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Canning Factory Crops for the General Farmer

By COLON C. LILLIE.

CANNING factory crops must be grown within a few miles of the factory, the closer to the factory the better. Peas, beans, sweet corn, etc., intended for canning must be harvested at the proper time and, in this green state, hauled to the factory as soon as possible. A delay of a day or two is fatal. Peas, especially, mature for canning purposes in June and July during hot weather and only a few days can be allotted to harvesting them, else they will not be prime canning peas. All these crops are harvested when green and vines, peas and all, are hauled to the factory where they are threshed or vined, as it is called; that is the green peas separated from the pods. In this green condition the vines are very heavy and it will not pay to haul them very far—a few miles at best, hence a canning factory must be located quite near or the farmer cannot be interested at all.

Sometimes factories have vining stations or threshing stations, in outlying neighborhoods, where the peas and lima beans are vined and then the shelled peas or beans are hauled at once to the factory. This system is practical and enables the factory to draw from a much larger neighborhood.

If the farmer is located near the factory, or near one of the vining stations, then I think it will pay him to study this question of canning factory crops carefully. The three crops wanted of the general farmer are green peas, lima beans and green sweet corn. Most canners pack pork and beans also, but the beans for this product are purchased on a different basis and it is altogether a different proposition. These beans are bought in competition with the open market and the farmer can sell where he chooses. Canners also pack tomatoes and fruit, but very few general farmers are interested in these products. They do not have the time nor do they understand the growing of them, and besides the factory has learned that for these products they must depend on the specialist rather than the general farmer. But peas, lima beans and sweet corn can be grown by the

general farmer if he will, in the place of other cash crops on his farm. The question to consider is, will it pay him to grow these crops in preference to the other crops he has been accustomed to grow?

Michigan soil and climate are adapted to the growth of the pea plant. Peas used to be grown largely for stock food in an early day and people considered them a profitable crop for this purpose. The plant could be cured for hay or the seed allowed to ripen and fed as a grain ration to all kinds of stock, especially hogs and dairy cows. There is no better grain

for milch cows than pea meal. At the present time we are feeding pea meal in the place of gluten feed to dairy cows and the herdsman reports that the cows are doing even better than they did on gluten. We had about 30 bushels of sweet peas because they got too ripe for canning, or rather they ripened so unevenly that they could not be used for canning and we threshed them and ground them and they are taking the place of other concentrated protein feed.

The only satisfactory reason I can give for having other crops, like wheat, oats and barley grow largely

instead of peas as they were in the early days, is that labor-saving machinery was first invented to handle these crops. The binder, the mower even, will not handle peas successfully owing to the reclining habit of the pea vines and until recently they had to be harvested in the good old-fashioned way by hand. This naturally led the farmer to give their attention to crops that could be harvested more easily. At the present time, however, a pea harvester has been perfected that does the job quite successfully, and this objection is overcome. We can grow peas and we can harvest them now. Is the factory price of about \$45 to \$50 per ton for green shelled peas attractive?

We know we can make a success of growing corn in Michigan, even though we are not in the heart of the corn belt. We have to make a little special preparation for this crop to get the best yields, but it can be successfully grown here. Many claim that sweet corn is not as vigorous as field corn and can not be grown as cheaply. I have an idea that this is largely in the seed. Sweet corn is hard to cure. It must be artificially dried and kept where it will not freeze if it produces a vigorous plant. Then is it better to pick or snap the corn and sell it—green husks, shank, cob and all, for \$8.00 to \$9.00 per ton, or put the whole plant into the silo, or ripen and husk it? The farmer must settle this question for himself. It is a new proposition to the average farmer and some experience is necessary to form a just conclusion.

Lima beans, the best of dwarf variety, are entirely new to most farmers. They are grown very successfully in California, but that is a very different climate from ours. They can be grown here and can be relied upon to develop sufficiently for canning purposes. My experience is that they are very susceptible to adverse weather conditions, but many people in different parts of the state have grown them successfully. I believe it would be better for the factories and the farmer if they could have home-grown seed, rather than that grown in a different climate. The price paid



The Modern Pea Harvester at Work on Lillie Farmstead.



Crop of Corn Grown for Ensilage after Crop of Alaska Peas were Harvested.



Scene in Western Michigan where Peas are being Harvested on a Large Scale by the use of Modern Machinery.

for beans is practically the same as that paid for peas.

By-Products of Canning Factory Crops.

To the live stock farmer, and especially the dairyman, the residue or by-products are of considerable value. Pea vines make good hay or good silage. Canning factories now have large silos and the vines are run directly from the vinters to these silos and the growers can get their proportion of silage if they wish when they choose and haul it home for feeding. It is good feed. Lima bean straw also makes good silage. If one wishes he can take his pea vines and bean straw, spread it out and cure it as hay. It makes good hay. Both of these products are rich in protein and make a valuable and a palatable feed for all kinds of stock.

Sweet cornstalks can be put into the silo or they can be dry-cured and fed as other cow fodder. The husks and cobs are also returned to the farmer if he wishes them and when he is delivering sweet corn to the factory and has no load home, the cost of hauling them back to the farm is almost nothing. If one has a large acreage of sweet corn he must have some silo or pit where stalks and cobs can be stored until used, otherwise they will spoil. This refuse is worth more for cow feed than one would at first suppose. Our cows seemed to do as well on this refuse as they did on corn silage. We noticed no shrinkage in milk while it was being fed and we gave it a fair trial, for we had the refuse from nearly 100 tons of sweet corn.

What made me interested in canning factory crops, particularly, was that having a commercial herd of cows I could utilize these by-products that some people allowed to waste. If it is profitable for people without live stock to grow canning factory crops, then a dairyman could make more because he had this food extra, and with a silo all of it can be utilized without waste.

Are Canning Factory Crops Profitable?

The farmer can not make very much profit unless he produces good crops. This applies to all crops. It is impossible to squeeze a profit out of a poor crop of any kind. So if one has poor canning factory crops of peas, or lima beans, or sweet corn, they will not pay, but if he has good crops they will pay as well or better than ordinary crops. This year on one 11-acre field I produced 19 tons, 1,325 pounds of green shelled peas at two and a quarter cents a pound, or \$45 per ton. That is practically \$80 worth of peas per acre. On another field I produced at the rate of one and one-half tons per acre. But on the sweet peas (late peas) the aphids got in their work, just as the army worm did in the late oats, and the crop was nearly a failure. My lima beans were also a poor crop, but just why I am unable to tell. They simply would not grow well, besides I had a poor stand, possibly owing to poor seed. Neither of these crops, however, were as complete a failure as my late crop of oats and peas. My sweet corn averaged three and a half tons per acre. One field of six acres produced 26 tons and one field was a miserably poor crop. Had all these crops been good I think they would have paid me better than any crops I ever raised.

A Possibility with Early Peas.

Canning factory crops are not allowed to ripen. They are wanted when green. Hence the time from planting to harvesting the crop is materially shortened. There is no worrying about early frost, etc., as with corn or beans some years. The pea crop must be planted early, the earlier the better, and is harvested early. The Alaska or early pea is usually harvested the last of June, some years by June 20, and late or sweet peas

are harvested early in July. The pea crop leaves the soil loose and mellow, and can be prepared for winter wheat without plowing, and this is a good crop to follow. Wheat does well after peas. This year in this vicinity one could tell readily every field of wheat that was sown after peas. There is where we have the best wheat in the county.

But the great possibility with early peas is to grow another crop the same season on the same field. Many times silage corn is not planted till June. I have several years planted silage corn in June, and late in June, too. One year I remember we had so much rain I did not plant until July 12 and had a splendid lot of silage corn. Silage corn planted in May must be harvested in August or September. If planted in June or early July it will mature by October 1. Some years it would be frosted before that time but not late years. This year I planted field dent corn after early peas and a very conservative estimate would be 10 tons of silage per acre, and it was harvested before frost and plenty mature. Lots of the corn was ripe enough to save for seed.

On a portion of the field I planted Stowell's Evergreen sweet corn and this matured sufficiently so we picked the corn and sold it to the factory. Probably it would not mature every year, but if it did not it could be put in the silo. It would certainly make a good growth of fodder. On another portion of the field I planted the early Golden Bantam sweet corn. This, of course, matured long before frost, but the yield of fodder with this did not satisfy a dairyman who wants to fill his silos.

On three acres I sowed buckwheat. The ground had got pretty dry by the time we got to this and the buckwheat

This is the twelfth of 52 special articles to be published in consecutive issues. The special article for next week will be the first installment of the series on Michigan Laws Relating to the Property Rights of Women.—Eds.

The Appearance of the Farm.

IN these days of the civic leagues and city improvement associations we hear so much about improving the appearance of the city, just why we ought to improve its appearance, and just how to improve it, and all the necessary directions for making the city more beautiful. But how often do we hear anything about improving the appearance of the rural districts? In the city all sorts of leagues and societies are formed with the express purpose of doing all in their power to make their city more beautiful. And in a large majority of cases, these societies have been successful and have fulfilled their mission. The old dumping grounds have been done away with, the alleys and streets have been cleaned up, parks and playgrounds have been established and everything that would make the city more beautiful and sanitary has been done.

How do farm conditions compare with this? What movements have been started to make the rural districts more beautiful? How many farms show any signs of ever having anything done to them to make them more inviting? Your answer to all these questions must be in the negative. It is a sad but nevertheless true fact that most farms look topsy-turvy and all for lack of a little order and a few hours work in the dull seasons.

The farmer is copying his city cousins in nearly all the modern improvements, so why should he not copy him in this good movement. The farmer is installing water works, heating plants, lighting systems, buying automobiles and getting many of the other comforts of life which the city man thinks that he could not do without. But as yet the farmer has not started to clean house with his district in a really earnest manner.

There are so many places where the

farmer can and should start to clean up that it is hard to know just where to start in. Perhaps the front yard would be about the first thing to take into consideration as that is the first thing that greets the traveler's eye.

The visitor gets his first opinion and his first impression of you with his first glance at your front yard, and first impressions are hard to undo. Is the front yard graded and seeded and kept mown so that it is fresh and green and pleasing to the eye?

The next place that meets the eye of the stranger is the buildings. Perhaps you did not build these so that they are not placed and built according to your idea, but you are responsible for their appearance at the present time. Oftentimes the buildings are neglected and allowed to run down. How much a little paint improves the appearance of the buildings and the paint not only improves the outward appearance but it preserves the material so that it is a good investment.

Canning Factory Crops and Soil Fertility.

As none of these crops mature, but all are harvested in a green state, they do not take as much plant food from the soil as they would if allowed to ripen. Especially is this true of phosphoric acid. Personally, I do not care so much about this, for if I can only get the crop I can supply the plant food.

A Fertile Soil Necessary.

To grow good crops of peas or sweet corn one must have rich ground. The plants want plenty to eat, and if one grows the second crop he must have especially rich ground to push the crops along. The land where these crops were grown is in a good state of fertility. It has had frequent applications of stable manure for the last 20 years. Last year it had a moderate dressing with stable manure and then 250 pounds of commercial fertilizer on the peas and 100 pounds in the row on the corn. But one can well afford to fertilize under such circumstances. Estimating the pea vine silage, the sweet cornstalks and the husks and cobs, and adding this to the value of the peas, I had a production of \$125 or more per acre on this 11-acre field.

came up very unevenly, in fact, some did not come for two weeks, when we had a shower. This buckwheat, however, yielded 23 bushels per acre. It would always be safe to sow buckwheat the last of June or the first of July.

Soy beans could also be planted after early peas, with confidence that they would produce a good crop of forage, either for hay or silage.

With this possibility of a second crop, of good food for dairy cows, the early pea crop looks promising to me.

The roadside is another place which is badly neglected and it looks fierce, to resort to slang and put it mildly. The weeds along the roadside look badly and are a source of contamination to the surrounding country, but still many of the farmers will leave them until someone complains on them. If no one complains, the weeds are left to go to seed and then the farmers wonder where so many weeds come from the next year. Then there are the brush and bushes all of which go to make a desolate looking place.

Fences are another item which need constant attention in order to keep them in good shape. It takes more time to fix up a run-down fence than it does to build a new one, and then you haven't anything after you have spent some valuable time in repairing or coddling up an old fence. A little time now and then will keep the fence in good repair all the time.

And now we ought not to pass by the subject of fences without saying a few words about the fence corners. This is the seed bed for most of the weeds which spread over your farm. This is the place where some of the rubbish collects, where you put an occasional stone to get it out of the way or where you run an old wornout implement when you are done with it. All this detracts from the appearance of the place and really is harmful to your farm.

I think that the swamp holes or the "cat holes," as they are sometimes called, detract about as much from the appearance of a place as anything could. Besides these detract from the value of the farm as well. When you come to sell your farm, don't they always ask about the swamps and the drainage? And these are the things that can be remedied with a profit.

There are some who do not care for the appearance of a place where they live, they think that looks haven't any pecuniary value and money is all they think about. But I wish to say to these people that looks have a money value and oftentimes you pay a big price for appearances.

And then is it not worth something to you to know that your farm is tidy and clean? Is there not a whole lot of personal satisfaction if you know that people say of you that you are progressive and not slovenly? You can't value personal satisfaction in dollars and cents, but it makes life more worth living to be able to take pride in the appearance of your surroundings. The environment that a man lives in has a great influence upon the rest of his life, and you want to bring up your children in an environment that will have the best possible influence upon them.

It seems to me that the Grange and the other farmers' organizations have overlooked a great opportunity in this respect. They might start contests among members, giving some prizes for the best appearing front yard, the best looking roadside, the best fences, etc. The prizes need not be so valuable and costly, but they would create a feeling of competition which always brings the best results. Anything that will present this neglected phase of farming before the people who ought to be vitally interested in it. Let us not let our city cousins get too far ahead of us in this respect.

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Good Road News.

THE new year book of the American Highway Association, which will soon be out, will show that more than 34,000 miles of surfaced road have been built in the past two years, while during the ten-year period from 1904, more than 96,000 miles have been completed. These figures are impressive when you consider that in 1904 there were only 153,000 miles of surfaced roads of all types in the United States. The state aid movement started in 1892 and about 30,000 miles of highway have been built with the aid of state funds, one-third of this mileage having been completed in the past two years, indicating that the state aid plan is just getting under way. Only six states out of the 48 are still without state highway departments.

A local organization has been formed at Grand Rapids, headed by Alvah W. Brown, of the Kent County Road Commission, to arrange for the annual convention of the Michigan Good Roads Association, to be held at the Coliseum in Grand Rapids, probably during the second week of March. An

The Grand Traverse county road commission has closed an active year. The Yuba hill mile in Acme township has been graveled and with the completion of another strip of road in connection, which is planned for this year, the drive from Elk Rapids to Traverse City will be greatly improved. The Pierce hill mile in Blair township has been graded and improved and in two more years it is expected a reward road will extend from Traverse City to Kingsley. The Fife Lake road east of Kingsley is graded and ready for gravel, with two miles fully completed. Paradise township has bonded for good roads and Fife Lake will probably vote on a bond issue in the spring. Road improvements are under way in Green Lake, Long Lake and Whitewater townships. Soon a state reward road will extend from Traverse City to Kalkaska village.

Some criticism of the county road system has developed in Gladwin county, indeed, petitions are being circulated in most of the townships asking the board of supervisors to submit to voters the question of abolishing the system. The county has on hand nearly \$70,000 voted to build state reward roads, 24 miles on the



Vining Peas at Lillie Farmstead and Running Vines into Silo.

extensive exhibit of machinery and road building material will be made in connection. The program will include speakers of national fame.

Of the original bond issue of \$600,000 voted by Kent county for good roads, about \$500,000 has been expended, but equipment has been bought, also gravel beds, and money enough remains to continue the work this season. Kent commissioners will appeal to the Legislature for a correction of plans for the trunk line road out Fulton street, changing same to West Leonard street, which will obviate an expensive cut through John Ball Park and purchase of right of way. Road work will be continued on South Division avenue and it is hoped to have 11 miles of improved highway there by fall. The Knapp avenue road east is also another important job of work to be undertaken. Concrete is being used for culverts and bridges. The adaptability of concrete for road work in Kent county is still an open question. A continuous stretch of state road has been opened from Grand Rapids to Lowell and a Lowell man is arranging with the merchants there to run an auto truck between the two towns, believing that the service will be cheaper and quicker than that furnished by the railroads.

Steam heat will be installed in one of the larger buildings at the Kalamazoo county road farm at Portage Center so that the gang of men may continue the winter work of making tile, painting and repairing machinery and other odd jobs.

Sault Ste. Marie business men favor opening a trunk highway through Chippewa and other eastern counties of the upper peninsula, as an outlet to the western counties and some legislative action will be asked for. The road as planned would lead out of the Soo, probably through Brimley, thence to Rudyard and Trout Lake.

meridian line and two lines of road each 12 miles in length running from the meridian to the Clare county line, one through the city of Gladwin and one through Beaverton. Townships lying west of the meridian line have benefited from the county road system while townships east of the line have reason to complain, because they have not to date had the roads built which the taxes paid entitle them to. However, they are about to get what is their due, so the friends of the present system are saying, so that to abolish the system would be unwise.

Oceana county ranks fifty-first in the state in population but holds third place in mileage of state reward macadam roads, having built over 49 miles at an aggregate cost of \$199,000.

Luce county voted \$100,000 for good roads and completed nearly five miles of macadam road and graded an additional 10 miles, making it ready for crushed stone during 1914. Next season will see Luce and Schoolcraft counties united by a system of good highways.

Kent Co. ALMOND GRIFFEN.

WAR INCREASES GRAIN EXPORTS.

Exports of wheat, including flour, from the United States and Canada for the five days ending December 23, were 7,900,000 bushels, against 3,818,000 bushels for the same period in 1913. Corn exports were 525,000 bushels against only 13,000 bushels in 1913. Bradstreet's reports that for the 25 weeks ending December 23, 1914, the wheat exports were 169,000,000 bushels against 146,000,000 for the same period in 1913. Corn exports for this period were 5,800,000 bushels against 1,091,000 bushels in 1913.

Perseverance is more prevailing than violence; and many things which cannot be overcome when they are together, yield themselves up when taken little by little.—Plutarch.



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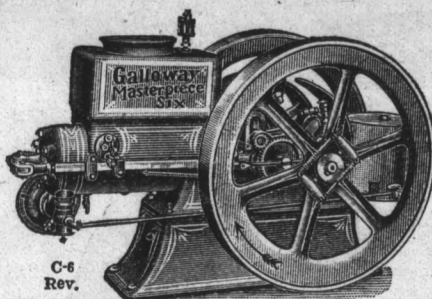
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The Live Stock Meeting.

THE twenty-fourth annual meeting for pure-bred stock but as well for good market draft animals in the not distant future.

Association was held at the Agricultural College, East Lansing, Mich., on January 13-14, 1915. As usual, the first day was devoted to meetings of the allied breed associations, reports of which are not available at this writing but will be briefly presented in a future issue. In addition to the meeting of the associations already in existence, a State Sheep Breeders' and Feeders' Association and State Hog Breeders' Association were formed, the members of the various breed associations and patrons of all breeds joining in the organization of these two new associations.

In addition to these events a fat barrow show was held on the first day of the meeting and the carcasses of same were shown on the following day and competitive prizes were awarded after the carcasses had been used in a demonstration lecture. On the morning of the second day a horse and colt show was held which was a notable feature of the meeting. These two features will be described in greater detail in a future issue in order that something of their educational value may be passed on to Michigan Farmer readers who could not be present at the meeting.

Following the several breed meetings, the live stock men present gathered for an informal reception and joint meeting of all sections in the main hall of the Agricultural Building, at which time Hon. L. Whitney Watkins gave an address on foot-and-mouth disease from a farmer's standpoint. Mr. Watkins was the man selected to act for the federal government and state of Michigan in placing a valuation on the animals slaughtered in the extermination of the foot-and-mouth disease.

Following this address the members of the association attended a banquet tendered them by the State Board of Agriculture and faculty of the College, which was served in the main dining-room of the women's building. Although this room had been enlarged and the tables rearranged so as to greatly increase its seating capacity, it was filled to the limit by the increased number of live stock breeders and feeders in attendance at this session, as compared with the meetings in former years. After the excellent meal had been served by the college girls, President Snyder, acting as toastmaster, called on the distinguished visitors from other states who were present, to attend the various breed meetings, members of the Legislature, the State Board of Agriculture and others, for brief after-dinner talks. As usual, the banquet was one of the appreciated events of the meeting.

The general meeting was held on Thursday in room 402 of the Agricultural Building. President Stevenson having been called away from the meeting on important business, Mr. H. H. Hines, veteran member of the organization, was called upon for reminiscences of its organization and development, and responded in a manner greatly appreciated by all present.

The address of the morning was given by Mr. Wayne Dinsmore, Secretary of the Percheron Society of America, who spoke on the topic, "The Effect of the European War on the Pure-bred Horse Industry." Mr. Dinsmore pointed out in a very clear manner how the stoppage of all imports from Europe and the practical annihilation of the Belgian breed in its native country, together with the increased demand on America's horse supply for exportation to the countries at war all combined to make a bright future for the pure-bred horse industry for several years to come. Figures were presented in support of the contention that prices would not only be higher

Following the noon recess Prof. A. C. Anderson gave an illustrated lecture on the variation of fat content in milk, the illustrations used being charts giving the result of one week and two day tests for several thousand cows of different breeds, many of them taken under herd conditions and others during official and semi-official tests. These charts proved conclusively that the commonly accepted idea that the fat content of the milk of individual cows is normally constant in amount is a fallacy. Only about one-third of the cows tested conformed to the previously held idea that the fat content in the milk of an individual cow will seldom if ever vary more than one per cent, while in occasional cases it was shown conclusively that the variation might be more than six per cent. This was a point of much interest to the dairy-men present, and the program committee was requested to ask Prof. Anderson to continue this line of investigation and give further data at next year's meeting.

Reports of committees followed the completion of the program. Hon. W. H. Schantz presented for the Legislative committee a draft of the proposed changes in the stallion license law and proposed new dog law which had previously received the approval of horse breeders' and sheep breeders' associations, and these were endorsed by the members. Mr. Norton reported as follows for the committee on resolutions, the draft presented being adopted without comment by the association:

The Michigan Improved Live Stock Breeders' and Feeders' Association, in its Twenty-fourth Annual Session, hereby adopt the following final resolutions:

First, Resolved that the thanks and appreciation of this association is due the officers of this association, the Michigan Agricultural College, and all others that have so generously contributed and worked for the success of this meeting.

That this association hereby endorses the present and efficient work of the State Live Stock Sanitary Commission in co-operation with the federal authorities in the eradication of hoof-and-mouth disease from this state during the past three months.

Further, it is the firm belief of this association that no state, or no section of any state, can afford to temporize with this disease, we therefore pledge the support of this association to any future action which may be necessary to properly protect the live stock of the state of Michigan, and to lend aid in the final and speedy eradication of the malady from the United States.

Whereas, the necessity of a rigid inspection of the commercial feeding stuffs is of great importance to the live stock interests of the state, and

Whereas, an intimate relationship exists between the college and the live stock interests of the state, and

Whereas, the Michigan Experiment Station is equipped to conduct such an inspection, both chemically and microscopically and also to conduct digestion experiments to determine the feeding value, and

Whereas, the Michigan Experiment Station has the privilege of free use of the mails to distribute such information to those interested in it;

Be it Resolved, that the Michigan Improved Live Stock Breeders' and Feeders' Association go on record as favoring the transfer of the administration of the state law relating to the inspection of commercial feeding stuffs from the State Dairy and Food Department to the Michigan Experiment Station.

Whereas, for the past four years the attempts of the State Board of Agriculture to secure increased appropriations for the Agricultural College in order to keep pace with the rapid development of its work, have failed, and

Whereas, the mill tax rate-making appropriation for that institution remains where it began in 1901 with only such increased revenue as has come from the increased equalization of the property of the state, and

Whereas, at this time the institution, with a vast work before it, is in sad need of both buildings and re-

sources with which to do its work, therefore be it

Resolved by the Michigan Improved Live Stock Breeders' and Feeders' Association that, in the judgment of this body, it is time the Legislature gave long needed assistance to an institution that touches the welfare of every person in the state, by making a very substantial increase in its mill tax rate to take care of its growing expenses, and by giving it a special appropriation for buildings which are so needed that the work of the college is already sadly hampered for want of them.

