burned last week.

During the season of 1913 there were 2,785 men killed in the coal mines of the United States. This is an increase of 425 deaths over the year 1912. However, 6,000 more men were employed in 1913, making the fatality rate for the past year 3.82 in every 1,000 men employed, as compared with 3.27 in 1912.

A movement is afoot to transfer the headquarters of the National Democratic Congressional Committee from Washington to Chicago.

An agent of the United States Department of Justice is now touring Michigan, investigating the handling of plumbing supplies in this state. The investigation was started because of the refusal of a Chicago wholesale concern to honor an order of a plumber outside the plumbers' association.

A campaign has been started to protect seamen of the Great Lakes against typhoid, of which there were 392 cases last year.

In an effort to reduce the cost of food to the final consumer, Postmaster General Burleson has issued an order whereby farm products may be carried in ordinary containers; crates and boxes will be used for handling butter, eggs, poultry, vegetables and fruit. An effort is also being made to bring producers and consumers together through the Department. The scheme will be tried out in ten cities before it is adopted generally. Detroit is one of the cities selected.

An investigation by the Department of Agriculture shows that the wages of farm laborers have increased more rapidly than those of city workmen during the last 20 years. While general wages went up 36 per cent from 1900 to 1910, farm land values nearly doubled in that decade, indicating that a larger portion in the distribution of proceeds from farming operations goes to capital account than to labor account.

At a meeting of the North Central Association of Colleges and Secondary Schools at Chicago, 15 more Michigan High Schools were placed on the accredited list. This gives Michigan an even 100 accredited schools.

## Foreign.

The absorbing topic of discussion just now is the Irish situation. The inhabitants of the Province of Ulster have been protesting strongly against the proposed action of the British Parliament in giving Ireland Home Rule. So determined are the Ulsterites that they now threaten to take up arms and have made considerable preparation toward that end in case the act is passed. Effort is being made by the King and other leaders to affect a compromise providing for Home Rule in only three provinces of Ireland and allowing Ulster to remain in the same relation to England as now obtains. The preparations of the British War Department to move soldiers into the troubled island is reported to be accompanied by many resignations of those supposedly interested in one side or the other.

In Mexico the rebels are moving against two important strongholds, Torreon, which, if captured, will open the way to Mexico City, and Mazatlan, which controls the west coast of the country. Attacks will probably be made on the two places simultaneously. Already outlying posts near Torreon have been taken by rebels.

The volcano on an island south of Kyushu, Japan, became active Sunday, when flames arose five hundred above the mouth of the crater. An expedition has been sent to give relief to the inhabitants of the island.

Last week Mme. Calliaux, wife of the former Minister of Finance of France, killed Gaston Calmette, editor of Figaro, the deed being done, it is declared, to prevent the publication of private letters. The case is arousing interest throughout France and the rest of the civilized world.

While enroute up a tributary of the Amazon River, the baggage of Colonel Roosevelt's party was caught in the rapids and lost. The party is reported safe, however.



# Magazine Section

LITERATURE  
POETRY  
HISTORY and  
INFORMATION

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

The FARM BOY  
and GIRL  
SCIENTIFIC and  
MECHANICAL

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

## From Germany Through Switzerland.

By ALFRED VIVIAN.

WE journeyed through a part of southern Germany and Switzerland and down the river Rhine. The German Empire is about the same size as the state of Texas, but the different principalities of which it is made up vary considerably in topography and climate, and the people differ quite as much in speech, customs and costumes. Northern Germany is for the most part quite level. Near the coast the land is low and marshy, and in some places badly in need of a better system of drainage than is now in use. In many regions the existence of heather and the accumulation of peat indicate that the soil is acid. In the vicinity of Berlin the soil is so sandy that the people in other and more favored parts of the empire say that Berlin is "located in a sand box." Parenthetically it may be said that the wonderful way in which the pure sand of Berlin has been transformed into remarkably good farm land is a story in itself.

Saxony, as has already been said, is a land of rich, sandy-loam soil capable of producing tremendous crops if rightly managed. All of this section as well as central Germany in general, lies over what was probably at one time an inland sea; and late investigations indicate that much of this territory is underlaid with deposits of potash salts. The surface for the most part is absolutely level or slightly undulating.

As one travels southward the country becomes more and more rugged and hilly, until finally he finds himself in the foothills of the Alps, and he wanders along picturesque paths, among the quaint surroundings that he has hitherto seen only in his imagination.

In some parts of southern Germany the farms have been divided and sub-divided until they are very small and one farmer may own fields in several localities which may be some distance apart. One man remarked that if a farmer owned twenty-five acres, the land might be in five-acre plots at five different places. If he had five sons and desired to divide the farm among them, he would not give one of these plots to each son but would give each of them a one-acre strip from each plot. Indeed, it is not uncommon to find farms as small as five acres with the ground located in from three to five different neighborhoods. This peculiar state of affairs is an inheritance from the time when all the land was owned in common.

In a hilly country like this not all the land is suitable for cultivation. Some of it can be used for pasture only; some is best utilized for the production of hay. When the com-

munity ownership changed to individual holdings it was natural that each man should want a slice of the best grain and meadow land, consequently everyone was allotted a portion of each kind of land, and that custom has continued to the present day, as fathers divide their estates among their sons. At present a movement is being made to try and consolidate the holdings, for it is easy to see that there is a tremendous loss

small courts. In the mountains, on the other hand, they are seen everywhere. Nearly all the cattle seen here are Brown Swiss, for Switzerland is a great dairy country and that is the Swiss farmer's favorite dairy breed.

On the higher reaches of the mountains fences are not used to any great extent and each cow has a large bell strapped around her neck. Everywhere can be heard the incessant

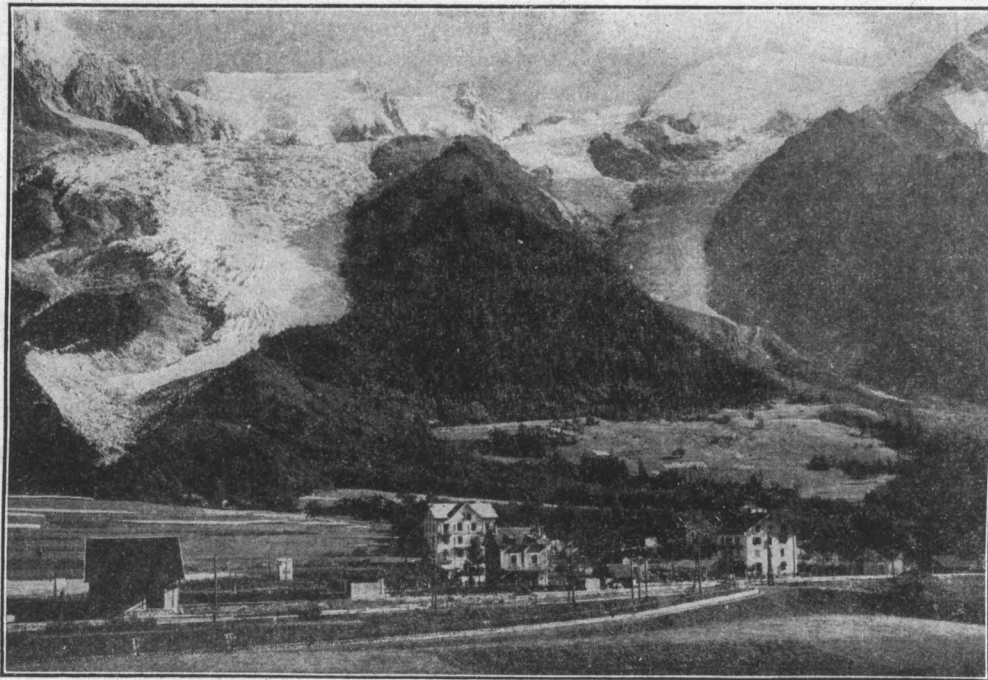
come from just over the brow of the first hill.

The world-famed pasture lands of Switzerland about which so much is written, and which are so often pictured in the journals, are high up in the Alps, at elevations of from 5,000 to 6,500 feet above sea level. At this elevation there is only about three months of summer. The cattle for the rest of the year are kept well down at the base of the mountains. At the beginning of the season the herdsmen and cheesemakers move up to the Alpine pastures with the herd. There they live until the cold weather drives them down the mountain again. Cheese is made throughout the summer and stored until the season is over, when it is brought down at the time the cows return. Some of these pasture lands lie close to the glaciers and are watered by the cold streams produced by the melting ice. It might be stated that we have endeavored to trace up the rumor that the cows living near the glacier give ice cream, but we do not feel that the statement is substantiated by the facts!

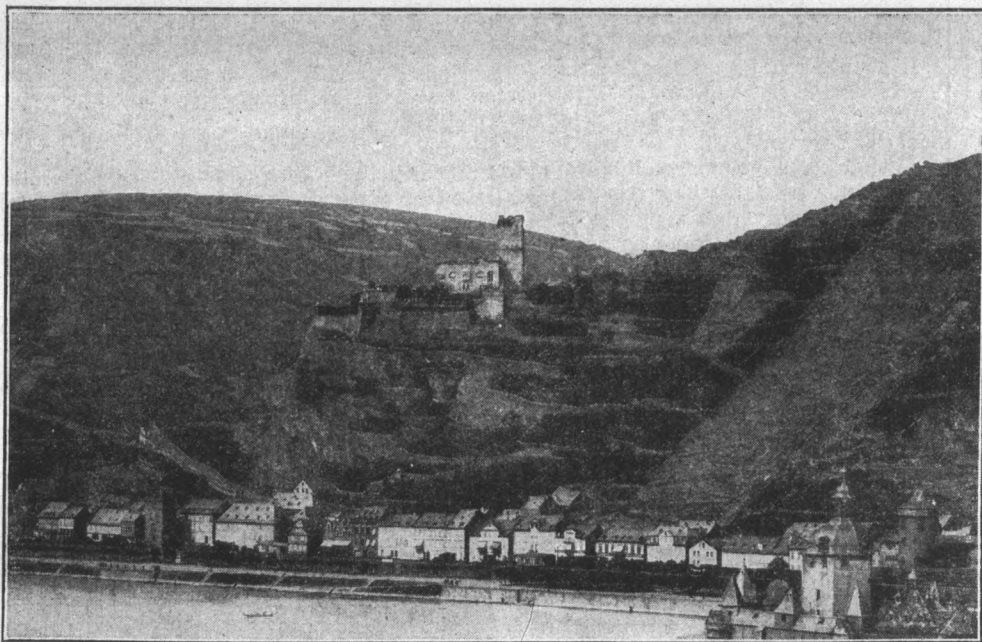
The grass on the mountain pastures at all levels is wonderful. Such luxuriant growth on the steep hillsides seems marvelous. Probably one reason it grows so abundantly is because it is so well watered, for not only are the rains frequent but the dews are heavy. We wandered through one of these pastures in the middle of an afternoon when there had been no rain for several days, and the grass was then so wet from the dew that our shoes were soaked through. This in spite of the fact that the sun had been shining brightly all day.

Nearly all these pastures are well manured, for wherever the traveler goes he sees some farmer and his wife and yoke of cows distributing liquid manure on a side hill pasture so steep that most farmers would think it impractical to haul a load over it. It is no very unusual sight to see a man carrying a load of manure up the hillside on his back. In this country, by the way, the customary mode of carrying everything is in a vessel of a peculiar oval shape which can be strapped to the shoulders, leaving the hands free to use the Alpine stock to assist in climbing the hills. Even in the cities the men use this method for carrying coal in to the homes, especially if it has to be taken upstairs.

Nearly all the mountain dwellings in Switzerland have the house and barn under the same roof—one end being the home and the other the barn. This arrangement is probably advantageous in the severe winter weather, especially in the higher alti-



The Famous Glazier at Chamonix, Switzerland.



Slopes Along the Rhine are Terraced and Planted to Grapes.

of time in traveling to and fro when a man works a farm four or five acres in three to five fields which may lie some miles apart.

Passing from the foothills into the actual mountains of Germany and Switzerland the cattle become more and more in evidence as a feature of the landscape. In central Germany the cows are rarely seen in the fields but are mostly housed or confined to

tinkling of these bells. They have a pleasing musical note and the sound carries for a long distance so that any wandering cow can be traced when needed. The valleys and peaks, with their echoes and reverberations, make the sounds quite deceptive to the stranger, as we can testify after scrambling for some time over the hills to locate a herd of cows the musical tinkle of whose bells seemed to





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tudes. The surroundings are for the most part neat and orderly. The people evince great love for their cattle and that the latter are kindly treated is indicated by the way they cluster around one when he approaches them. Switzerland with only 16,000 square miles, half of which is in the Alps, has over one million head of cattle, largely dairy cows. There are, however, a goodly number of Simenthal cattle, a wonderful breed of beef animals which furnish most of the heavy oxen of Switzerland and Germany. We hesitate to quote the statements made regarding the weight often reached by these animals. Large numbers of goats are also raised and they make a very respectable contribution to the milk production of the country.

The mountains of Switzerland are a never failing source of enjoyment. Their rugged and jagged crests; the patches of snow and ice glistening in the sunlight; the vivid greenness of the verdure; the deep blue of the sky and water, please the eye from whatever point they are seen. They are the ideal mountains of one's youthful imagination, and it is easy to sympathize with those who come back year after year to spend their vacations in the Alps. No less gratifying are the beautiful mountain lakes, set like gems among the hills. They burst upon the view when least expected, and as the limpid waters reflect the grandeur of the mountain peak one stands entranced, wishing the view might never fade away. Equally wonderful are the glaciers—wonderful and terrible, but not so satisfying as the lakes and the waterfalls. It is unfortunate to be pressed for time when in Switzerland, for she invites you to prolong your stay and wander for weeks among her mountains—wander aimlessly and out of the beaten path—be an explorer and without guide or guide book discover new and unexpected beauties for yourself.

Not a little of the charm of Switzerland is due to her unique history. What school boy has not reveled in the tales of Swiss heroes? William Tell is a name to conjure with and the mountains speak of him at every turn. Has not everyone in his boyhood days recited the tragic tale of the noble sacrifice of Arnold von Winkelreid when, crying "make way for liberty," he rushed upon the Austrian phalanx, and grasping in his arms the spears of the men he made a break through which the Swiss soldiers rushed and completely routed the enemy.

It should not be overlooked that in Switzerland as in most European countries, the forests are a great source of revenue. They are nearly all managed on a commercial basis and in such a way that they are perpetuated. For every tree removed a new one is planted, and large areas which would be of doubtful value for anything else are quite profitable when forested. It is said that several cities in Switzerland and Germany pay the entire expense of their government and improvements with the income derived from the forests owned by them, and many more pay at least half of the municipal expenses in this way. Some day America will appreciate the situation and will reforest some of her denuded hills.

Up to 1200 feet in altitude grapes are grown in Switzerland and large quantities of wine are produced. Grapes are seen to the best advantage, however, during a trip down the Rhine. For the most part the Rhine flows majestically along between high banks, and ever and anon there appears on these banks, a stately old castle of baronial days, picturesquely placed and generally fallen into decay, but sometimes restored and still inhabited. The high bluffs along the river are terraced, excepting where they are sheer rock, and these terraces are planted with grape vines. Traveling down the Rhine means

passing through a vineyard many miles in length, and the traveler can but marvel at the immense amount of work represented by the terracing. These vines are highly cultivated and fertilized, and all materials must be transported up and down the hillsides upon men's backs. In the winter all the vines are laid down and usually covered with straw or rubbish—at least this is true of the higher altitudes. The past year was a hard one on the grape growers as there was not sufficient sunshine to ripen the

fruit before frost came. Most of these grapes, of course, are used in making the wine for which the Rhine valley is famous.

Tourists by the hundreds of thousands yearly visit the Rhine valley, for it abounds in picturesque spots in which a summer holiday can be enjoyed joyfully spent, and every point has its myth or legend which adds to the pleasure. No more delightful ending to the visit to Germany could have been chosen than this journey down the Rhine.

## On the First Day of April.

By GERTRUDE K LAMBERT

ONE spring morning Mrs. Lucia Numan wrung out the dishcloth, dropped it upon the oilcloth covered table, picked up the dish pan, carried it to the far end of the side porch, and with a dexterous motion, turned its contents of soapy water, with a single splash, into the wheeled swill tub, set there to receive its morning contributions from milk-room and kitchen. Turning back to the open kitchen door, with the empty pan, she was hailed in a shrill, feminine voice, from the front yard of the neighboring farm house, across the road, where a tall woman in a narrow-skirted blue calico dress and pink sun bonnet, stood leaning upon a garden rake. "Didn't Mable get home last night, Mrs. Numan?"

The woman addressed walked to the end of the porch nearest the road, before replying, "No, she didn't, and I'm awful worried; I can't think what kept them."

"Where all were they going?"

"Only over to Conner's. Joe's sister, Kate, is going out west with the uncle that's been visiting there, and Joe wanted to see them again before they left, and Mable went along. She and Kate Conner have been great friends ever since Joe first came here to work, after her pa died."

"How far is it over to Conner's?"

"Only about six miles; but I suppose the roads aren't the best."

"Prob'ly not, and maybe they didn't get ready to start back very early, and so staid over." Then, as an afterthought, "But I don't wonder you're worried, I should be, too. Young folks are awful frivolous and head-strong. You can't tell much, what they'll do."

Neither woman had taken notice of the group of school children, with their books and dinner pails, sauntering past, stopping to listen, with eager ears, to the high-keyed conversation, then continuing upon their way to the schoolhouse beyond the hill. Presently they were discussing something of general interest, and walked more and more slowly, until in the shelter of a fence and a dip in the lane, they came to a full stop, and gathering into a compact knot, became absorbed in some scheme that appeared intensely amusing to all, boys and girls alike.

Fully half an hour later, Mrs. Numan glanced out of the window and commented audibly, "There comes Reddy McGowan! What can that little limb of Satan want here!" She watched him come boldly up the front walk, carrying, in one grimy hand, a folded slip of paper, suggesting a message; and in her eagerness to receive it, she met him at the door. "Feller give it t'me," he explained, as he handed her the soiled missive and retreated.

Mrs. Numan unfolded the sheet of coarse paper, and found written, in pencil, upon its inner surface, in plain but somewhat labored and irregular script: "Miss. Numan we think you ote to know that Mable has run off to marry Joe Conner they will be married to elder woods this morning."

Although she read the straggling lines over several times, she had a vague feeling that she was not sur-

prised; and as she stood stupidly staring at them, incident after incident of the past few weeks, came to her mind: a lingering out in the moonlight after work time; flimsy excuses for being together—all pointing significantly at the probable guilt of the truants.

A sharp feeling of resentment came over her. Mable, her sweet, lovable girl, running away to marry the hired man! In a sudden flurry of haste to effect preventive measures, she went to the telephone and took down the receiver. She was greeted with a discordant babble of voices, suggesting that half its patrons, male and female, were endeavoring to force messages over the line at the same time. She could not wait for a lull; and, anyway, whom could she call up to gain any information or assistance! She glanced at the clock, not yet nine, and "this morning" included until noon. Perhaps if she called up Elder Wood, she might yet stop the affair.

With that thought, she took down the telephone directory and run over the list. No Wood there. Then she recalled that the branch road upon which he lived, had never been wired for telephones. For a moment she felt baffled, then another thought came to her, "Why not drive over to Elder Wood's!" She hurried out to tell the chore boy to hitch up a horse, and was half-way to the barn before it occurred to her that the boy had gone to the back pasture to fix some fence. She reached the barn before remembering that Joe and Mable had the work team and the surrey. She would use the old single buggy, but Nelly, the gentle driving mare, had a young colt, and she dared not meddle with Billy, the half-broken four-year-old, peering at her from his stall with shay, startled eyes.

Again the resourceful, self-reliant widow seemed beaten, but not for long. Why not walk! It was only four miles, or perhaps a trifle over. Untying her big kitchen apron as she hurried back to the house, she hung it on the rack where she took down a short jacket, drew it on over her neat gingham house dress, tied a gay auto-scarf of Mable's closely about her head to cover her hair which she could not wait to re-arrange, then slipping on her rubbers, started briskly down the road.

The first half mile was along the main road, graded high and dry; then she came to the "branch" and turning off, ascended a short, steep incline, then down a long slope to where the road crossed the valley. At the foot of the hill she saw at a glance, that the way was absolutely impassable to foot travelers, owing to the wide stream of mud and water that overflowed the culvert to an unguessable depth, covering the road for some distance on either side.

However, a wire of the fence at her right had been loosened and twisted into a wire above, thus making a gap wide enough for an ordinary person to squeeze through and take a well-defined trail through a meadow, crossing the drain on a foot bridge of boards, and regaining the road by

(Continued on page 368).



## Not So Bad as it First Appeared.

By MRS. JEFF DAVIS.

"Oh, dear," sighed Harry Jenkins, as he seated himself on the floor, Turkish fashion, beside his mother. "Whatever shall I do, Mother? Teacher says she's tired of stories about cats, and birds and dogs. She wants us to write animal stories, this week, about something different."