Following the report of the committee on nominations, the following officers were elected for the ensuing year:

President, Hon. W. H. Schantz, Hastings; vice-president, Frank R. Crandall, Howell; Secretary, George A. Brown, East Lansing; assistant secretary, W. E. Edwards, East Lansing; treasurer, C. P. Reed, East Lansing; executive committee, Geo. H. Brownell, Detroit; Colon C. Lillie, Coopersville; C. G. Parnell, Jackson; J. Fred Smith, Byron; Hon. A. T. Roberts, Marquette.

THE MULE FOOT HOG.

Will you give a history and description of the mule-foot hog? Is there any ground for the claim that they are immune from cholera? If such immunity exists does it extend to grades that possess solid hoofs? How do they compare with Poland-China, Chester White, and Duroc hogs for farmers to keep?

Wayne Co. S. McP.

The Mule Foot breed of hogs derived its name from the fact that the individuals of this breed have solid hoofs like those of the mule. The origin of the breed is not certainly known and not too well agreed upon by the patrons of the breed. From whatever source may have come the original foundation stock, the improvement of the Mule Foot hog and its recognition as an improved breed occurred in the south central and middle western states of this country, in which sections are to be found the greatest number of pure-bred herds. In color the Mule Foot hog is black, and they rank as one of the larger breeds. They are smooth rather than coarse in conformation, but have the reputation of being both prolific and hardy, as well as docile in disposition.

With regard to their immunity from cholera, the claim has been made among patrons of this breed that they are much less susceptible to the disease than are individuals of other breeds. Some go so far as to state that they have never known a pure-bred hog of this breed to have cholera. Whether this alleged quality will be apparent in comparison with other breeds should they become as numerous, is, of course, a matter of speculation. In type and conformation they resemble the Chester White or Poland China more than other breeds. They make very presentable show hogs, and have the reputation of being economical meat producers. They are gradually assuming a more important place among the improved breeds of hogs maintained on the farms of this country, but owing to their more limited number, opportunities for individual selection are not as great, hence their distribution as a breed has not, and for some time to come, probably will not be as rapid as that of the other improved breeds with which the average farmer is more familiar.

The advance in prices for corn are having a noticeable influence in forcing immature cattle on the markets of the country, corn having been marked up about six to eight cents a bushel for delivery in future months in the Chicago market since the low time in November, and selling about that much higher than a year ago. Colder weather has resulted in materially increasing the consumption of corn and other stock feeds on the farms of the country, and late advices speak of much larger purchases made of corn by western and southwestern stock feeders. Oats, too, are headed in an upward direction, with recent sales on the Chicago Board of Trade about 14 cents higher than a year ago.

COMPENSATION FOR TUBERCULOUS CATTLE.

Does the state pay for cattle that react upon the application of the tuberculin test?

Hillsdale Co.

C. O. B.

The State Live Stock Sanitary Law was revised by the Legislature during the session of 1913; Sec. 24 of Act No. 199 of the Public Acts of 1913 covers the above question, and reads as follows:

"In case of tuberculous cattle, whenever the commission shall direct the killing of such cattle, it shall be the duty of the commissioner to appraise the animal or animals condemned, the owner or owners thereof to receive 50 per cent of value of animals as though not diseased, but such sum in no case shall exceed the sum of \$50: provided, that the owner or owners of slaughtered animals shall receive no compensation for the same unless the commission shall be satisfied that the premises have been kept in a sanitary condition, nor shall they receive compensation until said sanitary commission is satisfied that the infected premises have been disinfected in such a manner as to prevent the further spread of the disease. When the State Live Stock Sanitary Commission, or a member thereof, shall deem it expedient to have cattle that have reacted to the tuberculin test, slaughtered under federal inspection, or under the inspection of a competent veterinarian authorized by the State Live Stock Sanitary Commission, it shall have the power to order such slaughter. If the carcass of any such animal shall pass the inspection without being condemned, the owner of the animal shall receive all proceeds secured from the sale of such carcass after payment for shipping, handling and slaughtering charges have been deducted, in addition to the above mentioned 50 per cent appraisal value. If the carcass of any such animal shall be condemned by the inspectors, the owner of the animal shall receive the proceeds of the sale of the hide, tallow, offal or any other proceeds from the sale of the carcass, after deducting the cost of handling, shipping and slaughtering, in addition to the above mentioned 50 per cent appraisal valuation: provided, that any animal, upon being slaughtered, and showing tuberculin lesions, the owner thereof shall be paid full value for such animal, but such sum in no case shall exceed the sum of \$75. The State Live Stock Sanitary Commission shall have power to designate the places where suspected animals shall be slaughtered, and also to employ a competent inspector to examine the carcasses of slaughtered animals.

LIVE STOCK NEWS.

There is a good deal of talk regarding the great shortage of cattle in feeding sections of the country, and the best authorities are agreed that the country is fast approaching a beef famine, for while our population is increasing rapidly all the time through births and immigration from foreign countries, the cattle supply is decreasing all the time. Arthur G. Leonard, president of the Union Stock Yard & Transit Co., of Chicago, said recently that in 1915 and during the following six to ten years, at least, there will be the greatest demand for meats, especially beef, and the greatest scarcity of live stock, especially cattle, which the country has ever known. Furthermore, contrary to belief on the part of many producers in the United States, this shortage of meat foods cannot be made up from the surplus of other countries, as Canada, Mexico, South America and New Zealand are also short of cattle. Evidently, the time has come when farmers should engage in breeding high-class beef breeds of cattle as extensively as possible, and the sooner this is done, the better it will be for both producers and consumers of beef.

Kentucky cattle, en route to Chicago, were unloaded at Indianapolis recently owing to the operation of the 36-hour law and were refused permission to finish the journey. Selling them on the latter market was naturally attended with heavy loss to the owner.

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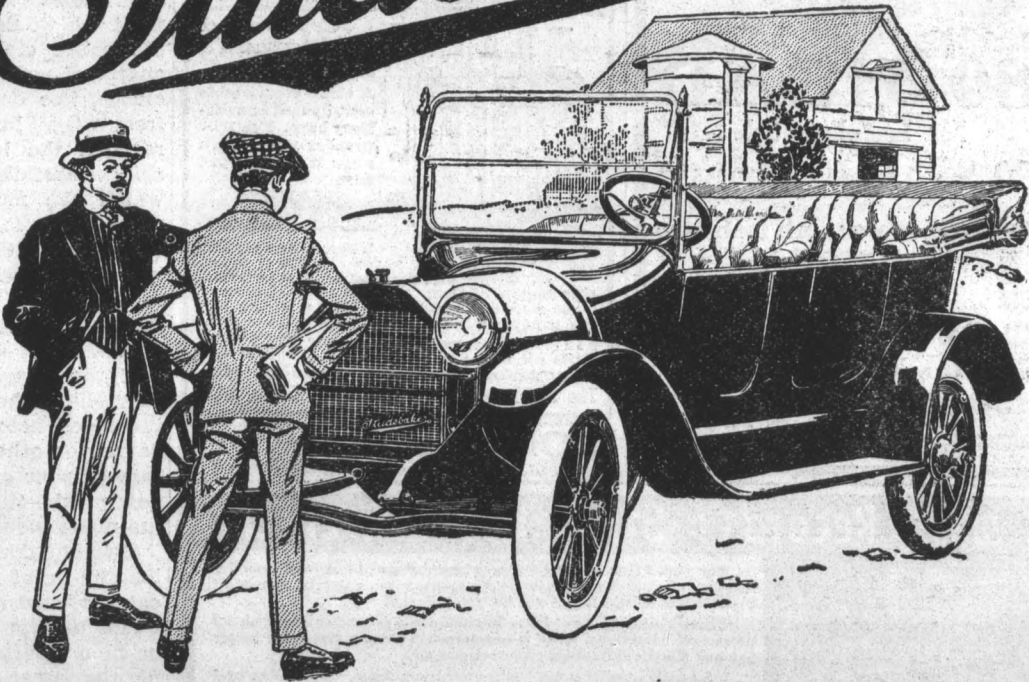
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HOME-CURED MEATS ON THE FARM.

It has been my privilege to visit at the farm homes of very many of the best farmers, not only in Michigan, but throughout the middle west. By a little observation it is readily seen that the customs that prevailed fifty years ago in curing meats at the farm have been abandoned, and very often, if we are to believe the statements made by the farmers and farmers' wives themselves, the family, while entertaining those who visit them both regularly or incidentally, are brought to an embarrassing condition. It is safe to say that in most cases people desire to live upon a mixed diet, and especially to furnish excellent meals made up of what is termed "meat victuals" when company comes. Most of the older people at the present time remember the good old days on the farm when all members of the family looked forward to the days when they would be killing the meats for the family during the ensuing year. It was certainly with the young people the day of rejoicing when two or three neighbors would gather to assist the members of the home family in killing the hogs and preparing them for use. The children looked forward to the time when they could have some of the dainties that they relished very much. A meal of liver was perhaps among the first; then came the tenderloin and spare ribs, and other dainty cuts that furnished a meal that was enjoyed in such a manner that the remembrance of it even at the present time is a very pleasant one.

Then there was the slaughtering of the animal that was to furnish the beef for the family during the winter and spring. How we looked on in anticipation as the different cuts were laid by; some to be placed away in brine, or sweet pickle, for corn beef; some retained for fresh cuts, and others for smoking and drying. The process was not a difficult one, and yet the different parts of the animal were handled in such a manner as to furnish a substantial repast at any time of the year.

Methods of Curing.

In considering the methods of curing the meats to keep for family use, we will first mention that of the salted beef. It was not a difficult matter to place a boiler upon the stove, containing a sufficient amount of water to cover the amount of meat that was to be packed and salted. Sometimes it was 100 pounds, and at other times more. A sufficient amount of what we call "pickle" was one of the first considerations. For every 100 pounds of meat we would put into the water in the boiler eight pounds of salt, two quarts of molasses, two ounces of saleratus, two ounces of saltpeter. Stir frequently, heat until they nearly reached the boiling point, and then skim carefully, put the barrel in which the meat is to be salted in place where it is to remain during the winter, pack the chunks of beef closely in the barrel and pour the pickle on to the meat while hot, and weight down to hold the meat under the pickle.

If the chunks of beef are bloody they should be soaked to rid them of the blood before being packed in the barrel, or otherwise it may be necessary to pour off the brine and make a new pickle, if there are indications of too much blood in the pickle.

The chunks of beef that were cut lengthwise of the grain of the muscle can be cured in the same kind of liquid that is used for the corn beef, or in ordinary salted brine. We prefer the sweet pickle. After the strips have remained in the pickle for three weeks they can be hung up near the fire and dried, after which they can be folded up in paper or wrapped in cloth and put away for future use.

The cuts of the beef that are desired for family use during the cold

weather can be kept fresh any length of time by packing in snow or ice, and will be as fresh and palatable as when put away.

Curing of Pork Meats.

The hams and shoulders from the hogs can be cured easily by cutting and trimming as desired, and pickled in the same liquid that we gave for curing corned beef. This is not a difficult process, as the different parts can be left three or four weeks in the pickle, or any length of time, and when convenient taken out, drained until dry and put in the smoke house and smoked, as may be desired. After the smoking process each ham and shoulder should be inclosed in a paper sack, wrapped and stored away in a dry and cool place. Some have found the oat bin an excellent place to keep the hams until needed. Others cut the hams in slices, fry and pack in crocks and cover with lard to exclude the air. In this manner they can be kept any length of time and when taken out will be fresh and palatable.

If one desires to have bacon on the farm from their own hogs, let them cut the side strips running from the forward shoulder to the flank, and pickle, drain and smoke, and one has palatable bacon that is both nutritious and economical as meat. The fat back, or the thick part of the pork, can be packed in a barrel, laying first a layer of coarse salt, then a layer, standing a tier of the meat around on edge in the barrel until the layer is completed, fill all the crevices with salt, then another tier, and so on until all of the pork is placed in the salt. Dissolve in a pailful of water as much salt as can be dissolved and pour onto the pork until it is covered, weight down, and it will keep almost any length of time if placed in a cool place. The cellar is usually the place where it is kept.

Matter of Convenience.

As a matter of convenience the different kinds of meat that are cured and retained on the farm for family use are worth many times the trouble required in order to retain them in a condition for family use. When such meats are at hand a variety can be selected at any time, and instead of depending upon the meat market in the nearby village, where about the only thing one selects is beefsteak, rib roast and sirloin, for which one pays about three times as much per pound as the meats cured on the farm will cost the farmer, the variety of meats that are cured on the farm will furnish as palatable meals as those that can be secured at the market. During these days of good living when one realizes that they have only one life to live and desire to have all the good things they can enjoy as they go along, it is well worth the while to not only feed and secure the meats upon the farm, but to retain them fresh and cured in a manner that will make them not only palatable, but healthy and nutritious. Instead of having meats only once or twice during the week, by the same expenditure of money the cured meats on the farm can be enjoyed at least once or twice per day, and the health and enjoyment of the family maintained, especially during the winter time, in a better manner than when the meats furnished from the markets come in irregularly and at different periods of the week. It is worth the while to study economy as well as actual enjoyment, and the farmer and his family is entitled to the fat of the land as well as those who are engaged in other kinds of business, and when he can secure for his own use and benefit meat at the low rate at which he is compelled to sell it, there is no good reason why the farmer's family should not be supplied during the larger portion of the year with meats that are relished and help maintain a healthy, strong and vigorous conditions of the consumers.

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Preventing Hog Cholera.

FOR several months the writer has received a great many inquiries from swine breeders asking if hog cholera cannot be prevented by sanitation and disinfecting their premises, and if so to name reliable disinfectants to use in the barns and hog houses. They also want to know if a hand sprayer that throws a fine mist, is as effective as a coarse sprayer that will make the interior wet with the disinfecting solution? They are also desirous of knowing if there are any other precautions which should be followed out in order to obtain protection from cholera infection? Another question which is frequently asked, can cholera be prevented by giving hogs drugs, and also another question, does the hog with mule foot ever have cholera?

First of all, it must be understood that without co-operation and enlisting the services of all your neighbors, little can be accomplished in preventing or controlling the spread of hog cholera. Individual efforts must prove unsuccessful. Furthermore, co-operation without sufficient education and knowledge of how the infection is spread will avail but little. It will also be necessary to follow out certain sanitary and quarantine regulations in order to protect well hogs from becoming infected in your locality. Nearly every State Sanitary Board has a state veterinarian; besides, the state veterinarian, local veterinarians assist in carrying out his instructions; therefore, the local veterinarian should be a good man to consult. Without a hearty co-operation between farmers, hog owners and the state officials, less good work will be accomplished.

Every man who is dealing with this disease and its control should be thoroughly educated along these lines. If the state veterinarian, his assistants, local veterinarians and farmers were familiar with every detail of the work, there would be less chance for conflict and difference of opinion.

I understand it is quite common practice among hog raisers to purchase stock for breeding purposes every year and right here I might say that this new stock should be bought out of herds free from disease; besides, they should be segregated some distance from your own swine and kept there for three or four weeks. It is also equally important that you do not go to infected premises, nor where cholera exists, for fear of bringing it home with you. It is equally important that your hogs are kept on your own premises, besides, your neighbor should do the same. As you perhaps know, your neighbor may innocently bring the infection to you; dogs have been known to carry the infection. Birds may also spread the disease; also streams of water may carry infection to your premises. It is also very important to keep your hogs in a vigorous healthy condition; therefore, they should not be confined in small pens or small lots, but have a large run. It is also very important that they have a supply of good water. Hogs to do well must have plenty of pure air; therefore, they should be kept out of filthy places and badly ventilated barns, and as you know, it is almost impossible to disinfect certain kinds of buildings. However, by keeping at it you can improve sanitary conditions by frequent spraying with disinfectants and many of the commercial disinfectants are quite reliable; but I would suggest that you apply them one-third stronger than advertised. Cleanliness is of great importance, both in preventing and in eradicating premises of hog cholera. There must be a great necessity for co-operation between all the authorities having charge of these matters, or hog cholera can never be controlled. The Live Stock Sanitary Board, agricultural colleges, veterinarians,

hog dealers and hog raisers must all do their part in order to have much effect in hog cholera control. Proper quarantine regulations and sanitation, if strictly followed out, will doubtless check the progress and spread of this disease. It seems to me that uniform shipping rules and a proper understanding between the Department of Agriculture, Bureau of Animal Industry, State Sanitary Boards, State Veterinarians, Government and State Inspector is required in order to prevent the spread of this disease. No matter how sanitary or how thoroughly you disinfect your premises, it will not prevent your hogs becoming infected; however, vigorous stock will resist infection much better than animals of weak constitution and low vitality. I know of no reason why the hog with mule foot should be immune to hog cholera, and it is a fact that they suffer from hog cholera, but perhaps being of strong constitution, they may resist the infection fairly well; besides, may not die so readily as others when diseased. Hog cholera infection is not prevented by giving drugs; however, giving swine tonics improves the general tone and condition of the system; therefore, if hogs are unthrifty and not growing, tonics are proper remedies.

When hog houses and pens are sprayed, a liberal quantity should be applied, enough to thoroughly saturate the interior of building. A very thorough disinfectant for fences and buildings is fresh slacked lime applied hot. This can be put on with a spray pump on inside of buildings and on fences with a broom or whitewash brush. You should also scrape and clean the floors of your hog house with a hoe, burn up rubbish and give the floor a coat of fresh whitewash. Of course, it can be poured on out of a sprinkler; spreading lime about the hog lot and leaving it there for two or three weeks and mixing it with the dirt is pretty apt to destroy infective germs if there are any there. Spraying with one part carbolic acid and thirty parts water is quite effective, or one part coal tar disinfectant and fifteen or twenty of water is very good.

DR. W. C. FAIR.

LIVE STOCK NEWS.

Corn has advanced to such high prices of late that many farmers are losing no time in marketing their hogs and this is especially true of stock feeders who have no cattle left. A great many stockmen have sold off their cattle, alarmed because of the wide-spread ravages of the dreaded foot-and-mouth disease. Some recent receipts of hogs in the Chicago market were of extremely generous proportions, nearly 60,000 hogs showing up there on a Monday, and yet the demand was so good that the break in prices was only trifling. The ruling sentiment in the hog markets of the country is very much more optimistic than it was a few months ago, and hardly anybody looks for any considerable break in prices. On the contrary, predictions have been made of much higher prices later on. A hog seller of prominence in the Chicago market recently made the prediction that there will be \$8 hogs next month and \$9 hogs by April.

Notwithstanding the abnormal conditions existing in the Chicago cattle market, caused by the federal state quarantines, fat beefs are still selling at much higher prices than in most former years, the last two years excepted. This is explained by the small proportion of the best class of cattle, there being hardly enough to go around. Many cattle arriving on the market have to go into quarantine and these are selling at a serious disadvantage, being discriminated against by the packers and smaller butchers, but even these sell as a general rule at much higher prices than in most past years.

Montana farmers are making marked progress in breeding and rearing a superior class of swine, and numerous shipments are being made to Chicago, St. Paul and other western markets, while some late shipments to Chicago topped the market, actually outselling prime droves of hogs fattened in the corn belt states.

Studebaker

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A TRUE STORY ABOUT A STUDEBAKER

Do you remember the Studebaker Wagon I bought from you in November, 1877?

I haul ore and freight with it over the mountains and use it for a hay wagon sometimes.

The tires have never been reset and it has never had any repairs to amount to anything and it has never been under shelter.

It is a good old wagon yet and capable of being used for many years to come.

Ray McLaughlin,
Hayman, Col.

**36 year old Studebaker
hauling ore over
mountains**

THINK what this sturdy wagon, bought in 1877, has earned for its owner.

—and think how very little he has spent on it for repairs. Even the tires have not had to be set.

—and it has never been under shelter,

What you can expect from a Studebaker

A remarkable story. But no more than is expected of a Studebaker.

Air dried wood, tested iron and steel, good paint and varnish and skilled workmanship are bound to give satisfaction—and lasting results.

That's why it pays to buy a Studebaker.

It is true you may be offered a wagon represented to be "just as good" and costing less. But don't be imposed upon. A wagon is as good as its life is long—and Studebaker wagons are cheapest in the end.

What you want is a wagon that will last a lifetime, run easily and not cost you continual small sums for repairs.

And that is what you get when you buy a Studebaker. Sixty-three years of wagon building integrity insure you against the mistakes of the manufacturer who makes farm wagons to sell cheap.

Remember a Studebaker is sold at the lowest price for which it is possible to make a trustworthy wagon.

—and the same is true of Studebaker Harness and Buggies.

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Studebakers last a lifetime

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ELEPHANT HEAD
RUBBER BOOTS**



A Better Boot

All rubber boots are not high grade. Some men do not realize that. They go into a store and ask for "a pair of rubber boots." Then they are surprised when the boots chafe, blister and rub. When such boots quickly wear out these men wonder why their boots don't last as long as those worn by their friends.

When you buy boots be sure to get ELEPHANT HEAD RUBBER BOOTS. They are the boots of double wear and extra comfort.

Only the highest quality pure, live rubber and first grade duck is used in making ELEPHANT HEAD RUBBER BOOTS. Look for the ELEPHANT HEAD MARK. Boots that bear it are sure to wear well and be comfortable.

All the better dealers sell ELEPHANT HEAD RUBBER BOOTS. You can depend on anything you buy in the stores that have them.

WOONSOCKET RUBBER CO., Woonsocket, R. I.

RAIN TILE

Use NATCO Drain Tile—Last Forever

Farm drainage needs durable tile. Our drain tile are made of best Ohio clay, thoroughly hard burned. Don't have to dig 'em up to be replaced every few years. Write for prices. Sold in carload lots. Also manufacturers of the famous NATCO IMPERISH-ABLE SILO, Natco Building Tile and Natco Sewer Pipe.

NATIONAL FIRE PROOFING COMPANY, Fulton Building, PITTSBURGH, PA.

On Their Feet Again

HUNDREDS of farmers and dairymen have felt the joy of seeing sick and ailing cows restored to health and productiveness by the use of KOW-KURE, the great cow medicine. This wonderful remedy has proved its worth for over twenty years in the prevention and treatment of ailments which sap the life and strength of dairy cows—such as Abortion, Retained Afterbirth, Barrenness, Milk Fever, Scouring and Lost Appetite.

Many backward cows are overfed with so-called stock foods when what they really need is a medicine that will tone up the system and repair the sluggish digestive and genital organs. **HEALTHY** cows will thrive on nature's food and produce more and better milk.

If you have a cow that is below par, go to your druggist or feed dealer and try a package of KOW-KURE; the result will surprise you. Sold in 50c and \$1.00 packages.

Write today for free treatise, "The Cow Doctor."

Dairy Association Company
Lyndonville, Vt.



DRIED BEET PULP PAYS

Because it Increases the Production and Lowers the Cost.

It is a vegetable feed and is not adulterated.

Order of your dealer or write.

T. F. MARSTON, Bay City, Mich.

IT PAYS TO DEHORN

Dehorned cows give more milk; take less room; are gentle and easily handled. Dehorned steers fatten quicker and are not dangerous. Horns cost money; remove them with the new Improved Keystone Dehorner—quickest, cleanest, strongest and most satisfactory. Clean, shear and sliding cut; no crushing; no bruising. Money back guaranteed. Send for booklet.

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THEN PAY.
TILE SILO**
Chain of Kilns; Atlantic to Rio Grande
Reduces freight cost; fire and frost-proof; weight anchors itself; ample hoopage galvanized; priced at your town; 5 year guarantee; free sample.
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Separates 99 ⁹⁸/₁₀₀ %

Guaranteed the Closest Skimming Machine on the Market

A marvel of simplicity. Awarded gold medals in competition with others at World's expositions held in Australia, Russia, Austro-Hungary and Sweden.

"VEGA" leads all in efficiency, durability, and appearance. No complicated parts. Two worm gears do the work. Fewer discs. Absolutely sanitary. Discs interchangeable. Easily cleaned and assembled. No numbering necessary. Bowl self-balancing. Runs 14 minutes independently after reaching regulation speed. Lasts a lifetime. Recommended and endorsed by leading dairymen in all dairy countries.

Investigate the "Vega"—Get more information about this wonderful separator that has caused such favorable comment. Call on your Hardware or Implement Dealer for a demonstration. If he doesn't handle the "VEGA," ask him to order one for you to see. If he will not do this write to us, sending us his name and address. In any case don't fail to send for our free catalog. Postal will do. Address:

The Vega Separator Co., Dept. 11, Fostoria, Ohio



Progress Among Dairymen.

AS in most other lines of business, the forward movement is pressing the dairy interest forward at a pace never before known in this country. Practically every breed of stock is represented by an organization which is doing its best in all legitimate ways to further the breeding, perfection and sale of animals belonging to that particular kind of cattle. So we have the Holstein-Friesian Association, the Guernsey Cattle Association, the Jersey, the Ayrshire and so on down the list; and all these organizations are doing fine work in presenting the claims of these breeds and pursuing the work of bringing all the individuals belonging to them to the very highest state of usefulness and perfection.

But when all has been said and done, it remains for the everyday man, the man out on the farms of this country, to do most for the furthering of the cause of each of these breeds of stock. You and I, the men in our shirtsleeves, are the ones that have the actual work to do, if ever the particular kind of cattle we are interested in reach anything like prominence in the public eye.

Pure-Bred Stock Profitable.

What does it avail if we pay out a lot of money for thoroughbred stock and then let that stock deteriorate or simply hold an inferior place in the list of fine cattle? We are the ones who must push out the poor, scrub stock and we are the ones who must put in their places choice, profitable and really excellent stock. How shall we best do this?

Seems to me, we must, in the first place, have greater pride in our work. It is the man who really loves the stock he keeps and takes pride in his business that makes it a success. There are more farmers who are thus proud and more in love with their profession than ever before.

When I bought my farm, now well-nigh a quarter of a century ago, not one man in all the thickly populated part of the country in which I live had a thoroughbred cow. Good grades were very few and far between. Men were satisfied to drift along and make the little they could from their very common stock. Here and there a man was just getting a taste of the better things he had heard some man speak of or about which some farmer wrote in the farm papers; but as a rule very little fullbred stock was to be found anywhere in that section.

Once Extravagance Now Common Sense.

It is with some degree of satisfaction that I recall the fact that it was my privilege to bring the first thoroughbred bull into that neighborhood. I know some of my neighbors thought I was getting to be pretty ambitious, and perhaps actually extravagant, to pay the price I did for such a creature when only a calf; and when I drove away five or six miles and brought home in my wagon a full-blooded calf for which I paid what was then considered an outrageous price, there were those who held up their hands in horror. I must be going crazy to do a thing like that. But I have lived to see some of my stock in the pasture of many a neighbor since then. Better still, the very men who looked askance on me then, now say it was one of the best things I ever did.

I saw some of this stock only the other day in the pasture of a neighbor—fine, profitable heifers—and it did me good. I never realized anything much from the stock thus placed in the herds of my friends; that was not so much my purpose as to help where I could. I speak of this as showing one way we may take to build up the stock of our community. If we were to do this more generally, in a little while we could vastly improve the

value of the dairy cattle of our part of the country.

Give Good Cows Good Care.

And then, the care we give our stock, makes a great difference in the standing of that particular kind of cattle. Just the one thing of grooming cattle may be a means of recommending them to those who see them either in the field or in the stable. Everybody likes to see stock well cared for, even if all do not at once follow the thrifty man's example who thus treats his cows. The time is pretty sure to come, if he faithfully keeps on his way, when other farmers will begin to groom their stock. What a difference it does make, whether a man permits his cows to get loaded down in winter with dried fertilizer clinging to side, flank and lower limbs, or whether he carefully combs and brushes away every particle of foreign matter every day. The neighbor who sees a well-cared-for herd has an object lesson which he will not forget, and that he will in time profit by.

Again, we may boost the kind of stock we have by letting our neighbors know what our cows are actually doing from day to day and year to year. It at first gives a man a sinking in the region of the stomach to be told that John Jones has ten cows that give on an average a third more milk than his best ten cows give, and that that milk tests three or four points more than his does. I know that, for I have felt that sense of goneness myself; but sometimes it is good for a man to undergo just such a condition of things. It puts a flea in our ears that is not a bit comfortable and makes us squirm to get it out, so that we may have a bit more peace of mind.

Know what the Cows are Producing.

It is a good thing to get a Babcock test and know what every cow is doing, and let other folks know what the result is. Still another way is to ask a neighbor who does not take much stock in breeding up his stock to bring up some samples of his milk and you have some of your own. Test the milk of your neighbor's cows, test that from your own cows, and compare the results. He may think you have juggled the returns. If he does, submit the work of taking the samples and making the test to some man who is absolutely disinterested and see how that sets on his stomach. Few of us like to own up beat. There is something in human nature that makes us say, "I'll show that man a thing or two!" Get a farmer's dander up that way, and it will not be long before there will be a change down at his place!

In many other ways we may help along the work of improving the stock of our locality, but I have time for only one more. Take some of your stock to the fairs. Your friends will be there. They will see your display. The ribbon on the horns of your stock which has taken the premium gives your neighbors a boost that perhaps nothing else you could do might. They go home saying, "Wonder if I couldn't do something like that? I believe I'll try it!" And the good work gets a big jog in the right direction.

Be Modest in Your Pride.

One thing must be carefully avoided in all this. Nothing kills like bragging. The man who brags is the most hated and despised man in all the community. Take pride in your work. Back your pride up with care. Modestly report what your stock is doing. Keep your stock so that it will speak for itself. Work all the time for better things—never be satisfied to sit down and think you are at the head of the heap. Success is not gained that way, but by constantly pushing

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ON TRIAL
AMERICAN CREAM SEPARATOR
A SOLID PROPOSITION to send fully guaranteed, a new, well made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk; making heavy or light cream. The bowl is a sanitary marvel, easily cleaned.
ABSOLUTELY ON APPROVAL
Gears thoroughly protected. Different from this picture, which illustrates our large capacity machines. Western orders filled from Western points. Whether your dairy is large or small write for our handsome free catalog. Address: **AMERICAN SEPARATOR CO., BOX 3061 Bainbridge, N. Y.**

Save an Extra 17% of Your Ensilage
No waste from leakage or evaporation as in other kinds. You keep all your ensilage sweet and fresh when you use a **ROSS In-de-str-uct-o Galvanized Metal Silo**. Can't blow down, buckle, twist or collapse. Stands rigid even when empty. Fire-proof. No painting or repairs. Easily erected. No spoiled ensilage near wall. Guaranteed against silage acid. We also make the Ross Wood Silo. Write for free catalog. The E. W. Ross Co., Box 314 Springfield, Ohio.

BOWSER SWEEP MILLS
Different from all others. 4 or 2 horses. Grind Corn with shocks and all small grains. (Also make 10 sizes of bolt mills) **FREE**—Booklet on "Feeds and Manures" **D. N. P. Bowser Co., South Bend, Ind.**

on. But never be guilty of vain boasting.

And little by little we will have the satisfaction of seeing that the world is on the upward path. Better still, we will have the consciousness that we have helped a little to encourage some to take that better road.

New York.

E. L. VINCENT.

WHAT GRAIN TO FEED WITH RUTABAGAS AND CLOVER HAY.

What grain should I feed my milch cows? I have rutabagas and clover hay. Is cottonseed meal good and how much? How would ground corn and bran be, and is it better to feed this wet? Please advise a good ration.

Montmorency Co. S. H.

Rutabagas are a good food to furnish succulency to a ration. Probably not more than 30 pounds should be fed daily, 15 pounds night and morning. There is no better dry roughage than clover hay. Feed all the cows will eat without waste twice daily.

Your suggestion of corn meal and wheat bran is a very good one. Mix in equal parts by weight. This will hardly furnish sufficient protein for well-bred dairy cows giving maximum yields of milk, and I would recommend that you feed two pounds of cottonseed meal per day per cow and then as much of the corn meal and wheat bran as the cows will pay for. No one can tell just how much this will be. Begin with a comparatively small amount and gradually increase half a pound a day for a week, then wait a week more and add half a pound more and so on until you give

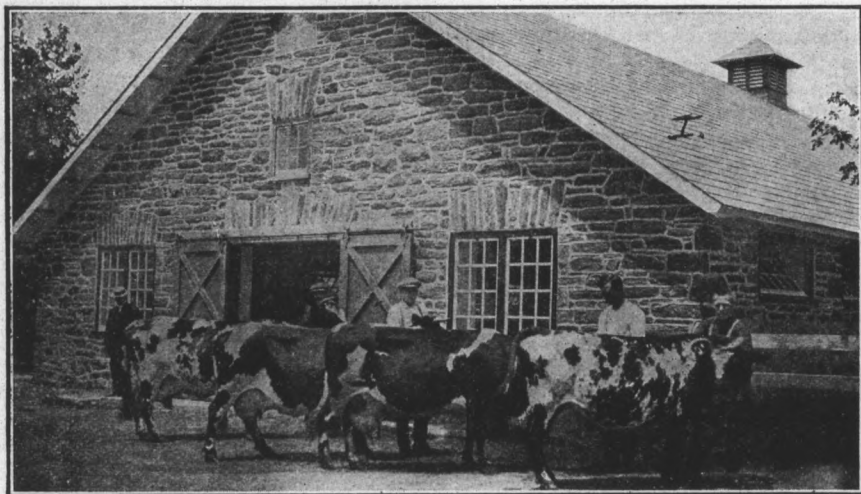
of the convention will occur at 10 a. m. on Tuesday, February 16. During this morning session the routine business of the association will be transacted, following the addresses of officials and the address of welcome.

At the afternoon session on Tuesday the discussion of dairying subjects will continue without interruption. A prominent dairyman of Genesee county will discuss various problems connected with milk production. His remarks will be followed by an address by Charles P. Reed, of the Farm Management Bureau, of East Lansing. Following each of these addresses a general discussion will be held.

At the evening session on Tuesday a lecture will be delivered by Prof. A. C. Anderson of the Michigan Agricultural College. In this lecture Prof. Anderson will use two dairy cows for demonstration purposes, one of which will be an animal of good type while the other will be an animal of poor type. Prof. Anderson will explain and illustrate the desirable points to be looked for in the good dairy cow.

On Wednesday morning the dairymen will again convene for a final half-day session. The program for this session will include an address by Hon. L. Whitney Watkins, official appraiser of cattle that were victims of the foot-and-mouth disease; also an address by Dairy and Food Commissioner James W. Helme. Following Mr. Helme's address the audience will adjourn to a neighboring moving-picture theater where scenes will be shown of the sanitary dairy at Lakeview Farm, Battle Creek. Free tickets to the show will be distributed to those present.

Beginning Wednesday noon the sessions for the creamery men, butter-makers and ice cream men will be



Pure-Bred Cows Well Kept are a Source of Pride.

them all they will pay for and bring a good profit. First class dairy cows will pay for as many pounds of grain per day as they produce pounds of butter-fat in a week.

MICHIGAN DAIRYMEN'S ASSOCIATION.

Thirty-one years ago a few pioneers of Michigan dairying met at Grand Rapids and formed an organization known as the Michigan Dairymen's Association. In the years that have since elapsed the Michigan Dairymen's Association has kept pace with the development of the dairying industry of the state. Instead of being an organization devoted entirely to dairying, it now embraces several organizations devoted to the manufacture of dairy products. The creamery owners, buttermakers and ice cream manufacturers have formed separate organizations of their own, but they still continue to meet under the friendly auspices of the parent association at its annual convention.

This year the annual convention of these allied dairy interests will be held in the Masonic Temple at Flint, on the four days beginning February 16. This structure provides a large convention hall and an exhibit hall for the display of dairy and factory equipment.

The program includes something of interest to every person engaged in any branch of the dairy industry. The sessions for dairymen are given first place on the program. The opening

held continuously until the close of the convention on Friday afternoon.

A feature that will prove of much interest to hundreds of dairymen of eastern Michigan is the market milk contest that will be held in connection with the convention. Officials of the Dairy Division, U. S. Department of Agriculture, will have charge of the scoring of samples in this contest. The Flint Board of Health has offered the use of its laboratory and Edward J. Friar, milk inspector for the health board, is now making preparations to hold the second annual contest for Flint milk producers in connection with the state-wide contest. Cash prizes and silver cups will be awarded to the dairymen securing the three highest scores on market milk. There will be no class for market cream. A silk banner will be awarded to the market milk dealer whose five or more producers secure the highest average score. Another feature of an original character will be introduced in the form of a contest between the health boards of the various Michigan cities maintaining a milk inspection department. Each health board will be invited to enter a sample of milk produced by a dairyman over whose herd that health board has jurisdiction.

Entry blanks for the state-wide competition for producers will be ready about February 1 and may be had upon application to Edward J. Friar at Flint or to the secretary of the Michigan Dairymen's association at Detroit.

LOOK AT YOUR NAME TAB—Does the date read Feb. 5th or Feb. 15th? If so the last issue in this month will be the last copy you will receive. Please send in your renewal now at the special renewal prices, 50 cents a year, 3 years for \$1 or 5 years for \$1.50. Please send it now while your name is still in type.



No Money Offer on the New National Keep Your Own Money

A new offer that will positively astonish you. Write for it. Learn the latest, newest and biggest thing in the making of cream separators. Post yourself before you decide on the separator you will get. Learn what you can do without going down in your pocket. Make the separator get money for you before you pay. Write now. This offer is strictly limited.

The Finest Machine Ever Built

This gigantic claim is made good to you. We stand back of it. You prove it to yourself on our no cost to you offer. It must be the finest and best machine to stand up under our no cost to you offer. Phosphor bronze. German nickel steel. The only machine with the marvelous Vortespoor one-piece skimming device. Fewer parts. Easiest to clean. Quickest. Skims to a trace.



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No Cost to You

No outlay of money. Not one cent. You know it must be an unparalleled machine that enables us to make this offer. Send coupon for all particulars. No obligation whatever.

Write Today This offer is strictly limited. Get it in your own hands while it is open to you. Send coupon or a letter or post card now.

National Dairy Machine Co.
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No-Cost Coupon

National Dairy Machine Co., Dept. 3396 Goshen, Ind.
Gentlemen:—Please send me full description of the New National and particulars of your limited no-cost offer, all prepaid and no obligations.

Name

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Only \$2 DOWN and One Year To Pay

For any Size—Direct from Factory

You can now get one of these splendid money-making, labor-saving machines on a plan whereby it will earn its own cost and more before you pay. You won't feel the cost at all.

\$24 BUYS THE NEW BUTTERFLY

No. 2 Junior—a light running, easy cleaning, close skimming, durable, lifetime guaranteed separator. Skims 95 quarts per hour. We also make four other sizes up to our big 600 lb. capacity machine shown here—all sold at similar low prices and on our liberal terms of only \$2 down and a year to pay.

Patented One-Piece Aluminum Skimming Device, Rust Proof and Easily Cleaned—Low Down Tank—Oil Bathed Ball Bearings—Easy Turning—Sanitary Frame—Open Milk and Cream Spouts.

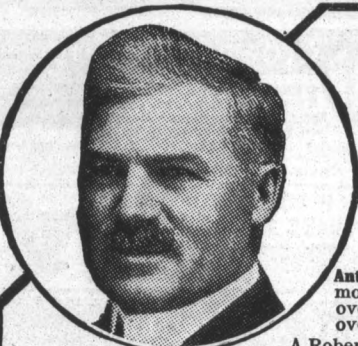
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Cow Abortion

You can stamp contagious abortion out of your herd and keep it out. Dr. David Roberts' Anti-Abortion Treatment will be sent you fresh, direct from the laboratories at Waukesha. Apply it yourself.

Anti-Abortion medicine overcomes the germs in the mother's blood—gets at the root of trouble. Antiseptic overcomes the germs in the genital organs. Disinfectant overcomes the germs in the stables.

A Roberts treatment for every animal ailment. Sold at drug stores. Over 3500 Roberts agencies in the United States. If not in your town, write us direct.

Special Consulting Service: Dr. Roberts will personally answer any and all questions pertaining to live stock ailments, and will advise you how to care for and feed your animals, upon receipt of one dollar.

Ask for free booklet on Abortion in Cows.

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Our patented lever device which operates 2 to 50 Swinging Stanchions and Cowstops at one throw of the lever, is the biggest improvement ever made in barn equipment. Only device in the world that will do it. Saves much time, trouble and labor in fastening and releasing cows. West Bend Equipment

REDUCES YOUR BARN WORK

Costs no more than others—yet has many superior features. We manufacture a complete line of stanchions, stalls, pens, feed and litter carriers, etc. Write for catalog showing complete line.

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X-Ray Heat Is Moist Like the Heat under the Hen

YOU can't beat nature's way. You can't beat the heat under the mother hen for hatching eggs. *That heat is a moist heat.* Every man and woman—every boy and girl on the farm knows that. The heat of old style incubators is too dry. It kills chicks in the shell. We have overcome that difficulty responsible for most of the failures of incubation. Yes, sir! We have matched the hen's heat in the X-Ray perfectly. We have done it by the

The greatest improvement that we have added to incubator science. No other machine has it. No other machine can ever use it. Completely covered by U. S. government patents.

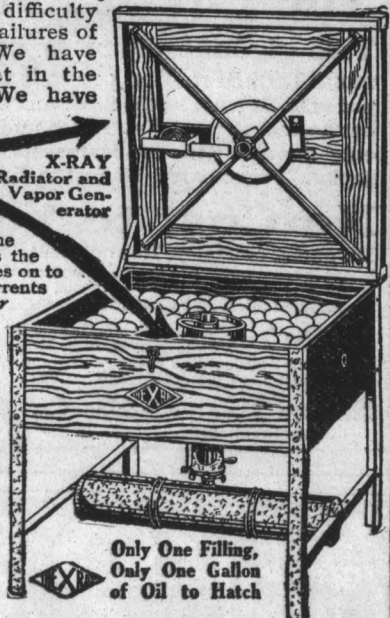
In the X-Ray Heating System the Vapor Generator is so located that all the heat from the lamp below is concentrated on it before the heat enters the X-Ray Radiator. This warms the water—creates a vapor—and the heat then passes on to the radiator tubes. These in turn radiate heat currents which must pass over and through this warm vapor before coming in contact with the eggs.

Insurance Against Dead-in-Shell Chicks

This great triumph in incubator construction cuts down the old trouble of dead-in-shell chicks. No more failures because the heat is too dry! In the X-Ray the heat is scientifically right. No guesswork. The gentle, even, vapor laden heat reaches each egg alike—the eggs in the farthest corners the same as the middle.

Send for new Free X-Ray Catalog No. 29, the finest Incubator Book we ever published. Tells you all about 15 great special features of X-Ray. Low prices direct from factory, freight prepaid. No agents.

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Only One Filling,
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Tells how thousands make big hatches make big money with Belle City hatching outfits. Tells how users won 13 more World's Championships in 1914, making

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My 10-year personal money-back Guaranty—my low prices, freight prepaid. See World's Champion machines in actual colors. Start early for gold offers. Jim Rohan, Pres. Belle City Incubator Co., Box 14, Racine, Wis.

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My World-famous high-quality Incubators and brooders, and my 20 Free Poultry Lessons make success easy and sure for you! Lessons given FREE to every purchaser of a

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With the free advice and lessons I give my customers, no one can possibly fail to make biggest hatches of strongest chicks. Write me. A postal brings all facts, book, prices and proposition. "Proper Care and Feeding of Chicks, Ducks and

Turkeys"—sent for 10 cents. Successful Grain Sprouters furnish green food, make hens lay in winter. Ask about my high grade poultry—all leading varieties.

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Hardy Northern raised Chickens, Ducks, Geese, Turkeys, Guinea, and Incubators All at Low Prices. Large New Poultry Book now ready—Send 4c. W.A. WEBER, Box 914 Mankato, Minn.

CAN'T BEAT THESE HATCHES

155 EGG
Set Up Ready for Use

J. R. Allen, Portsmouth, Ohio, got four 100% perfect hatches from his Progressive Incubator this year. Simplest, safest, surest hatch made. Heating system regulates itself. Hundreds of dead air cells protect eggs against sudden changes and insure big hatches.

\$7.35 LOWEST PRICE YET For 155 EGG INCUBATOR

Money back with 5 per cent interest if it don't make good. All wood parts genuine California Redwood. Copper boiler. Perfect hot water heating system. Double disc temperature regulator. Heavy safety lamp. Nursery. Double doors. Strong egg tray. Accurate thermometer. Egg tester. Shipped complete, set up, ready for use, for \$7.35. Freight prepaid east of Rockies. Incubator and Hot Water Brooder both \$9.85. Order now or write for Big Free Incubator Book. Progressive Incubator Co., Box 164 Racine, Wisconsin

Crown Bone Cutter BEST MADE Lowest in Price
FEED your hens out green bone and get more eggs. With a Crown Bone Cutter you can cut up all scrap bones easily and quickly, and without any trouble, and have cut bone fresh every day for your poultry. Send at once for free catalog. WILSON BROS., Box 251, EASTON, PA.

MONEY IN POULTRY Start small, grow big. Get winter eggs. Keep healthy fowls. Save your chicks. *Fog's* big book tells how. Describes largest poultry and 2000 machines were entered, including practically every make, style and price. With 140 egg Ironclad—the same machine we offer with Brooder, freight paid, for only \$10. Mrs. C. F. Merrick, Lockney, Texas, hatched 148 chicks from 148 eggs in the last contest.

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Why take chances with untried machines when for only \$10 we guarantee to deliver safely, all freight charges paid (East of Rockies) BOTH of these big prize winning machines fully equipped, set up ready for use! Why not own an Ironclad—the incubator that has for two years in succession won in the greatest hatching contests ever held. In the last contest conducted by Missouri Valley farmer and Nebraska Farm Journal, 2000 machines were entered, including practically every make, style and price. With 140 egg Ironclad—the same machine we offer with Brooder, freight paid, for only \$10. Mrs. C. F. Merrick, Lockney, Texas, hatched 148 chicks from 148 eggs in the last contest.

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30 DAYS' FREE TRIAL Money back if not satisfied.

140-Egg Ironclad Incubator
Don't class this big, all metal covered, dependable hatchery with cheaply constructed machines. Ironclads are not covered with cheap tin or other thin metal and painted like some do to cover up poor quality of material. Ironclads are shipped in the natural color—you can see exactly what you are getting. Don't buy any incubator until you know what it is made of. Note these Ironclad specifications. Genuine California Redwood, triple walls, asbestos lining, galvanized iron covering. Large egg tray, extra deep chick nursery—hot water top heat, copper tanks and boiler, self regulator, Tyson thermometer, glass in door and many other special advantages fully explained in Free Catalog. Write for it TODAY or order direct from this advertisement.

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Galvanized Iron Asbestos Redwood Insulated Boilers
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140 Chick Brooder

Milk as a Poultry Food

IN my poultry business milk forms a prominent item in the feeding, and after careful experimentation to determine its value, I am convinced that there is no more profitable way to dispose of the skim-milk than by feeding it to the growing chicks and laying hens. We used to feed it wholly to the pigs, believing that it was of no particular value to the birds. A circular from an experiment station, some years ago, opened my eyes to its worth. According to tests made it was established that sour milk had a feeding value of two cents per quart for the laying hens. My own experiments indicate that this is not an exaggerated statement.

Skim-Milk a Good Appetizer.

Skim-milk contains a little less than ten per cent of solid matter. This is very rich in muscle-forming material and protein for the production of eggs. The remainder is water. It will be seen, then, that its use is valuable, both for growing chicks and laying hens. It is also the best thing known to use in mixing up the wet mash for fattening the birds for market, largely taking the place of beef scrap and bone meal. Fowls or chicks fed largely on milk are noticeably healthy and always seen to have a ravenous appetite. Large food consumption is of prime importance, either in growing chicks or laying hens. In fact, the good appetite is necessary to promote growth of eggs.