Mrs. Jenkins smiled. "Well, son, that isn't a very difficult task, so don't look quite hopeless. There are many animals to select from. You were greatly interested in that large elephant, which you saw in the Zoological gardens when you were in the city last summer."

"Yes," assented Harry, "but I don't know enough about them to write a composition, Mother."

"Get your encyclopedia, my dear, and read up on the elephant, and then come to me, and we can talk about your subject more understandingly," Mrs. Jenkins advised.

After some time Harry returned with a few notes he had made in his tablet. "I didn't find much of interest," he insisted.

"That is strange," his mother replied wonderingly. "Didn't you discover that in some respects, the elephant is different from all other animals?"

"I believe he is the only one that has a proboscis, or trunk," Harry replied.

"Where do they live?" his mother continued, "and how many kinds are there?"

"Oh, that is easily answered. Of course, they are found in the tropical regions of the old world, and live in the dense forests. They go in herds, and there are only two species now, the Asiatic and the African elephants."

"Well, tell me something else about the appearance of the elephant," his mother questioned.

"The long tusks are the two upper front teeth enormously developed. The lower front teeth are absent, and there are no other teeth in the jaws except the large molars, or grinders, which are two in number, and on each side of each jaw."

"The nose is prolonged to make the trunk. It is movable in every direction, highly sensitive, and terminating in a finger-like lobe. The nostrils are placed at the extremity of this proboscis."

"Why, you have learned a great deal about the elephant, and he is proving very interesting. What kind of feet has he?" Mrs. Jenkins continued.

"The feet have five toes, but are only noted externally by the division of the hoofs. The sole is formed of a thick pad of integument," Harry answered, referring to his notes.

"There are other things to be learned about the elephant," his mother added. "The Indian elephant is the only species which is now domes-

ticated. The African is chiefly hunted for its ivory tusks. The two are readily distinguished by a glance at their ears. The Indian elephant has very small ears, while the African has great, flopping ears. Did you find out what they eat?"

"Oh, yes," Harry quickly began, "all elephants are vegetable eaters, living almost entirely on the foliage of shrubs, and trees which they strip off by means of their trunks. They drink water, also, with their trunks. It is sucked up by the trunk, which is then inserted into the mouth."

"Our elephant is proving to be a wonderful animal," Mrs. Jenkins exclaimed, "and still there is much to say about his faithfulness to his master, and the fact that he rarely forgives an enemy, or one who has done him an injury."

"But all this seems too much like text book knowledge," Harry explained.

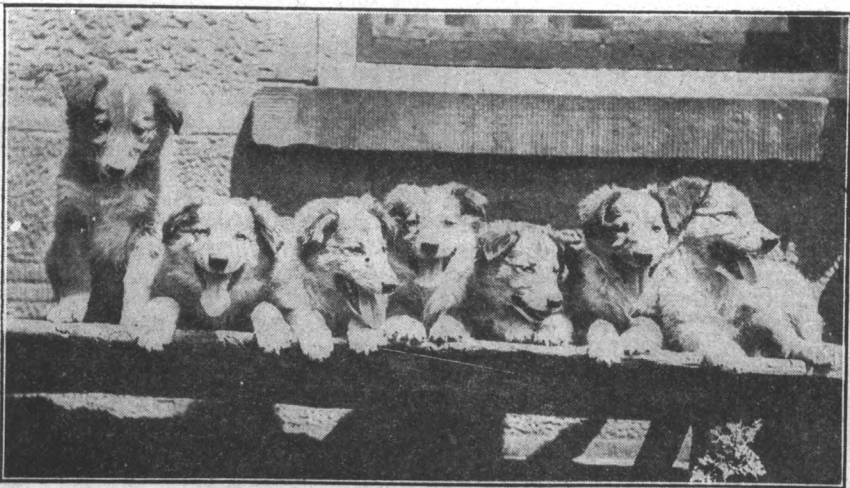
"You can make it a part of your story, and then tell how elephants are caught, and tamed in Ceylon," his mother urged.

"How?" Harry eagerly asked.

"Mr. Jones, who was one of your father's college friends, was a great hunter, and even went to the old world in quest of big game. This is the method, he said, is employed to catch and tame elephants in Ceylon."

"An open space is cleared near a forest, part of which is fenced with trees, leaving open places for doors. When a herd of elephants is found, they are driven with spears, the rattling of noisy instruments, and by blazing torches into the enclosure. The entrances are then barred, and the poor giants of the wood find themselves hopelessly imprisoned. At first their rage is dreadful to witness; but the ingenuity of man, and what seems almost like the treachery of their fellow beasts, has found a way of subduing it. The tame elephants, remarkable for their sagacity, come up to a prisoner, stroke him with their trunks, cajole him until they lead him near a good, strong tree. Then a native creeps up behind, and in a moment the elephant is made fast to the tree by one leg. While this is going on the tame elephants are humoring and entertaining their deluded victim. But as soon as he is secured they go away and leave him, and the men bring him coconuts and leaves to eat. At first he refuses these offerings, for he is in a towering passion, and struggles to be free. But finally hunger subdues even the fiercest, and at last his wild roaring ceases and he eats; and from that time his training is comparatively easy. Fed and trained by a kind hand, he at last becomes the docile servant of man, and ready to assist in the capture of other of his wild relatives."

"Thank you, Mother. I think I can now write an interesting account of elephants."



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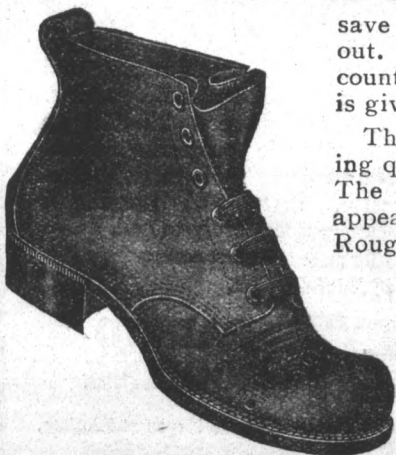
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**ON THE FIRST DAY OF APRIL.**

(Continued from page 366).

way of the gates of the group of farm buildings, on the slope beyond.

As her eyes followed the trail her gaze fell upon the homey white farm house ahead. It had always suggested to her, a motherly hen, clucking to her chickens an invitation to take refuge under her wings. As she stood for a moment lost in pleasant reminiscence that relaxed the anxious lines of her face, and brought a tender light to her eyes, the present was forgotten in dreams of the past.

But presently she bethought herself and gathering up her skirts, she stooped and set one foot through the gap in the fence, following it with her right side, then her head, carefully, but as she threw her substantial weight forward, to draw herself through the narrow opening, something seemed to grip her and hold her back. Again and again she made the effort, with the same result. The barbs, on the wire above, had caught in the thick fabric of her jacket and held her firmly. She tried retreating, but that proved equally difficult. Vainly she twisted and squirmed, endeavoring to loosen the hold of the sharp wire prongs, but they only seemed to work deeper and cling closer. The cramped tension of her position was fast becoming painfully irksome.

She was bracing her strength and courage for a final effort that would probably land her in the ditch, when she fancied she could hear foot-falls approaching. Immediately a huge pair of rubber boots appeared within her narrow range of vision, a strong hand grasped her arm, the wire that held her was lifted free, and she was pulled forward and upward until she staggered to her feet inside the fence. Catching at the supporting hand to steady herself, she raised dizzy eyes and looked into the rugged, smiling face of Amos Brailly.

"Wall, I'll be blest!" he ejaculated in greeting, "Lucretia Numan! What under the canopy of the high Heaven be you a doin' here—hung up in this wire fence like a frost-bitten pumpkin leaf, at this time of the mornin'?"

His uncomplimentary comparison, which touched her vanity, steadied her nervous agitation, and the first impulse was to prevaricate; but a look into his kind eyes was always an invitation to hand over to him one's burdens, and she told him the direct truth: "Mable and Joe Conner went over to Conner's yesterday, and haven't come back; and I have just heard that they intend to be married at Elder Wood's this morning."

"Wall, I'll be blest!" Then, "Wall, if that's the case, come on over to the house and I'll hitch up and we'll drive over to the Elder's and see about it," and he helped her across the shaky foot bridge and led the way to the house. "Go right in," he directed, as he opened the small gate for her to pass from the farmyard to the board walk leading to the kitchen. "I don't s'pose it looks very nice in there. Annie, Mary's girl that's been keepin' house for me since Ma died, has gone home to do up some sewin'—but go right in," and he turned back to the barn, calling after her, "I'll drive 'round to the gate in just a minit."

It seemed hardly the promised "minit," to the tired woman, resting in the comfortable chair by the window, when a loud "Whoa!" from the gate, announced that Amos had driven around, and she arose promptly, once more alert with the anxiety of her mission. "Guess you'd made great work, walkin' to Elder Wood's," remarked Amos as he helped her into the buggy and turned the horse into the muddy road.

"I had to get there some way," and Mrs. Numan caught her breath nervously.

Amos glanced at her sharply, then as the road grew better after reach-

ing the top of the hill, urged the horse to a speedier gait, which was kept, despite flying mud, until they turned in at Elder Wood's driveway and drew up at the door. Leaving Amos in the buggy, the now trembling woman went up the steps and rang the bell. The Elder, himself, answered her ring, and as the door swung open, she caught a glimpse of her own reflection, grimy, wild-eyed and disheveled, in the glass of the upper portion; and she felt the last tattered shreds of her dignity and self-possession slipping away from her as she met the astonished gaze of the good man's mild eyes.

"Sister Numan," he hesitated as though doubtful of his vision.

"Is Mable here?" the question was startling in its abruptness.

"Mable—no—is she lost?" The Elder was evidently mystified.

"Well," Mrs. Numan hesitated now, "she went away yesterday, and has not come home."

"Ah! and where did she go?"

"Over to Conner's, and I got worried—I didn't know—"

"She hasn't been here," and the placid faced old man looked bewildered; then brightening, "Perhaps she has gone home this morning."

"Sure," exclaimed Amos from the buggy, "Come, Lucretia, we'll drive back over to your place, and if she ain't there, why, we'll hunt 'er up!" And as there seemed nothing else to be done, the disheartened mother climbed back into the buggy, and they turned homeward.

Lucretia Numan had always prided herself upon being a sensible, practical woman, far removed from the hysterical, clinging-vine type of femininity, but presently Amos discovered that she was crying softly. "There, there," he soothed, with a man's helpless sympathy; "Mable ain't lost—we'll find her, and even if she should marry Joe Conner—he ain't a bad sort of fellow—steady and good worker, ain't he?"

"Ye-es," admitted the tearful mother, "He—he—it isn't that, but Mable is so yonug."

"Eighteen, ain't she? Lots of girls are married younger'n that. Annie's only seventeen, an' she's going to be married in June." Then with a sigh, "An' the Lord knows what I'll do without 'er; I'll be lots worse off than you'll be, Lucretia, for prob'ly Joe'll keep right on workin' the place, an' everything will run right along, same as ever. But, think of me—left alone to do for myself."

"Ye-es," admitted Mrs. Numan, wiping her eyes upon the end of the scarf and leaving gay red and purple streaks across her face, already adorned with an indefinite pattern in spatter-work, "but, then—I don't think much of being a mother-in-law in any man's family, even if it is in my own house; and as two-thirds of everything there belongs to Mable as her pa's heir, she will naturally expect to be mistress—and—and it won't be 'home' to me any more," and the tears started again.

There was a short silence, then Amos leaned forward and looked into the widow's face, "That don't need to trouble you any, Lucretia, for you know that there's another home a waitin' for you—that's been a waitin' for you for twenty years. I offered it to you, better'n twenty years ago, but you only laughed, then, an' said I was too hombly. I've waited—hopin' I'd grow handsomer; but I ain't never seemed too—sort of seemed to go t'other way. But the home's a waitin' for you, Lucretia, an' always will be."

The hand holding the scarf end, lowered, and a pair of meek, tear-wet eyes looked straight into the plain, kindly face. "You were always handsome, Amos, the handsomest man in the world, only I didn't sense it then."

When the self-absorbed couple Amos glanced at her sharply, then as the road grew better after reach-

found the missing pair there to greet



them, while the chore boy was just driving the team around to the barn. "Why, Ma Numan!" exclaimed Mable, "What a sight you are—where in the world have you been?"

Her mother blushed guiltily, but parried, "I guess it's 'where in the world have you been?' trying to look severe."

"Why, you see, Kate was going away this morning, and she insisted upon our waiting to see her off—not knowing when she would see any of us again," with a conscious glance at Joe, that was not lost upon the shrewd Amos, "We tried to get you on the 'phone last night, and again this morning."

"I was over to Mrs. Chase's last night, it was so lonesome here—I've been so worried," here the shrill cries of children let out of school, reached them, and Mrs. Numan started like a detected criminal. "Good land—noon, and no dinner!" Then calling to the chore boy, "Here, Johnny, come and take this morse—a—Mr. Brailly will wait until we can get something to eat," and the group started toward the house.

"Dear me, Ma, did you put a paper on the door to tell us where you had gone?" cried Mable, who was in the lead up the walk.

"Why, no," and all looked at the sheet of white paper, pinned upon the door, and as they neared it, saw printed in big straggling letters across its breadth, "APRIL FOOL."

"Today's April-fool day," smiled Joe.

"Yes—but what does it mean, here, anyway," demanded Mable, turning to look into her mother's crimson face.

"It means," asserted Amos, stepping forward, "that your mother made up her mind that you were planning to take someone else to share your home here, so she set out to find another home for herself—and she found it, too."

The young people stared for a moment, then a light broke over them—the light from two happy faces; and it met a reflection in their own. "We've been engaged for quite a while—but we didn't dare tell," murmured Mable, as Joe's strong fingers closed over her hand which she had laid timidly upon his coat sleeve.

"Wall, you'd best tell of it now, and make some forward motion, too, for your ma's promised to come to my place in June."

"For the land sake—Amos Brailly—the neighbors are looking!" cried the confused matron. "I guess they'll think that Reddy McGowan's right, and we're all a pack of April fools."

To which Amos responded fervently, "Blessed be April fools!"

#### A FEW SMILES.

##### How He Felt.

James, a youthful lad who had just returned from a visit to the city, described his first ride on a scenic railway thus: "It made me feel just like I was all gone but my soul and that was almost tickled to death."

##### Identity.

Fond Mamma—Now, Charlie, don't you admire my new dress?

Charlie—Yes, mamma, it's beautiful.

Mamma—And, Charlie, all the silk is provided for us by a poor worm.

Charlie—Do you mean dad?

##### Biblical.

In his first charge a clergyman found the women of the parish entirely too helpful. Such a storm of petty squabbles arose from their over eagerness to help that in despair he gave up the place. Not long afterward he met his successor.

"How are you getting on with the women?" asked the escaped curate.

"Oh, very well," was the answer. "There's safety in numbers."

"I found it in Exodus," was the quick reply.

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| 30 x 3  | \$11.70             | \$12.65             | \$2.80                 | 34 x 4½ | \$33.00             | \$35.00             | \$6.15                 |
| 30 x 3½ | 15.75               | 17.00               | 3.50                   | 35 x 4½ | 34.00               | 36.05               | 6.30                   |
| 32 x 3½ | 16.75               | 18.10               | 3.70                   | 36 x 4½ | 35.00               | 37.10               | 6.45                   |
| 33 x 4  | 23.55               | 25.25               | 4.75                   | 37 x 5  | 41.95               | 44.45               | 7.70                   |
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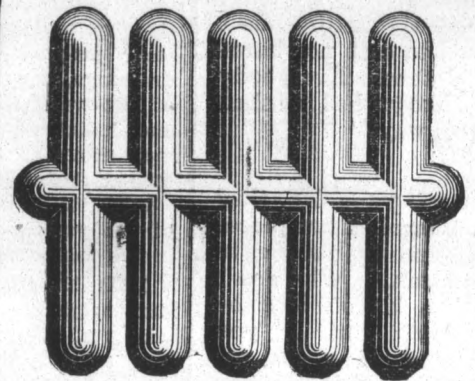
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We can make it possible for any boy or girl to get an excellent watch without one cent of cost and just a couple of hours of their time after school or on Saturday.

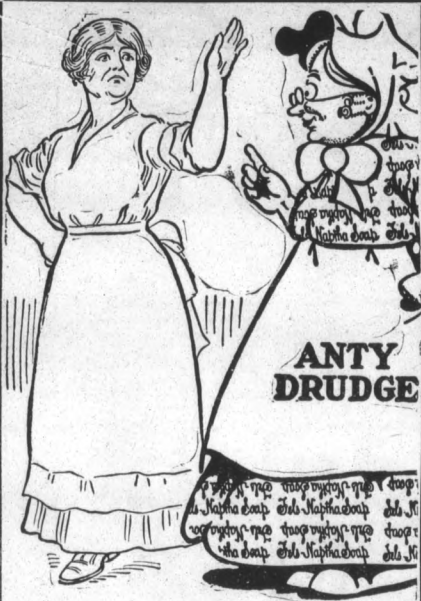
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**Mrs. Skeptic**—"Oh, go 'long, Anty Drudge! Telling me I don't need to boil nor hard-rub my clothes. Everybody I know *always* has washed clothes this way."

**Anty Drudge**—"No, they haven't. Some heathen places they beat them with stones to get them clean. Why don't you do that if you *like* the hardest way? But if you want the *easy* way, just use Fels-Naptha Soap."

What does wash-day mean to you? Standing all day drudging over the washboard, rubbing the dirt out of your clothes, and boiling them to pieces; filling your house with steam and smell, and making yourself tired out? Or

Thirty minutes for the clothes to soak in cool or lukewarm water with Fels-Naptha Soap; a light rub with the hands, rinsing and hanging on the line in half the time, with less than half the trouble than ever before?

Fels-Naptha works for you in cool or lukewarm water.

Buy it by the carton or box. Full directions are on the Red and Green Wrapper.

Fels & Co., Philadelphia.



# Woman and Her Needs

## At Home and Elsewhere

### Women's Congress at Round-up.

By MRS. E. J. CREYTS.

**T**HIS division of the Round-up Institute was of unusual interest from the fact that much demonstration work was done. Each day proved a practical school of instruction for the housekeeper and home-maker, particular attention being given to the preparation of a healthful and economical foods.

Professor Agnes Hunt gave an interesting talk on "Foods and Their Classification," giving fine demonstrations in vegetable cookery, sauces and their preparation, salads and salad dressings, farm menus, and the use of left-overs. She showed that a wise and judicious use of these materials may prove an important factor in reducing the high cost of living.

Miss Edith Casho gave illustrations of the various modes of physical exercise which may be taken at home.

Miss N. C. Richeson gave a fine demonstration of the preparation of desserts, also modes of setting table and serving guests; illustrating the Russian, English and combination styles, and their various modifications. She also gave an interesting talk on the evolution of table setting and serving. She spoke, in part, as follows: "We eat at the table three times a day and that seems very common, yet the table tells a story of development, tells a story of our ancestors gathering at feasts and religious rites. The knife is one of the oldest instruments of invention, and was largely used in ancient times, in obtaining food. Man enjoys food under pleasant conditions. Mirth and laughter are great aids to digestion and assimilation. Digestion is retarded under disagreeable conditions. There was a great deal of philosophy in having, in olden times, jesters at feasts.

"The table had its beginning in rough boards. The Greeks and Romans had beautiful boards and cloths. "Light at the table is an important consideration. Avoid high shadows; candles are desirable."

With the aid of some of her pupils Miss Richeson then showed various modes of setting the table and serving.

Miss L. Himmelein explained the various modifications of sale patterns, making this so plain that it would seem that dress-making could easily be done at home and without the aid of an expert.

Mrs. L. L. Peppard said, "Almost all talks on the high cost of living has related to foods, but care and selection of clothing is a very important item to be taken into consideration."

Mrs. Peppard showed modes of manufacture and various weaves, identification of textiles, etc.

Professor Victor Wilson made a strong plea for the artistic in the home. "This is attainable without added expense, and color schemes may easily be followed in the decorations and furnishings of the home," said he.

Mrs. H. M. Dunlap, of Savoy, Ill., gave a talk on "Home Making for Men and Women," calling attention to our food problems. "Our food problems are many, and upon the proper solving rests much of the future economic, moral and physical success of our nation's most valuable asset," said she. "We need not be exercised very much as to our future supply of food, for the department of our government control will cope with its various problems successfully.

"Intensive farming has never been known to any extent in this country. We have failed to educate men and women in the growing, use and distribution of our food products. The men have been wasteful of the soil and are not producing the amount that they should, and have not used proper methods of getting the food from producer to consumer. The women have been untrained as to its proper selection, care, preparation and combination, until America excels almost every other nation in the wastefulness of products. Wide roadways are too often employed in growing weeds. The average farm garden space is not well cultivated and all this adds to the high cost of living. In many cities enough vacant lots and back door yards are growing up to weeds to almost supply the town with food. Our boys and girls are going to destruction for lack of useful employment. We would rather provide reformatories, juvenile courts and a wasted boyhood and girlhood than properly trained teachers with an equipment at their command that could turn this wasted human energy into needed use.