I do not believe in feeding wet mashes except on rare occasions until the fattening stage is reached. It is then necessary to feed the grain moist to induce the birds to eat enough to

put them into condition for the market. I have, however, found that an occasional mash mixed with sour milk is an excellent appetizer. It should be wet just enough to be crumbly, never soft and mushy for chicks or laying hens. When the birds are in the fattening crates, it is safe to feed a softer mash.

Clean Milk Dishes Daily.

Best results are obtained from using the milk after it is sour. Fresh from the separator it does not give as good results, neither is it eaten as freely. I feed milk to both chicks and fowls from a drinking fountain. In this way it is kept clean, and free from filth. It is best not to feed too much at a time. Milk spoils easily, that is, it reaches a stage unfit for the birds if left outside in the sun for a few hours or even in the house when the weather is warm. For this reason it is a good plan to feed in the morning what the flock will clean up in a couple of hours. Then the fountain should be scalded out before any more milk is fed. Where milk is plentiful and is fed regularly, it is advisable to have at least two fountains for each flock, using one while the other is being aired and sweetened for the next feed. Remember, milk sours the fountain much quicker than water. When the milk is just at the point of turning sour it is unsafe to feed to little chicks as it is liable to cause digestive troubles. It is all right to feed after it curdles. Sweet milk for the little birds is also good, but it should be fresh from the separator.

New Hamp. C. H. CHESLEY.

THE VALUABLE DUST-BOX.

Every poultryman should see that there is a dust-box provided for his chickens to scratch in at this season of the year. The dust-bath is essential, for by its use the fowls are able to get rid of great numbers of lice. Poultry lice get their breath through pores in their sides, and the fine dust fills these pores and thus suffocates the vermin. The dust-box also provides a means of exercise which is a thing to be greatly encouraged among the hens during winter for the purpose of promoting their health and getting them in better condition for the production of eggs.

Wood Ashes Stain Feathers.

Dust from the road, coal ashes or dry dirt of any kind will do to fill the dust-box. Wood ashes are not recommended for, when wet, it is said, they will stain the feathers and otherwise harm the fowls. If the hens are badly infested with lice it is a good plan to add insect powder to the material in the box.

than that on the outside of the box and in the house. The canopy should slope down from the window to the far side of the box so as to reflect the sunlight down into the box. Such a dust-bath can be easily and cheaply made and it will add much to the health of the fowls. A dust-bath with good shelter, exercise and sunshine and proper feed provided for the fowls go together to make the best preventative of colds and roup that I know of, and to furnish these is cheaper and easier than to cure.

Indiana. C. H. WHEATLEY.

HENS THAT DON'T LAY.

Whenever a man tells me that his hens are simply eating their heads off and that he is getting no eggs at a season of the year when the hens ought to be laying, I know—absolutely know—that those hens are not getting the proper food or attention. You can't get out of a hen what you do not put into her. If you want eggs you must feed foods that make eggs.

A box of nearly any suitable dimension, if about a foot deep, will serve the purpose. It should be tight as the dust will sift out of it rapidly if any cracks are present. The box should be placed where the sun will shine on it as many hours during the day as possible, for when the hens are not exercising at scratching at their feed they will spend a good deal of the time in the dust-bath. The fowls will not use the dust-box as freely as they should unless the dust or the air about it is warm, for they dislike to open their feathers and expose their bodies to the cold. The box will seldom be used when it is below 60 degrees.

Put Dust Box in Warmest Place.

One end of the dust-box may be put on a window-sill and the other supported on legs, and covered with a canopy of heavy cloth which would enclose the box on all sides except the end towards the window and enough on one side to allow the passage of the fowls. This will confine the heat in the box and make the temperature there many degrees higher

Several years ago I purchased a dozen hens from a farmer who said they hadn't laid an egg for four months and that they had eaten enough corn to fatten two hogs. The hens were less than two years old. They were purchased a day or two after Christmas.

I placed the hens in an open-front house. The floor was covered with straw. For two days those hens got nothing to eat but a pint of equal parts of cracked corn and wheat. The third day, in addition to the grain, I fed a mash composed of two parts bran, one part each of cut clover, middlings and corn meal. A little beef scrap was also added. Just enough of this mash was fed the first day to make the hens wish for more. Gradually the quantity of food was increased, until after two weeks the hens were on full feed. In about ten days the hens started to lay and they laid well all winter—in fact, much better than the other hens on the place.

A hen that has been fed for months on fat-producing foods must be stinted

for a time while gradually changing the ration. Like the fat person, she must be put on a diet and must be compelled to exercise. The hen that has not laid for months is the one that will make up for lost time when she is finally gotten in laying order. Indiana. T. Z. RICHEY.

FROSTY CHICKEN COOPS.

I have built a frame chicken coop with tar paper between the boards and the shiplaps. The sides and ceiling are composed of a double board wall with tar paper between. The whole thing is plastered with pulp. The floor is of cement and on the south side there are windows for light. The one ventilator is 6x7 in. and extends three feet above the roof. The coop is all frosty inside. I would like to have your advice as to how I could keep the frost out. Is it frost that stops my chickens from laying? I feed them oats, middlings, barley and bran, and they have carrots and clean scratching on the floor every day.

Menominee Co. L. W.

The lack of proper ventilation is the main cause of frost gathering on the walls of chicken coops. The breath of the chickens contains considerable moisture, which if it has no means of getting out of the coop, congeals on the walls in the form of frost.

The roof ventilators are of little value in correcting this trouble, as the moisture being heavy is not carried out through the top. In fact, this type of ventilator is of little value from a practical standpoint. About all it does is to carry off the heat generated by the bodies of the hens, which should be conserved, and does not carry off the moisture and foul air which, being heavier, settles to the floor. It would be advisable to close this roof ventilator and take out one-half of each window, if they are double windows, or if single windows, take out all of the glass and replace with muslin curtains. In doing this, however, one must be sure that three sides of the coop are air tight, so that the coop is draught proof. By this method the air is continually undergoing a gradual change and the moisture and foul air have a chance to escape.

While the coop is cold when this open front system of ventilation is used, it is a dry cold which is not as disagreeable as the damp cold. An ill-ventilated frosty coop is often colder on account of the frosty walls than one which is ventilated by the open front method. An indication of this is that frosted combs are more prevalent in such coops than in those with open fronts. While the frosty condition of the coops does not entirely prevent the hens from laying, it has considerable influence along that line, because chickens consume all their excess energies in the endeavor to keep warm.

As an improvement to the ration you feed, I would suggest that you also feed some corn with the grains you are now giving, as that helps greatly in maintaining the bodily heat of the hens. It is quite important, also, that in order to make the hens lay, some form of meat should be fed. The common commercial beef scraps probably being the best, although where one can get fresh bone frequently and has a means of cutting it, he can use that to great advantage in place of meat. It is advisable to have the bran in hoppers so that the hens may help themselves as they desire. It is helpful in giving the hens the bulk they need, and also serves to keep them in good condition.

In feeding hens in winter, we should try to imitate their summer rations as closely as possible; with the use of some form of meat or bone, some green food, a variety of grains and plenty of fresh water, there is no reason why hens should not lay, provided they are in a properly ventilated coop.

The best egg tonic is plenty of meat and green food.

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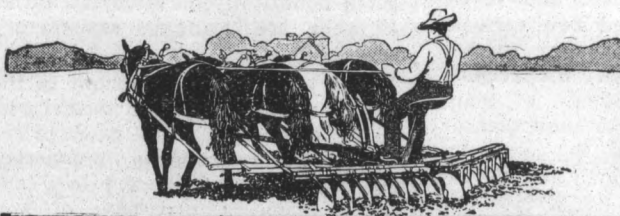
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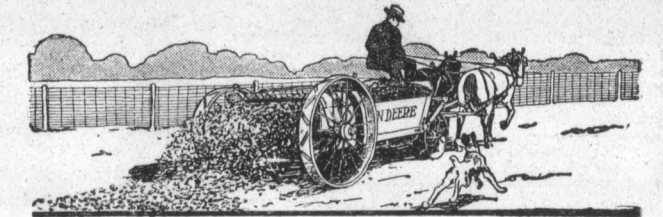
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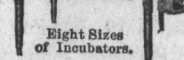
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DETROIT, JAN. 23, 1915.

CURRENT COMMENT.

What man is not benighted by occasionally getting the viewpoint of other men even on the most common of life's problems. Take our own business, for instance; we have thought a good deal about it, and we have studied it from many angles, but it is entirely probable that another man who has been attempting to solve the same problems under similar conditions has reached entirely different conclusions. Perhaps he has demonstrated that his conclusions are right by the success with which he has put them into actual practice; anyhow, it will help us to get his viewpoint on the problems which have concerned us. More than likely he has attached considerable importance to factors which we have perhaps entirely overlooked. In any event, it cannot but benefit us to get his point of view, even though it does not change our own opinion greatly.

If we can get the experience and thoughtful conclusions of many men on the problems which confront us, our ability to solve them wisely will be greatly increased. The man who picks up ideas outside his own business and adopts such of them as may seem valuable is generally a progressive business man, and if he is a farmer he is a successful farmer. The more we broaden our opportunity for gaining ideas from the outside, the more we increase our chances of business success. This should be done through personal contact upon every opportunity. But beyond that any farmer can get a great many valuable ideas from others through the medium of his trade paper, which is primarily a clearing house of ideas relating to the business of farming, with matter of broader educational value and entertainment thrown in. The cost is so nominal as to be a very minor consideration. The Michigan Farmer, for instance, costs the reader little besides the postage, but may bring to him many valuable ideas. As one subscriber recently expressed himself, the information derived from a single article was worth more to him than the cost of ten years' subscription. The same thing will, we believe, be true of any farmer who looks over each issue of his trade paper for ideas which may be helpful to him. If the reader's time is about to expire and he will send us 50 cents for one year, or \$1.00 for three years, and will look over each issue carefully with that object in view, we will prove it to

him. We hope to present more valuable ideas through the columns of the Michigan Farmer, during the coming year, than ever before. Just pass this on to your neighbor.

For some months the lessened demand for milk from the condenseries operating in Michigan has indicated a falling off in the demand for the finished product of these manufacturing concerns. So serious has this situation become that in some instances these factories have planned on making other disposition of the milk secured from their patrons, some having already diverted the raw material to other markets and still others contemplating the installation of separators and churns and the purchase of the patrons' milk on the butter-fat basis with the idea of manufacturing it into butter.

At first thought the reason for the facts above noted would seem to be a decrease in the demand of the trade for condensed milk. An investigation of the situation, however, shows this to be far from the truth, the real cause for the demoralization of the condensed milk business being foreign competition developed since the passage of the Underwood tariff law, which not only opens our market to the condensed milk manufactured in foreign countries, but actually places a handicap on American manufacturers, as will be shown. As to the extent to which foreign-made condensed milk is being imported into this country, the figures for the year up to October 3, 1914, showed a total importation of 132,314 cases through the port of New York alone. Even since the outbreak of the European war very considerable shipments of condensed milk have continued, the greater bulk of shipments having been through ports of Denmark and Holland. Incidentally, one user of condensed milk in Detroit recently unloaded two carloads of this product distributed to him from shipments from Switzerland. This is but one instance of many which might be cited to show that foreign condensed milk is competing right in our own markets and getting the business because the foreign product can be laid down here at prices which local manufacturers cannot meet under present conditions.

The argument that the price is lowered to the consumer through this foreign competition does not hold in this case, since it is sold mainly to large users and the retail price is not affected at all, but the undoubted effect will be to lower the price which milk producers will receive for their raw material unless some cognizance of the situation is taken by the government.

While condensed milk comes into the United States free of duty, being the only canned food product on the free list, American manufacturers are handicapped by the fact that sugar costs from one to one and a half cents per pound more in our markets than in competing foreign countries, while tin plate from which the containers are made is on the dutiable list. The skilled labor employed in the manufacture of the goods is also more costly than in competing foreign countries, but this is not so important an item because both machinery and help employed are thought to be more efficient. With the producer of the raw material it is somewhat different since the cost of labor is very much higher on the farms of this country than in competing foreign countries where all members of the family generally help in the milking and other dairy work.

As compared with our present policy in admitting condensed milk free of duty, practically every competing country has a high duty on this product, that maintained by Switzerland being comparatively low, or \$0.384 per case of 48 cans, while that of Germany is highest, being \$3.64 per case and other countries ranging between these two extremes.

In this connection administration officials would do well to consider the unfavorable showing made for the dairy industry in the farm surveys which have been conducted by the Office of Farm Management of the United States Department of Agriculture. In practically every locality where such a survey has been made it has been found that dairying, unless combined with other lines of production, was comparatively unprofitable at present prices for dairy products. This undesirable and seemingly unfair competition from foreign countries will tend to further reduce the income of the dairy farmer without any material benefit to consumers, not only for the reason above noted, but as well because the profit from dairy farming is not sufficient to permit a continuation of present production at very greatly reduced prices. Obviously there should be a duty placed upon condensed milk which would at least compensate the manufacturers of this product for the higher cost of materials including sugar and cans, so that the American manufacturer and the farmer who produces his raw material might have at least open competition with the farmers of other countries in their home market instead of suffering from this additional handicap. It should not be too much to hope for the early amendment of this schedule so as to correct an injustice which has developed under the law as it now stands.

Few Michigan wheat growers have ever seen wheat selling at present prices on a legitimate market. The extraordinary demand caused by the great European war, which is so forcefully reflected in the wheat market, has also had a stimulating effect on the market for other farm products, and nearly all of the crops which yielded bountifully on Michigan farms last year are bringing satisfactory prices.

It has come to be an axiom in the business world that under normal conditions, good crops and good prices mean general business prosperity, since good crops and good prices combine to make a maximum of new wealth to be poured into the channels of commerce. But present conditions are not normal. The same underlying causes which have operated to increase the demand for staple food-stuffs, have closed the market for many other products of labor, as a consequence of which many workers are temporarily out of employment. There is a general feeling that this is but temporary, and manufacturers have been appealed to, and have responded nobly, to anticipate future business by keeping their men at work, or as many of them as possible.

This has helped conditions not a little, and if the farmers of the country will exercise the same spirit by anticipating their future needs by buying goods which they are certain to need in a few weeks, it will help more. Every Michigan farmer reader is doubtless planning on making some improvements in his buildings, or additions to his equipment this spring. Why not buy this needed material now? If every Michigan Farmers family would expend even as small a sum as \$10 or \$15 in this way during the next 30 days, it would mean, in the aggregate, the immediate moving of more than a million dollars' worth of goods. This would in turn stimulate the labor market and enable the laboring men of our cities to be more liberal buyers of farm products, which in turn would further stimulate the market for farm products.

So, even from the selfish standpoint of our own good, this idea should appeal to us, for it will cost us nothing and will benefit all, ourselves included. Let us then anticipate some of our own springtime needs and help this boosters' propaganda by passing

the "Buy it Now" slogan along to our neighbors.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The Germans have been active in an offensive campaign during the past week. In the eastern fields they have made continued efforts to cross the Vistula river and continue their advance on Warsaw. Thus far they have been repulsed and their plans menaced by a Russian advance north of Vistula. In the western theatre they have renewed their efforts of offense near Soissons and Perthes. Soissons is about 50 miles from Paris, and it is not known whether this activity is the beginning of another endeavor to reach Paris or due to the presence of the Kaiser in that vicinity. They have made slight advances and captured some prisoners, admitted by the Allies as being mostly wounded soldiers. The Allies report advances in the region of Neuport and Lombaertzyde of about 200 meters, while the Russians have continued their successes against the Turks, having practically annihilated the Eleventh Turkish Army Corps at Kara-Urgan in the Caucasus. The German waship, Karlsruhe, has been reported sunk off the Columbia-Venezuela boundary in the Caribbean Sea. She first sunk a British cruiser but was later sunk by another British cruiser. The Karlsruhe is one of the few remaining German warships at large in all the seas. She destroyed over 30 merchant vessels before she disappeared, supposedly going into hiding about November 1, after the British squadron had defeated the German squadron in the South Atlantic.

Italy experienced its second great catastrophe when an earthquake on Thursday, January 14, caused untold damage and loss of life. The quake which lasted for only about 30 seconds was felt over half of Italy. The dead are estimated at about 35,000 and the injured about 50,000. Seventy-seven villages or towns were partially or totally destroyed. The shock was most severe at Avezzano, which was entirely destroyed, only 100 of the entire population of 12,000 surviving. The suffering is intense, many of the inhabitants being buried alive. The cold and rainy weather after the shock has added to the suffering of the survivors, who are living in the open because they fear further shocks and the crumbling of the walls left standing. Relief work is carried on rapidly by a large army of soldiers. The King and the Pope have taken active interest in the work of relief and have visited the stricken districts.

Mexico has not gotten out of its habit of naming a president every little while. By the convention at which he presided, held in Mexico City, Saturday, January 16, Colonel Roque Gonzales Garza was named provisional president. He is the eighth president Mexico has had since 1911. Garza is a Villa man, being a member of the Villa-Carranza peace commission, which tried early in 1914, to arrange a settlement between Carranza and his army chief. Garza is to be only a temporary chief and will be without a cabinet, as the convention will proceed to elect a new president. The name of General Felipe Angeles, chief of the artillery division of the convention army, has been placed before the convention for this purpose. On account of the general turmoil which followed the election, Garza declared martial law in Mexico City. The preceding president, General Eulalio Gutierrez and friends left the capitol immediately.

National.

An effort is being made by the cotton mills of the south to secure a larger portion of South American trade. Thus far mills of the United States have supplied a very meagre portion of the demand from the southern continent, but now that Germany and England are hampered by reason of the war, the opportunity appears to be ripe for gaining a considerable part of the trade.

A son was born to Mrs. Francis Bowles Sayre, President Wilson's second daughter, at the White House, on Saturday, January 16. This is the President's first grandchild and is the first baby born at the White House since the administration of President Cleveland, when Esther Cleveland was born. The mother and son are reported doing nicely.

The Detroit automobile show was a great success. Both in the beauty of the decorations and the number of exhibits it surpassed all other attempts. New models of the greyhound type, low-priced sixes and the new eight cars, attracted much attention. An interesting feature was the exhibition of some of the first models of many of the prominent makes of cars. It well illustrated the great advancement of the automobile industry in fifteen years.

Magazine Section

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POETRY
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INFORMATION

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MECHANICAL

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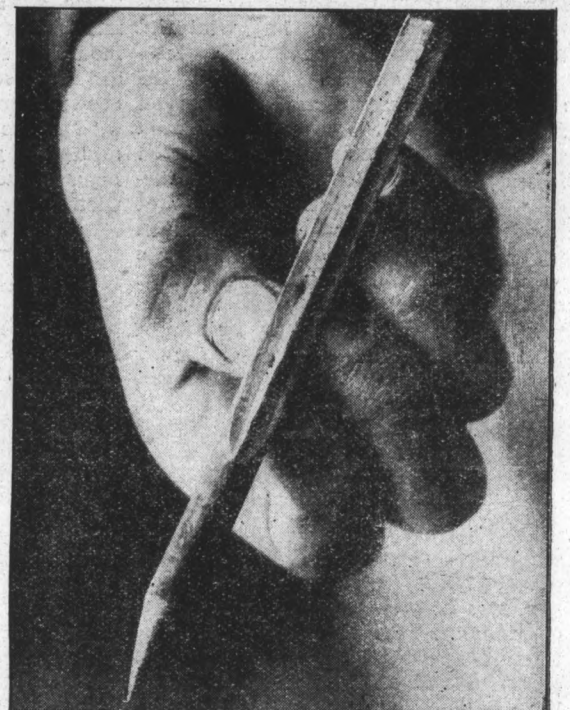
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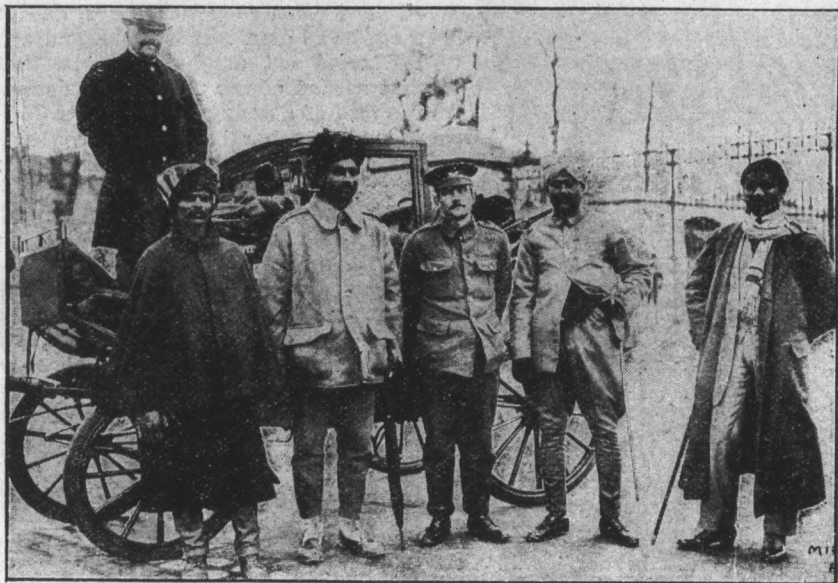
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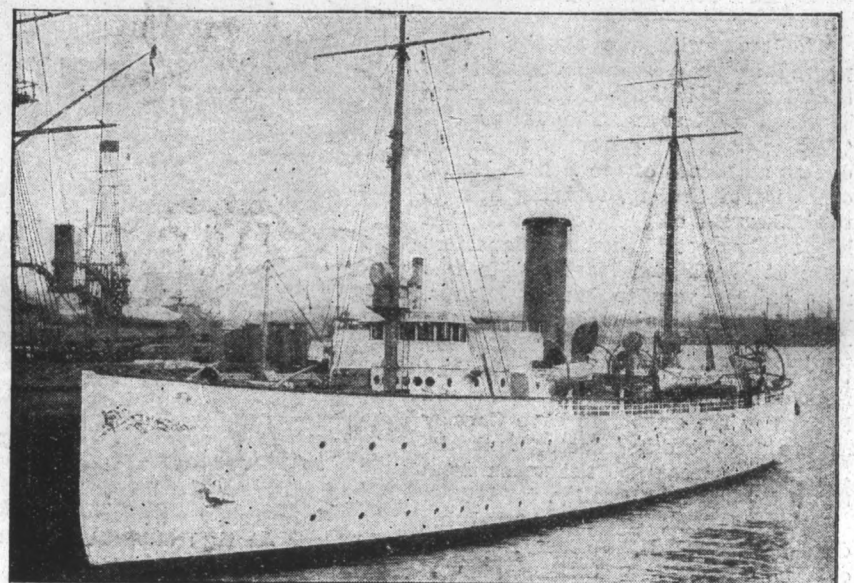
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Heavy Artillery Pieces of the Famous Battery "270" in Position for Throwing Shells into the Lines of the Enemy.

WHEN cold and hunger have possession of both sides of the door; when one's toil brings no return save weariness; when the shadow-wolf haunts the hearth, long-jawed and hollow-flanked—then is the test of a man's courage.

The horror of these conditions came one winter, to Nick Cormey, of Squid Cove on the Labrador—and he failed in the test. His failure was not due to a lack of natural courage, but to the activity of his imagination. The eyes and fangs of the wolf were as real to his anxious vision as flesh and bone that can be touched with the fingers.

The shore ice lay firm along the aching coast, a full two miles in width; so there was no help to be looked for from the sea.

"Maybe some deer be winterin' back in the woods," said Nick.

He stowed on the kammutik, his sleeping-bag, his gun, and a little food for himself and the three dogs, kissed the woman and the child, and started inland; but he felt no hope of success, even at the commencement of his journey. It was out of all reason to expect to find any caribou in the nearer woods; for, in winter, the herds of that country move westward, beyond the distant hills, in search of food and shelter. And Nick Cormey knew that there was not food enough, either for himself or for the two at home, to bridge the time required for the longer journey.