"Another great waste of food is daily perpetrated by over-eating by the average American citizen. Every ounce taken beyond the body's need for its mental and physical expression is wasted. Another great cause of the high cost of living is the waste in the average American kitchen. Dr. Wiley says, after being sent out by the government, that 35 per cent of all food entering the American kitchen is wasted.

"Another great problem resting upon every individual is the quality, purity and cleanliness of the food provided in hotels, restaurants and public places for eating.

"The problem of sufficient food for future generations and the problem of proper adjustment of the price paid for our food, are very important. Clean food and its waste all sink to insignificance in comparison to the problem of how to select, combine and prepare our food so the life of man may be sustained in health, moral and spiritual efficiency.

"Because of ignorance in regard to food and its relation to the spiritual and physical life of men, we find the world so full of food-health cults. Those who should have been prepared to teach food principles, our doctors, have only too often been ignorant themselves and have not been taught how to prevent disease by studying its cause. They have devoted their time and knowledge to its cure. We have experiment stations all over the land for the purpose of securing definite information in regard to feeding animals, but not one to obtain knowledge of the proper feeding of man.

"Man, like the child crying for light, has been reaching out for a better way of living until we have no breakfast fad, the fasting fad, the protein fad, the vegetarian, the Fletcherite, the milk diet fad, and the fruit and nut fad. One stands paralyzed and inactive.

"Woman has not been prepared for her life-giving work. Has she been made to realize that efficiency in the work should ever be her aim?

"There is a gleam of promise arising to quiet our fears and make us look for better things in the future. Eighteen or twenty years ago a domestic science meeting like this was

unknown, and to have it taught in our schools and universities was scarcely contemplated. The time will soon be here when every girl will be trained for her work, as today she must learn something of English. If fathers and mothers were studying the problems of food for their boys and girls as closely as some fathers are studying food for their plants and animals, we would see years added to the earthly life of man."

### CROCHET EDGING.

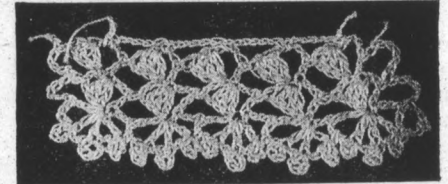
BY ELLA L. LAMB.

#### Chain 17.

First Row.—1 d in 6th st, ch 5, skip 5, 1 d in next st, ch 5, 1 d in end of ch, ch 7, turn.

Second Row.—3 tr, in 3 d st of 7 ch, 1 d in 3 d of first 5 ch, ch 3, 3 tr in same st, 1 d in 3 d st of next 5 ch, ch 3, 1 d in loop at end of ch turn.

Third Row.—ch 4, 1 d, in top of last d, ch 1, 1 tr in d that fastens second group of 3 tr, ch 4, 1 d in top



of last tr, ch 1, 1 tr in same st, ch 4, 1 d in top of last tr, ch 1, 1 tr, ch 4, 1 d in top of last tr, ch 2, 1 tr, ch 5, 1 d in top of first cluster, ch 5, 1 d in top of second cluster, ch 7, turn.

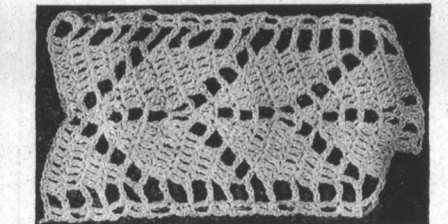
Repeat from second row, finishing top with 1 d under ch, ch 5, repeat on entire length of lace.

### Crochet Insertions.

#### Chain 30.

First Row.—1 tr in 4th st, ch 2, skip 2, 9 tr in next 9 st, ch 1, skip 1, 1 tr, skip 1, 9 tr in next 9 st, ch 2, skip 2, 2 tr in next 2 st, ch 4, turn.

Second Row.—1 tr in 2d tr, ch 3, skip 1 tr, 7 tr in next 7 tr, skip 1 tr,



ch 2, 3 tr in next tr, ch 2, skip 1 tr, 7 tr in next 7 tr, skip 1 tr, ch 3, 2 tr in next tr and ch at end, ch 4, turn.

Third Row.—1 tr in 2d tr, ch 3, skip 1 tr, 5 tr in next 5 tr, skip 1 tr, ch 2, 3 tr in 1st tr, ch 2, skip 1, 3 tr in next tr, ch 2, skip 1 tr, 5 tr in next 5 tr, ch 3, skip 1 tr, 2 tr, in next tr and ch, ch 4, turn.

Fourth Row.—1 tr in 2d tr, ch 3, skip 1 tr, 3 tr in next 3 tr, skip 1 tr, ch 2, 2 tr in first tr, 1 tr in next, 2 tr in third tr, ch 2, 2 tr in next tr, 1 tr in second tr, 2 tr in third, ch 2, skip 1 tr, 3 tr in next 3 tr, skip 1 tr, ch 2, 3 tr, in next 3 tr, skip 1 tr, ch 3, 2 tr in next tr and chain, ch 4, turn.

Fifth Row.—1 tr in 2d tr, ch 3, skip 1 tr, 1 tr in next tr, skip 1 tr, ch 2, 2 tr in next tr, 3 tr in next 3 tr, 2 tr in next tr, ch 2, 2 tr in next tr, 3 tr in next 3 tr, 2 tr in next tr, ch 2, skip 1, 1 tr, ch 3, skip 1 tr, 2 tr in last tr and ch, ch 4, turn.

Sixth Row.—1 tr in 2d tr, ch 3, 2 tr in next tr, 5 tr next 5 tr, 2 tr in next tr, ch 2, 1 tr under 2 ch, ch 2, 2 tr in next tr, 5 tr in next 5 tr, 2 tr in next tr, ch 3, 2 tr in last tr and ch, ch 4, turn.

Repeat from 2d row



CONTRAST.

BY E. L. K. W.

When one appears in our small town  
In model hat and dainty gown,  
The ladies all are wont to praise  
The stranger's dress and charming ways;

While each and all due homage pay,  
Full many an one, is heard to say,  
"Oh! she is lovely, she is sweet,  
Her style and manners are complete."

They praise her form and face, so fair,  
Her brilliant eyes and waving hair,  
Her voice, in song, pronounce "Di-

vine,"  
And, worshipping at this fair shrine,  
An older friend, by years long tried,  
Forgotten quite, must stand aside  
For one so lovely, and so sweet,  
Whose style and manners are complete.

A neighbor near, I have in mind—  
Consistent, helpful, true and kind—  
Whose faith and hope, dark clouds dispel,  
"A mother true in Israel."

Her mission reaches far and wide  
Where aught of ill, her friends betide,  
But is she lovely; is she sweet,  
With style and manners quite complete?

Where sorrow comes, she, too is there,  
The burdens of her friends to share,  
And many a humble home has blest,  
Relieving those by want oppressed,

The naked clothed, the hungry fed,  
And yet, of her, who ever said  
"Oh! she is lovely, she is sweet,  
Her style and manners, quite complete?"

Her years of usefulness, we trace,  
In lines that mark her dear old face,  
Though time has bleached her auburn hair,  
And she to others seems less fair,

Give me the friend, well tried and true,  
Nor change the old one for the new,  
For she is lovely, she is sweet,  
Her style and manners are complete.

THE ARCH OF THE FOOT.

Probably it has not occurred to mothers of girls who suffer from spinal weakness how much the arch of the foot and character of the shoes they wear have to do with spinal irritations. A little investigation of anatomy and physiology will demonstrate the truth of what I assert.

The instep or arch of the foot is made up of twelve bones. They are so arranged and connected by joints, muscles and nerves that they form an arch from the extremity of the heel-bone to the balls of the toes. The astragalus forms the keystone of this arch, and transmits the weights, jars, shocks, etc., which it receives, in one direction to the heel and in another direction to the balls of the toes.

By arrangement of the fibers and laminae in the interior of the bones the greater number of them in each bone follow the direction of the two pillars of the foot-arch, and thus give the greatest strength to the bones in the directions in which it is most needed. Any undue confinement of these bones will make trouble with every nerve of the body.

The spring in the arch of the foot is intended to remove from all the upper organs of the body shocks from concussion. A young girl skipping rope excessively on a hard pavement faints, suffers from nausea, and her spinal column throbs. The explanation is that her abuse of the sport rendered the foot-arch incapable of carrying away the severe shocks and these reacted on the nervous system.

At six years of age the little girl may have a simple exercise every morning. Stand erect on the bare feet every morning after leaving your bed and raise the body 20 times on the toes. The body must be erect, the shoulders easily squared, the hands and arms by the sides of the body, heels and foot-arch lifted fairly off the floor as high as they can be without producing a tendency to fall forward.

Descend slowly after each upward movement, and rise slowly again without jerks. At six years of age 20 movements of this kind each day, 365

days of the year, will be sufficient to give the arch new sustaining powers. At ten years of age the toe-raising movement may be increased to 50 uplifts each morning and at 15 and 16, to 100, or 150.

A further treatment of the arch of the foot which may be begun in early years is the hand massage. Bathe the feet in cold or tepid salt water, dry thoroughly, then apply olive oil and rub it in with the tips of the fingers until the skin is warmly soft and dry. This massage treatment may be taken two or three times a week where the arch shows a tendency to swell or be sore. The salt water purifies the pores of the skin and hardens the flesh. The olive oil will feed weak parts of the arch if the massage is thorough.

The last treatment for the arch is possibly the most painful for some young girls to consider. Hosiery in summer and winter should be of light weight and not in colors that perspiration will affect. Two sets of shoes, at least, should always be owned—a stout, broad-soled, free-action pair, for outdoor use, and a light, pliable pair for home or indoor use.

High heels, narrow toes, binding in-steps, cramping overlaps, in shoes, no matter how attractive an appearance they give to the foot, are deadly enemies of a girl's nerves and her spine. Dizziness, cramps, trembling limbs, impeded circulation of the blood, indigestion, chills, have been authoritatively traced to these causes, to say nothing of peevishness and bad temper.—Mother's Magazine.

SHORT CUTS TO HOUSEKEEPING.

(Cuts submitted to this department are not returned.—Ed.)

Rubbing the surface of a felt hat with fine sandpaper will remove every speck of dirt and dust and the hat will look like new.—M. A. P.

As soon as possible after a burn, apply a good coating of flour to the injured parts and cover with a woolen cloth. It will quickly remove fire and inflammation.—Mrs. G. K. H.

FASHIONS BY MAY MANTON.

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



- No. 7914—Girl's Russian dress, 10 to 14 years.
- No. 7992—Girl's surplice dress, 4 to 8 years.
- No. 8177—Girl's dress with vest, 10 to 14 years.
- No. 7885—Girl's one-piece dress, 8 to 12 years.
- No. 8011—Girl's dress, 8 to 14 years.

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



The Spirit of Service

WHEN the land is storm-swept, when trains are stalled and roads are blocked, the telephone trouble-hunter with snow shoes and climbers makes his lonely fight to keep the wire highways open.

These men can be trusted to face hardship and danger, because they realize that snow-bound farms, homes and cities must be kept in touch with the world.

This same spirit of service animates the whole Bell telephone system. The linemen show it when they carry the wires across mountains and wilderness. It is found in the girl at the switchboard who sticks to her post despite fire or flood. It inspires the leaders of the telephone

forces, who are finally responsible to the public for good service.

This spirit of service is found in the recent rearrangement of the telephone business to conform with present public policy, without recourse to courts.

The Bell System has grown to be one of the largest corporations in the country, in response to the telephone needs of the public, and must keep up with increasing demands.

However large it may become, this corporation will always be responsive to the needs of the people, because it is animated by the spirit of service. It has shown that men and women, co-operating for a great purpose, may be as good citizens collectively as individually.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY  
AND ASSOCIATED COMPANIES

One Policy One System Universal Service

**LIGHTNING RODS**  
**9c PER FOOT**

Best Quality Copper—Extra Heavy Cable  
System guaranteed satisfactory or your money back. Just write a postal for our Proposition and FREE Catalog which makes everything plain.

**The J. A. Scott Company**  
Dept. 3 Detroit, Mich.

**10-DAYS FREE!**

Best Vacuum Cleaner on the market. Double Suction, double power, Guaranteed 5-years. Sent to you Express Prepaid, **10 DAYS FREE TRIAL.** Best bargain ever offered in a first-class Vacuum Cleaner. Don't send us one cent. Write for Free Trial Offer. Agents wanted.

**WARNER VACUUM CLEANER CO.**  
DEPT. 55 MUNCIE, IND.

Install a Holland Furnace NOW!  
Pay for It Next Fall

We are the largest direct installers of furnaces in the world. We maintain a big force of furnace experts among our fifty branch offices and warehouses in the states of Ohio, Indiana, Illinois, Wisconsin and Michigan. The rush season for last year's installations is now past. But we want to keep our staff of experts busy. Consequently we will offer to install a Holland Warm Air Furnace now, or at your convenience, and we won't ask you for a cent until next fall. In the meantime you can enjoy all the warmth and comfort of the fuel saving—

Holland Warm Air Furnace  
"The Heart of the Home"

Has fewer joints, smaller joints, is simpler and easier to operate than any other make. It will burn any kind and all grades of fuel—hard coal, soft coal, slack or wood—without waste of gases, without internal explosions and without opening of joints. You can buy no cleaner Heating Plant than a Holland Furnace.



The Holland Furnace, size for size, will give more heat from fuel consumed than any other furnace on the market, because it has the grate surface, the radiation and the most perfect and natural way of burning fuel.

Sold under a Double Guarantee from factory direct to consumer.

Send for beautiful catalog. Get the details of this special offer.  
**HOLLAND FURNACE CO.**  
Holland, Mich.

Largest Direct Installers

of Furnaces in the World



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From  
CUTLERY



A sprinkle of Old Dutch Cleanser on a cloth and a few rubs on knife or fork works wonders.

The original brightness is quickly returned and easily retained.

Try it for removing sticky and unyielding substances.

Large Can 10¢

Keep a Can Handy

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WITH THE "PERFECT" BURNER  
Wonderful new invention—turns dim red flame into big brilliant, white, steady light. As good as gas or electricity. Works on any lamp. No smoke, no smell. Makes one lamp do work of three. Prevents eye strain. Saves oil. Fine for all night use. Guaranteed. Price 20¢, for No. 1 or No. 2 lamp, or No. 2 Cold Blast lantern, by mail prepaid. Agents Wanted. Write quick. Perfect Burner Co., 673 Spitzer Bldg., Toledo, O.

## SPECIAL TRIAL OFFER

A one cent post card will deliver—charges prepaid—To Try Before You Buy—in your own home one of our regular \$11.50 Combination Dust-Vac Vacuum Cleaners and Carpet Sweepers. If entirely satisfied, take orders from only two of your neighbors for \$9.00 each and keep yours FREE. Every machine guaranteed—delivered prepaid. You run no risk—send no money. Try Before You Buy. Agents wanted everywhere. Liberal commissions. THE LACE-OMETER CO., Adrian, Michigan.



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\$4.00 buys this high-grade, full sized, rust proof, galvanized, Kalamazoo Washer direct from our factory to you. No middlemen's profits. Automatically adjusts to large or small washing. Gets the dirt. Eliminates the washboard. Operates from natural standing position—Children operate easily. Write for booklet. THE KALAMAZOO MFG. CO., Dept. 143 Kalamazoo, Mich.

## This Elegant Vacuum Cleaner

Our new 1914 model Ball Bearing Venus Vacuum Cleaner solves the sweeping problem. Makes spring and fall house-cleaning unnecessary. Removes every particle of dust and dirt from floors and carpets. Beautiful mahogany finish. Bright steel trimmings. Rubber tired wheels and rubber guard rail prevents scratching furniture. Ball Bearings throughout make it noiseless and easy to run. Will last a lifetime. SEND NO MONEY—JUST YOUR NAME and we will deliver—charges prepaid—to try in your own home our Venus Vacuum Cleaner. If you like it get two neighbors to order a machine just like yours and the machine we have sent you is Yours Free. If you don't want to take orders we will quote our direct rock-bottom factory price. Remember you are not obligated to buy. Mail a postal today. Send No Money. We will ship your machine at once prepaid and give all particulars. You take no risk. Send postal today. R. E. Dodge & Company, 167 N. Michigan Blvd., Chicago, Ill.



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500 School Boys Wanted to sell Klem Shoe polish and outfits. Sell itself. Big money. Write quick. Particulars free. Nebraska Supply Co., Dept. A. B. 77, Belden, Neb.

## A Sponge Cake Recipe

Wet pan in cold water and drain.

5 eggs, yolks and whites beaten separately

1 1/2 cups of granulated sugar

Juice of one lemon, mixed with sugar and

yolk of eggs

1 teaspoon vanilla

1 1/2 cups sifted Aristos Flour

Beat whites of eggs until stiff and dry. Add to them one level teaspoon baking powder, fold whites of eggs in mixture. Bake in oven with low flame about 35 or 40 minutes. Let cool in pan upside down.

Bake your bread with Aristos Flour. It makes a loaf that excels in purity, lightness, and delicacy of flavor. It is the peerless flour for all home-baking. Order a sack from your grocer. See for yourself what Aristos will do.

Write for Aristos cook book. These excellent, practical recipes mailed you FREE. Address The Southwestern Milling Co., Kansas City, Mo.



## ARISTOS FLOUR

This Trade Mark

on Every Sack

## An Evening With Craftsmen.

By MAE Y. MAHAFFY.

A CRAFTSMEN'S party can be made a very enjoyable and amusing occasion, especially if the hostess is somewhat familiar with the various handicrafts. Since the party is in the nature of a progressive affair, requiring four at a table, this should be taken into account when the invitations are issued, multiples of four being necessary, and as many handicrafts arranged for as there are tables. The plan may be followed out for a large church social if desired, as well as for the smaller house parties. If a very large number are present the guests should only be permitted to work at one table instead of progressing, a new set of workers taking their places until all have had a turn.

The heavy brown paper sometimes used by butchers will be just the thing for the invitations, although if expense is no item brown picture mounts or art paper may be secured, or a special note paper is usually obtainable at first-class shops. If the brown paper is used, tear it into sheets about the size of note paper or correspondence cards on the edge of a table so it will have a rather ragged edge. For ornamentation use a simple, conventional border design, such as is often seen surrounding advertisements in magazines and papers. The design may be stenciled on if one is familiar with that art, or it may be stamped on the paper with impression or carbon paper, and the lines and spaces touched up with water color paints, a little box of child's paints being sufficient for this purpose. Green and gold will make a good combination for the coloring on brown paper, or if gold paint is not at hand use red water color with the green. The words may be printed or written, some unique phrasing being desirable. The following would answer in most cases, with slight changes:

"Come craftsmen! Come craftsmen! Come, craftsmen, great or small! We'll drop all cares, And show our wares In Mary Preston's Hall. March 18th, 1914. Eight o'clock."

The places at the tables should be found by numbers, a number at each place corresponding with those drawn promiscuously from a basket or tray upon arrival. These numbers will hint more of craftsmanship if they are rather large, cut from gold or colored paper, and mounted on stiff cardboard cut the shape of the figure, a bit of ribbon in the top to serve as a hanger, with pins provided for fastening to dress or coat. For the tables mount the numbers on small cards.

Fifteen or twenty minutes at each table will usually be ample time, with five minutes intermission for marking the work, placing it on a side table, and finding places again. The workers must all advance to the next table, so that all may have opportunity to try the various crafts shown, unless, as suggested above, there are altogether too many present. When all are done the hostess' assistants may serve as judges, deciding the best and the poorest work under each head, furnishing prizes, if desired. Or, the judges may be chosen at random from the guests, as, for instance, those having the three highest odd numbers, the three heaviest men in the room, the five tallest ladies, or some other similar method which will assure fairness.

The crafts represented may be chosen from a long list, the hostess deciding these according to the materials she is able to provide. At the embroidery table small squares of linen, needles, thimbles and scissors should be placed. On each piece of linen have a small design stamped,

the same on all, such as, a daisy, a leaf spray or small wreath. Or, a group of different fancy stitches may be suggested on a card, the stamping being eliminated. If the work will require it a stiletto should be placed with the other tools, and whatever floss is needed must, of course, be provided.

At the stencil table have four simple stencils, all alike, four pieces of crash or linen, blotters, water color or paints or stencil dyes, small dishes of water, brushes, and some waste or scraps for wiping brushes.

Any object of simple outlines, like a vase or pitcher, may serve as a model for the free-hand drawing table, where paper, pencils and erasers are furnished. If something of a comic nature is preferred, use a jumping jack or roly poly figure for a model.

Paper flowers may be made at another table, a sample being provided with the necessary paper, wire, scissors, glue, etc.

The sculptor's table may be represented by squares of white paper, broom straws, glue, scissors and pencils. A cast of some animal will serve as a model, or better still, the mere suggestion made as to the animal to be formed. This allows more originality in its formation, and usually results in highly ludicrous representations. However, by rolling or bending paper for bodies, heads, etc., and utilizing broom straws of varying lengths for legs and tails, it is possible to concoct some very striking specimens, pencils being brought into play to form eyes and other features.

Carving, too, may be made real amusing by providing large potatoes or turnips, knives and toothpicks with which to make a given object.

Metal workers will find small boards having the outline of some figure drawn thereon, hammers and boxes of tacks. They are expected to drive tacks into the boards along the outlines, evenness and regularity counting in the final summing up.

At the engineering table provide four sets of dominoes or children's blocks, with small boards, books or boxes upon which to erect a bridge, while the architectural group should have blue print paper, pencils and foot rules, and be told whether to design an apartment house, a bungalow, or a store building.

At the photographer's table provide plain mounts, scissors, paste, and an old magazine each. Give a subject, as, "Winter Sports," "In the Gloaming," "When Love is Young," etc. Each worker must then select from the magazine an illustration which fits the title, or combine bits from various illustrations, and paste them on the mount. The hostess may have the subject printed on the bottom of the mounts in advance if she cares to.

The dressmakers' table will hold materials for dolls, kimonas, scissors, thread, needles, and thimbles, and each worker must quickly cut and sew up a kimona. Hemming and finishing off are eliminated, cut and neatness of seams being the only points judged. Or, at this table pieces for a four-patch quilt may be substituted, with instructions to sew with the left hand, or with the right if any one happens to be left-handed.

The table for china painting should have four paper plates and a variety of transfer pictures which the workers will arrange to suit their fancy.

The tops of old kid gloves and scissors will furnish the leather workers with materials for making book marks or hat bands, the decorations being made entirely by cutting designs with the scissors.

This list of crafts may be drawn out almost indefinitely but those mentioned will be sufficiently suggestive for a majority of readers.



## Grange.

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

### THE SPRING CONFERENCES.

It was announced, a short time ago, that Granges of southern Michigan could not but be benefited if each sent its lecturer to one of three conferences to be held in March.

The first of these was the Country Life Conference at M. A. C. during Farmers' Week. It was felt that the discussion of the broad subjects presented there would be of inestimable value to lecturers who seek to direct their programs along lines of current rural interest. This proved to be the case but an unavoidable mixup in the program schedules made it impossible to even get the lecturers together for an explanation. Much as this was regretted, still, no lecturer present at any of Farmers' Week could well miss great profit. The discussions of rural credits and taxation were particularly opportune for Grange workers in connection with their program making. Moreover, it was a matter of congratulation to be present at a conference which resulted in the organization of a state Country Life Conference, a movement which the Grange has long anticipated.

The second of the March conferences occurred in connection with the eighth rural progress lecture at Western Normal, Kalamazoo. This annual event grows with its years in definiteness of purpose and in attendance of wide-awake country people. It may be classed as one of the "Big Meetings" which are making rural history in our state.

Two hours of the morning were devoted to an informal experience meeting in which each speaker described some effort which his rural organization had undertaken for the common good of its neighborhood. Time sufficed for but a few brief accounts: one Pomona is working for a country demonstrator and to secure closer union of home and school; one country newspaper asked all the Granges of the county to send reports, and now weekly prints a live Grange department; one church has conducted a lecture course and is promoting a community picnic in which all organizations of the place have a part; one Grange had had a part in organizing a co-operative association store, with plans for a breeders' association and other improvements to follow soon; State Leader Dr. Mumford told of the self-help which the Litchfield community is exerting through various forms, such as a co-operative creamery, a breeders' association, with prospect of a co-operative laundry and other improvements; and one man showed a survey map of a rural neighborhood which created intense interest and showed vast fields yet to explore and work.

The afternoon of this red-letter day was devoted to rural educational needs as portrayed by H. W. Foght, of the Bureau of Education, and Prof. W. H. French; and to "Leadership for Country Girls," by Miss Jessie Field, who is best known as school commissioner of Page county, Iowa. After a delightful reception, tendered by the students of the rural department of the Normal, Mr. Foght delivered his wonderfully graphic and impressive address upon Denmark's school system. All day and evening the throng paid the keenest attention and during the day Normal hall had left standing room only, the people having come from ten counties of Michigan, from Indiana, Chicago, New York and Washington, D. C. Throughout all there was felt a strong undercurrent of special interest in interrelationships among organizations, and in

financial co-operation as the foundation upon which higher forms of united effort must eventually rest. Probably the high-water mark of the day was touched by Miss Field's startlingly artless definition of leadership. She said, "Leadership is such a simple thing: it is just caring for people, I believe."

On March 25, at 10:30 a. m., occurred the Pontiac conference with the Oakland County Round-up. Master Ketcham and Past-master Hull were among the speakers.

JENNIE BUELL.

### GRANGE IS ACTIVE IN DEVELOPMENT OF MICHIGAN AGRICULTURE.

The Western Michigan Development Bureau publicity department gives the Grange due credit for its active part in the development of Michigan agriculture and especially that of western Michigan. Agricultural advancement in its last analysis is the raising of standards of the people on the farm. The Grange has, in some communities, been working on this problem with success for forty years.

The Grange is called the "greatest school out of school in Michigan." Through its well systematized monthly programs a lot of valuable information is given to the fifty thousand "students" who attend the meetings. Through the able leadership of the present state master, John C. Ketcham, and Miss Jennie Buell, the state lecturer, this sort of work is being carried on rapidly in the right direction.

Due to the influence the Granges have in their own communities the agricultural extension workers will use this organization to reach the man next to the ground, for these farm agents find the Grange a valuable means of getting their messages to the farmers. The Grange is one of the important disseminators of agricultural knowledge, and dissemination is one of the most important factors in education.

## Farmers' Clubs

### THE RURAL HELP PROBLEM.

(Continued from last week.)

Knowing these facts so well, the average farmer each year makes one or several trials of helpers. If he secures one that will stay throughout the full season and is even half-way satisfactory, he must consider himself fortunate. My observations confirm the fact that the dependable hired man these days is, as a rule, either the elderly man who is a stickler on preserving the "old way" of doing things and whose vitality and energy are already at a low ebb, or the young man who is about to rent a farm and become an employer in turn. But the usual hired men on the farm are those with absolutely no interest in the work they are doing, nor yet in the welfare of those whom they serve, who are trying to acquire a few dollars with the least possible expenditure of energy, who drive thirsty cattle away from the trough rather than pump water, who pretend the binder needs repairs as an excuse to lie down in its shade; the kind that accept every favor offered by the family as his due, and in turn demand still greater ones, that exhaust the horse loaned them, by hard driving, that fail to show up for their next week to help with the Sunday chores, that quite without warning in the midst of haying. In this class we find the "smart-aleck," the stupid, stubborn clout, the sot, the tramp—indeed, a choice variety to take into one's home to place before imitative children!

And what is the result? In far too many cases this can be answered by pointing out the one-time fine, but now neglected farm homes, whose owners have sought the city in the effort to get away from the crushing, disheartening labor problem. In my own immediate community I can point out half a dozen fine large farms that fall under this category. There are indeed families living on these acres, but not the most desirable, not the

kind that stand for progress, that are interested in the problem of rural betterment. Our rural communities are constant losers under present conditions.

(Continued next week.)

### CLUB DISCUSSIONS.

**Two Good Meetings.**—The February meeting of the Wise Farmers' Club was held with Mr. and Mrs. J. H. Martin, in the city of Clare, with a crowded house. After the opening exercises and a good dinner, the Club was called to order by the president. A temperance recitation was given by Mrs. Gibbs, which was fine. N. Geeck, Moses Johnson and J. H. Seeley were chosen judges for the debate. Resolved, that the farmer has more pleasure during the year than the merchant. Affirmative, two merchants, J. F. Fatman and J. H. Wilson; negative P. M. Loomis, a retired farmer, and T. A. Badgley, a farmer. Question was well argued and caused a lot of laughter. It was decided in the negative. M. T. Johnson then gave a good talk on the right way of living, which was well received. The March meeting was held at the home of W. R. Lansing. Over 100 were present. Club was called to order by Vice-president F. E. Wilt; song by the Club; prayer by chaplain; welcome address by W. Lansing; response by M. Burch. The president introduced Ex-representative E. W. Woodruff, who came to talk on good roads. He gave a good talk. W. J. Jennings said he opposed the road commissioners on the ground that the term of the commissioner is too long. M. Burch preferred to hold to the township system. Mr. J. Batch favored the good roads plan. The Club then passed strong resolutions in favor of local option and promised their aid to Clare county in their wet and dry fight. April meeting will be held with Mr. and Mrs. E. F. Wilt, of Herk.

**Discuss Hog Raising.**—Hamburg and Putnam Farmers' Club met with Mr. and Mrs. Henry F. Kece with a good attendance. President Frank McKinder called the meeting to order and appointed work and program committees, after which an excellent program was rendered. Myron W. Hendrick read a good paper on "The Hog as a Mortgage Lifter," the substance of which will be reported in a later issue. Several guests were present from other communities. Next meeting with Mr. and Mrs. David Van Horn on March 28.—Reporter.

**Pruning and Spraying of Fruit Trees.**—Peach Grove Farmers' Club met at the home of Mr. and Mrs. B. A. Robinette, Friday, March 20. In the afternoon Prof. White, of M. A. C., talked on the pruning of trees, after which we visited some orchards and he gave a demonstration of pruning. Thirty-six men and boys attended this meeting. In the evening Prof. White talked on "Insects, Diseases, and Sprays for Fruits." He said insects were of two classes, chewing and sucking. Te codling moth, potato beetle, etc., were of the chewing class and were killed by stomach poison, as arsenate of lead, paris green, or arsenate of soda, the first two being best and safest to use. The sucking insects were the aphids and scale, and were treated or killed by a contact poison, such as lime and sulphur or a tobacco solution. The diseases were of two or three classes, the fungi, bacteria and unknown. For the latter, little peach and peach yellows, there was no known remedy except to pull the tree and burn it. The fungi are represented by scab. The treatment, lime and sulphur, is a preventive and not a cure, as the spores are of a nature that covering the scab would not touch all of them and consequently did not kill them. The bacteria include twig blight and leaf blight. To treat, cut off affected wood and burn, the burning being as necessary as cutting out. After cutting a limb disinfect the knife before the next limb is cut off, and also put a disinfectant on the wound after cutting. A business meeting was held and a good literary program was rendered. To meet next month with Mr. Jas Kerr.—M. G. Finch, Cor. Sec.

**Look Backward and Forward.**—The Northeast Venice Farmers' Club, of Shiawassee county, met at the home of Mr. and Mrs. Arthur Shoch, March 12. The meeting was called to order by President Wm. Sherman. Song by the Club. Devotional exercises by Mr. James Lawcock, followed by a good program, which included a paper by Frank Long on "Local Option," another by Mr. James Lawcock on "Looking Backward," and one by Florence Nichols, "Looking Forward." Then we had a mock trial, after which Club adjourned for the next meeting at the home of Mr. and Mrs. Shipman in April.—Hazel Long, Cor. Sec.

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## Farm Commerce.

### A Michigan Co-operative Community.

THE village of Litchfield, in Hillsdale county, through its creamery and its shippers' association is a striking example of what may be done by and for the farmers through co-operative effort. First a word as to the creamery, which is one of the largest, and certainly the busiest plant of the kind in the state, with 425 patrons, and a butter output that is around 30,000 pounds per month. The record for December last was 31,616 pounds and patrons received \$9,925 cash that month. The creamery paid 3½c over Elgin prices last year and will probably pay 4c this year. Patrons received \$10,000 over Elgin last year. The plant is equipped with over \$6,000 worth of up-to-date machinery.

#### The Work Expands.

The Litchfield Shippers' Association, formed about a year ago, is an outgrowth of the creamery, and while the organizations are entirely distinct one manager and one office suffices for both. The officers of the shippers are: President, Geo. Hutchins; secretary and treasurer, J. D. Hawkes; manager, W. E. Sheldon; directors, Clair J. Stoddard, Wm. S. Adams and John H. Randall. So far the bulk of the business has been the shipment of live stock to the Buffalo market, the association doing a \$65,000 business in the first 10 months, and the business is growing. During last December the live stock shipments reached 124,655 pounds, for which patrons received \$8,106.95. Adding this sum to creamery payments for that month and we have the total cash sum of \$18,031.95 paid out to the farmers of Litchfield and vicinity for the month.

During last November the association shipped 71,570 pounds of hogs, 11,600 pounds cattle, 5,630 pounds of calves, and 13,230 pounds of sheep and lambs. The hogs were handled at an average of 76c per cwt., which includes shrinkage and total cost of shipment.

#### Successfully Ships Live Stock.

In the past 10 months the "Co-ops," as they are known locally, have shipped 3,795 head of live stock, 500 pounds wool, 6,035 pounds hay and 1,059 pounds straw, with total cash receipts of \$65,478.76.

A bunch of 26 steers belonging to Geo. Hutchins brought net returns of \$2,635.78. A bunch of 46 Jersey Red hogs brought the owner, Irving Chamberlain, net returns of \$1,110.76. The home weight of the hogs was 12,980 pounds; Buffalo weight 12,580; shrinkage 400 pounds. The expense per cwt. was as follows: Freight, 17c; commission and insurance, 6c; manager, 5c; contingent fund, 3c; feed and yardage, 4½c, making a total cost of 35½c. The selling price was \$9.20 per cwt; net home price \$8.55.

The association has a shipping yard, track scales and scale house and shipments are usually made Wednesdays and Saturdays, for Friday and Monday markets in East Buffalo. Organization is under the state laws with shares at \$10 each, one-quarter paid-up, and no member may hold more than 10 shares. It is not necessary to be a member in order to ship through the association, in fact, outside business is welcome, for the bigger the business done the greater the prestige and the more favorable the treatment at the hands of buyers in the market. Stock that is being shipped is carefully marked and graded at this end for identification. Shippers pay five per cent for handling, three per cent to the manager for his services and two per cent goes into

the sinking fund. This sinking fund is drawn on to reimburse shippers in the case of unexpected losses, such as losses in transit.

#### Some of the Benefits.

Now for a word as to the benefits resulting from this co-operative shipping plan. It eliminates one middleman, the stock buyer, who scours the country paying fancy prices here and there perhaps to stockmen of reputation, but making up his losses on common and rough stuff, often getting the latter for a song. Shippers are now partners in the deal and know the ins and outs. There are no secrets. The farmer gets just what his stuff brings in the market and returns from his rough stuff, such as the average stock buyer would want thrown in, are surprising. A community is developed, but best of all, a co-operative spirit, a habit of working together.

#### Unlimited Possibilities.

It is seen that through unity better shipping facilities are gained and more consideration at the receiving end. The possibilities are almost limitless.

## Grape Growers Forced to Organize

RECENTLY representatives from a number of the important grape growing sections of the country met at St. Joseph, Michigan, and organized what is considered the largest grape growers' organization in America.

The perishableness of the grape crop is forcing the growers to co-operate in its marketing. Under the present system the growers and local organizations, as well as the buyers, all try to get the crop to the largest markets at the same time, with the result that many of the smaller markets are overlooked while the big places are flooded. In seasons of good crops such conditions force prices to a point where the returns do not cover the actual expenses of production and marketing.

Among other worthy activities it is the purpose of the new organization to better direct the marketing of the crop from the various important sections of the country. This it will be able to do by virtue of the carefully gathered information as to the amount of grapes that will likely be produced in the several districts, by knowing where the shipments of the different localities are to be made and by directing cars away from glutted markets and toward those needing the consignments. Other functions of the new organization are enumerated in the agreement which follows:

#### Agreement.

Desiring to secure better conditions in connection with the growing and marketing of American grapes, the representatives of grape associations, in convention assembled in the city of St. Joseph, Michigan, this 28th day of February, 1914, hereby subscribe to the following agreement of organization, subject to the ratification of our respective associations:

#### Name.

This organization shall be known as the American Grape Growers' League, incorporated under the laws of the state of Michigan.

#### Members.

Membership shall be confined to grape associations or companies that are engaged in the growing and marketing of American grapes.

#### Officers.

Each association or company becoming a member of this league shall

be entitled to one member on board of directors. Said board of directors shall have entire charge of the business of the league. Each director shall in all matters cast vote for each 100 acres of grapes major fraction thereof sold by his organization during the previous season. The directors shall elect from their number such officers as they may deem necessary.

#### Financing.

Each association or company in league shall pay such assessments to meet the expenses of the league. The assessments shall be fixed by the board of directors. Provided, that all such assessments shall be based on the tonnage of grapes sold by each association company during the previous season. Said assessments to be paid on the fifteenth day of each month for the previous month's business. And provided further, that for the first year each association or company shall contribute into the league by June 1, 1914, a sum as the board of directors determine, based on the tonnage of the season of 1913.

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these articles of agreement may be made by a two-thirds vote at any regular meeting or at any special meeting, when such intended change is included in the call for such special meeting.

#### IMPROVING THE PARCEL POST SERVICE.

Those who are using, or expect to use, the parcel post system for the distribution of farm produce, will be pleased at the announcement that the post office department will hereafter permit the shipment of butter, eggs, fruit, berries, vegetables, dressed poultry, meats, and other articles in parcels weighing 20 and up to 50 pounds in the first and second zones, when packed in boxes or crates similar to those used when shipping by express.

One of the expensive items in the use of the parcel post system thus far has been the packing and the package. All matter has had to be so packed that it would stand treatment received when handled in sacks. This has necessitated strong packages and unusual care in packing, for not only must the package be guarded against breakage but if it contains matter which, if set free, would injure other mail matter in the sacks then the parcel must be so packed that the liquid, or grease, or whatever it may be, will be absorbed should the container become broken. So the carrying of the parcels in the mail sacks has been the great obstacle in the way of improving the system. That one practice has added much to the cost of distributing by parcel post.

But the order of Postmaster General Burleson was issued to correct this fault. The large packages will now be carried as parcels are carried by the express companies. Far less expensive containers will meet all demands made upon them. It will be quite easy to prepare eggs for shipment under such conditions as it now is to get them ready for delivery to the village grocery.

It is not probable that a more important move could have been made by the government for fostering direct dealing between producer and consumer. With the impediment of expensive packages and packing removed, the farmer will find it convenient and economical to ship his produce from his front door to his customer in the city, and the consumer will be delighted to have produce delivered at reasonable prices and but a few hours from the soil. Both of these reasons will in all probability encourage all classes to a wider use of the parcel post for distributing the necessities of life.

#### Crop and Market Notes.

##### Michigan.

**Shiawassee Co.**—Snow rapidly disappearing and frost leaving ground. Roads getting heavy for hauling loads. Farmers holding potatoes; are now marketing for 45c per bu. Many farmers are disappointed and will cut down acreage this season. Good many farmers are compelled to buy hay on account of the short crop last season. A large amount of commercial fertilizers being purchased and used in this locality. Beans are starting to market. A few farms changing hands for \$65@90 per acre. Barn building begun and several new buildings will be erected this spring. Wheat 91c; cloverseed \$7.50; beans \$1.60; oats 36c; potatoes 45c; rye 58c; eggs 20c.

**Livingston Co.**—The weather has been all that could be desired so far this month, and it looks as if spring would soon be here. Wheat and clover have apparently stood the winter very well. There is not much stock being marketed, and but very little grain, except beans, which seem to be marketed quite freely at about \$1.65 per bushel. Some hay is also being marketed at about \$10 per ton. Several sales have been held, a notable feature of which is the high prices paid for grade cows, prices ranging from \$80@125 per head, while thoroughbreds sometimes reach into four figures.

**Kalkaska Co.**—We are having fine weather with good sleighing. Fields are covered with about eight inches

of snow. Farmers are getting tools and seed ready for spring work and planting. Produce is about all marketed. There is considerable silage for feeding stock, and nearly all the grains raised are fed on the farm. Cottonseed meal used by dairymen in limited amounts. There seems to be enough farm hands to go round; the wages are about \$26 per month. Potatoes are being marketed. Hay \$16; oats 50c; corn 60c; potatoes 40c; butter-fat 30c; eggs 25c; all stock looking well, and there is no hog cholera.

**Gratiot Co.**—March came in cold but the weather has been mild ever since. The snow is gone except in the drifts, and many of the roads are dry. There is but little frost in the ground, and tile drains are active, and there is every indication that spring is here. Those having maple groves are already boiling sap. Wheat came through the winter in fine condition. There is not so much corn being marketed as last month, and it is being shipped on the cob at 28c for 35 lbs; oats 37c; those holding their beans are selling at \$1.60@1.85; hogs 8c; hay \$7@12. Cows and young cattle are very high at sales; cows \$60 @100. Most farmers have plenty of feed.

##### New York.

**Chautauqua Co.**—We are having excellent weather, with fine, clear days and cool, frosty nights. Sleighing is fine, the best we have had this winter. There is nothing doing in vineyards yet, as there is too much snow. Ice is all cut, and most farmers are making maple syrup and sugar, and some are trimming apple trees. The meadows and winter grains ought to stand the winter well with so much snow. Hens are not very ambitious to lay eggs, which are now 30c. Most of the large poultry plants around here are under way hatching eggs. Butter 33c; apples \$1.50 per bu; potatoes 80c; veal 14c; beef 8@9c per lb; horses \$100@300; chickens, live 12c. Farmers have not much to sell at present.