Nick Cormey followed the hopeless quest for two days; and despair was always at his elbow, running on the snow like a shadow. He saw no sign of game. The dogs, maddened by hunger, were either sulking or fighting continually. On the morning of the third day, while he was eating his scrap of breakfast, and wondering bitterly if he should push farther inland or return to Squid Cove empty-handed, he heard the sound of voices. Then two men, walking on rackets, and a loaded sledge drawn by six dogs came into sight around a spur of woods.

The men with the six-dog sledge proved to be a stranger named Dr. Scovill and a half-breed Micmac from Wellington Harbor. The doctor told Cormey that he had come to Labrador as an officer of the British Northern Mission Society, to bring help to the fishermen of that coast, and that his newly established headquarters were at Wellington Harbor. He was now on his way to Wreck Islands, with provisions and medicines for the people there; but he assured Cormey that his assistant, Dr. Scott, who had remained in Wellington Harbor, would look after his case. He gave Cormey a note for the other doctor, authorizing him to treat the fisherman from Squid Cove with liberality.

Even as Nick Cormey turned his dogs back toward the coast, a twinge of his old enemy, rheumatism, gnawed in his loins. Within an hour from that first warning, the pains were so severe that he was forced to remove his rackets from his feet and lie on the sledge. In his crippled condition he had not full command over the dogs; but after three days and two nights of agony, he crawled from the sledge and beat on the door of the cabin with his mittened hands. The woman helped him in, very tenderly, without a second glance at the empty sledge.

"What be the trouble with Davy?" he asked, looking toward the bed in the corner.

"He be taken bad," whispered the woman, brokenly—and then she hid her face in her hands.

"An' look 'e here!" cried the man, with a sob in his voice.

He gave her the piece of paper that, but for his helplessness would bring them food and healing. Then he cried out against the blindness and bitterness of life, and cursed his pain-racked limbs for their uselessness.

The sight of her husband's despair

lifted the woman's spirit above its own grief. She comforted him with tenderness of hand and voice; and at last he was calm enough to explain to her the meaning of the written message. When she understood it, she cried out her gratitude to God and called upon the saints to reward the goodness of the unknown doctor. Nick looked at her with wonder, and with a light of reviving hope in his eyes.

"I be goin' to Wellington Harbor first thing in the mornin'," she said. "'Tis a fair path, an' only sixteen mile. That good doctor will give me medicine for ye an' Davy, an' bread an' molasses an' tea. May the saints crown him!"

"But the dogs, Kate!" replied Nick, stifling a groan for the agony in his legs. "They be worse nor I ever see them, girl. Them two huskies be like

a livin' on us all last summer, sure ye'd never have to make the trip at all," he cried. We give him the good medicine for his chest, an' he eat a full quintal o' fish!"

By this time Kate was ready to harness the dogs and set out on the journey. She wore Nick's coat and cap and mittens, and held her rackets in one hand and the great dog-whip in the other.

"'Twould not be Christian to grudge what we give to that poor unfortunate," she replied. "Keep yer heart up, Nick, dear, an' tend well to Davy. I'll master them huskies, never fear; an' even if they do act bad, sure I'll be back afore midday tomorrow. I'll be to Wellington Harbor long afore sundown, an' the dog'll get a good feed there."

"If ye'd lay me on the sledge, may-



At that Moment the Huskies Broke into Open Revolt.

devils. Sure, 'twere all I could do to be I'd get to the harbor," said Cormey. "Cap'n, he be the only me."

"I'll go out now, an' fede 'em a full half o' the caplin that be left—an' t'other half afore we start in the mornin'," replied the woman fearlessly.

Nick could not sleep, so torn was he with pain and black fear; and little Davy, who was suffering from general weakness brought on by cold and lack of nourishment, whimpered through half the night. So the woman took no rest, but tended and comforted them until dawn. Then she carried in a great store of fire-wood, and cooked a mess of the last scraps of fish and hard bread in the cabin.

She fed the last of the frozen caplin to the three dogs. Nick tried to crawl from the cabin, to harness the team for her; but he got no farther than the threshold, and was then near to fainting with the pain.

"Nay, boy, ye must not fret," said the woman. "I'll tend to the dogs, never fear!"

"But for that fool, Peter Sprowl

alone and without food, for days, fin-

"'Twould be yer death, boy," said the woman. She harnessed the three dogs at last, but was forced to lash the two huskies severely before she could win control over them.

Nick crouched beside the bed whereon little Davy lay in troubled slumber. His spirit raged stupidly within him, like a caged animal. He tried to quiet himself to sleep. He closed his eyes, but no rest came to either mind or body. What were the dogs doing now? Were they running quietly, or threatening Kate with rebellion?

Why had God struck his great muscles useless in the hour of bitterest need? Why was Peter Sprowl, who had neither wife nor child, spared to go light-foot over the snow, at every whim of his foolish wits? He forgot how Peter had once been a mail-carrier—and at times believed himself still to be one—and had lost his sanity during a great storm of wind and snow, in which he had wandered, alone and without food, for days, finally bringing in his mail-bags safely.

No, he could think of Peter only as the worthless idiot who had eaten the food that should have fed Kate and the child.

For a few miles the dogs traveled steadily. The sledge ran light over the wind-packed snow, and the sky was clear. Captain, who was in the lead, was a typical Newfoundland sledge-dog—black, heavy of barrel and leg, broad of forehead, and blunt of muzzle. His hair was short, but remarkably thick and stiff, and he looked as if he could stand a great deal of hunger or physical punishment. His small, honest eyes were brown, and contained no cross-lights and uneasy glintings.

The other two dogs were Labrador "huskies"—big, long-limbed, long-jawed beasts, with long, tawny coats and plumed brushes, and the untamed blood and spirit of the wolf in their hearts. They had a sinister way of looking aslant at things, out of their yellow eyes.

A third of the journey was covered pleasantly enough, the runners whispering softly along the snow, the sun overhead like a clear, colorless window in the pale blue of the sky, the white levels of the barrens glistening westward toward the tinted hills, and eastward to the curving cliff-edge and the empty sea, close at hand. The sunlight had a glow in it—and only ten miles ahead waited medicines for Nick and Davy and a sledge-load of provisions. The woman sat dreaming of her return, the whip quiet in her hand.

Suddenly the sledge came to a standstill. The woman looked up quickly, in time to see the huskies turn and face her. It was a daunting vision of white fangs, eyes like fire, jaws like blood, and bristling manes. Well she knew the danger! They had no fear of her, for it was Nick who had always worked them and disciplined them—and now, hunger-mad, they did not care for the great whip. In their wolfish minds they remembered how, when they were pups, one of them had bitten Kate's hand, and she had cried out at the pain. In that first second of the threatening danger the fate of a young lad of Null's Cove flashed into her brain. Sheer, physical terror numbed her for a second; then, like a prayer from the surrounding silence, the thought of Nick and Davy came to her.

With a sharp cry of command, she sprang from the sledge and raised the whip. At that moment the huskies broke into open revolt. One of them leaped straight at her, in a tangle of traces. Quick as thought she shifted her hand on the whip and struck with the short and heavy stock of it. The blow fell on the shoulder of the murderous rebel, and by a side-step she escaped his snapping jaws.

"Cap'n!" she cried. "At 'em, Cap'n!"

But she need not have called to him for the black dog understood and was already in action, struggling with one of the huskies in a tangle of leather thongs. They were both on their feet, the black dog with a sure hold on his antagonist's furry neck, the huskie twisting and biting. They made no noise beyond a dull sound of slobbering and heavy breathing.

The beast which the woman had struck on the shoulder sprang toward her again; but the trace held him to the fighters, and he fell short. Turning, he dashed upon Captain; and under the double attack the black dog went down, still with his teeth in the first husky's neck.

Then the woman forgot all fear of the white fangs and flaming eyes, and, running close, she struck again and again with all her might, placing every blow on some portion of one or other of the huskies. If the fight had been entirely in her own interest, it is doubtful if the whip-stock would have been plied with much vigor or

(Continued on page 97).

Land O' Nod Stories.

By HOWARD T. KNAPP.

Getting Acquainted With Sharpnose.

SLINKER the Weasel must have been hunting around here last night," said Billy Be By Bo Bum, pointing to a double row of neat little footmarks in the snow. "See Tinker, there is his trail winding in and out between the trees along the bank of the dried-up creek."

"No, siree, Slinker never made those tracks," replied Tipker Teedle Tee, the merry little elf.

"But they are just exactly like the tracks Slinker made when he sneaked up on Mr. Rabbit," protested Billy.

"They are and they aren't," Tinker answered. "Slinker makes the same kind of footmarks, only they are much smaller than these. No, Billy Boy, these tracks were made by Sharpnose, the big brown Mink, who is a first cousin to Slinker the Weasel."

"A Mink! Why, my mother has a muff made of mink skins," said Billy.

"Well, she is lucky," replied Tinker, "for, next to the Beaver, the fur of the Mink is one of the most valuable found in this country."

"I never saw a Beaver," said Billy.

"No, I guess you never did," Tinker answered, "for the Beavers were all killed off in this part of the country many, many years ago. When your great grandfather was a boy, they were very plentiful, and their dams and mud houses dotted every stream and pond. But the trappers caught so many that now there are only a few left and they live in the very wildest parts of the country where men seldom go. The government, to protect the Beavers and give them a chance to live in peace, has now passed laws forbidding anyone to kill them."

"Sharpnose the Mink has nearly as hard a time escaping from trappers as did Mr. Beaver, but he is a sly old fellow and has learned to keep out of trouble, so it takes a mighty slick trapper to catch him."

"Why do they call him Sharpnose?" asked Billy.

"Because his sense of smell is so keen," Tinker replied. "His keen little nose can detect odors that the rest of the Little People would not notice at all. Even old Long Ears the Hound is not in it with Mr. Mink when it comes to following a scent."

"It's funny I never saw his tracks before," said Billy. "Does he live in the White Forest all the time?"

"He does and he doesn't," Tinker answered. "Mr. Mink is a great rover and does not stay long in one place. He is on the go all the time and will travel many, many miles in a single night. Except when he is helping Mrs. Mink raise a family of little Minks, he has no real home but keeps moving from place to place."

"I hope he is not such a rascal as his cousin, Slinker the Weasel," said Billy.

"He is a more blood-thirsty villain than Slinker ever dreamed of being," replied Tinker. "Sharpnose is one of the greatest enemies of the Little People, especially those living in or near the water. He is a better hunter than even Slinker, and being several times larger than his cousin, can tackle animals Slinker is afraid of. Sharpnose does most of his hunting along the banks of streams, where he catches frogs and all kinds of water animals, and often manages to creep up on a wild duck too near the bank. He is a great fisherman, too, and is very fond of speckled trout."

"But I don't see how he can catch a trout," protested Billy. "Those speckled beauties dart through the water like a streak of light and you can hardly see them, they go so fast."

Surely, Sharpnose can't swim as fast as a fish, can he Tinker?"

"Mr. Mink is a mighty good swimmer, Billy Boy," Tinker replied. "But he relies on outwitting Mr. Trout rather than outswimming him. When he sees a nice fat trout, one that would make a good meal for the hungriest mink, he slips into the water without making any more noise than a shadow. But Mr. Trout always keeps his weather eye open for trouble and generally sees Mr. Mink. He gives his tail a flit and is off up stream like a streak of greased lightning, with Sharpnose after him."

"But for all his cunning, and there is no use talking, Mr. Trout is a cautious fellow, he loses his head when

Mr. Mink is chasing him. If only he would keep going straight ahead, Sharpnose could never catch him. But instead, he dodges under a rock or behind a clump of weeds and thinks he is safely hidden. He doesn't fool Mr. Mink one little bit, however, and the first thing Mr. Trout knows, he is driven into a corner. Then he tries to dodge past his enemy, but quick as he is, Sharpnose is quicker, and as the speckled beauty darts past, Mr. Mink makes a lunge and fastens his needle-like teeth in Mr. Trout's side. And that is the end of Mr. Trout, for when Sharpnose once gets his teeth into anything, he never lets go."

"But there is no water in the dried-up creek now," said Billy, "so, of course, there are not any trout or any other kind of fish for him to catch. So what is Sharpnose hunting?"

"I'm sure I don't know," Tinker replied. "But one thing is sure, he is up to some kind of mischief or other, so we will follow his trail and find out."

And next week I'll tell you more about Sharpnose the Mink.

Winston of the Prairie

BY HAROLD BINDLOSS.

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CHAPTER XVIII.

Winston felt his pulses throb faster, for the girl's unabated confidence stirred him, but he looked at her gravely. "I wonder if you realize what you have given me in return? Life as I had seen it was very grim and bare—and now I know what, with a little help, it is possible to make of it."

"With a little help?" said Maud Barrington.

Winston nodded, and his face which had grown almost wistful hardened.

"Those who strive in the pit are apt to grow blind to the best—the sweetness and order and all the little graces that mean so much. Even if their eyes are opened, it is usually too late. You see, they lose touch with all that lies beyond the struggle, and without someone to lead them they cannot get back to it. Still, if I talk in this fashion you will laugh at me, but everyone has his weakness now and then—and no doubt I shall make up for it at Winnipeg tomorrow. One can not afford to be fanciful when wheat is two cents down."

Maud Barrington was not astonished. Tireless in his activities and, more curious still, almost ascetic in his mode of life, the man had already given her glimpses of his inner self and the vague longings that came upon him. He never asked her pity, but she found something pathetic in his

attitude, for she found that the stress and the turmoil alone could be his. Why this was so she did not know, but with a confidence that could not be shaken now, she felt that it was through no fault of his. His last words, however, showed her that the mask was on again.

"I scarcely fancy you are well enough, but if you must go, I wonder whether you would do a good turn to Alfreton?" she said. "The lad has been speculating—and he seems anxious lately."

"It is natural that they should bring their troubles to you."

Maud Barrington laughed. "I, however, generally pass them on to you."

A trace of color crept into the man's face, and his voice was a trifle hoarse as he said, "Do you know that I would ask nothing better than to take every care you had, and bear it for you?"

"Still," said the girl, with a little smile, "that is very evidently out of the question."

Winston rose, and she saw that one hand was closed as he looked down upon her. Then he turned and stared out at the prairie, but there was something very significant in the rigidity of his attitude, and his face seemed to have grown suddenly careworn when he glanced back at her.

"Of course," he said quietly. "You



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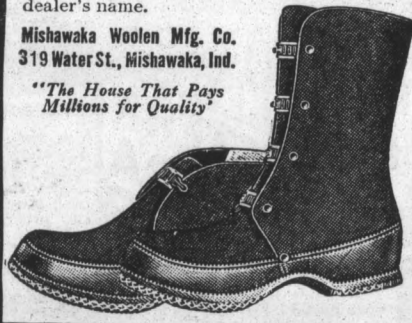
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see, I have been ill, and a little off my balance lately. That accounts for erratic speeches, though I meant it all. Colonel Barrington is still in Winnipeg?"

"Yes," said the girl, who was not convinced by the explanation, very quietly. "I am a little anxious about him, too. He sold wheat forward, and I gather from his last letter has not bought it yet. Now, as Alfreton is driving in tomorrow, he could take you."

Winston was grateful to her, and still more to Miss Barrington, who came in just then, while he did not see the girl again before he departed with Alfreton on the morrow. When they had left Silverdale a league behind, the trail dipped steeply amid straggling birches to a bridge which spanned the creek in a hollow, and Winston glanced up at the winding ascent thoughtfully.

"It has struck me that going round by this place puts another six miles on to your journey to the railroad, and a double team could not pull a big load up," he said.

The lad nodded. "The creek is a condemned nuisance. We have either to load light when we are hauling grain in, and then pitch half the bags off at the bottom and come back for them—while you know one man can't put up many four-bushel bags—or keep a man and horses at the ravine until we're through."

Winston laughed. "Now, I wonder whether you ever figured how much those little things put up the price of your wheat."

"This is the only practicable way down," said the lad. "You could scarcely climb up one side where the ravine's narrow abreast of Silverdale."

"Drive round. I want to see it," said Winston. "Call at Rushforth's for a spool of binder twine."

Half an hour later Alfreton pulled the wagon up amid the birches on the edge of the ravine, which just there sloped very much broader, to the creek. Winston gazed at it, and then handed the twine to the hired man.

"Take that with you, Charley, and get down," he said. "If you strip your boot off you can wade through the creek."

"I don't know that I want to," said the man.

"Well," said Winston, "it would please me if you did, as well as cool your feet. Then you could climb up and hold that twine down on the other side."

The man grinned, and though Alfreton remembered that he was not usually so tractable with him, proceeded to do Winston's bidding. When he came back there was a twinkle of comprehension in his eyes, and Winston, who cut off the length of twine, smiled at Alfreton.

"It is," he said dryly, "only a little idea of mine."

They drove on, and reaching Winnipeg next day, went straight to Graham, the wheat-broker's offices. He kept them waiting some time, and in the meanwhile men with intent faces passed hastily in and out through the outer office. Some of them had telegrams or bundles of papers in their hands, and the eyes of all were eager. The corridor rang with footsteps, the murmur of voices seemed to vibrate through the great building, while it seemed to Alfreton there was a suggestion of strain and expectancy in all he heard and saw. Winston, however, sat gravely still, though the lad noticed that his eyes were keener than usual, for the muffled roar of the city, patter of messengers' feet, ceaseless tinkle of telephone call bells, and whirr of the elevators, each packed with human freight, all stirred him. Hitherto he had grappled with nature, but now he was to test his judgment against the keenest wits of the cities, and stand or fall by it, in the struggle that was to be waged over the older nations' food.

At last, however, a clerk signed to them from a doorway, and they found Graham sitting before a littered table. A man sat opposite him with the telephone receiver in his hand.

"Sorry to keep you, but I've both hands full just now. Every man in this city is thinking wheat," he said. "Has he word from Chicago, Thomson?"

"Yes," said the clerk. "Bears lost hold this morning. General buying."

Just then the door swung open and a breathless man came in. "Guess I scared that clerk of yours who wanted to turn me off," he said. "Heard what Chicago's doing? Well, you've got to buy for me now. They're going to send her right up into the sky, and it's about time I got out before the bulls trample the life out of me."

"Quite sure you can't wait until tomorrow?" asked Graham.

The man shook his head. "No, sir. When I've been selling all along the line! Send off right away, and tell your man on the market to cover every blame sale for me."

Graham signed to the clerk, and as the telephone bell tinkled a lad brought in a message. The broker opened it. "New York lost advance and recovered it twice in the first hour," he read. "At present a point or two better. Steady buying in Liverpool."

"That," said the other man, "is quite enough for me. Let me have the contracts as soon as they are ready."

He went out, and Graham turned to Winston. "There's half-a-dozen more of them outside," he said. "Do you buy or sell?"

Winston laughed. "I want to know what a wise man would do."

"Well," said Graham, "I can't tell you. The bulls rushed wheat up as I wired you, but the other folks got their claws in and worried it down again. Wheat's anywhere and nowhere all the time, and I'm advising nobody just now. No doubt you've formed your own opinion."

Winston nodded. "It's the last of the grapple, and the bears aren't quite beaten yet, but any time the next week or two the decisive turn will come. Then, if they haven't got out, there'll be very little left of them."

"You seem tolerably sure of the thing. Got plenty of confidence in the bulls?"

Winston smiled. "I fancy I know how western wheat was sown this year, better than any statistician of the ring, and it's not the bulls I'm counting on, but those millions of hungry folks in the old country. It's not New York or Chicago, but Liverpool the spark is coming from."

"Well," said Graham, "that's my notion, too, but I've no time for anybody who hasn't grist for me just now. Still, I'd be glad to come round and take you home to supper if you haven't the prejudice, which is not unknown at Silverdale, against eating with a man who makes his dollars on the market and didn't get them given to him."

Winston laughed, and held up a lean brown hand. "All I ever had until less than a year ago, I earned with that. I'll be ready for you."

He went out with Alfreton, and noticed the lad ate little at lunch. When the meal was over, he glanced at him with a smile through the cigar smoke. "I think it would do you good to take me into your confidence," he said.

"Well," said Alfreton, "it would be a relief to talk and I feel I could trust you. Still, it's only fair to tell you I didn't at the beginning. I was an opinionated ass, you see."

Winston laughed. "I don't mind in the least, and we have most of us felt that way."

"Well," said the lad, "I was a little short of funds, and proud of myself, and when everybody seemed certain that wheat was going down forever, I thought I saw my chance of making

a little. Now I've more wheat than I care to think of to deliver, the market's against me. If it stiffens any further, it will break me; and that's not all, you know. Things have gone tolerably badly with the folks at home, and I fancy it took a good deal of what should have been the girls' portion to start me at Silverdale."

"Then," said Winston, "it's no use trying to show you how foolish you've been. That is the usual thing, and it's easy; but what the man in the hole wants to know is the means of getting out again."

Alfreton smiled ruefully. "I'm tolerably far in. I could just cover at today's prices if I pledged my crop, but it would leave me nothing to go on with, and the next advance would swamp the farm."

"Well," said Winston, "don't buy today. There's going to be an advance that will take folk's breath away but the time's not quite ripe yet. You'll see prices knocked back a little the next day or two, and then you will cover your sales to the last bushel."

"But are you sure?" asked the lad, a trifle hoarse. "You see, if you're mistaken, it will mean ruin to me."

Winston laid his hand on his shoulder. "If I'm wrong, I'll make good your losses."

Nothing more was said on that subject, but Alfreton's face grew anxious once more as they went up and down the city. Everybody was talking wheat, which was not astonishing, for that city, and the two great provinces to the west of it, lived by the trade in grain, and before the afternoon had passed they learned that there had been a persistent advance. The lad's uneasiness showed itself, but when they went back to the hotel about the supper hour Winston smiled at him.

"You're feeling sick?" he said. "Still, I don't fancy you need worry."

Then Graham appeared and claimed him, and it was next morning when he saw Alfreton again. He was breakfasting with Colonel Barrington and Dane, and Winston noticed that the older man did not appear to have much appetite. When the meal was finished he drew him aside.

"You have covered your sales, sir?" he said.

"No, sir," said Barrington, "I have not."

"Then I wonder whether it would be presumption if I were to ask you a question?"

Barrington looked at him steadily. "To be frank, I fancy it would be better if you did not. I have, of course, only my own folly to blame for believing I could equal your natural aptitude for this risky amusement which I had, and still have, objections to. I was, however, in need of money, and seeing your success, yielded to the temptation. I am not laying any of the responsibility on you, but am not inclined to listen to more of your suggestions."

Winston met his gaze without embarrassment. "I am sorry you have been unfortunate, sir."

Just then Dane joined them. "I set up late last night in the hope of seeing you," he said. "Now, I don't know what to make of the market, but there were one or two fellows who would have bought my estimated crop from me at a figure which would have about covered the working expenses. Some of the others who did not know you were coming in, put their affairs in my hands, too."

"Sell nothing," said Winston quietly.

It was an hour later when a messenger from Graham found them in the smoking-room, and Colonel Barrington smiled dryly as he tore up the envelope handed him.

"Market opened with sellers prevailing. Chicago flat!" he read.

Dane glanced at Winston somewhat ruefully, but the latter's eyes were fixed on Colonel Barrington.

(Continued next week.)

THE HUNGER TEST.

(Continued from page 94.)

effect; but the realization that three lives required her success doubled her strength and fired her to high but sanguinary fury. There were Nick and Davy in the cabin at Squid Cove, needing food and medicine and her return; and here, in the middle of the tearing, twisting fight, was the brave black dog!

Suddenly, as if by magic, Peter Sprowl appeared beside her. Without so much as a glance at her, he stood and stared at the struggling dogs. His eyes were dull and his lips weakly parted. Kate Cormey clutched him by the arm.

"Peter!" she cried breathlessly. "Oh, Peter, help me!"

"Them dogs do be fightin' bar-b'rous," he said without looking at her.

Then rage and the desperation of fear swept over the woman like a storm.

"Ye great gawk!" she screamed. "Would ye stand an' watch 'em fight an' tear, an' never lift a hand? Will ye see the black dog killed, an' me tore to pieces, an' little Davy die for want o' food?" She shook him furiously. She forced the whip into his hand. "Master the dogs!" she shrieked. "Beat off the huskies! Will ye not stir a hand for the woman who fed ye?"

"They do be fightin' cruel," he murmured, looking stupidly at the whip in his hand.

"O God, give him a flicker o' human feelin'!" cried the woman.

At that, as if Peter had heard her voice for the first time, he suddenly turned and looked at her with a sort of pitying wonder.

"Sure, Kate, I'll master the dogs for ye," he said. Then he slipped his rackets from his feet and sprang into the fight.

Peter Sprowl was a big man, and in his day he had been a great hand with dogs. Now uttering terrific yells all the while, he kicked and slashed and pulled at the struggling beasts. For a little while the idiot was a man again, with the old mastery and the old knowledge of things clear as day in his mind; and soon the great jaws ceased their snapping and tearing, and the wolf-fire died down in the hearts of the huskies.

Peter, after clearing the tangles from the traces, stood before the woman with a light of honest satisfaction in his face.

"Where be ye p'intin' for?"

"For Wellington Harbor. An' ye'll come along, Peter, or maybe the huskies 'll turn on me again," she replied pitifully.

"Sure, I be bound for the harbor meself, for the mail-bags. I'll team the dogs for ye, Kate," he replied.

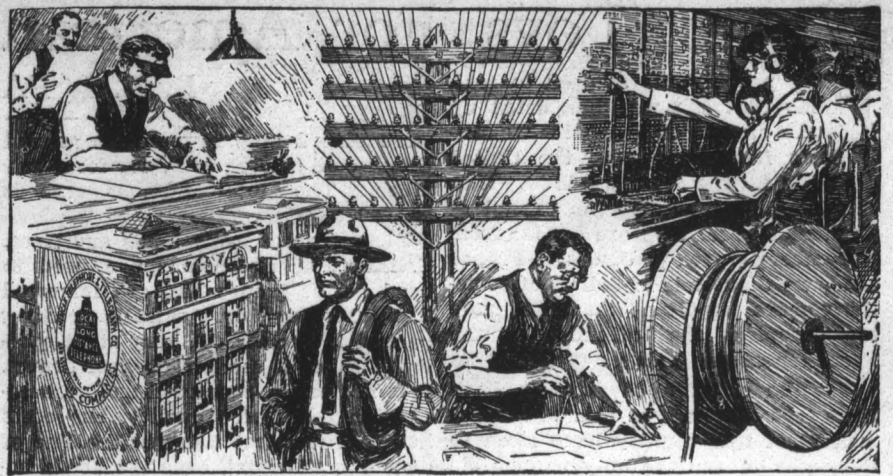
Already his eyes were dull as slate again, and his shoulders stooped like those of an old man.

The dogs were sore and bleeding, but not seriously injured. Captain seemed as fresh and willing as at the time of starting from Squid Cove, though one of his eyes was closed and his flanks were wet with blood. The two conquered huskies, with drooping brushes and lowered manes, showed nothing of the spirit that had so recently driven them to revolt; and soon the sledge was moving steadily forward over the wind-packed snow.

The western sky was red when the sledge came to a halt before the cabin in which the new mission had established its headquarters. The dogs immediately lay down and began licking their wounds. Peter Sprowl looked at the woman with a kindly but vacant smile.

"Twas a great trip we made, altogether! Now gimme a hand with the mail-bags!" he said. His eyes were expressionless and wandering.

"God bless you—an' pity you!" whispered the woman softly.



Managing the Business of 8,500,000 Telephones

Imagine a manufacturing business having millions of customers scattered over the country, with millions of accounts on its books, most of them less than \$30 a year, and including a multitude of 5-cent charges.

Consider it as having shops and offices in thousands of cities, and reaching with its output 70,000 places, more than there are post offices in the United States. Think of the task of patrolling 16,000,000 miles of connecting highways constantly in use.

This gives you a faint idea of the business of managing the Bell System.

Not all the 8,500,000 telephones are in use at once, but the management must have facilities always adequate to any demands for instant, direct communication.

In so vast an undertaking, every branch of the organization must work in harmony, guided by one policy. The entire plant must be managed in the light of accumulated experience, and with the most careful business judgment.

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Where Toys For American Boys and Girls Are Made.

By E. I. FARRINGTON.

FEW people have stopped to realize that the war has dried up the stream of toys which usually flows from Europe to the United States to fill the store windows. Nuremberg in Germany is the capital of Toyland, but no toys are coming from Nuremberg now. Usually France sends us thousands of dolls, but something more important than doll making occupies the attention of the French peasants today.

Yet the children of America have their toys this year as usual. The toy makers of this country have risen to the occasion and the only perceptible lack is the cheap mechanical toys such as are commonly sold on the

were placed in a row on the ground they would stretch away for forty-four miles. The total number exceeds 300,000.

Drums are of many kinds and sizes. Calfskins or sheepskins are used to head better grades and are imported from Germany or Australia, coming packed in barrels. A very stout quality of paper is used on cheaper drums. It is not easily punctured and possesses plenty of noise quality, but costs little. The latest thing in the line of drums is all metal, even the heads being tin. Such a drum will last from one Christmas to another and is so

the glass eyes are fitted into the holes made for them and the manes and tails, made from the tails of cows, are attached. Saddle, bridle and other trappings complete the horse in all particulars but the rockers, which are added last of all. It is something of an art to make rockers which will last for they are bound to receive very hard usage. The wood from which they are fashioned is tough and carefully selected. After being properly shaped, it is shoved into a steaming oven, where the strips of wood are made so pliable that they can be moulded as desired. Many of the horses do not have rockers of the old-fashioned kind, but are suspended in a swinging frame, their feet being free and stretched out as though they were galloping across country at a rapid rate.

Rockers and frames are painted by machinery, as are many of the toys, much time and labor being saved by that means. The machines are fitted with large rollers, some of which revolve in paint or dyestuff, and the strips of wood to be painted are simply passed between these rollers. They are colored as nicely as though an expert had gone over them with a brush.

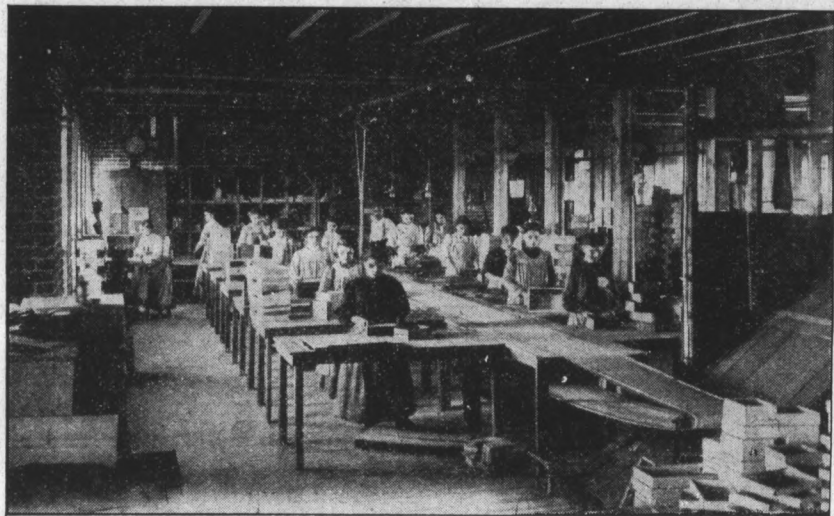
When the rocking horses have finally been completed and are carefully lined up in long rows they present an imposing sight. One may well imagine the rapture of a child turned loose among them. Occasionally some new feature is introduced. People who cannot afford a horse covered with real skin, but do not care to buy a painted animal, are able to compromise on one covered with a sort of plush which looks like real hair. Double horses with a seat between have long been made for small children, but now they are hinged in such a way that they may be folded up and stood behind the door out of the way.

Today American dolls are becoming more popular. In the past, immense numbers of French and German dolls have been sold, but they are being superseded this year by dolls of Am-

previous records. There is less variety this season, though. It has been necessary to economize on designs and to concentrate on the plainer kinds in order to keep abreast of the orders. One concern in Winchendon puts out more than half of all the doll's trunks made in America and this season the trunk department has been working almost day and night in order that the little girls may not be disappointed.

Toy Town had an interesting beginning. Some thirty-eight years ago Morton E. Converse was making woodenware in Winchendon, which then had about 500 inhabitants. It was about the time paper collars came in to favor and Mr. Morton began manufacturing boxes to sell the collars in, wooden boxes then being used for such purposes. One day it occurred to him to whittle out a little toy table to set in the center of the box. Then he made a set of dishes to go with the table. Acting on an inspiration he had the toys copied and sent them out with his boxes. In a short time orders began to pour in and soon Mr. Converse was running a factory with twenty-five men. Then he saw that it was more profitable to make toys than woodenware and launched a business which has grown year by year until the Converse factory is now the largest in the United States. Several of the men numbered among the first twenty-five are still among Mr. Converse's employees. The town has grown with the business and now has 6,000 people, a large percentage of whom live on money made in the making of toys.

The stock of toys on hand were practically cleaned up before the close of 1914 and next season will find the market filled almost exclusively with American-made toys. It is doubtful if German factories will be able to make shipments to any extent for two or three years, even if the war is ended in a few months, and by that time American toy makers will have obtained control of the market to such an extent that it will be difficult to compete with them, especially if the German government imposes an ex-



Putting Toy Furniture Together in an American Toy Shop.

streets in the cities. These contrivances come from Germany and American manufacturers can not turn them out at German prices. There are just as many mechanical toys of the better grades, for they are made in large numbers in the United States.

As a matter of fact, there is an American Nuremberg which turns out toys every year to the value of nearly a million dollars. Winchendon, a little country village in Massachusetts, is a veritable Toy Town. Its whole prosperity depends upon toy making and it has three big factories devoted wholly to toy production. There is no other town like Winchendon in all America and the traveler begins to realize its peculiar character as soon as he steps from the train, for he is immediately confronted with a mammoth rocking horse, 17 feet high, standing beside the railroad tracks close to the railway station. On occasions this huge horse is mounted on automobile wheels and drawn about the town. It symbolizes Winchendon. High on a hill looking off toward Monadnock mountain stands an inn which is called Toy Town Tavern. Toy Towners enjoy the unique distinction of living in the American capital of Toyland.

These are boom days for Winchendon. No sooner was it announced that Germany had decided upon war than the toy factories were speeded up to their highest pace. More men were hired, new stock ordered and selling plans reconstructed. For weeks now the drum and rocking horse departments have been working twenty hours a day. Letters and telegrams have been pouring in from all over the United States imploring toys to be shipped immediately.

New toys are constantly being put on the market, but the chief demand is for staples like drums, rocking horses, dolls and doll houses, blocks, tool chests and Noah's arks. Winchendon produces two-thirds of all the drums made in America. Ten-cent drums alone are turned out by one factory at the rate of seven thousand a day. If all the drums made in this quaint town in the course of a year were to be placed one on top of another, they would reach thirty-two miles straight into the air. If they

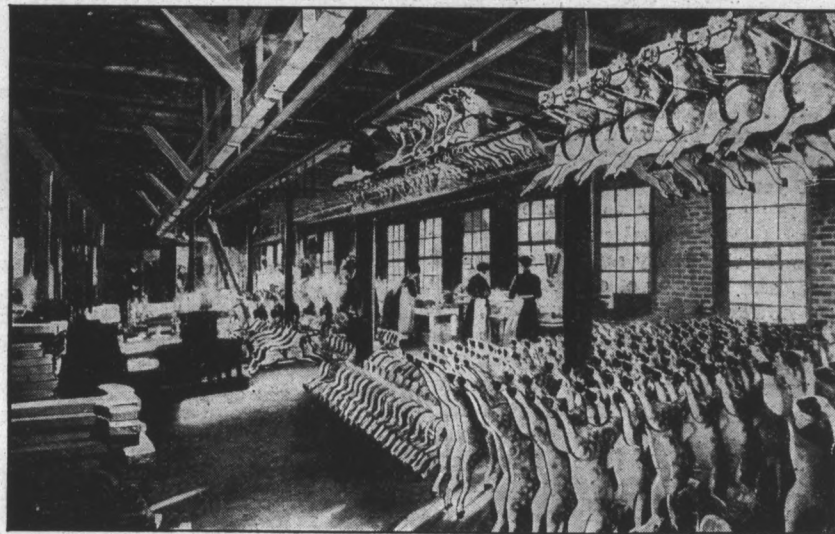
strong that a small boy cannot even put his foot through it.

Up to this year only one-third of all the rocking-horses sold in this country were made in America. In point of fact, though, the American horse is better than those from across the sea, more substantially made and more sanitary. To begin with the American rocking horse is made of wood, although it may be covered with some other material. The German horse is usually little more than a stuffed skin and not able to endure for long the treatment which it is certain to receive from an American child. The home product is built to withstand wear and tear.

The making of these horses is an interesting process. A rough block of wood is placed on one end of a machine which has a perfectly modeled body at the other end. Knives are so guided by mechanical hands which pass over the model that the block of wood is fashioned in just the same way. Human hands are needed only to put on the block and remove the finished body. The legs are turned out in the same manner, but a little hand work is required for the head. No machine has been invented which will shape the nostril properly. A skilled workman uses a sharp knife to make the incision and completes his job with a large, rounded file.

When the head and legs have been fixed to the body, the embryonic horse is thoroughly polished on sand belts. Then he is covered with a varnish which is like liquid glass and finally sprayed all over with lamp black, a device resembling an atomizer and operated by compressed air being used. It is in this manner that the dapple gray rocking horse so dear to every American child is evolved.

Besides the painted horses, there are more aristocratic animals covered with real hair. They sell at a high price and are considered very superior, even though the coats they wear once covered young calves. The calves' hides used for these stylish equines come largely from New Hampshire and other parts of New England, being supplied by cattle dealers. After being properly prepared, they are stretched tightly over the wooden bodies and tacked firmly in place. Then



A Battalion of Horses Ready for the Rockers.

american make. They are quite as good, too, although they may not have faces which are as pretty as those from across the water. Our dolls have more character in their faces than those made in French factories and it is probable that they will please the children just as well. Building blocks are in great demand and by supplying the market with them, our American Toy Town is taking from England a trade which was once controlled largely by her.

Toy furniture of all kinds, and especially toy trunks, are in great demand and are made by the thousands in Winchendon. A pile made of the trunks turned out last season would tower twenty-four miles toward the sky and the number manufactured this year is likely to far exceed all

port tax. It is doubtful if American children will play much longer with toys made in Europe.

Time is a sort of river of passing events, and strong is its current; no sooner is a thing brought to sight than it is swept by and another takes its place and this, too, will be swept away.—Marcus Aurelius.

Any power which opens the infinite life to any man must be the interpreter and transfigurer of all the petty special changeableness of life.—Philips Brooks.

Let a man be of good cheer about his soul, who, having cast away the pleasures and ornaments of the body as alien to him and working harm rather than good, has sought after the pleasures of knowledge, and has arrayed the soul not in some foreign attire, but in her own proper jewels, temperance and justice, and courage and nobility and truth.—Phaedo of Plato.



Woman and Her Needs

At Home and Elsewhere



IS Michigan proud of her babies?" We asked the question six weeks ago, and are quite satisfied with the reply. Proud parents to the number of 470 rose up to reply in a most positive affirmative. Many added that there could not be a more perfect child than theirs, and gave as backing for their belief the statement of the doctor, the nurse, and all the relatives. Others, not so boastful, but just as fond and proud, contented themselves with saying that they did not care what anyone else thought or whether their baby got a prize or not, he was a prize anyway. And the photographs which came in quite warranted the last statement. In the popular phrase, they were "some babies."

When it came to scoring them, though, it soon became evident that by the hard and fast standard laid down by medical men the term perfect would have to be modified. Of the number, not one measured up exactly to the standard, though with the exception of four, all ran well. Of the 470 entered, 240 scored 90 or over, while of the remaining 230 only four fell below 80 and not one so low as 75. With the exception of four or five all sinned on the side of over-development. They were too heavy or too long, or the arms and legs were too long for the height, or the circumference of the head, chest and abdomen was too great. Some fell below the standard in muscular development, but not many, and some few were marked down on teeth. The number who were too small for the required standard was remarkably low.

In judging the perfect baby it must be remembered that over-weight is as bad as under-weight, so that the too-fat baby is as far from being perfect as the delicate one. A year-old boy, for instance, should weigh 20.5 pounds, be 29 inches long and have a head, chest and abdomen circumference of exactly 18 inches. A girl baby one year old should weigh 19.8 pounds, be 28.7 inches long, and measure 17.4 inches around the chest and abdomen and 17.6 inches around the head. Having these measurements most of the parents can see wherein their baby fell short.

Of the 470 babies entered, 26 were thrown out because part of the measurements were omitted, eight because they were over age, and three because the exact age was not given. It was hard for the editor to throw out a slip which gave the age as 12 months and three days, but the line had to be drawn somewhere, and the mother whose baby was 12 months and two weeks could argue that three days was more than a year, as well as 14 days. Six pairs of twins were entered, one brother and sister securing honor mention. There were 162 babies under six months and 308 six months and over. While there were fewer girls than boys entered, the girls rather carried off the honors. You have already noticed that the first three prizes went to girls, and that of the remaining seven, four are girls. Besides these, 60.6 per cent of the girls received honor mention, while only 44.4 per cent of the boys are on the honor roll.

From the standpoint of the editor the contest has been a great success. It has meant a great deal of hard work, nervous work, for every mark down has meant a little heart stab. The little personal notes which ac-

companied many of the score cards revealed so much of the home, so much more than the mothers meant or knew, that the editor felt she was hurting a personal friend when she had to mark down babies who were sweet and dear, but not just up to the required standard. The contest has meant a great deal besides work, however. There has been a great deal of valuable knowledge added to the editor's store, a great deal learned about babies, and a great deal more about Michigan Farmer readers. So far,

however, the editor feels she has benefited more than the parents, which is hardly fair. Aside from aroused interest in the baby's development there will be little gained by the parents from the contest, if it stops here. It is scarcely enough to know that the baby was not perfect physically, you must know where the fault lies if he is to be helped. If you wish to have your baby's score, it will be sent you with an explanation of wherein he failed on receipt of a self-addressed and stamped envelope.

PRIZE AWARDS IN BABY CONTEST.

First, Arletha Grace Hayes, Mecosta Co., age, 9 mos. 20 days, score 98.5.
Second, Florence Elaine Bingham, Kalamazoo Co., age, 2 mos, 18 days, score 98.35.
Third, Alice Mae Burson, Kalamazoo Co., age, 7 mos. 10 days, score 98.1.
Fourth, Walter George Drexler, Saginaw Co., age, 5 mos., score 98.
Fifth, Merton Elihu Knisely, Baraga Co., age 2 mos, score 98.
Sixth, Mary Elizabeth Underhill,

John Ambrose Teuske.....95.50
Doris McCarbery.....95.50
Mildred Bacon.....95.50
Elizabeth Botchwick.....95.50
Wayne G. Phillips.....95.40
Floyd Clinton Jones.....95.25
Dolores Lucile Hiser.....95.10
Ora Lucile Thorson.....95.05
Carl Louis Frank.....95.00
Lillian Mary Weber.....95.00
Lilah Myrrh Clifford.....94.95
J. C. Rodlam Wells.....94.90
Gwendolyn Thompson.....94.85
John Walter Sass.....94.75
Earl Lewis Reum.....94.75
Lila M. Keener.....94.75



Arletha Grace Hayes, First Prize Winner.



Alice Mae Burson, Third Prize Winner.

Washtenaw Co., age 10 mos, 10 days, score 97.8.
Seventh, Robert Elwood Miller, Branch Co., age 4 mos. 18 days, score 97.75.
Eighth, Naomie Cereda Wehr, Eaton Co., age 5 mos., score 97.5.
Ninth, Anna Margaret Sherman, Calhoun Co., age, 8 mos. 22 days, score 97.5.
Tenth, Garnet Arleen Reum, Monroe Co., age 8 mos. 10 days, score 97.4.
Honor Mention, Including all Scoring 90 or Above—Over Six Months.
Name.....Score.
Arletha Grace Hayes.....98.50
Alice Mae Burson.....98.10
Mary Elizabeth Underhill.....97.80
Robert Elwood Miller.....97.75
Anna Margaret Sherman.....97.50
Garnet Arleen Reum.....97.40
Chas Andrew Shaw.....97.25
Kathryn Emily Pennell.....97.10
Kenneth Leroy Carruthers.....97.00
Norma May Salisbury.....97.00
Donald Frederick Sturgis.....96.75
Alice Wenona Harker.....96.65
Theodore Raymond Slot.....96.55
Reo Ivan Pattison.....96.45
Charles Arthur Jackson.....96.30
Alice Mary Horger.....96.20
Marguerite Johnson.....96.00
Irene N. Walz.....95.90
Lillian Vaughan.....95.90
Lila Ruth Congelton.....95.75
Ruth Elaine Wright.....95.75
Velma Maud Irwin.....95.70
Paul W. Smith.....95.65

Frances Irene Tenney.....94.75
Harold E. Homer.....94.70
Eileen M. Slicker.....94.55
J. Riley Liscom.....94.50
Charles Hoffman.....94.40
Gertrude Louise Kline.....94.40
Dale Ward.....94.35
Leata Niva Williams.....94.30
Margaret Dean Wiersema.....94.30
Marian E. Fry.....94.25
Wilfred LeRoy Warner.....94.15
Genevieve Louise Wilkie.....94.05
Cecil James Hartenburg.....94.00
Hollis G. Alling.....94.00
Nina P. Phillips.....94.00
Carl R. Laxton.....93.90
Cornelia Bradford.....93.85
Marian Jones.....93.80
Roland James McMilly.....93.75
Charles Schneider.....93.75
James Alexander Milligan.....93.75
Grace Evelyn Beebe.....93.50
Alvin Stanley Lutz.....93.40
Louie Earl Webb.....93.30
Ralph Hilton Hall.....93.30
Russell Henry Johnson.....93.30
Adrian Archer.....93.25
Ernest Lloyd Atkins.....93.25
Elaine Bellingham.....93.25
Thelma Grace Howe.....93.25
John L. Coble.....93.20
Roy Harris Tacoma.....93.15
Ruth E. Irish.....93.15
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The Domestic Crucible—7.

Grace Declares For Modern Conveniences.

GRACE LUDLOW bent anxiously over the blazing range and peered into the kettle of raspberry jam. Scorching heat waves struck her face, which, combined with the odor of the sweet mass of fruit and sugar, sickened her. She felt giddy and nauseated. The jam ought to have a slow heat, she knew, but she was so tired of the sight of fruit, she was going to chance the danger of burning up the whole lot of it in order to get it cooked quicker so that the fire might get out. She stirred it carefully for a few minutes, scraping the bottom of the dish to be sure the jam was not sticking, then dropped the spoon tiredly and walked to the door. She must have a breath of fresh air. But not a breeze was stirring as she stepped out upon the porch, and the sweltering July sun blazed wickedly down upon the hammock into which she longed to drop. She sighed, and sank down upon a hard, straight-backed chair, the only seat which happened to be shaded. The jam might burn itself to death for all she cared. She simply had to rest. Anyway, there were 16 quarts of strawberry jam in the cellar, besides countless jars of berries and cherries canned and preserved. She didn't care if John did like raspberry jam best, he might get her a gasoline stove to make it over.