##### Pennsylvania.

**Chester Co.**—The fields are still covered with snow, and there are no prospects for an early start with the spring work. We have been having real winter weather for the past four weeks, which has caused a decrease in the milk production, and a considerable increase in the amount of feed consumed. Hay is the principal product being marketed, the best quality selling for \$15. Corn is very scarce. The egg production has been fair all winter, the price ranging from 30@35c per dozen.

##### Florida.

**Volusia Co.**—Cool weather with slight frosts visited this section during the first few days of March, though the citrus crop seems to have escaped with but little damage. Vegetables, such as tomatoes and beans were damaged considerably. Weather is favorable for potatoes, which will soon be ready for the market. The orange trees are either in bud or in full bloom, according to distance south, and there is every prospect for an exceptionally large crop this year. There are quite a number of chicken farms here, and the hens are laying fairly well. Eggs are worth 40@60c per dozen. The large hotels along the coast have an effect on the price. There are no meadows or pastures here. Italian rye seems to be the best grass. There is no dairying carried on and no cattle whatever, everything being shipped in.

##### Ohio.

**Hardin Co.**—Fine spring weather seems to be near at hand, although the frost is not all out of the ground, and there is still plenty of snow banked up around the fences. The wheat fields look somewhat bare and dead on top, but possibly when the weather becomes warm they will show signs of life. Roads are in fair condition. The hay market is slow, being \$6@9 per ton; oats 38c; corn 80c per cwt; hogs, live \$8.25; eggs 22c; butter 24c.

**Fairfield Co.**—The month of March was cold until the tenth, when we had a light fall of snow. The wheat is thought to be injured in fields where the wind blew the snow off exposing it to the severe weather. Cattle and hogs are scarce. Milch cows are high, \$50@90. Farmers will have enough feed for their own use, but none to sell. Hogs \$8.50; fed cattle \$8.50; corn 65c; wheat 94c; hay \$13; chickens 12c; eggs 27c; butter 25@27c; potatoes 85c@1 cloverseed \$9; timothy seed \$2.50@3. Roads are bad, and some are still blocked with snowdrifts.

##### Missouri.

**Phelps Co.**—Spring opened up in this section of the state last week, and farmers are busy plowing and preparing their ground for oats, gardens are being planted, and it is expected that there will be a large acreage of oats sowed this spring. They are planning for a large corn crop. Everything is opening and it (Continued on page 377).

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## DAIRY FARMERS WANTED

THE Southeastern States need more milk, cream and butter producers. Each year \$32,500,000 worth of Northern dairy products are shipped into the South. You can make money in this many crop, all the year, grazing country. Ample rain, (irrigation unnecessary).

**GOOD LAND \$15 AN ACRE UP** produces heavy yields of alfalfa, clover, corn, wheat, fruit and truck. Profitable local markets greater than supply. Alfalfa booklet, the "Southern Field" magazine and facts about dairying along the Southern Ry., M. & O. R. R. and Ga. So. & Fla. Ry., sent on request.

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**SUNNY TENNESSEE** farms best and cheapest, improved, healthfully located. Markets convenient. Grow cotton, corn, wheat and grasses. 183 acres, \$1500; terms. Free list. Jenkins & Son, Huntingdon, Tenn.

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Near Saginaw and Bay City, in Gladwin and Midland Counties. Low prices: Easy terms: Clear title. Write for maps and particulars. STAFFELD BROTHERS, 15 Merrill Building, Saginaw, (W. S.), Michigan.

**ALBERTA FARM** 160 acre farm, also one of 320 acres for sale or rent. 100 acres improved on each farm, 1 mile from railroad, near good town. Soil A.1. Will give right man a good deal. C. G. STEAD, 405 Whitney Bldg., Detroit, Mich. Phone 3173.

### FARMS FOR SALE IN NEW YORK STATE

For information concerning the great agricultural advantages in New York State, and description of 1200 cheap dairy, fruit, and general farms. Address,

CALVIN J. HUSON, Commissioner of Agriculture, Albany, N. Y.

### Greatest Bargain Offered.

200 acres fine dark loam, 100 acres improved, 2 houses, barn 40x80, stable 20x60, sheep shed 20x55, flowing well, hog houses, tool sheds, etc. 2 telephone lines, R.F.D. 4 miles from Gladwin. \$10,000, 1/4 cash. Immediate possession. U. G. Reynolds, Owner, Gladwin, Mich.

**NEW YORK FARMS** Are the best anywhere, and lowest priced. We show and sell them every day, winter and summer. Ask for list. McBURNEY & CO., Fisher Bldg., Chicago, Ill.

**FOR SALE**—Hardwood cut-over lands surrounding Rainy Lake, Presque Isle County. Rich clay loam, easily cleaned, \$10 to \$12.50 per acre. \$1 an acre cash, \$1 an acre yearly until paid for at 6%. Also partly improved farms and 1200 acre ranch with 100 acres cleared at \$10 an acre. JOHN G. KRAUTH, Millersburg, Michigan.

**FOR SALE**—160 Acres of the finest fruit and farming land in Michigan, splendidly located, overlooking Little Traverse Bay, 5 miles from Petoskey and 3 miles from Harbor Springs; good macadam road direct to the land; 40 acres can be cleared ready for crops and planting trees this spring. About \$1,500 worth of standing timber on the land; finest markets in Michigan for all fruits, vegetables, butter, eggs and poultry. Can be bought for \$5,000 on reasonable terms. F. E. TURRELL, 50 Connecticut Ave., Detroit, Mich.

## McClure-Stevens Land Co.

Successors to A. J. Stevens & Co. Established 1883. Farm, Fruit and Stock Lands. We own 18,000 acres of choice unimproved land in Gladwin and Clare counties. Sold on easy payments. Interest 6 percent. Write for information.

Gladwin, Michigan.

247 Acres, \$4500

19 Cows, 2 Horses, Machinery.

Spring's first great farm bargain: completely stocked and equipped money-making New York State farm with 19 cows, bull, 2 heifers, 2 horses, all wagons, valuable machinery, tools, splendid buildings, etc., going at less than \$20 an acre; well located, convenient close; big opportunity, only part cash required; details, page 1, "Strout's" Spring List of Farm Bargains, just out, copy free, E. A. STROUT, FARM AGENCY, Station 101, Union Bank Bldg., Pittsburg, Pa.

### 100 GLADWIN CO. FARMS

60 A. clay loam, 100 A. cleared, good house and barn, stable, tool house, hen house, well fenced, \$40 per acre, 1/4 cash, balance 6% Int.  
80 A. fine dark loam, 30 A. cleared, no bldg's., only 2 miles from Beaverton. \$4000, 1/4 cash.  
40 A. improved, clay loam, small house & barn, \$1500.  
80 A. half improved, good soil, small house & barn, \$2500.  
440 A. stock ranch, fenced & watered, \$7000.  
640 A. stock ranch, fenced & watered, \$1700 per acre.  
400 A. stock farm, 2 sets bldg., \$20,000.  
I have many good farms in Gladwin Co., on easy terms. New list ready. U. G. REYNOLDS, Gladwin, Mich.

**FOR SALE**—100 Acre hay farm, 80 acres muck, 20 acres sand. Six room house, horse stable and large hay barn, one pair horses, 4 cows, about 45 tons of No. 1 timothy hay, and all farm implements, all for \$5,000, two thousand down, balance to suit buyer. If you want a hay farm this one is a money maker. Good road, close to car line, only six miles from Pt. Huron, one half mile from Lake Huron. If this one don't suit I have a hundred others. L. A. MCCARTHER, Port Huron, Michigan



# Markets.

## GRAINS AND SEEDS.

March 24, 1914.

**Wheat.**—Although the foreign situation seems to be more bearish and the condition of the growing crop in this country could not be greatly improved upon, prices have made substantial advances since a week ago. The strength largely lies in the influence of corn, although selling by farmers has not been so liberal and in the northwest where the elevators a year ago were increasing their stocks, the past week saw a decrease and in the country the visible supply was reduced 1,657,000 bushels. At this date in 1913 the price for No. 2 red wheat on the local market was \$1.07 per bu. Quotations for the past week are:

|                 | No. 2 | No. 1  |       |
|-----------------|-------|--------|-------|
|                 | Red.  | White. | May.  |
| Wednesday ..... | .98   | .97½   | 1.00  |
| Thursday .....  | .98½  | .98    | 1.00½ |
| Friday .....    | .98½  | .98    | 1.00½ |
| Saturday .....  | .98½  | .98    | 1.00½ |
| Monday .....    | .98½  | .98½   | 1.00½ |
| Tuesday .....   | .98½  | .98½   | 1.00½ |

Chicago, (March 24).—No. 2 red wheat 95½¢; May 93½¢; July 89¢.

**Corn.**—The foundation to the week's strength in the grain markets was corn. While some claim that the strong tone of this grain was due to the covering of shorts, there appears to be truth in the contention of an increased demand from the southwest districts. The prolonged cold weather requires feeders to use increased quantities to carry stock, and this extra demand seems to be the legitimate reason for the upward trend. Enormous buying from that section of the country has characterized the week and the demand does not yet appear satisfied. One year ago the price for No. 3 corn was 52¢ per bu. Quotations for the past week are:

|                 | No. 2  | No. 2   |  |
|-----------------|--------|---------|--|
|                 | Mixed. | Yellow. |  |
| Wednesday ..... | .65    | .67     |  |
| Thursday .....  | .66    | .68     |  |
| Friday .....    | .66    | .68     |  |
| Saturday .....  | .66    | .68     |  |
| Monday .....    | .67    | .69     |  |
| Tuesday .....   | .67½   | .69½    |  |

Chicago, (March 24).—May corn 65½¢; July 69½¢; Sept., 69¢.

**Oats.**—A full cent has been added to oat values. Nothing of importance has occurred to the deal itself and the reason for the advance seems to be in the influence of corn upon the trade. The visible supply shows a decrease. One year ago the price for standard oats was 35½¢ per bu. Quotations for the week are:

|                 | No. 3     |        |
|-----------------|-----------|--------|
|                 | Standard. | White. |
| Wednesday ..... | .42       | .41½   |
| Thursday .....  | .42       | .41½   |
| Friday .....    | .42       | .41½   |
| Saturday .....  | .42       | .41½   |
| Monday .....    | .42½      | .42    |
| Tuesday .....   | .42½      | .42    |

Chicago, (March 24).—May oats 40¢; July 40½¢; Sept., 38½¢.

**Beans.**—A better demand exists and prices have gone up two cents. The local board of trade quotes immediate and prompt shipments at \$1.82; May \$1.87 per bushel. Chicago reports a steady trade. Pea beans, hand-picked, choice, are steady at \$2; common \$1.75@1.85; red kidneys, choice \$2.80.

**Rye.**—This cereal is higher. No. 2 is quoted at 68½¢ per bu.

**Barley.**—At Chicago barley rules easy and is quoted at 49¢66¢ per bu., while Milwaukee quotes the malting grades at from 52¢66¢.

**Timothy.**—Prime spot is selling at \$2.35 per bu.

**Alfalfa.**—Steady at \$7.25 per bu.

**Cloverseed.**—Values are lower again. Prime spot \$8.50 per bu; alsike at \$10.50; Toledo prime cash is quoted at \$8.50 and prime alsike at \$10.50.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent \$5.30; second \$5; straight \$4.75; spring patent \$5.10; rye flour \$4.40 per bbl.

**Feed.**—In 100-lb. sacks, jobbing lots are: Bran \$28.50; coarse middlings \$27.50; fine middlings \$29; cracked corn \$29; coarse corn meal \$28; corn and oat chop \$25 per ton.

**Hay.**—Prices show a decline. Carlots on track at Detroit are: No. 1 timothy \$14.50@15; standard \$13.50@15; No. 2 \$12@13; light mixed, \$13.50@14; No. 1 mixed \$12.50@13; No. 1 clover \$12@12.50.

New York.—Market is some easier. No. 1 timothy \$20.50@21.50; No. 3 standard \$15@20; light clover, mixed \$18@19; clover \$17@18 per ton for the large bales.

Chicago.—Prices here rule higher. 58¢.

Choice timothy is quoted at \$17@17.50 per ton; No. 1, \$15@15.50; No. 2, \$12@13.

**Straw.**—Steady. Rye \$7.50@8; oat straw \$7@7.50; wheat straw \$7@7.50 per ton.

New York.—Rye straw \$17@18; oat straw \$11 per ton.

Chicago.—Rye straw is quotable here at \$7.50@8; oat straw \$6.50@7; wheat straw \$6.50@7 per ton.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—Market firm with prices unchanged. Extra creamery 26¢ per lb; firsts 25¢; dairy 17¢; packing stock 14¢.

Chicago.—Market in fair condition. Prices firm at ½¢ lower than last week. Extra creamery 26¢; extra firsts 25@25½¢; firsts 24¢; seconds 22¢; ladles 20¢; packing stock 16¢.

Elgin.—Market quiet at 26½¢ per lb., which is ½¢ higher than last week.

New York.—An advance of ½¢ brought relief to the worst butter market known for some time; conditions are still somewhat unsettled. Creamery extras 26½¢@27¢; firsts 24½¢@26¢; seconds 23@24¢; packing stock 15½¢@16¢ per lb.

**Eggs.**—Liberal receipts make market unsteady. Prices thus far are unchanged. Current receipts of fresh stock quoted at 18¢ per dozen.

Chicago.—Due to liberal receipts the market is easy and quotations show a decline of about 2¢. The trade is good and the large quantities coming in are being moved easily. Miscellaneous lots, cases included 17@18½¢; ordinary firsts 17½@17¾¢; firsts 18½@18¾¢; seconds 16@16½¢.

New York.—The market is in fairly good shape, the receipts not equaling the demand. Prices, naturally, are considerably lower than last week. Fresh gathered extras 23@24¢; extra firsts 23¢; firsts 22½¢.

**Poultry.**—Local prices are unchanged on account of light receipts. Live—Springs 18¢; hens 18¢; turkeys 18@19¢; geese 15@16¢; ducks 17@18¢.

Chicago.—The market is in healthy condition and prices for both fowls and springs are higher than last week. The trade is mostly local. Quotations on live are: Turkeys, good weight, 15¢; others 12¢; fowls, choice 16½¢; spring chickens 17¢; geese 12¢; ducks 16@17¢ per lb.

## FRUITS AND VEGETABLES.

**Apples.**—Market remains firm but prices going slightly higher. No. 1, \$5.50@6.50; No. 2, \$4@4.50 per bbl. In Chicago the market is somewhat quiet but steady. Goods that are of good quality are held firm and are moving steadily. Some discolored stock is selling rather slow. Barrel stock is quoted: No. 1 Jonathans \$6@7; Spies \$5.50@6; Baldwins are at \$5.50@6. In New York the quality received is not the best and therefore prices are lower. Baldwins sell for \$5.25@5.50.

**Potatoes.**—Market is quiet, with prices 2¢ lower than last week. Quotations: In bulk 55@58¢ per bu; in sacks 60@63¢ per bu. for carlots. At Chicago the market is steady but quiet. Receipts are ample. Prices are unchanged. Good Michigan white stock is quoted at 58@63¢ per bu. In New York good Michigan stock is selling for 70@75¢ per bushel in carlots. The market there and in other eastern cities is weak, although gradual lessening receipts allow receivers to reduce accumulations.

**Cabbage.**—Steady with prices unchanged. Good quality is quoted at \$3@3.25 per bbl. At Chicago the market is firm as the supply on hand is not large. Prices are higher. Holland or Red \$1.50@1.70 per bbl., \$20@22.50 per ton, according to quality. In New York good stock of Danish or Holland is steady and sells at \$26@29 per ton in the yards, while in Cincinnati New York Danish sells for \$30 per ton.

**Onions.**—The local market is steady with prices unchanged. Quoted at \$3.25@3.50 per sack for yellow and \$1.75 per crate for Spanish. At Chicago the market is good and the prices on fancy stock holding up well.

## GRAND RAPIDS.

Eggs have dropped to 16 and 17¢ in this market, while dairy butter is off to 18¢. It is not expected that eggs will go much lower on account of the demand for storage. The potato market is not showing much change, the buying price at outside points being around 45@50¢, while in this market tubers are quoted at 55@60¢. Beans are worth \$1.55@1.60. In live poultry, chickens are quoted at 14@15¢; ducks 16@17¢. Some fancy chickens are bringing 15½¢. Poultry offerings are light and the market is firm. Dressed hogs are 10½@11¢. Grain prices as follows: Wheat 91¢; oats 39¢; corn 65¢; rye 58¢.

## DETROIT EASTERN MARKET.

Considering the season the market Tuesday morning was of fair size and the tone of the trading firm. Cabbage offerings are fewer, with the price for average grade at about \$1 per bu. Potatoes generally sold at 75¢ per bu; apples have advanced to \$2.25 for the best; pork is held at 11¢; eggs 22@25¢ per dozen; butter 32¢ per lb; onions \$2 per bu. for dry and 25¢ per three bunches for green; lettuce 75¢ per bu. Loose hay is slow at \$13@17 per ton.

## THE LIVE STOCK MARKETS.

### Buffalo.

March 23, 1914.

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

Receipts of stock here today as follows: Cattle 130 cars; hogs 80 d. d.; sheep and lambs 65 d. d.; calves 850 head.

With 130 cars of cattle on our market here today, and 16,000 reported in Chicago, our market was only from strong to 10¢ per cwt, higher than last week, quality of the cattle considered. At the close about everything was sold, but the medium-weight cattle was dull and hard sale from start to finish, that is, cattle weighing from 1,175 to 1,250 lbs., as our home butchers claimed they were too heavy, and the eastern men claimed they were too light for their business. However, a good clearance was made at the finish and the market closed with prospects about steady.

Receipts of hogs today were fairly liberal, about 80 double-decks on sale. Opening trade was slow and 5@10¢ lower, with all grades selling at \$9.30 generally. Roughs \$8.25@8.50; stags from \$7@7.50. Trade fairly active after the opening and a good clearance was made, with prospects fair for the balance of the week.

The market was active today on both lambs and sheep. Prices 10¢ higher than the close of last week. Choice handy lambs selling mostly at \$8.35. Heavy lambs selling from \$7.50@7.75. We look for slow trade on heavy and coarse lambs all the season. Look for steady to shade lower prices on lambs last of week.

We quote: Choice lambs \$8.25@8.35; heavy do, \$7.50@7.75; cull to fair do, \$6.50@8; yearlings \$7@7.25; bucks \$4.50@5; handy ewes \$5.75@6; heavy do, \$5.50@5.75; wethers \$6.15@6.40; cull sheep \$4@5.50; veals, choice to extra \$10.75@11; fair to good \$8.50@10.50; heavy calves \$5.50@8.

### Chicago.

March 23, 1914.

Cattle. Hogs. Sheep.  
Receipts today..14,500 40,000 23,000  
Same day 1913..17,169 33,478 19,557  
Last week .....36,573 136,480 85,536  
Same w'k 1913..40,527 116,725 76,535

After last week's meager supplies of cattle, today's small offerings caused sellers to take a firm attitude, and higher prices were asked. Early activity centered largely in butcher stock, stockers and feeders, with sales 10@15¢ higher. The demand for beef steers was later in getting started, as buyers contested the payment of higher prices, but dispatches were sent out by commission houses to the country calling prices a dime or more higher. Hogs were steady to a trifle lower, with sales at \$8.45@8.85. Hogs received last week averaged 236 lbs., comparing with 232 lbs. a week earlier. Sheep and lambs are firmer, with prime lambs selling at \$7.90, an advance of 5¢.

Cattle have been doing poorly for their owners recently, that is as compared with a few weeks ago, but they are still very much higher than in former years, last year excepted. Even then the comparison is in favor of the present time, for the best beefs failed to sell above \$9.20 a year ago. Week before last there was a bad break in prices for nearly all descriptions of cattle as a result of much increased receipts, and it extended into last week, although the Monday receipts were only 18,322 head. On that day the best steers brought \$9.35, comparing with \$9.75 at the high time of the year, a few weeks ago, but prices rallied by Wednesday on a meager run, with choice to fancy heavy steers going at \$9.15@9.55. The bulk of the steers received during the week brought \$7.75@9.10, with a very fair showing on Wednesday of cattle at \$9.15@9.45. The commoner class of light-weight, warmed-up steers brought \$7@7.85, while medium-grade steers sold at \$7.90@8.35 and good fat, heavy lots at \$8.40@9.10. Good to prime yearlings found buyers at \$8.35@9.15, while butchering cows and heifers brought \$5.15@8.25, a few head of fancy heifers bringing \$8.50@8.75. Cutters sold at \$4.55@5.10, canners at \$3.50@4.50 and bulls at \$5.25@7.65 as an extreme range. There was a fairly large stocker and feeder traffic, with sales at \$5.75@

8.10 for inferior to prime cattle, and not much business was transacted below \$7. A sale was made of a carload of 1100-lb. feeders at \$8.10, and prime 746-lb. yearling stock steers sold at \$8. Good to choice heavy stock calves brought \$7.25@8, and sales were made of stock and feeding cows and heifers at \$5.15@7.10. There was a sensational smash-up in calf prices, with larger offerings, the heavy lots going at \$5@7.50 and the light veal calves at \$8@8.50. Milkers and springers sold sparingly at \$55@85 each.