It was too precious to be further endangered. She decided to let the fire go out, even if the jam wasn't cooked, and went back to her place on the porch. Yes, John had everything handy out doors, but what had she to make life easier? Water indoors was out of the question this year, but she might have a gasoline stove. Or a fireless cooker. A fireless cooker would settle that jam in no time. But he was too busy with his own affairs to help with even a home-made one, and Grace was as handy with a hammer as John was with a needle and thimble. If she hadn't insisted on the screen for the porches she would have had money for the stove. But when she came into her home in the spring she had been so anxious to have the outside appear attractive, that she had not thought of hot weather conveniences. The money she had spent for that kettle that was too good to use would have bought a simple cooker, one that could help out a good deal. And there was another \$3.00 for shrubs; \$2.00 for a lace panel for the front door; 50 cents worth of madras would have looked as well; \$4.50 for a bolt of cheap cotton which an oily peddler had told her was pure linen, not to mention \$5.00 for a pair of party pumps which she would probably nev-

"I've broiled all afternoon making raspberry jam over a wood stove, and I can't stand it any longer. I want a gasoline stove."

"How much does one cost?" asked John, pausing on his way to the wash-room.

"The one I want costs just \$25.75," Grace said hopefully. "It has glass doors in the oven and a thermometer, and there are four other burners and you can use either kerosene or gasoline. Mother has just got one and it's a beauty."

"M-m-m-m," mumbled John from the depths of the roller towel. He emerged and began brushing his hair. "Twenty-five dollars and seventy-five cents. That's just \$7.25 less than the gasoline engine I want for the barn. Have you got the \$25? If you have I can manage the 75 cents."

Grace's heart fell. "I thought maybe we could reverse that," she managed to say. "I have the 75 cents."

"Well, I have \$25," John said, "but if you get your gasoline stove I don't get my gasoline engine. I don't think it's very hot in here."

"Of course not now," Grace replied. "The sun's got around and I've let the fire go out. Come up at three o'clock and see what it's like."

"Your mother's got the kind of a stove you want, has she?" reflected John. "My mother never had anything but a wood stove and she always said they cooked lots better than the new-fangled kind."

Grace's face flushed angrily. She had heard Mother Ludlow say she wouldn't trade her wood stove for anything under the sun so often she'd lost count of the times.

"My mother has cooked with gasoline in the summer for 25 years, and everybody says she's the best cook in the county," shee flashed back.

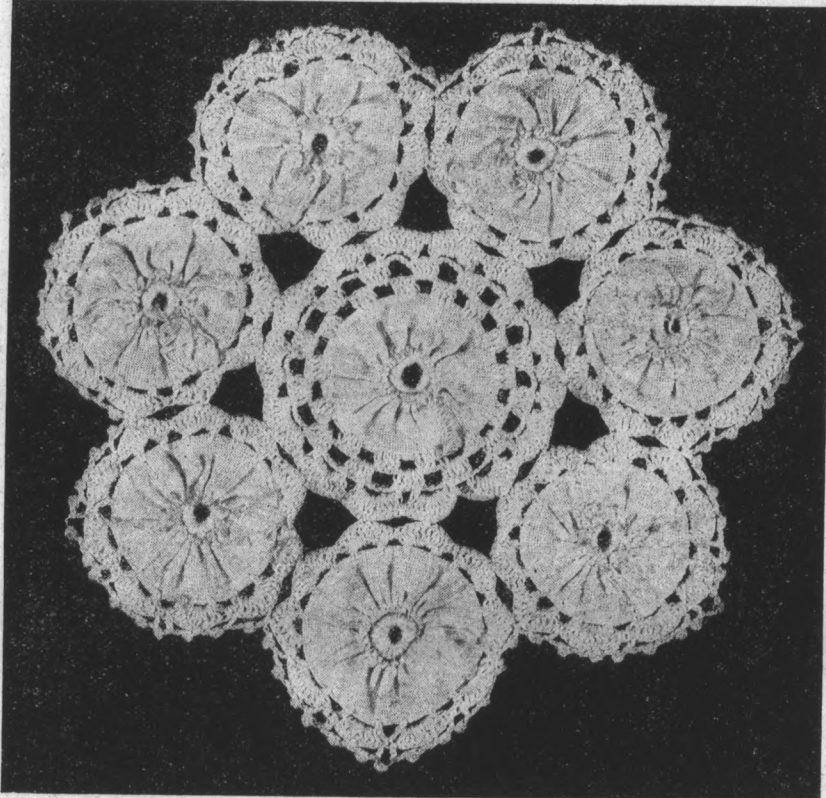
"Well, I guess you'll have to get along without your stove this summer," said John stiffly. "The hired man's going to leave tomorrow night and I'll need that engine."

Hot tears rose to Grace's eyes. She stepped into the pantry and dabbed her eyes savagely with her handkerchief. John had never seen her cry and he never should. He'd got to have that engine, had he? Well, she had got to have that stove, and what was more, she was going to have it too!

DEBORAH.

WHEEL DOILY.

BY MAE Y. MAHAFFY.



A Novel Crocheted Wheel Doily.

He wouldn't roast himself to death making jam for her. What man would? There he was now, driving calmly around the field with a huge umbrella spread over his head while she stifled in a hot kitchen. He had everything he wanted to work with out doors, the very latest improvements in all his machinery, and she could get along with a wood stove in July and August. Well, if she had to she would no longer roast herself to death doing up fruit in the slowest, hottest way. Let the jam burn—

A whiff of burning fruit from the kitchen brought her to her feet with a jump, and she flew to the stove. After all, she couldn't afford to ruin that good kettle. She had just paid \$3.00 for it that she had saved towards a new parasol, and there was no use throwing the good money away. She snatched the dish off the stove and plunged it into a pan of cold water, then carefully lifted out the fruit into a clean kettle and set it on the back of the range, while she inspected her scorched kettle. Fortunately it was easily cleaned, and she

er use. She had spent all that money this summer for things that weren't at all essential. Why hadn't she looked far enough ahead to see that a gasoline or oil stove was the one thing needful in dog days?

Grace had to admit to herself that she had not planned wisely. But even with that, John might buy her the stove, and she should tell him so. If he wanted anything he got it, and why shouldn't she? She arose and bathed her flushed and perspiring face then set about cleaning up the kitchen and preparing for supper.

A cheery whistle two hours later announced John's entry to the kitchen. Grace returned his boisterous salutation with drooping mouth and a pensive sigh.

"What on earth's the matter?" he queried. "Is your mother dead or have you spilled ink on the best tablecloth? Anybody'd think you hadn't a thing left to live for."

"You'd probably feel the same way if you'd been working in a hot kitchen all day instead of driving around outdoors in the breeze," Grace replied.

A novel use for crochet is illustrated by the doily herewith, that of combining it with wheels of some fabric. In the present instance white tape was utilized, while ordinary white knitting cotton forms the crochet. For doilies this is the customary choice, but similar wheels may be used for a variety of purposes and the materials selected to correspond. The tape may be replaced by net, footing, linen, poplin, scrim, silk, satin or ribbon, and any color or a combination of colors chosen, owing to the article to be fashioned. Large or small wheels may be made, only two sizes appearing in the doily shown, the central one three inches in diameter, and the surrounding ones two.

All-over effects are used for sofa pillows and fancy bags, lining of some harmonious shade being inserted. Rows of the wheels, cone shaped groups, etc., are desirable for scarf ornamentation, and small wheels of net make adorable pin cushion covers.

Inch wide strips of tape, each six inches long, form the wheels in the doily shown. In utilizing wider fabrics cut with one selvedge edge if possible, and turn under raw edges one edge, drawing up in circular form until the outed edge lies flat. Join neatly. Coil the crochet cotton around some object a trifle smaller than a lead pencil several times to form a foundation for the rings, crocheting over these in single crochet stitch un-

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FOR SALE—In whole or part, 320 acres southern Michigan farm. Good soil, buildings and fences. Immediate possession. O. S. SCHAEFER, 214 Dewey Ave., Swissvale, Pa.

120 Acres Near Saranac, Ionia Co. 100 acres Imp. 85 acres seeded, 20 acres timber, good soil. 2 good houses, barn and other buildings, all in good repair, a bargain. Albert Wells, Saranac, Mich.

FOR SALE—142-acre farm, good soil, good markets, located 2 miles from River Jct., 9 miles from Jackson, 100 rods from electric line. Must be sold to close an estate. Price \$50 per acre. W. E. ECKERTSON, Excelsior, River, Michigan.

Beautiful Little Poultry and Truck Farms with nice homes near Brunswick Ga., have just what you want. Address, Charlton Wright, Sterling, Ga.

MARYLAND FARMS

87 acres fully equipped. 6-room house, barn, out-buildings. 550 peach trees, apple, pear, 350 grapes, 4 A. strawberries. Price \$2,100. Other farms all sizes. FIGGS & BASHORE, Box 362 P. Salisbury, Md.

Sunny Tennessee, 194 acres, 125 acres bottom. Corn, wheat, oats and clover land. 8-room dwelling, tenant house and barns. Price \$4000. Farms your size, your price. Free list. JENKINS & SON, Huntingdon, Tenn.

240-ACRES—Good for grain and stock raising. Large house, good sheep, horse, hog and cattle barns. Six miles from good market and fourteen miles from Jackson, good roads, easy terms. Address Box No. 22, R. F. D. No. 2, Onondaga, Mich.

FOR SALE—164 acres gravelly loam, fenced with 30 acres improved, 20 acres in ry. Good five room house and fair stable, 14 miles northeast of Otter Lake, 3 cattle and 13 brood cows. Taxes paid. Price \$3800. Terms \$1200 down with balance at 6 per cent. N. M. JOHNSON, Flint, Michigan. care M. S. D.

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OWN A FARM—My unimproved farming lands in Gladwin county, Mich., will make you independent. Small payment down, 10 years' time on balance. Price \$10 to \$20 per acre. Write for particulars. U. G. REYNOLDS, Gladwin, Michigan.

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R. A. SMITH,
Colonization and Industrial Agent, Union Pacific R. Co., Room 3821, Union Pacific Bldg.
OMAHA, NEB.

til completely covered. Place one of these rings over the gathered portion of the material.

Finish the outer edge of each wheel with a simple scallop or some easy pattern in crochet. The small wheels shown have 20 loops each composed of four chain stitches placed at regular intervals all around. Into alternate loops eight double crochet stitches are made, with one single crochet in the loops between.

The central wheel has 14 groups of three double crochet stitches each surrounding it, these alternating with chains of three stitches. In the next row groups of five double crochets are placed over the previous chain stitches. Alternate with chains of four.

The scallops are then made by crocheting a chain of five from one edge of a double crochet group to the nearest edge of the next, then a chain of three to the opposite edge of same group, and so on around the circle, having 14 loops of each size. In the largest loops double crochet ten times, and single crochet into the smaller loops between.

After the wheels are joined by fastening two adjoining scallops together a little picot finish is made around the doily. Begin where two wheels join, chain six and catch back into the third chain to form a pivot, chain three more and double crochet into space between scallops. Chain six, form picot, and chain three more, and single crochet into center of scallops. This is repeated as often as is necessary.

MAKING SAUSAGE.

BY OLIVE RICHEY.

In making sausage for home use, I take ten pounds of lean pork, two and one-half pounds of fat pork and one pound of lean beef. These are cut into pieces small enough to go through the sausage grinder or meat cutter and placed in a pan. For this quantity of meat, five ounces of salt, three-fourths ounce of pepper and one ounce of sage are used. The seasoning is sprinkled on the pieces of meat in the pan. This is done because the seasoning will be more evenly distributed when the meat is ground.

If more sausage is made than is needed for immediate use, it can be preserved indefinitely by placing in a crock and covering with melted lard. The crock should be kept in a cool place. Or if preferred, a case can be made of clean muslin. This case should be three or four inches in diameter. When the sausage meat is tightly stuffed in the case, the case should be dipped in melted lard and hung up in a cool place to harden.

HOME QUERIES.

Household Editor:—Can you tell me what to do for my baby, to make him rest better nights? He wakes up about five or six times each night, for the past month. I nurse him and he seems to be well and strong. He is eight months old. Can you tell me what to do?—J. M. J.

It would be impossible to tell what is the matter with the baby with so little information. I would have to know the exact condition of the bowels, whether the baby has colic or gas in the stomach and bowels, if you are feeding him anything else, how often he eats and when, if he nurses during the night, and several other things. Write for our chart, sending your full name and address, and after you have filled in the chart return it and I will advise you then.

SHORT CUTS TO HOUSEKEEPING.

To remove stains from clothing use equal parts of table salt and gasoline. Rub the soiled place well with a cloth saturated with this, then brush. Chloroform will also remove grease spots. —Mrs. S. E. L.

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(Continued from page 99).

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Farm Commerce.

Selling Canned Goods at Fairs

MUCH interest has been manifested by the readers of the Michigan Farmer in the possibility of marketing home-canned fruits and vegetables. The observations of the writer, who had charge of a canning demonstration at the West Michigan Fair, may be of assistance to some readers in establishing a desirable market for canned goods.

A splendid line of canned fruits and vegetables and some beautiful samples of jelly as well, were placed upon exhibit in the Horticultural Building. The owners had evidently employed the cold-pack process which has been fully described in recent numbers of The Farmer.

Many of the visitors were prosperous Grand Rapids people and many inquiries were received as to where those delicious canned "goodies" could be obtained. Some city housekeepers at least, were willing to purchase a complete line for winter use. They appeared to desire fruits and jellies in considerable variety as well as vegetables.

There is a splendid opportunity for an enterprising farm woman or for a well-organized girls' canning club, to establish a most desirable market the coming season. The lady could arrange to exhibit not only an attractive line of fruits and vegetables, but to be on hand in order to meet in person those desiring to order.

An excellent plan is to have printed postcards giving a list of "goodies" and the price of each variety. Although these cards are not expensive,

judgment should be used in distributing them to those who are really interested. At such a time many are not prepared to order immediately. These can be urged to fill out the cards at home, and order by mail. The shipments can then be made by mail, express or freight.

While glasses of the spring-top style are by far the most attractive for exhibition purposes, tin cans are much more economical. The danger of breakage is also avoided. If it were clearly indicated on the card there could be no objection to using tin containers in the actual shipment, but enamel-lined cans cost but little more, and avoid danger of contaminating the fruit with the tin. Especially is this true of such acid vegetables as rhubarb.

A satisfied customer once obtained becomes an asset. A card index should be kept of the name, address, and character of the goods ordered by each person. This is then filed alphabetically. Such a card index need not be at all expensive. A cigar box with the sides cut down makes an excellent holder. Cards of standard size can be purchased of any dealer in office supplies at 10 cents per package.

There is a deep desire among farmers' wives and daughters for economic independence. The alert farm business woman will find an excellent business opening, not only at the state, but also the local fairs. The contact with city people is almost sure to result in some very pleasant acquaintances.

C. A. ROWLAND.

Gov. Ferris Advises Market Commission

In his recent message to the Michigan Legislature, Governor Ferris suggests the need of a marketing commission in the following words:

The state of Michigan, through its Agricultural College, the Farmers' Institutes and various private organizations, is engaged in the great educational work of teaching the farmer how to double his productions. Already the effects of this teaching are manifested. Michigan ranks first in the production of potatoes and our producers are offered 20 cents a bushel for their potatoes, which is below the cost of production. While producers are receiving 20 cents a bushel for potatoes, consumers of these potatoes in southern Michigan are paying as high as 70 cents a bushel.

Michigan is the second state in the Union in the production of apples. It is reported that our production was so great last fall that thousands of bushels of apples rotted on the ground under the trees. Fancy apples, which brought 25 cents a bushel in northern Michigan sold for 25 cents a peck and upwards in southern Michigan.

It is the business of the state to educate the farmer to double his production, it is also the business of the state to see that increased production is properly marketed and that it does not become a disaster instead of a blessing. There is no sense in raising two blades of grass where one grew before, if no one else gets the extra blade. If the state is to continue encouraging an increasing production, it should likewise, by means of a market commission, take part in disposing of that increased production. Early in 1914, New York established a "Department of Foods and Markets," which is worthy of your careful study. Either a separate commission might

be created or the scope of the Dairy and Food Department might be enlarged along these lines.

MICHIGAN CO-OPERATIVE ASSOCIATIONS ACTIVE.

Farmers and business men met at Reed City recently and formed the Osceola County Board of Commerce, with the following officers: President, M. M. Callaghan, Reed City; vice-president, E. E. Birdsell, Evart; secretary, M. W. Brown, Reed City; treasurer, V. R. Davy, Evart. An executive board will be chosen, with one member from each township, and committees will be named on legislation, advertising and publicity, transportation and roads, entertainment, taxation, finance and auditing and markets. The aim is to advertise the resources of Osceola county and to improve crops, markets, roads and ship-

ping. Grangers and other farm organizations are taking part in the movement. The annual membership fee is 50 cents and it is expected to have at least 2,000 members within six months. A big round-up meeting and dinner is being considered, also a potato contest.

A co-operative shippers' association is being formed by farmers and fruit growers of the Fennville district and it is planned to build a \$6,000 packing house this year. Tentative plans are for a building 60x80 feet, two stories and basement, with storage room for about 6,000 barrels of apples. Fennville is an important shipping point, the record for the past year being 650 carloads. Of this amount there were 408 cars of apples and pears, 149 cars of peaches, plums and grapes and 31 cars of cider. J. A. Barron will be manager of the new stock company.

A co-operative stock buyers' association has been formed at Coldwater, in Branch county, on lines followed by similar associations in Litchfield and Quincy. Matt Garrison was chairman and Carl Martin, secretary, of the meeting, which was attended by nearly 400 farmers. The leading speakers were William Sheldon and Andrew Adams, of Litchfield, and Stanley Boynton and Fred Holmes, of Quincy. When the stock is subscribed officers will be chosen and the railroad will be asked for shipping yards, scales and other equipment. Business will not be limited to stock buying but will include the handling of coal, feed and other stuff and possibly a co-operative store for members.

Progress is reported in perfecting the co-operative marketing organiza-

tion of Grand Traverse and Leelanau county fruit growers. Headquarters will be at Traverse City and first money towards the expenses of the association, a check for \$50, has been sent in by five growers of Empire. It is estimated that marketing the 1914 crop cost the growers of Traverse City and vicinity fully \$40,000 and that through organized effort and a manager, much money can be saved this year.

At a recent meeting of the Washtenaw County Horticultural Society one of the speakers, C. C. Freeman, of Ann Arbor, urged the need of a cold storage plant for the fruit growers. He advised a small, inexpensive one, run economically.

Bean growers of the state are getting in line. First we have the Saginaw County Bean Growers' Association, with officers and an executive board made up of one representative from each township. This association sent delegates to attend a recent meeting called at Saginaw by Representative James McBride, to take steps toward a state organization. Michigan is the leading bean growing state and local organizations in the nine counties are said to raise two-thirds of all the white beans consumed in the United States. The state association will employ a secretary, who will gather data regarding acreage and condition of crop and markets and from these figures some idea will be gained as to a fair price for beans after harvest. Prof. Baldwin, of M. A. C., attended the meeting and the co-operation of the state board of agriculture is promised. Shiawassee and other counties will organize soon. ALMOND GRIFFIN.

Two Ways of Marketing Eggs.

THAT better methods of marketing the eggs would, in many cases, considerably increase the profits of the poultryman is a fact that cannot be disputed. To illustrate the point I will cite the cases of two men whom I know, both of them in the business primarily for the purpose of getting as many eggs as possible from their flocks. Each one has worked out a system of feeding and care that makes the hens deliver the goods, but here the similarity ceases. One has a flock of R. I. Reds, bred to lay eggs of uniform size and coloring, the other has a nondescript mixture of Rocks, Leghorns and Reds, intermixed with numberless crosses. So far as I can see, the man with the pure-bred birds can claim very little advantage in the number of eggs per bird, for the other man knows how to make them lay. The first, however, has a decided advantage in selling.

For years the one has sent his eggs to a large city, formerly by express and recently by parcel post, as they are taken directly from the door by the rural delivery driver. He has always received the highest price, as no egg is sent that is under size, off color or dirty. The other man sold

his until recently in local markets, sometimes getting twenty cents per dozen less than his neighbor. Last summer he adopted the parcel post plan but was greatly surprised when his returns were considerably less than those of the other man. The answer was not hard to find, however, and he soon learned to grade the eggs with more care. Even then the product of the mixed flock appeared inferior to that of the Reds.

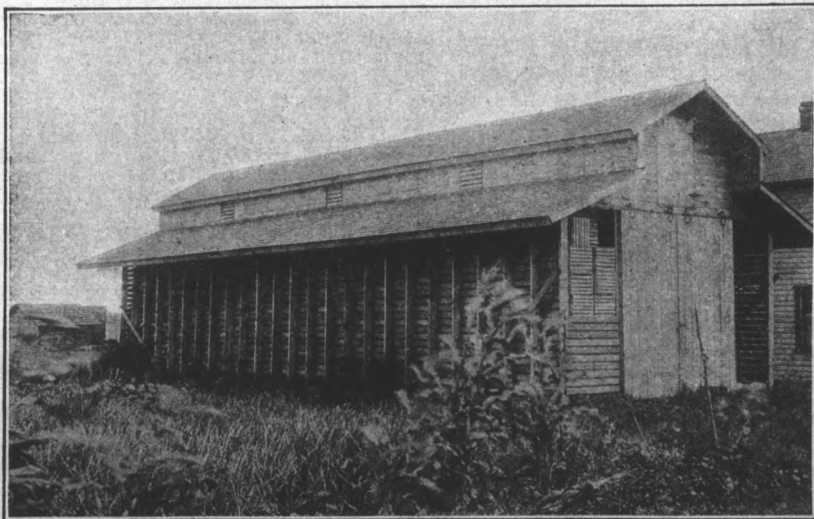
In shipping eggs to market, careful grading should be practiced. Better prices will be received if the brown eggs are packed in one package and the white in another. Also, do not include eggs that are considerably under size. Dirty eggs will spoil the appearance of a crate. Even eggs that have been washed do not look as well as those that were never dirty. Clean nests mean cash at the time of selling. Uniform appearance is the secret of the top-notch price.

N. H. CHAS. H. CHESLEY.

BUTTER MARKET NOTES.

Reports on the amount of butter in storage the first of January at the large receiving centers, New York, Philadelphia, Chicago and Boston, would indicate the stocks Jan. 1, 1915, to be 11 per cent less than those a year earlier, but 7 per cent more than on Jan. 1, 1913.

While the statistical situation of the butter trade makes it appear that prices should not sag much below the present basis, there are a few depressing elements more or less peculiar to the times. The first of these is the conservative buying of consumers. While the purchasing power of many city families has been greatly reduced, others are buying cautiously, even of the necessities, so that all around the consumption of butter as well as of other products has failed to measure up to normal years. Then substitutes are displacing the lower grades of butter to no small degree. The increase in the sales of oleo in the Chicago district points strongly to this conclusion. The fact, too, that



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high-grade butter is in good general demand, while inferior kinds are draggy, is consistent with the situation as stated. What the future of the trade will be we cannot say, but should prices go down much below the present level, production will be restricted, in all probability, by reason of high-priced feeds.

Following are the average prices for finest creamery butter at New York city for each year since 1900: For 1900, 22.40c; for 1901, 21.60c; for 1902, 24.76c; for 1903, 23.48c; for 1904, 21.75c; for 1905, 24.64c; for 1906, 24.67c; for 1907, 28.48c; for 1908, 27.61c; for 1909, 29.98c; for 1901, 31.18c; for 1911, 27.96c; for 1912, 31.60c; for 1913, 32.28c; for 1914, 29.89c.

Crop and Market Notes.

Michigan.

Arenac Co., Jan. 4.—Condition of wheat and rye is good, these crops being well covered with snow. There is quite a lot of rough feed on hand and a considerable amount of wheat, beans and oats not yet marketed. Eggs are scarce. Stock being fed are sheep and dairy cattle as well as young stuff. Beans \$2.45; oats 43c; wheat 90c; eggs 30c; butter 22@28c.

Branch Co., Jan. 5.—Wheat and rye looking well, being covered with snow and no ice. There is about eight inches of snow. Not a very large amount of grain in farmers' hands and not much grain going into market. Not as much stock fed as usual. Hens not laying much. There is considerable stock being marketed since the quarantine was lifted. Farmers' Institutes and extension short courses now in progress. Wheat \$1.20; corn 65c; oats 40c; potatoes 25@30c; butter 28c; eggs 32c; hay \$10@12.