Hogs have fluctuated back and forth since the \$9 mark was reached recently, rallying after every break in prices. The late rise in prices stimulated the receipts materially, and 50,334 hogs showed up on Monday of last week, starting a downward movement in prices, but this checked the receipts sufficiently to cause a rally in the market. Eastern shippers were usually good buyers of the better class of hogs, creating competition among buyers and assisting in strengthening prices. The hogs marketed averaged extremely well in quality, and while choice butcher hogs of strong weight topped the market daily, prime lots averaging around 185 to 195 lbs. sold close to the top and sometimes at the very top prices. The average weight of the hogs received has been gaining for a long time, as is usual every year. A year ago the average was 238 lbs., two years ago 217 lbs., three years ago 242 lbs. and four years ago 219 lbs. Prices are unusually high for all kinds of hogs and promise to remain so. At the highest time last week prime hogs of rather light weight brought \$8.92½, and closing prices for hogs Saturday were \$8.50@8.87½, comparing with \$8.55@9 a week earlier. Pigs closed at \$7@8.65.

Sheep and lambs were marketed last week with less freedom than a week earlier, with so small a percentage of sheep that they developed more firmness at times than lambs. Foreign orders called for heavy lambs, a class of live stock not eagerly sought after by local killers, while the country demand for feeders continued strong at relatively high prices, as offerings were not always especially plentiful. Good shearing feeding lambs were in good demand and sold high, but some very inferior half-starved 52-lb. lambs went for \$5.25. Limited numbers of clipped lambs have met with neglect, it being too early for such stock, and they sold \$1@1.15 below woolled lots. The week closed with strong prices, lambs going at \$6.50@7.85, feeding lambs at \$6@7.20, yearlings at \$6.25@6.90, wethers at \$5.75@6.40, ewes at \$3.50@6.10 and bucks at \$4.75@5.25.

Horses continued to be marketed in increasing numbers last week, but a much better general demand made firmer prices, and some sales showed an advance of about \$10 per head. Drivers sold at \$75@125 mainly, with lively horses bringing \$310@325 per pair, while team horses went at \$165@230. Small chunks sold at \$185@235, and there was a lively trade in farm horses, geldings bringing \$280@400 per pair and mares \$325@575 per pair. Choice pairs of heavy drafters found an outlet at \$575@650, with not many prime enough to sell up to \$600. Drafters sold singly at \$185@300 or more.

## LIVE STOCK NEWS.

A consignment of 150 cases of eggs received from China arrived in Chicago recently and brought 22½¢ per dozen at a time when the best domestic eggs were going at wholesale at 25¢. They were slightly smaller than American eggs, as well as darker, with thicker shells.

South American meats continue to be shipped extensively to our shores, and during four consecutive weeks beef quarters equivalent to 17,000 cattle were loaded in Buenos Aires for New York. This frozen beef fills a want, but it is a commoner article than most of our American domestic beef and sells at comparatively low prices. Thus far prices for beef have remained as high as ever, the foreign beef being absorbed readily, while domestic beef is also moving into consumption readily. In Chicago, the greatest cattle market of the world, the best porterhouse steaks retail for 35¢ per pound, and other cuts of beef at correspondingly high prices.

## WATCH FOR THE APRIL 1 ISSUE.

The practical farmer and the student of economic problems will be interested alike in a carefully thought out plan of getting farm products to city people over a far less expensive route than now obtains. This plan will be given in the Farm Commerce Department of the April 4 issue. Read and then talk the scheme over with your neighbor.



## THIS IS THE LAST EDITION.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

## DETROIT LIVE STOCK MARKETS.

Thursday's Market.  
March 26, 1914.

## Cattle.

Receipts 1295. Milch cows \$8@10 lower; all other grades active at strong last week's prices.

We quote: Best steers and heifers \$8.05@8.25; good do, 950 to 1000, \$7.60@7.75; steers and heifers, 800 to 1000 \$7@7.50; do that are fat, 500 to 700 \$6.25@7; choice fat cows \$6@6.50; good do, \$5.50@5.75; common cows \$4.50@5.25; canners \$3@4.25; choice heavy bulls \$7; fair to good bolognas bulls \$6.50@6.75; stock bulls \$5.50@6.25; choice feeding steers, 800 to 1000, \$6.75@7; fair do, \$6.50@6.75; choice stockers, 500 to 700, \$6.50@6.75; fair do, \$6@6.50; stock heifers, \$5.50@6.50; milkers, large, young, medium age \$6.50@7.50; common milkers \$4@5.00; good do \$5.50@6.50.

Bishop, B. & H. sold Sullivan P. Co. 5 steers av 1050 at \$7.60, 4 do av 970 at \$7.60, 16 do av 875 at \$7.35, 18 do av 1090 at \$7.50; to Kull 1 cow wgh 1100 at \$5.50, 2 do av 975 at \$6.50, 5 steers av 930 at \$7.50; to Mason B. Co. 1 cow wgh 1560 at \$6.50, 4 butchers av 870 at \$7.10, 1 cow wgh 950 at \$6.50; to Hammond, S. & Co. 1 cow wgh 840 at \$4.25, 6 steers av 928 at \$7.50, 2 cows av 1065 at \$5.25, 10 steers av 932 at \$7.40, 1 bull wgh 1750 at \$6.75, 3 cows av 1017 at \$5.75, 2 steers av 860 at \$7.50, 1 do wgh 650 at \$7, 2 bulls av 1440 at \$6.50; to Newton B. Co. 4 cows av 1045 at \$5.65, 1 do wgh 830 at \$4.50, 3 butchers av 843 at \$7.15, 3 do av 947 at \$7.35, 2 do av 945 at \$7; to Sutton 20 stockers av 700 at \$6.85; to Michelson 3 cows av 917 at \$5.25; to Mich B. Co. 13 steers av 1160 at \$8.05, 6 do av 1036 at \$7.60, 1 bull wgh 960 at \$6.50, 9 steers av 1033 at \$7.85; to Sullivan P. Co. 3 cows av 1060 at \$6, 6 steers av 873 at \$7.35, 8 butchers av 792 at \$7.10, 2 cows av 1055 at \$5.25, 8 steers av 863 at \$7.50, 6 butchers av 908 at \$6.75; to June 3 stockers av 527 at \$5, 4 do av 557 at \$6.

Spicer & R. sold Grant 4 cows av 1095 at \$5.50, 1 do wgh 1100 at \$5.75; to Kull 2 do av 885 at \$5.25, 1 bull wgh 680 at \$6.50; to Hammond, S. & Co. 16 steers av 963 at \$7.50; to Sullivan P. Co. 1 bull wgh 1730 at \$7, 4 steers av 1032 at \$7.85, 1 cow wgh 1030 at \$6.25, 13 steers av 985 at \$7.60; to Johnson 2 cows av 1175 at \$5, 2 stockers av 530 at \$6.50; to LaBoe 1 bull wgh 820 at \$6.75; to Mason B. Co. 1 do wgh 1200 at \$7.25; to Heinrich 21 steers av 935 at \$7.60; to Thompson Bros. 10 butchers av 815 at \$6.75, 1 canner wgh 710 at \$4; to Rattkowsky 6 cows av 960 at \$5.75, 1 bull wgh 1070 at \$6.75, 1 cow wgh 1230 at \$5.75; to Mich. B. Co. 6 cows av 831 at \$5.85, 22 steers av 856 at \$7.40; to Fry 2 cows av 685 at \$5.75.

Haley & M. sold Mason B. Co. 7 steers av 811 at \$7.20, 4 do av 870 at \$7.50, 1 cow wgh 1040 at \$5.75, 1 bull wgh 1030 at \$6.50, 1 do wgh 930 at \$4.35; to Kamman B. Co. 21 steers av 831 at \$7.60; to Mich. B. Co. 2 do av 1135 at \$8; to Thompson Bros. 1 bull wgh 1400 at \$6.65; to Newton B. Co. 2 cows av 1125 at \$6, 1 do wgh 1030 at \$6, 3 do av 927 at \$6.40, 10 steers av 827 at \$7.40, 11 do av 977 at \$7.50, 4 do av 913 at \$7.35, 6 cows av 920 at \$6.50, 4 heifers av 615 at \$6.75, 2 cows av 980 at \$5.50, 1 heifer wgh 730 at \$7, 1 bull wgh 1030 at \$6.60; to Johnson 5 cows av 1020 at \$5.50; to Brad-dock 1 bull wgh 1240 at \$6.75; to Kull 1 do wgh 1100 at \$7; to Hammond, S. & Co. 1 do wgh 1600 at \$6.75; to Sullivan P. Co. 3 steers av 823 at \$7.60, 7 do av 900 at \$7.30, 4 do av 900 at \$7.25, 7 do av 956 at \$7.35; to Rattkowsky 1 cow wgh 960 at \$5, 1 do wgh 1060 at \$6, 1 do wgh 1040 at \$5.25; to Hirschleman 14 butchers av 865 at \$7.45, 1 steer wgh 630 at \$4; to Goose 1 bull wgh 1240 at \$6.85, 1 do wgh 1330 at \$7.15; to Sutton 2 stockers av 640 at \$6.75, 18 do av 488 at \$6.85; to Lachalt 7 butchers av 681 at \$7; to Newton B. Co. 20 do av 807 at \$7.25; to Thompson Bros. 1 steer wgh 1080 at \$7.55, 1 cow wgh 1180 at \$6.

## Veal Calves.

Receipts 709. Market 50@75c higher than last week; steady with Wednesday. Best \$10@11; others \$6@9.50.

Bishop, B. & H. sold Sullivan P. Co. 3 av 135 at \$8, 7 av 145 at \$10; to Parker, W. & Co. 1 wgh 90 at \$8, 2 av 130 at \$10.50, 5 av 125 at \$10, 13 av 155 at \$11, 5 av 145 at \$10.75, 2 av 160 at \$10.50, 5 av 130 at \$10, 28 av 150 at \$10.25, 12 av 145 at \$10.25; to Rattkowsky 7 av 110 at \$8, 8 av 95 at \$8.75, 4 av 145 at \$10, 2 av 145 at \$11, 2 av 300 at \$7; to Kull 1 wgh 150 at \$9.50; to Ratner 5 av 145 at \$6, 11 av 135 at \$8; to Goose 7 av

125 at \$7, 2 av 135 at \$10.50, 3 av 100 at \$8.50; to Newton B. Co. 8 av 125 at \$10; to Thompson Bros. 21 av 150 at \$10.50; to Hammond, S. & Co. 10 av 171 at \$10.50, 6 av 155 at \$10.50; to McGuire 19 av 150 at \$10.50, 12 av 160 at \$10.75; to Sullivan P. Co. 14 av 151 at \$11, 14 av 140 at \$10.50, 11 av 145 at \$10.25; to Goose 11 av 140 at \$10.50, 7 av 145 at \$10.50; to Mich. B. Co. 25 av 140 at \$10.50; to Nagle P. Co. 9 av 145 at \$10, 17 av 135 at \$10.25, 1 wgh 150 at \$11.

## Sheep and Lambs.

Receipts 3737. Market steady at Wednesday's prices; few choice 5c higher. Best lambs \$7.75@7.90; fair to good lambs \$7.25@7.50; light to common lambs \$6.50@7; yearlings \$6.75@7; fair to good sheep, \$5.50@5.75; culls and common \$4@4.50; spring lambs \$11@11.50.

Spicer & R. sold Thompson Bros. 25 lambs av 60 at \$7.25; to Mich. B. Co. 129 do av 80 at \$7.80, 9 do av 65 at \$7.50.

Haley & M. sold Breitenbeck 52 lambs av 63 at \$7.50, 41 do av 65 at \$7.70; to Mich. B. Co. 26 do av 75 at \$7.75, 19 do av 80 at \$7.75, 5 do av 50 at \$6.50; to Parker, W. & Co. 14 do av 63 at \$7; to Mich. B. Co. 5 spring lambs av 62 at \$11.50, 10 sheep av 146 at \$5.25, 3 do av 107 at \$4.50, 6 lambs av 45 at \$6.75, 102 do av 75 at \$7.75.

Roe Com. Co. sold Barlage 8 lambs av 48 at \$6.50; to Kamman B. Co. 40 do av 66 at \$7.75.

Youngs sold Nagle P. Co. 691 lambs av 82 at \$7.50.

## Hogs.

Receipts 5847. None sold up to noon; bidding \$8.75@8.80.

Closed dull with bids at \$8.75. Bishop, B. & H. sold Hammond, S. & Co. 2010 av 190 at \$8.80, 517 av 170 at \$8.75.

Haley & M. sold Parker, W. & Co. 450 av 200 at \$8.80.

Spicer & R. sold same 370 av 190 at \$8.80.

Roe Com. Co. sold Sullivan P. Co. 325 av 200 at \$8.80.

## Friday's Market.

March 20, 1914.

## Cattle.

Receipts this week 1396; last week 1508; market steady. We quote: Best steers and heifers \$8; steers and heifers, 800 to 1200, \$7.50@7.75; steers and heifers, 800 to 1000, \$7@7.40; do that are fat, 500 to 700, \$6.50@7; choice fat cows, \$6@6.25; good do, \$5.25@5.50; common cows, \$4.50@5; canners, \$3.50@4.25; choice heavy bulls, \$6.75@7; fair to good bolognas, \$6.50; stock bulls, \$5.50@6.25; choice feeding steers, 800 to 1000, \$6.75@7; fair do, \$6.25@6.75; choice stockers, 500 to 700, \$6.50@6.75; fair do, \$6@6.25; stock heifers \$5.75@6.25; milkers, large, young, medium age, \$7@8.00; common milkers, \$35@40; good \$55@65.

## Sheep and Lambs.

Receipts this week 2683; last week 4400. Market strong. Best lambs, \$7.65@7.75; fair to good do, \$7@7.50; light to common lambs, \$5.75@6.75; yearlings \$6.75@7; fair to good sheep \$5.25@5.50; culls and common \$4@4.50.

## Hogs.

Receipts this week 6293; last week 5269; market 5c higher. Pigs \$8.80; others \$8.90.

## CROP AND MARKET NOTES.

(Continued from page 375).

promises to be a great year for the farmers in all kind of crops. Wheat is in fair condition; February was a hard winter month and winter broke about March 8. If the weather stays like at present there will be plenty of pasture by the middle of April. The roads are in fine condition for this time of the year, and there is a great deal of work being done on the roads to make them permanent. Cattle are about \$8.25; hogs \$8@8.75; eggs 24c; hens 12c; roosters 6½c; ducks 14c; geese 8½c; turkeys 15c; butter 25c; corn 85c per bu; wheat 85c; potatoes retailing at \$1 per bu.

## South Dakota.

Meade Co.—The weather this month has been changeable. The snow is about gone. Hens are beginning to lay, the price of eggs is 25c per dozen; butter-fat 27c; hay \$5 per ton. Farmers are busy getting their machinery in order for spring planting, and cleaning up around the barns and yards. Land has been sold at \$10 per acre. Cows are much in demand at high prices.

## Kansas.

Smith Co.—Warmer weather finds winter wheat in fine growing condition, although a light rain would help the surface of the ground. With the immense amount of moisture in the subsoil, the pastures will green up when the weather becomes warmer. There will be some potatoes bought by farmers at \$1 per bushel. There

were very few beans raised here last season. Wheat 77c; corn 70c; fat steers \$8.25@8.50; butter 15c; butter-fat 24c; eggs 21c; spring chickens, 10c per lb; hens 10; turkeys 13c. The price of horses and mules to horse buyers has decreased.

## Nebraska.

West Central Otoe Co.—We are having fine weather. Winter wheat is in good condition, with prospects for a good crop. Wheat is the only grain being marketed at present, and the farmers are not holding it back for a higher market. Farmers are in hopes of an early spring on account of the scarcity of feed. Hens are laying well. Farmers are beginning to sell a few hogs at 8c per lb; wheat 80c; oats 43c; corn sells at 63c off the car and 66c from elevator; eggs 20c per dozen; cream 24c per lb; hens 13c; potatoes \$1.20 per bushel.

Hitchcock Co.—We are having fine spring weather, and farmers are now in the fields disking and sowing wheat and barley. Winter wheat has begun to grow nicely, and with the moisture we have to begin with this spring the outlook is encouraging. Eggs come into market quite plentifully and 18c is paid. Many have incubators going and hens setting. Butter-fat 24c; corn 73c; wheat 72c; hogs \$7.65; cattle 6c.

## Washington.

Klickitat Co.—So far this month we have had fine growing weather. Meadows and winter grains are looking fine. Fruit trees are a little too far advanced for the time of year, as we are liable to have cold weather yet. Flour \$4.50 per bbl; potatoes \$1 per cwt; butter 30@35c; eggs 20c; lard 15c; wheat \$1.75 per cwt.

## GOVERNMENT CROP REPORT.

The Crop Reporting Board of the Bureau of Statistics estimates, from reports of correspondents and agents, that the amount of wheat on farms March 1, 1914, was about 151,809,000 bushels, or 19.9 per cent of the 1913 crop, against 156,483,000 bushels, or 21.4 per cent of the 1912 crop on farms March 1, 1913, and 122,025,000 bushels, or 19.6 per cent of the 1911 crop on farms March 1, 1912. About 53.9 per cent of the crop will be shipped out of the counties where grown, against 61.6 per cent of the 1912 crop, and 56.1 per cent of the 1911 crop so shipped.

The amount of corn on farms March 1, 1914, was about 866,392,000 bushels, or 35.4 per cent of the 1913 crop, against 1,289,655,000 bushels, or 41.3 per cent of the 1912 crop on farms March 1, 1913, and 884,069,000 bushels, or 34.9 per cent of the 1911 crop on farms March 1, 1912. About 17.2 per cent of the crop will be shipped out of the counties where grown, against 21.8 per cent of the 1912 crop, and 20.5 per cent of the 1911 crop so shipped. The proportion of the 1913 crop which is merchantable is about 80.1 per cent, against 85.0 per cent of the 1912 crop, and 80.1 per cent of the 1911 crop.

The amount of oats on farms March 1, 1914, was about 419,476,000 bushels, or 37.4 per cent of the 1913 crop, against 604,216,000 bushels, or 42.6 per cent of the 1912 crop on farms March 1, 1913, and 289,988,000 bushels, or 31.4 per cent of the 1911 crop on farms March 1, 1912. About 26.5 per cent of the crop will be shipped out of the counties where grown, against 30.9 per cent of the 1912 crop, and 28.8 per cent of the 1911 crop so shipped.

The amount of barley on farms March 1, 1914, was about 44,126,000 bushels, or 37.4 per cent of the 1913 crop, against 604,216,000 bushels, or 42.6 per cent of the 1912 crop on farms March 1, 1913, and 289,988,000 bushels, or 31.4 per cent of the 1911 crop on farms March 1, 1912. About 26.5 per cent of the crop will be shipped out of the counties where grown, against 30.9 per cent of the 1912 crop, and 28.8 per cent of the 1911 crop so shipped.

## CATALOG NOTICES.

Bohon's "Blue Grass" Buggies, sold from factory to consumer, are illustrated and described in detail in a handsome 150-page catalog sent upon request by the D. T. Bohon Co., Harrodsburg, Ky. In it will be found a style of vehicle suited for every need, as well as driving and working harnesses for all kinds of farm use. Mention the Michigan Farmer when writing for this big illustrated catalog. "From Grower to Planter at Granger Prices," is the title of the 1914 catalog of Daniel G. Banker, Dansville, N. Y. In it is listed a good line of fruit trees and small fruit plants.

"Twentieth Century Corn Culture," is the title of an illustrated booklet sent on request by J. D. Tower & Sons Co., Mendota, Ill., which contains valuable information on corn growing, and illustrates the Tower

cultivators and pulverizes for the making of an efficient soil mulch.

"Iron Age Farm and Garden News," a publication gotten out by the Bateman Mfg. Co., Grenloch, N. J., containing valuable information for the farmer and gardener, as well as illustrated descriptions of the latest "Iron Age" productions in the way of farm and garden implements.

"Fraser's Tree Book," published by Samuel Fraser, Geneseo, N. Y., is a 24-page illustrated catalog of fruit and ornamental trees, small fruit plants, etc., grown on the Fraser farms.

L. J. Farmer, Pulaski, N. Y., publishes a 40-page catalog of strawberries and other small fruits describing and illustrating the varieties offered to the trade, as well as other specialties in the way of vegetables, poultry, etc.

One of the biggest hogs marketed in Chicago in years was sold recently by John Bergen, of Piper City, Ill. It was a stag that tipped the scales at 980 lbs., and brought \$8 per 100 lbs., being docked 80 lbs., as all stags are. The stag brought the owner more money than many light steers bring.

## BOOK NOTICES.

Agricultural literature was practically without a handy ready reference book until the Horticultural Rule Book appeared some 20 years ago. This book, compiled by L. H. Bailey, then famous for his horticultural work, gave mainly condensed information regarding horticulture. Prof. Bailey has since broadened his work to that of all agricultural problems. Likewise his Rule Book has been broadened and revised and is now called "The Farm and Garden Rule Book."

The book consists of 587 pages and is divided into 29 chapters. Published by The MacMillan Co., New York. Price, \$2.00.

This book should be in the hands of every progressive farmer, as it will often save him time in the search of information he earnestly desires. It has in handy form all such information which we desire promptly, but which needs considerable hunting before we find it.

## Potato Profits

depend largely on how the crop is planted. Every skipped hill is a loss in time, fertilizer and soil. Every double wastes valuable seed. It means \$5 to \$50 per acre extra profit if all hills are planted, one piece in each. That is why

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## Horticulture.

### A Success With Hogs in the Orchard.

THE site of an orchard should be given due consideration before the orchard is set, as a mistake on this point is one which can not be rectified in future years. It should be well drained soil, moderately rolling and relatively higher than the surrounding land and may be hilly and composed of any of the soils or combination of soils found in Michigan except "muck."

If for commercial purposes, two or three kinds are enough of the winter varieties. You had better not meddle with summer and fall varieties unless near a large market or shipping point. Don't experiment with new and untried varieties, let the other fellow do that. There is no apple so universally sought for in all the markets of the world as the Northern Spy and no apple that I know of which has so small an area where it can be raised to perfection. That area is right here in Michigan.

**The Kind of Nursery Stock to Get.**  
Nursery stock should be two years old, smooth and thrifty, and not three and four year cut-back dwarfed stuff. Insist on the center shoot being intact and not cut back as many nurserymen do it, which almost always makes two, three or four prongs for the head.

Before setting trim these little trees to a whip and dip in the standard lime and sulphur solution for the dormant spray, being careful not to get it onto the roots. Set carefully after which mulch or hoe for the first two years. Set 40 or 50 feet apart each way, the latter being preferred for variety I have named. For the first five years no animal should be allowed in this orchard except the teams needed to work it properly. Rotate the crops as on any other field, being careful to keep the humus content as high as possible.

**Crop Rotation for Hogging Down.**  
After five or six years, and as often as you can get a crop of clover, hog it down which, with a few carloads of western corn to finish the hogs, will give you the cheapest fertilizer you can get. Follow clover with corn and hog down, and corn with Canada field peas and hog down. Follow peas with wheat or oats and seed down to clover. Continue this rotation until orchard comes to bearing. Don't be afraid the hogs will hurt the orchard. Always keep them rung and remember the mission of the hog is to eat and be eaten.

Now just a few points about pruning. Remember, the trunk of the tree is intended to carry the fruit up from the ground. Let that center shoot which I have spoken about, alone until it gets to be 15 to 20 feet from the ground. It is not likely that it will get much higher if tree is given the space I suggested.

**Method of Pruning.**  
Encourage the lateral shoots to grow about six inches apart up this center shoot, and upon all sides, the heaviest upon the west side if possible.

If you have carried out the above suggestions faithfully, at the end of 10 to 14 years you will have an orchard come to bearing which will be a thing of beauty and a joy forever. With no outlay except the first cost of trees, expense of setting, a small expense for spraying and pruning and the inconvenience and care to protect these little trees from injury, this field, handled as suggested, will have produced as much revenue as any other field on the farm.

Ionio Co. L. E. HALL.  
Mr. Hall has made a singular suc-

cess with hogs in the orchard, a thing which has never been considered good orchard practice. His methods with other operations, such as pruning and setting the trees, are also original and, being successful, are worthy of due consideration. His success shows that there are exceptions to all rules in horticulture, as well as with hogs. We are promised a short article on his care of the orchard after it comes into bearing.—Eds.

### ONIONS.

\* From the inquiries received we judge that there are many who are thinking of venturing into the onion growing business. A few suggestions along this line will, therefore, be in place.

The business of growing onions is almost a specialty as the onion is particular as to the care it gets and the soil conditions it grows in. The market is also a precarious one and according to the season one may make good profits or have an unsatisfactory balance on the other side of the ledger.

The soils most suitable for onion growing are those containing plenty of quickly available fertility and moisture. They should also be cool and level, and there is nothing which has all these conditions, as well as a good muck. Fine mechanical texture of the soil, produced by good tilth, is very important in success in this work. Thorough preparation of the seed bed, with thorough cultivation thereafter, will do much to cut down the most expensive operation of onion growing, hand weeding.

### Preparation of Seed Bed.

It is doubtful if a good seed bed can be prepared by plowing in the fall or spring. The weeds will not be sufficiently subdued even by the best kind of work, in such a short time. It is almost necessary to grow some hoed crop on the ground the year before to get it in good shape for the onions. One successful grower gives his onion soil two years' preparation by using hoed crops. By so doing he practically eliminates hand work.

As the onion is a cool weather crop the seed should be sown as early in spring as possible. As soon as the ground is in condition to cultivate in spring it should be thoroughly worked, and the seed should be sown in April or very early in May, so that the plant will have attained its growth before the hot weather in August.

Immediately after the seed is sown light cultivation should be started and frequent cultivations should be continued thereafter. Persistent cultivation and the keeping of the ground free from weeds, is the price of a good crop of onions. Thorough preparation of the soil before it is put to onions will do more to accomplish good results in an easy way than anything else.

### Economy in Using Good Seed.

The selection of seed is also a very important consideration in successful and easy onion culture. The common onion seed can not be relied upon for good germination and therefore it has to be sown quite thickly. After the plants come up it becomes necessary to thin them out. Where the very best seed is used, less of it needs to be sown and because it is sown thinner the plants do not have to be thinned out.

Fertilization is an important factor in onion growing and there is nothing better for this purpose than barnyard

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manure. If it is to be applied just before the ground is to be put to onions, it will have to be well rotted manure. However, if the manure is to be applied a year or two before, and hoed crops put in, it will be well worked up by the time the onions are put in.

#### Most Popular Varieties.

The seed is usually sown in drills about 16 inches apart and one ounce of seed will sow about 100 feet of drill. Danvers, Prizetaker, and Globe are favorite varieties for commercial purposes.

Before going into the growing of onions, one must consider the work and expense necessary for harvesting and drying the crop. To dry them properly, regular drying houses ought to be built. When the crop is to be harvested they should be pulled and left to dry in double rows for several days and then the tops and roots taken off and put in the drying house or stored in some other dry place. They should not be harvested during wet weather, as that will often cause them to shrivel.

#### TROUBLE DEPARTMENT.

##### Spraying Questions.

Is it advisable to give an orchard the dormant spray where there is no San Jose scale?

Would you use lime-sulphur for the four summer sprays or Bordeaux for two and lime-sulphur for two? Lime-sulphur did not seem to control the scab very well last year on some varieties.

Would the dormant spray on plums help to control the shot hole fungus? Genesee Co. J. L.

If you are absolutely sure that there is no scale present it is not necessary to use the lime-sulphur at winter strength. Be sure, however, to make a thorough spraying just before the blossoms open for fungicidal purposes, using lime-sulphur at about one to 30.

I would prefer to use lime-sulphur entirely. Bordeaux mixture is liable to cause injury even when used before the blossoms. Last year was an exceptionally bad one for scab and regardless of what was used many had poor results, especially on varieties susceptible to scab. Getting the spray on thoroughly and at the proper time were very important factors in success last year.

The dormant spray has some effect on all fungi as it kills of some of the winter spores. If the spray is to be applied for that purpose alone it will not do enough good to pay for the expense involved. Thorough spraying before and after the blossoms are important for the trouble. Sometimes the shot hole effect is caused by spray injury and not by fungus.

#### FRUIT GROWERS' PROBLEMS.

Realizing the value of promptness in fruit work we shall give immediate personal attention to all questions received and shall answer them by correspondence. We endeavor to publish the answers to questions of general interest in our Trouble Department, but the lack of space permits us to use only a few of them.

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# Poultry and Bees.

## Feeding and Care of Poultry Chicks.

THE proper care and feeding of the baby chicks is one of the most important problems confronting every man or woman who would make a success of the poultry business. When hatched, chicks are very delicate, and are, therefore, easily affected by improper management and care. The chicks, for the first few days, will eat everything and anything coming within their reach. The caretaker must choose the food, teach the little fellows to eat that which is suitable. After the fifth or sixth day they get to know the proper feed.

Do not feed the chicks anything for the first 24 hours. I have found that the first 36 hours is nearer the mark. It is quite natural that they should be hungry for the first few hours, but this is provided for by Mother Nature, as just previous to peeping through the shell they absorb the yolk of the egg, which furnishes them sufficient food for 36 hours. This food must be properly digested before more is consumed, else death may follow, or a sick chicken result. Let the chick sleep and rest for the first two days. It has been a strain on its system to pass through incubation. When they are hungry, they will pick at one another.

#### The First Feed.

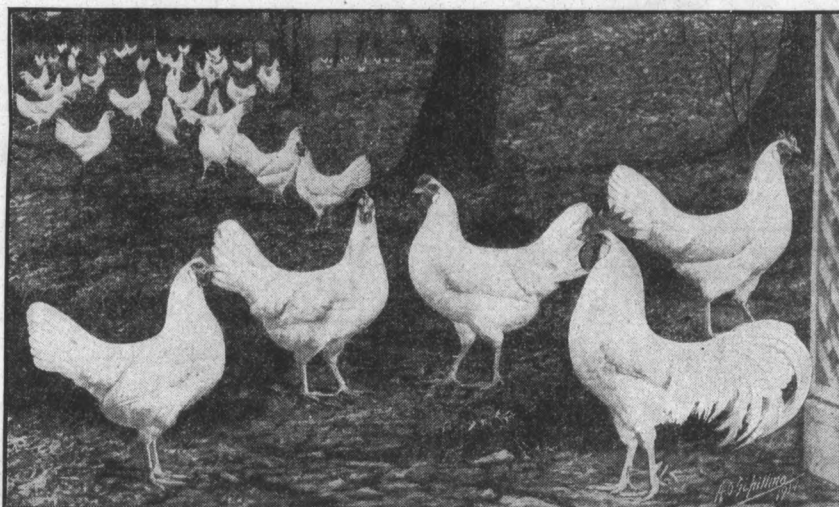
The first feed should be one-third hard-boiled eggs, one-third stale bread, not musty, and one-third rolled oats

There is enough feed in this bedding to properly feed the little fellows for about two weeks at least, although I watch the bedding closely to note when supply is low. As I clean out the bedding at end of the fifteenth day, I place another peck in the clean litter. This way of feeding is ideal to my mind. The keeper is not obliged to feed the chicks every two hours and they are never over-fed or under-fed.

#### The Economy of Deep Litter System.

The system will save the owner considerable in feed bills for the year. Then, too, better stock will result, which has been the principal reason for my use of this system. After trying other systems requiring feeding every two hours, I shall always use the deep-litter system hereafter.

Green foods should never be fed until the sixth or seventh day. Short cut clover, lettuce or rape is best. Cabbage is most too loosening. The chicks will consume about 25 pounds of the fine cut alfalfa used for litter, and it will do them great good. They will pick at it from the very first. I never keep more than 75 chicks in same lot at first, and, after the first week would recommend, even with large flocks, about 35 as the best number. The greater investment in houses will be largely repaid by the diminished loss in stock at early age. Only after October first, when fowls



Prize Winners at Chicago Show, from W. E. Flander's Poultry Farm.

(or oatmeal). This should be moistened with sweet skim-milk, but not large flock to be desired.

The Cornell system of rations has been a great success with me. It consists of 8 lbs. rolled oats, 8 lbs. bread crumbs or cracker waste, 2 lbs. sifted beef scrap (best grade), and 1 lb. of bone meal (best grade). This to be fed, moistened with sweet skim-milk, five times per day. Fed mealy, not too wet. Trays containing finely ground clover, (not cut clover), and regulation chick grit as well as charcoal, should be used. The above ration should be fed for the first five days.

From five days to two weeks a ration of 3 lbs. wheat (cracked), 2 lbs. cracked corn (very fine), and 1 lb. of pinhead oatmeal should be fed in the litter twice per day. With this feed give them a mash consisting of 3 lbs. wheat bran, 3 lbs. corn meal, 3 lbs. wheat middlings, 3 lbs. beef scrap (best grade), and 1 lb. bone meal. This mash ration in dry form should be before the chicks in hoppers all the time from the fifth day until the fourth week, when we give a ration of 3 lbs. wheat (whole), 2 lbs. cracked corn, and 1 lb. hulled oats, till the sixth week, after which the chicks are on open range. Have dry mash always available, and feed moist mash of this twice per day. From six weeks

to maturity we feed 3 lbs. wheat and 3 lbs. of cracked corn. One meal should be of the moistened mash if early development is desired.

#### Feed Clean Feeds.

Provide fine grit, charcoal, shell and bone from the start. Give grass range or plenty of green food. Have fresh, clean water always available. Feed only sweet, wholesome foods, "good enough for humans." Never allow damp or soiled litter, as this breeds germs and disease. Disinfect brooder coops with one-third of water, kerosene oil, and crude carbolic using power pump spray. Allow this to dry, then replace litter with clean and fresh fine-cut alfalfa after second week. Never feed beef scrap which contains very much pork, as this is bad for the stock. Cheap beef scraps contain this. Buy the best, which is sold by houses that make a business of supplying poultrymen. Allow stock to become hungry once each day. This will make them alive and active. Feed moist, mushy mash very sparingly. Always keep dry mash in the feed hoppers.

New York.

EARL W. GAGE.

### WINDOWS IN THE POULTRY HOUSE.

The arrangement of windows in the poultry house will have much to do with its value. Too much glass will make the house very warm in the daytime, and at night will give off the heat. For many years this question has puzzled poultry keepers. Experience has revealed that the proper amount of heat is maintained by allowing one square foot of window to each 16 feet of floor space. A house about 8x10 would require glass window of about four square feet.

A hinge should be supplied at the top of the windows, so that in summer time it can be pulled upward toward the ceiling or arranged so that it may be slid back. On the outside should be tacked some one-inch mesh wire. By using the small mesh wire you will keep the sparrows out of the house. They would eat considerable feed if allowed to come in.

Some men use the sliding window, and attach hinges to the top of the frame, which would allow placing a curtain over the opening for mild winter days, with the window slid back. The curtain-frame could be hooked to the ceiling while the window was closed. On hot days of summer, the curtain may be closed down, which will keep the house cool.

Unbleached muslin makes the best curtain, and must not be neglected as dirt gathers on it quickly, and should therefore be cleaned regularly with a broom. Fresh air cannot get through a dirty curtain.

Do not put the windows too near the floor of the house. Put the opening up high, so that the sun will have an opportunity of getting well to the rear of the house. This will be appreciated in winter, when the sun's rays are lowest and when the fowls need the sun's heat most. Watch the comparative size of opening and the floor area of the house, for here you will get the actual results in eggs yielded for the season.

New York.

EARL W. GAGE.

### BROODING HINTS.

Ventilation is of great importance in brooding. The warm air should come in over the backs of the chicks and the foul air escape at the bottom. Frequent cleaning and disinfecting is necessary to destroy disease germs. Never allow a dead chick to remain in the brooder any length of time. If disease gets into the flock, remove the birds to another brooder until the first has been thoroughly cleansed.

A few early chicks may be successfully brooded by using a large jug filled with hot water. Fill this jug the last thing at night, place it in a box and cover with a woolen cloth.



## WHY CHICKS DIE IN SHELL.

Old-time breeders, as well as the novice, still have the troublesome problem of chicks dying in the shell, to solve. It goes without saying that the loss in dollars and cents amounts up to an enormous sum each season, to say nothing of the time, labor and trouble expended in getting off the hatches. It is up to us to stave off some of these losses and increase our profits accordingly. Certain it is that we can mitigate these troubles to a great extent by giving proper attention to the selection and production of the hatching eggs.

The cause of dead chicks in the shell cannot really be attributed to any one thing. Opinions differ in regard to this. Some attribute it directly to weak germs in the eggs, caused by using inferior breeding stock. Of course, this has some influence we must admit, but it cannot really be considered as wholly the cause. In my opinion there are several factors that can be considered as having some influence on this lack of care exercised in handling the hatching eggs contributes to the poor results. The egg must receive proper care while being held for incubation. The vitality of the germ can be affected by weather conditions and precautions must be taken to prevent chilling.

## Prevent Chilling of Eggs.

In cold weather we must gather the eggs often to prevent chilling. Half a dozen times a day is not too often to bring in the eggs from the coop. If one finds it inconvenient to bring the eggs to the house every time they are removed from the nest, put up a box in the corner of the coop, put in several inches of straw or other warm material, and put the eggs into this until evening. Cover the eggs with a heavy cloth and chilling will not result.

It is advisable to keep the eggs intended for incubation in a room where the temperature is very nearly even. A room in which the temperature remains around 50 degrees is excellent. Ventilation, also, has some bearing on the hatchability of the eggs. Storing the eggs in a cellar that is damp, musty, illy-ventilated, surely is not conducive to best results. The air is sure to be impure and will tend to affect the "livability" of the germs in the eggs. A safe rule is to not keep the eggs in a room in which one would not care to live. Extremes of temperature affect the eggs as well as it does a person and we should guard against this. While it is not advisable to have the temperature too low it is equally undesirable to have the room too warm. High temperature tends to draw all moisture from the eggs and causes a drying out of the shell. This drying out of the shell has a tendency to toughen the membrane and thus lessen the chick's chances of picking their way out. Covering the eggs with a cloth serves to prevent evaporation to a certain extent. Another precaution one should take in regard to the hatching eggs is not to place them in a direct draft or where the sun shines on them.

## Ventilation and Temperature of Incubator Important.

Ventilation and temperature of the incubator also play an important part in preventing the dying of chicks in the shell. During the first week of incubation very little ventilation is required, therefore, during the first week one should not let the eggs remain out of the machine very long at one time. As the hatch progresses, however, more ventilation should be provided. The egg should also remain out of the machine for longer periods. This cooling and airing of the eggs should be continued until the 18th or 19th day. The cooling of the eggs tends to strengthen the germ life in the eggs and prevent the chicks

dying in the shell to a certain extent.

The proper amount of moisture must also be supplied, for unless this is done, drying out of the shells will result. A practice that I follow with good results is to wring a cloth out of warm water and spread over the tray of eggs, doing this on the 18th day. The cloth is allowed to remain in place for about ten minutes. This has a tendency to soften the shell and the chicks will not have so difficult a time in picking their way out.

Indiana.

OTTO E. HACHMAN.

## SPRING FEEDING.

It is now time to be looking after the bees' food supply, as they will begin to breed up and will use their stores very fast. The first good warm day the hive should be opened and examined. If there are not 15 or 20 pounds of stores at least, they should be fed at once.

Use nothing but the best sugar to feed. Make this into a syrup about equal parts sugar and water, and give enough to make about 25 pounds of stores altogether. The best beemen now advocate feeding the entire amount necessary at one feeding. There are many kinds of feeders on the market but I would advise using one that feeds from the inside as then there is less liability of robbing.

If the swarm seems to be weak, close the entrance down to about a half inch. Hives setting close to the ground need watching to see that ice does not form in the entrance. This is more liable to happen when the snow is deep.

After examining the hives, carefully replace the packing and make this as tight as possible. Then in about ten days look into them again to see that the syrup has been taken all right. If so, remove the feeder and leave the bees alone for some time. Do not disturb them until warm, settled weather.

Gladwin Co.

H. L. SOPER.

## GRIT.

If one would keep his fowls in a good state of health, plenty of grit must be supplied. Fowls having a large range, will find sufficient grit to supply their needs, but where the range is limited, or the fowls kept in small yards, the natural grit, small stones and gravel, is soon exhausted. Broken crockery ware, or hard brick, reduced to the proper size, make excellent grit. Many feed oyster shell, thinking this is all that is required in the way of grit. While oyster shell does help grind the fowl's food, its primary purpose is to supply the lime that goes into the egg shell. A good hard grit should be supplied in addition to the oyster shell.

Indiana.

T. Z. RICHEY.

## HATCHING CHICKENS.

Besides the great chicken raising establishments devoted exclusively to the business, practically every farm home is a factory for producing fried chicken and eggs. For a "side issue," the old hen is a very important one.

However, it was the incubator that put the chicken end of the farm on a business basis and made it possible to increase production rapidly.

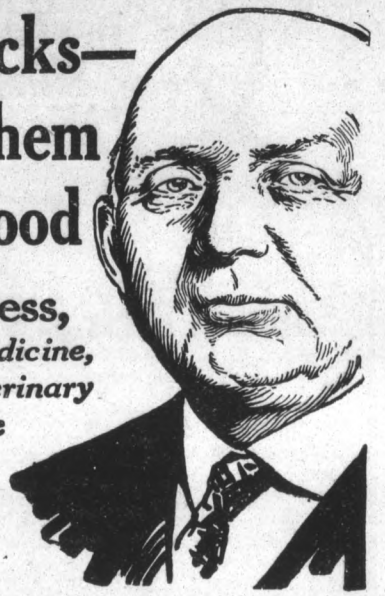
There are so many good machines on the market and they are sold so reasonably that anyone may own an incubator and go into the chicken business. Many of them are now being advertised in Michigan Farmer.

Fowls are obliged to throw off much of the waste of the body through the lungs. They do not sweat in the sense that do other animals, but instead breathe several times faster than sweating animals when heated. To keep in good health a hen requires nearly seven times the amount of fresh air to its size as does a horse.

# Save All your Chicks— Put Stamina into Them At Babyhood



**Gilbert Hess,**  
Doctor of Medicine,  
Doctor Veterinary  
Science



The annual loss of young chicks in the United States is staggering. More than one-half the yearly hatch die before reaching pullet age—die through leg weakness, gapes and indigestion. Talk about conservation—think of the millions of dollars that poultry raisers could save by saving most of these chicks.

Yes, most of them can be saved—saved by starting them on

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Right from the very first feed. During my 25 years' experience as a doctor of medicine, a veterinary scientist and a successful poultry raiser, I discovered that, by using a certain nerve tonic and appetizer, *leg weakness could be absolutely overcome*; that the use of another certain chemical that is readily taken up by the blood would cure gapes, by causing the worms in the windpipe (the cause of gapes) to let go their hold and helping the chick throw them off. By combining these same ingredients with bitter tonics and laxatives, I found that I could control and invigorate the chick's digestion.

My Poultry Pan-a-ce-a helps put stamina into the chick, strengthens and cleanses its system and sends it along the road to maturity, hardy and robust. Most of the biggest poultry farms in the United States, where chicks are hatched out by the thousand every day during hatching season, feed my Pan-a-ce-a regularly.

Dr. Hess Poultry Pan-a-ce-a is the result of my successful poultry experience and scientific research in poultry culture—there is no guesswork about it. Ingredients printed on every package. Now listen to this

### Get-Your-Money-Back Guarantee

You buy Dr. Hess Poultry Pan-a-ce-a of your dealer. If it does not help your chicks grow, keep them well, make your poultry healthy and your hens lay, he is authorized to refund your money; you can't possibly lose—Pan-a-ce-a must pay or you get your money back. Costs a penny a day to feed 30 fowl. 1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail \$2.50. Except in Canada and the far West. Buy of your dealer—Pan-a-ce-a is never sold by peddlers.

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**Is that the only way?** No, infected stables cause it.

**Can it be stopped?** Yes, by hypodermic injection, washing the genital organs and disinfecting the stables.

**Will any ONE medicine prevent abortion?** No, because the germ must be met at every turn and no one medicine can do it.

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## Veterinary.

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

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

**Sore Shoulder.**—Twelve weeks ago I had a bunch cut out of shoulder of horse; wound seemingly healed, but after doing two days' light work a scab came off where sore had not healed, leaving it raw again. C. D. Webberville, O.—Mix together equal parts powdered alum, oxide of zinc and boracic acid and apply to wound twice a day. Are you sure that collar fits?

**Warbles.**—I have some cattle that we are fattening which have grubs in back and I would like to know how to remove them. A. S. Columbus, Mich.—Open skin with a sharp pen knife, squeeze out grubs, kill them and apply boracic acid to sores once a day.

**Bleeding Piles.**—I wish you would tell me what to do for a sow that is troubled with bleeding piles. J. H. B. Dansville, Mich.—Dissolve 1 oz. of acetate of lead, 1 oz. sulphate of zinc and 1 oz. of tannic acid in a quart of clean boiled water and apply to piles three times a day. If this tumor growth is large, it should be either cut out, burned, or tied off.

**Chronic Cough.**—Four years ago my seven-year-old horse had distemper; since then he has been troubled with cough and discharge from nostrils. J. S. B. Addison, Mich.—A chronic cough and nasal gleet are not easily cured and unless you are willing to spend some money and keep up the treatment for some time, you might as well leave him alone. Give ½ oz. of glyco-heroin (Smith) and a teaspoonful of powdered sulphate of iron at a dose in feed three times a day. Wash out nostrils with one part peroxide of hydrogen and six parts water twice a day. Your horse should be well fed, stabled in a clean, well ventilated barn and not exposed to the storms.

**Sore Shoulder.**—Twelve weeks ago I had a bunch cut out of shoulder of horse, wound seemingly healed, but after doing two days of light work a scab came off where sore had not healed, leaving it raw again. C. D. Webberville, O.—Mix together equal parts of powdered alum, oxide of zinc and boracic acid and apply to wound twice a day. Are you sure that collar fits?

**W. F. G., Lake City, Mich.**—Your horse died the result of indigestion and inflammation of the bowels; he could not have been saved.

**Malignant Wound.**—The heel of my horse was cut on a corn binder last fall, cutting away a thin piece of skin from foot, which fails to heal. The wound fills with proud flesh and I have used carbolic acid solution without helping it. F. D. Hemlock, Mich.—The detached piece and fungus should be cut off, then apply equal parts powdered alum, oxide of zinc and tannic acid twice a day.

**Indigestion—Looseness of Bowels.**

—My 18-year-old mare eats plenty of corn and mixed hay, but she is much out of condition and her bowels are altogether too loose. S. M., Grand Haven, Mich.—Her teeth may need leveling in order that she can better grind her food and her grain should be ground and fodder cut. Also give her two tablespoonfuls of ground ginger, a teaspoonful of powdered sulphate iron and a dessertspoonful of hypo-sulphite of soda at a dose in feed three times a day. She should be watered before feeding grain, or not until two hours later.

**Surfeit Buds on Skin.**—My driving mare has a skin eruption and most of the pimples are on neck and back. She itches and rubs herself. She is due to foal some time next May. J. F. McN., Crosswell, Mich.—Give your mare a tablespoonful of Fowler's solution and a tablespoonful of bicarbonate of soda at a dose in feed three times a day. Dissolve 1 lb. hypo-sulphite of soda in a gallon of water and wet itchy parts of body twice a day.

**Dainty Feeder.**—My three-year-old filly does not eat enough hay and hangs her head low. She is fed two quarts of ground feed with a handful of cottonseed meal and drinks very little water. H. F. Millbrook, Mich.—Her teeth may have something to do with her not eating more roughage,

but you should give her more ground feed and it should be well salted in order to increase thirst. Also give her ½ oz. fluid extract gentian and a teaspoonful fluid extract nux vomica at a dose three times a day.

**Garget.**—I would like to know why cows give gargety milk. We have a Jersey that occasionally gives this kind. O. B., Traverse City, Mich.—Poor milkers, failure to milk udder empty, bruising udder, lack of bedding, exposures to cold wind, lying on cold cement floors, over-feeding, feeding a poor quality of food, drinking impure water and infection carried from one cow to the other by the milker are a few of the causes of garget. If you can figure out the cause of your cow giving gargety milk and remove the cause she will get well.

**Barren Cow.**—We have an eight-year-old cow that had been a regular breeder until last year. She had her last calf in April, 1913, since then has failed to get with calf; the other is a heifer that had her first calf last September, but did not come in heat until February and she has come in heat three different times in four weeks. What can be done to insure their breeding? A. M., Moore Park, Mich.—I do not believe either one of your cows will perhaps get with calf. You might try the yeast treatment or soda treatment which I have repeatedly prescribed in this column, and which you no doubt have made a clipping.

**Pig-eating Sow.**—I have a good brood sow which last October had 12 pigs and devoured all except four at time of their birth. Is she liable to do so again this spring? If so can I do anything beforehand to prevent it? R. M. F., Cairo, Mich.—Feeding her some fresh meat and a variety of kinds of feed before she farrows may prevent her eating any of her pigs. day and her bowels kept open.

**Sheep Pull and Eat Wool.**—Can you tell me the cause and remedy for sheep pulling and eating wool? My 30 sheep are fed four bushels of ensilage, two pounds of cottonseed meal and a light feed of mixed hay each day. They also run to the straw stack and their shed is open at one end. A. F. M., Battle Creek, Mich.—Failure to salt sheep often enough and feeding an unbalanced ration is perhaps the most common cause of sheep pulling and eating the wool. You should increase their grain ration, feed some ground oats, more cottonseed or linseed meal; also feed some roots and clover. If they were supplied with the kind of food nature demands they would not harm each others coats. Mix some ground gentian, ginger and cooking soda in each feed.

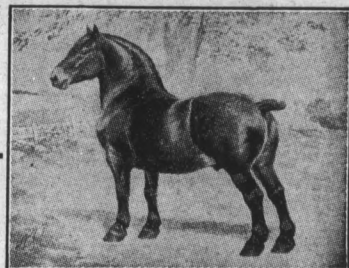
**Chronic Cough.**—Last fall I bought a horse that is 11 or 12 years old, which has coughed more or less ever since. He is fed a good quality of feed and several different kinds. T. F. R., Hamburg, Mich.—Many times chronic cough is incurable. Mix together 1 oz. of guaiacol in 15 ozs. of simple syrup or linseed oil and give 1 oz. with 1½ grs. of heroin at a dose three times a day. You had better moisten his dry feed and it might do him some good to apply camphorated oil to throat once a day.

**Chronic Foot Soreness.**—We have a horse that is not right, it is next to impossible to back him and when standing in stable he shifts position of fore feet often and places his hind feet very near his fore feet. G. H. B., Grant, Mich.—A change of shoes in front might make him more comfortable and I would suggest either rubber pads or a wide-webbed rolling motion shoe. Apply lanolin to fore hoofs once a day.

**Dropsy of Leg.**—About a year ago my eight-year-old mare injured leg, causing it to stock badly, but she got a whole lot better, done a good summer's work, but now her leg is considerably swollen and when I press on leg with my finger the dent I make is slow in filling. C. M. C., Centerville, Mich.—Give her a teaspoonful of powdered sulphate iron, a teaspoonful of powdered nitrate of potash at a dose in soft feed three times a day. Gently hand-rub leg, exercise her daily, but don't over-feed her on grain.

**Chronic Heaves.**—I have a nine-year-old horse that had distemper six months ago; since then he has been troubled with heaves and I have given him all kinds of heave cures, but none of them seem to help. Can heaves be cured or not? F. H., St. Clair Co., Mich.—Incipient heaves can frequently be cured, but chronic heaves are usually incurable, and judging from your experience with your horse, I would say he was incurable.

**Thin Old Mare.**—My 14-year-old mare began to lose flesh last fall and she has remained thin ever since. Her coat is long and shaggy and when driven appears to have a nasal discharge. Had her teeth floated last fall, but it made no difference. F. K., Conklin, Mich.—Give her ½ oz. of



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**SOME fine young registered Clydesdale Stallions** for sale from 1 to 4 years old. In the spring some will make top horses with lots of quality and good action. Must be sold before the first of April. F. A. PETZ, Capac, Michigan.



Donovan's solution and a teaspoonful of tincture nux vomica at a dose three times a day; groom her well twice a day and increase her food supply.

Periodic Ophthalmia.—I have a seven-year-old mare that has been treated by our local Vet. several times for sore eyes. First one eye becomes sore and in a few days it clears, but it is not many weeks before the opposite eye is affected in a similar way. W. W., Corunna, Mich.—Your mare suffers from periodic ophthalmia; she will sooner or later suffer from cataract and lose vision. Your Vet. has doubtless treated her right. Each inflammatory attack can be relieved by taking away her grain, fomenting eye with warm water and applying a saturated solution of boric acid two or three times a day.

Muscular Cramp.—I have a colt nine months old that seems to have trouble in getting up and when up shifts position with hind legs quite often, but for a few minutes only. The fetlock joint of one leg is slightly enlarged and this colt is unusually large and growthy for his age. L. P. L., LeRoy, Mich.—Apply one part turpentine, one part aqua ammonia, and three parts sweet oil to back, stifles and fetlock joint once a day. Give him ½ dr. of ground nux vomica, a teaspoonful of powdered nitrate of potash and a tablespoonful of ground gentian at a feed two or three times a day.

Heifer Has Bad Cold.—I have a heifer with a very bad cold and would like to know what to give her. A. G., Calumet, Mich.—Give your heifer a dessertspoonful of red cinchona, a tablespoonful of ground gentian and a tablespoonful of ginger at a dose in feed three times a day.

Sprained Leg.—More than three weeks ago my heifer went lame in hind leg, and as near as I can tell is caused by sprain. I have applied hot water and some liniment, but she is no better. J. V. L., Nunica, Mich.—Apply gasoline and camphor, 1 oz. of camphor gum in a pint of gasoline and apply it twice a day.

Preventing Milk Fever.—I bought a cow a short time ago and have found out since that she is likely to have milk fever when she freshens; if so, I would like to know how to prevent it. A. F. G., Byron, Mich.—Exercise her, feed less grain before calving and for three or four days after she comes fresh, do not milk all of the milk out of udder, and if she should have an attack, apply the oxygen or air treatment early and she will recover.

Wart on Eyelid.—I have a choice calf which has a wart on upper eyelid, and I would like to know how to remove it. F. M., St. Charles, Mich.—Warts are only skin deep and when located near the eye they should always be cut out, then apply boracic acid to wound twice daily.

Warbles.—I have a bunch of steers feeding that have grubs in back and I would like to know if these grubs will materially affect the health of these cattle. I shall market them in about six weeks or two months and would like to know if these grubs will depreciate their value. E. T., Camden, Mich.—The presence of grubs (warbles) create some irritation and occasionally interfere with the animal's rest, but do not affect their health. The hide is worth a little less money. Make an opening with a sharp pen knife, squeeze out grub, kill him, then apply one part carbolic acid and 30 parts water, or one part bichloride mercury and 500 parts water daily until wounds close.

Garget.—I have a cow which gives ropy milk from one quarter of udder and this quarter seems to be hard. H. H. L., Hamilton, Mich.—Apply one part iodine and 20 parts fresh lard to caked quarter once a day and give her a dessertspoonful of powdered nitrate of potash at a dose in feed twice a day.

Cow Does Not Come in Heat.—I have a five-year-old cow that had a calf ten weeks ago, but failed to come in heat since she came fresh. C. H. M., Grand Junction, Mich.—Give your cow 1½ drs. ground nux vomica, 1 dr. fluid extract damiana and a dessertspoonful of ground capisicum at a dose in feed two or three times a day.

Heifer Gives Poor Quality of Milk.—I have a two-year-old heifer that came fresh December, 1913, which gives thin milk; her bowels are inclined to be too loose and I feed her well, and she has a variety of foods. J. S., Allegan, Mich.—Give her ½ oz. of ground gentian, 1 oz. ground ginger and a dessertspoonful of hyposulphite of soda at a dose in feed two or three times a day. The quality of her milk cannot be improved much by feeding.

Congested Teat.—I have a cow that has a congested teat, and in order to draw milk I have to use milking tube. M. W. H., Alger, Mich.—Apply one part fluid extract belladonna and four parts camphorated oil to teat twice a day.



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Johnsville-Leader No. 40223, ten years old, sound, weight, 1,700 lbs. Sure foal getter and a No. 1 stock horse. This stallion was syndicated for \$2000, 3 years ago. Will be sold without reserve to close the affairs of The Northville Stallion Stock Co. Sale to be held at Exchange Hotel, Barn, Northville, Mich., Wednesday, April 8th, 1914, at 2 o'clock, rain or shine. NORTHVILLE STALLION STOCK CO., Prop.

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**HOLSTEIN CATTLE**

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A YEARLING Also a two-year-old registered Holstein bull. Price right. JAMES MARTIN, Howell, Michigan.

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HERD No. 2—Yearling bull with 4 world's records in his breeding.

1 10-year-old, 26 years old, 22 years old and 13 years old, and 5 of them bred to A. R. bulls, the 8th not bred. All A. R. O. cows.

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Poland China Bred Sows Fall Pigs and Minorca guaranteed. R. W. MILLS, Saline, Michigan.

Large Type P. C. Bred glits all sold spring boar yet. Can spare Big A Wonder, weight close 350 lbs. H. O. SWARTZ, Schoolcraft, Mich.

30 Poland China Fall Pigs—Good ones from immune sows \$10 and \$15 each, while they last. Bred now sale Feb. 27th, send your name for catalog if you want to buy Big Types with Quality. Wm. Waffle, Coldwater, Mich.

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MULE FOOT heavy boned blocky fall Boars for spring service. White Wyandotte Cookerels. FRANK BARTLETT, Dryden, Mich.

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The large, long-bodied, heavy-boned prolific kind. Sows and glits bred for spring farrow. 60 head of September, October and November pigs. Prices reasonable. W. C. COOK, R. 42, Ada, Michigan.

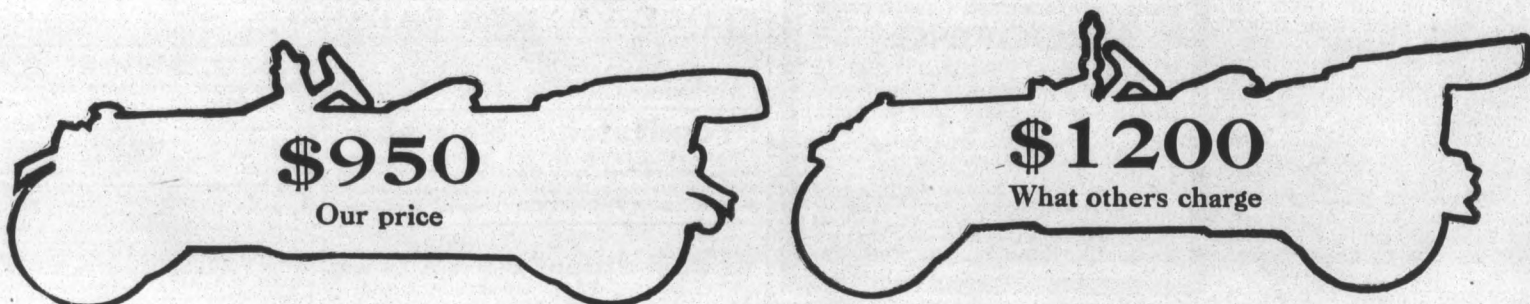
## Lillie Farmstead Yorkshires

Spring glits, splendid ones. Fall pigs, either sex. Glits bred for spring farrow. COLON C. LILLIE, Coopersville, Michigan.

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And so on throughout the car. Point for point—specification for specification, the \$950 Overland is, in every essential respect, the equal of any \$1200 car on the market.

So we warn you. Ignore the prices. Compare the actual facts first. Then compare the facts with the prices and you get the intrinsic value.

We are making 50,000 cars this year—the largest production of its kind in the world. And every Overland purchaser will save at least 30% and get a superior car.

See the Overland dealer in your town today. Then see any competing car. Make the comparisons we suggest. Then you will better realize how hard a comparison of this kind is, on any other car costing in the neighborhood of \$1200.

Handsome 1914 catalogue, complete information and dealers name on request.

## The Willys-Overland Company, Dept. 86, Toledo, Ohio

### SPECIFICATIONS OF MODEL 79T

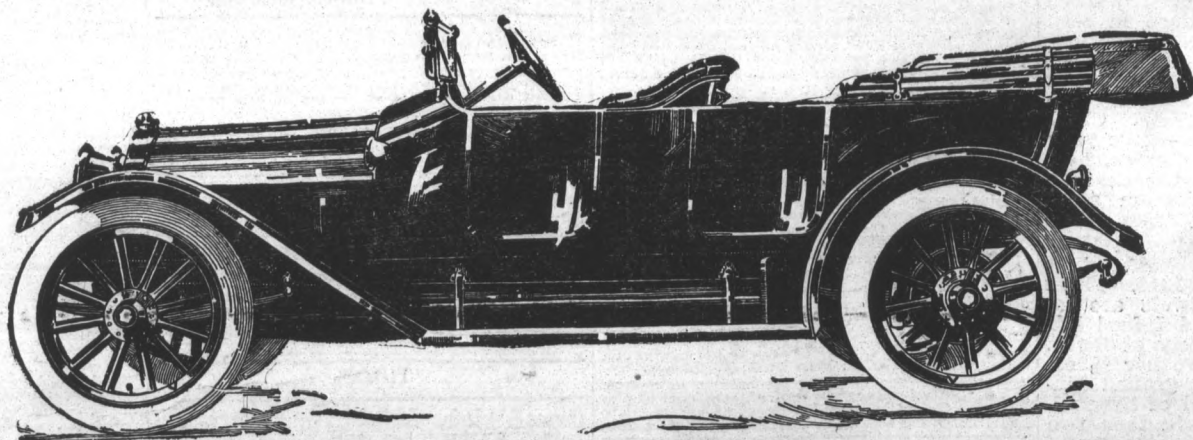
Electric head, side, tail and dash lights  
Storage battery  
35 Horsepower motor  
114-inch wheelbase  
33 x 4 Q. D. tires

Three-quarter floating rear axle  
Timken and Hyatt bearings  
Deep upholstery  
Brewster green body

nickel and aluminum trimmings  
Mohair top, curtains and boot  
Clear-vision, rain-vision windshield

Stewart speedometer  
Cowl dash  
Electric horn  
Flush U doors with concealed hinges

With electric starter and generator—\$1075  
J. C. B. Toledo



Manufacturers of the famous Overland Delivery Wagons, Garford and Willys-Utility Trucks. Full information on request.