Hillsdale Co., Jan. 5.—Wheat, rye and clover are well protected by the snow. There is fine sleighing. Fewer sheep and cattle than usual are being fed, due to the quarantine which prevented shipment of western cattle and lambs. More hogs than usual, farmers being reluctant to sell at the low prices prevailing. Hens are not laying much. Hay is scarce, but with other feeds such as ensilage, straw, cornstalks, etc., most farmers will get through the winter without buying any feed. Work about the barns and with the stock seems to take much of the farmers' time. Severe winter weather put an end to field work of all kinds. Butter 25@29c; eggs 35c; wheat \$1.23; oats 44c; rye \$1.05; cloverseed \$8; potatoes 30c; hens 9@11c; geese and ducks 9@11c; turkeys 17@18c; hogs \$4@6.50; cattle \$5@6; calves \$7.

Lapeer Co., Jan. 6.—Wheat and rye looked splendid before snow came. Of the surplus marketable grain, about one-half remains in farmers' hands. There are about two-thirds the usual number of cattle, one-half the number of sheep and one-third the number of hogs being fed. Egg production very limited. Products marketed are rye at \$1.04; oats 46c; hay \$10.

Barry Co., Jan. 6.—Winter finds a number of farmers with corn unhusked and beans unthreshed. Wheat was looking good when snow came. The farmers' institutes are being held and are largely attended. A good many hogs and sheep are going to market. There is no market for potatoes, with half the crop in farmers' hands. Hogs \$6.50; corn \$1 per cwt; wheat \$1.25; oats 45c; hay \$10@12; beans \$2.40.

Shiawassee Co., Jan. 6.—Wheat in splendid condition, well covered with snow, and suffering little from standing water. Rye also coming along in fine condition. Plenty of feed in farmers' hands. A few farmers holding grain for higher market, although a good many farmers marketed what surplus grain they had on hand. Lamb feeders have not filled up their barns as usual. A few cattle on feed. Hens are not laying well. Wheat \$1.22; beans \$2.45; rye \$1; barley \$1.45 per cwt; oats 45c; hay \$10@11; eggs 26c; butter 28c; potatoes 35c; apples 40c. Farmers busy hauling manure and getting up fuel supply. Sleighing is good and lots of teaming being done.

Monroe Co., Jan. 11.—Wheat is protected with a good covering of snow, and the condition of wheat and rye is above the average. Farmers have an abundance of feed for stock, with hay about all marketed. While there is a large amount of cattle fed, the number is about 25 per cent less than last winter. Fat hogs about all marketed, a few bunches being held for higher prices. The egg output is conspicuous by its absence. Some farmers are busy putting up ice, which is about 15 inches thick. The boys' corn contest recently held at Monroe, was well attended, the prize for the best exhibit going to Lester Lentz, of Milan township. Wheat \$1.17; oats 49c;

hay \$10@12; hogs, alive \$6.50; veal \$7.50; dressed beef 10@11c; eggs 24c; butter 26@30c; cream 32c; chickens 10c.

Muskegon Co., Jan. 14.—Wheat and rye are in fine condition and went into winter with a good cover of snow. There is plenty of rough feed for the stock, some grain, such as cottonseed meal, being bought. Some wheat being held for higher prices. Scarcely any stock being fattened. Dairy business is progressing rapidly in this section since creameries at Ravenna, Holton and Montague have been operated on the co-operative plan. Hens are beginning to lay fairly well. Prices at station: Wheat \$1.20; rye 90c; potatoes 25c; apples 40@70c; beans \$2.50; hay, baled \$10; oats 50c; beef 10c; pork 8c; chickens 10c; eggs 34c; butter 33c; cows \$50@75.

Sanilac Co., Jan. 7.—Wheat went into winter in fine condition and was well protected with snow for a few weeks, but recent rains are leaving fields almost bare. Stock generally seems to be healthy, no hog cholera reported. Farmers have on hand a good supply of feed for their own use. The egg yield is light, due to the cold weather. Market of hay, beans and oats stronger, and wheat has also reached a higher point.

New York.

Columbia Co., Jan. 12.—Rye did not make much growth, owing to the excessive drought. Straw and hay about the only crops marketed. Rye straw \$12; timothy hay \$16. Not much stock sold, mostly dairy cattle kept. Potatoes 50c per bushel, and many are holding for higher prices. Oats 52c; corn \$1 per cwt; butter 38@40c; eggs 40c per dozen.

Pennsylvania.

Lancaster Co., Jan. 11.—There is not much wheat and no rye in farmers' hands. Farmers have not enough corn for their own use. There is less stock being fed than last year. Farmers are employing themselves tending stock, sawing wood and stripping tobacco, the latter bringing 9@10c per pound. Wheat \$1.30; corn 87c; hogs 10@11c dressed; eggs 31c; apples \$1 per bushel; potatoes 80c; turnips 35c.

Ohio.

Darke Co., Jan. 6.—Have had real winter weather the past few weeks, the thermometer going down to 14 below zero in some places. Farmers are stripping their tobacco, which is bringing 6½@8c per pound. Corn is 63c per bushel; wheat \$1.25; hogs \$6.80; eggs 40c, and very scarce.

Fairfield Co., Jan. 4.—Wheat and rye in good condition, though there was not much rye sown. Plenty of feed in farmers' hands, about one-third of wheat crop being held. Not many cattle and about the usual number of hogs being fed; quite a number of hogs have been sold during the last ten days. Hogs generally healthy. Cattle \$5@7.50; hogs \$7.25; milk cows \$45@70; eggs 35c; chickens 10c; turkeys 20c; butter 28@35c; wheat \$1.20; oats 50c; corn 65c; hay \$15; straw \$6.

Shelby Co., Jan. 6.—Cold, dry winter weather prevails, and wheat has been well covered with snow for the past month. Some corn, oats and wheat marketed. No hay sold. Hogs \$6.70; cattle \$5@6.50; wheat \$1.23; oats 47c; corn 85c per cwt; eggs 35c per dozen and scarce; butter-fat 31c.

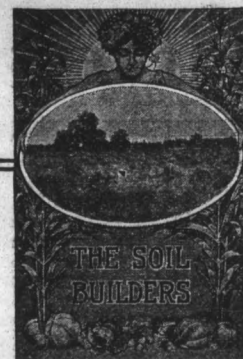
Carroll Co., Jan. 7.—We have had some cold weather lately. There is not much snow but the roads are in good condition. Some ice has been put up. Wheat \$1.20; oats 45c; rye \$1; corn 75c; eggs 30c; poultry 9c.

Clermont Co., Jan. 11.—Wheat and rye are in fair condition. Bad weather in December, together with the quarantine on live stock, has cut down the amount of feed farmers had for home use. Stock raisers are buying corn now. There is a small amount of grain for sale. Egg production is light, but an improvement is expected on account of milder weather. Eggs 36c; butter 30c; corn 65@75c.

Columbiana Co., Jan. 11.—Have had fine weather this month. Wheat looks better than a couple of months ago, but freezing weather with no snow on the ground is hard on it. Our roads have been in fine condition all winter. Most of the hens around here are on strike. Farmers are hauling manure and burning brush. A good many have been selling their wheat at \$1.25; corn 80c; oats 50c; hay \$15; potatoes 50c; apples 50c; chickens 12c; butter 30c; eggs 36c.

Greene Co., Jan. 7.—December was very cold, and roads icy, but ice is gone now, and wheat and rye are looking good. There seems to be plenty of feed of all kinds in farmers' hands for own use. Not much surplus corn on account of the quarantine, which compelled farmers to feed it. Some hogs and cattle still on feed. Some wheat being marketed, bringing \$1.25; corn 65@80c; hogs \$6.75; eggs are scarce at 35c; butter-fat 34c.

Holmes Co., Jan. 9.—Wheat and rye are looking fine, being well protected with snow. Farmers have plenty of feed. Hay is moving slowly, and (Continued on page 104).



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Markets.

GRAINS AND SEEDS.

January 19, 1915.

Wheat.—Quotations averaged higher last week than for any similar period for the past 40 years. The price, however, of Tuesday was about 4c below the high figures reached. Several factors are working to keep the market unsettled. The slight possibility of the allied fleets forcing the Dardanelles still remains a factor that keeps traders watchful. The difficulty with which boats are secured for transportation to Europe is proving another element in changing prices. But the chief cause for fluctuations during the past few days has been the rumor of an attempt to place an embargo upon wheat leaving this country. Buying, however, continues on a large scale and receipts are not sufficient to keep up stocks. The visible supply shows a decrease of nearly four million bushels. One year ago the price for No. 2 red wheat was 98c per bushel. Quotations are as follows:

	No. 2	No. 1	May
Wednesday	1.38	1.35	1.42
Thursday	1.42	1.39	1.45
Friday	1.44	1.41	1.47
Saturday	1.41	1.38	1.44
Monday	1.41½	1.38½	1.44½
Tuesday	1.39½	1.36½	1.42½

Chicago, (Jan. 18).—No. 2 red wheat \$1.40½@1.43¼; May \$1.42½; July 1.25¼.

Corn.—In spite of the decline in wheat values since last Friday, corn has been advancing. Export sales have been large; on Monday it was estimated that 1,800,000 bushels went to foreigners. It appears that European countries will substitute corn for wheat to a considerable degree and at the present basis of prices for the two grains, corn appears to furnish the cheaper food. These advances have taken place notwithstanding the domestic visible supply was the largest on record Monday. One year ago No. 3 corn was quoted at 63½c per bu. Quotations are as follows:

	No. 3	No. 3	May
Wednesday	70½	71½	71½
Thursday	70½	71½	71½
Friday	71½	72½	72½
Saturday	73	74	74
Monday	73	74	74
Tuesday	73½	74½	74½

Chicago, (Jan. 18).—No. 2 yellow corn 72¾@73½c; May 78¾c; July 79¾c per bushel.

Oats.—Oat values rule higher than a week ago. While a fractional decline was noted Tuesday, the grain does not appear to be influenced as much by wheat as a short time ago. Export buying continues. On Monday 150,000 bushels were purchased in Chicago on foreign account. The visible supply shows a slight decrease. The local quotation for standard oats a year ago was 42c a bushel. Prices for the past week are:

	Standard	No. 3	White
Wednesday	54½	54	54
Thursday	54½	54	54
Friday	55	54½	54½
Saturday	55½	55	55
Monday	55½	55	55
Tuesday	55	54½	54½

Chicago, (Jan. 18).—Standard oats 53¾@53½c; May 56c; July 53¾c per bushel.

Rye.—A strong demand and meagre supplies have resulted in further advances. No. 2 is now at \$1.18 per bu.

Beans.—Market is firm at steady quotations. At Greenville farmers are selling on a \$2.60 basis. Detroit quotations are: Immediate and December shipment \$2.85; February \$2.95; May \$3.00. Chicago prices higher. Stocks are small. Pea beans, hand-picked, choice, quoted at \$2.95@3.10; common at \$2.60@2.80; red kidneys choice, at \$3.25@3.50.

Clover Seed.—Transactions are on a higher basis with the tone steady and business moderate. Prime spot \$9.60 per bushel; March \$9.75; prime alsike sells at \$9.30.

Toledo.—Both common and alsike are higher. Prime cash \$9.60; March \$9.60; prime alsike \$9.50.

Timothy Seed.—Five cents lower. Prime spot \$3.40 per bushel.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$7.30; second \$7.10; straight \$6.50; spring patent \$7.50; rye flour \$6.50 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$26; standard middlings \$28; fine middlings \$32; coarse corn

meal \$30; corn and oat chop \$27 per ton.

Hay.—Quotations are steady. Carlots on track at Detroit are: New, No. 1 timothy \$16@16.50; standard \$15@15.50; No. 2, \$14@14.50; No. 1 clover and mixed \$13@13.50.

Chicago.—Market steady; offerings small. Choice timothy \$18@18.50; No. 1, \$16@17; No. 2, \$14@15.

New York.—Easier. Prime \$22.50; No. 1, \$21.50; No. 2, \$20@21.

Straw.—Steady. Detroit prices are: Rye straw \$7.50@8; wheat and oat straw \$7@7.50 per ton.

Chicago.—Rye straw \$11@11.50; oat straw \$9@9.50; wheat straw \$8.50@9.

DAIRY AND POULTRY PRODUCTS.

Butter.—Increasing offerings caused a further decline. Demand is good. Extra creamery 30c; firsts 27c; dairy 21c; packing stock 20c per lb.

Chicago.—Prices are 1c lower and the market was quiet even at that. Extra creamery 30c; extra firsts 29c; firsts 26½@28c; seconds 24@26c; packing stock 20½c.

Elgin.—Larger supplies caused a decline of 2c in price, the quotation being 30c.

Poultry.—Market is easy at slightly lower prices on all kinds of poultry. Springs 13c; hens 8@12c; ducks 15c; geese 11@12½c; turkeys 16@17c.

Chicago.—Market is fairly active with few changes in prices. Turkeys 13@14c; fowls 13c; springs 13c; ducks 13@14c; geese 12@14c.

Eggs.—Market easy at the present prices. Due to increased receipts lower prices are expected. Fresh stock sells at 31c per dozen; current receipts 30½c.

Chicago.—Market is steady at prices slightly lower than last week. The quality of fresh eggs is improving and the quantity increasing. Miscellaneous lots, cases included 25@34c; ordinary firsts 31@32c; firsts 34c.

Pork.—Market steady for dressed hogs, light weights selling at \$8.50 per cwt; heavy \$7@7.50.

Veal.—Quoted steady at 13@13½c for fancy and 9@10c for common, a slight advance over last week.

FRUITS AND VEGETABLES.

Apples.—Market active and well supplied, with no change in prices. Baldwins \$2.50@2.75 per bbl; Greenings \$2.75@3; Spy \$3@3.35; Steele Red \$3.50; No. 2, 40@50c per bushel.

Chicago.—Apples are moving fairly well at former prices. The demand should be much greater than it is. The prices as quoted are for refrigerator stock. Common storage sells for 50c@51c less. Baldwins \$2@2.50; Kings \$2.75@3.25; Wagener's \$2.25@2.50; Jonathans \$3.50@4; Greenings \$2.75@3.25; Northern Spy \$3@3.50. Western box apples are selling for \$1.10@2.25 per bu.

Potatoes.—Market quiet with prices unchanged. Carlots 30@33c per bu; in bulk 36@40c per bushel in sacks; at Chicago the market is fairly brisk at lower prices. Michigan white, in bulk, are quoted at 35@43c per bu; at Greenville, Mich., 25c in bulk.

WOOL.

A fair volume of trading was done last week, with prices firm to higher. Fleeces are among those grades that bring better returns than a week ago. Quarter-bloods now rule from 30@31c; washed delaines 32c; unwashed 27c. The uncertainty regarding the requirements of the English embargo on colonial wools is detrimental to the bulls in that manufacturers continue to hope that importations may be secured to supply needs later on. There is every reason to believe, however, that wool prices will continue on a relatively high level even though the embargo should be removed.

GRAND RAPIDS.

The hay market is easier, with prices at \$10@12, with an occasional load going at \$13. Eggs are steady at 32@34c; dairy butter is a little lower, selling at 24c. Egg dealers report that Oklahoma and Kansas eggs are almost due and that the local market will be lower on arrival of fresh stock from that territory. No great change is noted in the potato situation. Beans continue firm and high, the price to farmers generally being \$2.60. Wheat is around \$1.30; oats 53c; rye \$1; corn 70c. Poultry is in better demand, with fowls at 10@12c.

DETROIT EASTERN MARKET.

In spite of the weather there was a fair amount of business done on the Eastern Market Tuesday morning. Apples were more freely offered than any other commodity and sold slowly from 35c@1. Steele Red bringing the top price; potatoes 45c; carrots 25c; beets 25c; cabbage 20@50c; chickens 14c per lb.

THE LIVE STOCK MARKETS.

Buffalo.

January 18, 1915.

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

Receipts here today as follows: Cattle 140 cars; hogs 145 d. d.; sheep and lambs 95 d. d.; calves 800 head.

With 140 cars of cattle on our market here today and only 15,000 reported in Chicago, a few early sales looked 10@15c per cwt. higher than last Monday; in fact, everything considered all the cattle sold about 10@15c higher than showed quality and finish; the slippery and low grade stuff sold barely steady with last week. At the close of the market there were a few loads of weighty cattle, that got in too late to show today, left over, but outside of the few late arrivals everything was well cleaned up and the market closed steady with prospects fair. Should receipts come light in Chicago the balance of the week, we look for a little improvement in the trade here next Monday.

We had a rather light supply of hogs today and a sharp advance on all grades, but trading very uneven, prices ranging from 10@20c per cwt. between the modified and the certified divisions. The bulk of the hogs in the quarantine division sold at \$7.15 with the exception of a few choice light loads that landed at \$7.25@7.35; in the free area all good weights sold at \$7.25, with yorkers, mixed and pigs generally \$7.35; roughs \$6@6.35; stags \$5.50@5.75. Our late trade was rather dull and we do not look for any higher prices for the next few days.

The market was active today on handy lambs and sheep, dull on heavy and with prices a strong quarter lower than the close of last week; most of the choice handy lambs selling at \$8.15, and we look for steady to shade higher prices last of week.

Handy lambs \$8.10@8.15; 85@90-lb. lambs \$7.75@8; 100@120-lb. lambs \$6.75@7; yearlings \$6@7.15; bucks \$4@4.25; cull to fair lambs \$5@8; handy ewes \$5.50@5.75; heavy ewes \$5.25@5.50; wethers \$6@6.25; cull sheep \$3.50@4.50; veals, choice to extra \$11.50@12; fair to good \$7.50@11; heavy calves \$6@8.

Chicago.

January 18, 1915.

Cattle. Hogs. Sheep. Receipts today..15,000 27,000 8,000 Same day 1914..26,059 42,828 32,234 Last week....55,782 196,143 131,344 Same wk 1914..56,990 170,454 119,338

The further reductions in cattle prices last week was an influence in holding back supplies today, Monday, but the chief cause of the small run was the heavy snow storm in Iowa and other western states. Trade was slow in opening, with butcher stock selling 10@15c higher, and it looked as though desirable steers would sell that much better, if not more. Hogs shot up 25c because of the light receipts, with active buying at \$6.75@7.25, but later prices were lower. Hogs marketed last week averaged 225 lbs. Sheep and lambs arrived meagerly, but liberal numbers remained over from last week, and the eastern receipts were so large as to check purchasers here for eastern shipment. Prices promised to rule a little higher for the best fresh receipts, but buyers were in no hurry to take hold.

Cattle prices underwent further reductions of about 25c last week as a result of continued excessive receipts at a time of hampered trade caused by the quarantining of great numbers of cattle and deer beef in the retail meat markets. Many of the cattle, hogs, sheep and lambs coming to this market have to be placed in the quarantined division of the stock yards, and these offerings are discriminated against by killers to such an extent as to render sales slow at best, while prices average decidedly lower than those paid for unquarantined stock. The greater part of the steers marketed last week brought \$7.25@8.75, which is the lowest range of values seen in a long time, with choice to fancy heavy steers selling at \$8.75@9.40 and a greatly reduced percentage of steers good enough to bring \$9 and over. The commoner class of steers of light weight sold on a basis of \$5.25@7.25, these comprising a great many cattle that should have been held much longer in order to be in marketable condition. As it was impossible to ship out stockers and feeders, cattle of such description had to go to local killers, and they naturally went very low in price. Fair steers sold at \$6.80@7.85, medium steers at \$7.90@8.25 and good steers at \$8.30 and over, with sales of good to fancy yearling steers at \$8.35@9.25 and sales all the way down to \$7.25 for common ones. Butchering cows and heifers had an outlet at \$4.70@8.10, few going above \$7.65, while the best cows sold at \$7.25. Cutters went at \$4.30@4.65, canners at \$3.25@4.25 and bulls at \$4.60@7.25.

Calves sold well or otherwise, depending upon their weight and quality, buyers paying from \$4.50@10.65 for rough heavy to prime light vealers. Health conditions in the region devastated by foot-and-mouth disease are improving, and the greater part of Iowa is working under normal conditions. Choice heavy cattle show the greatest decline for the week, demand having been especially good for cheap steers at around \$7.50@8.

Hogs have been greatly depressed in values in recent weeks by the marked increase in receipts here and elsewhere, and sales were made last week at the lowest prices of the season. Quarantine conditions exert an unfavorable influence all the time, and it happens frequently that the demand in this market for hogs to ship to eastern slaughtering points is much curtailed in consequence of the good marketings east from states east of here. Receipts have been averaging 221 lbs. in weight, and average grading has been mostly good, with no large showing of pigs. Conditions are such that stockmen must exercise more caution in hurrying in their hogs if they expect to see higher prices. The bulk of the hogs arriving sell within a range of 15c. Closing prices for the week were \$6.55@6.90, top being 5c lower than a week earlier, while pigs sold at \$4@6.75. Medium butcher hogs sold highest, prime light vealers fetching about a dime less.

Sheep, yearlings and lambs have suffered some severe declines in prices recently, following extremely high values, the previous advance having stimulated owners to ship in larger supplies than were needed. Trade requirements nearly all the time are very large, but caution is needed to keep market offerings within reasonable limits. Looking ahead, prospects could hardly be brighter for fat live muttons, as the number of sheep and lambs feeding is unusually small. One cause of weakness at the present time is the enforced absence of the demand for feeders of a year ago, when this outlet was not hindered. Closing prices were: Lambs \$6@8.15; yearlings \$6.25@7; wethers \$5.25@6; ewes \$3.50@5.50; bucks \$4@4.25. During the preceding week lambs sold up to \$9, and sheep and lambs closed 50@75c lower than a week earlier.

CROP AND MARKET NOTES.

(Continued from page 103).

wheat is being marketed sparingly. Fat hogs and cattle are plentiful, and farmers are holding them for better prices. Eggs are scarce at 32c; wheat \$1.30; corn 75c; oats 45c; cloverseed \$8; cattle 7c; hogs 7c. Farmers are doing repair work on farms.

Indiana.

Jay Co., Jan. 11.—Wheat and rye are believed to have weathered the storms so far, though some report damage by the fly. Farmers are well supplied with feed, late pastures in the fall helping out considerably. Hay and straw are being baled for sale. Much grain is moving to market at good prices. Wheat \$1.24; rye 93c; corn 80c; cloverseed \$8; eggs 36c; hay \$7@12.50; straw \$4; oats 50c; hogs 7c; cattle 5@7c; sheep 3@5c; much stock moving to market. Hogs in all sizes and quantities are being fed, sheep not much in evidence; cattle above the average in number, with quite a trend to dairying or selling cream. Eggs are very scarce. There was not much fall plowing done. The farmers' institutes are being arranged for. Some farms are changing hands.

Missouri.

Phelps Co., Jan. 9.—Winter weather prevails, and the ground being covered with ice, it is thought considerable damage has been done to wheat and rye. Some have to buy hay; many who would have had a surplus of corn and fodder have to buy on account of the heavy rains last fall which washed their crops away. Some are wintering a great many cattle, but there are few hogs. Wheat \$1.30; corn 85c; butter 18c; chickens 8@10c; turkeys 8@14c; ducks and geese 8@11c; eggs 32c, and scarce; hogs \$6@6.50; calves \$7 per cwt.

Wisconsin.

Clark Co., Jan. 8.—Winter grain is freezing quite hard, but think it will come out all right. This has been a cold winter so far, without any snow. Farmers have plenty of feed for their own use, but have not much to sell excepting hay and cloverseed. The only stock kept over is breeding stock, the rest having been sold in the fall. Egg production is light yet on account of the cold weather. Hay was a good crop last year, and we have quite a lot for market. Butter 33c; cheese 14c; eggs 29c; hay \$10.50 per ton.

Nebraska.

Pierce Co., Jan. 4.—There is about six inches of snow. Feed is plentiful, and all stock looks fine. There is no disease among stock. Lots of grain going to market. Hogs \$6.50; corn 53c; oats 42c; butter 24c; eggs 30c; cream 30c. Most farmers ship cream.



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THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market. January 21, 1915.

Receipts 735. Market steady with Wednesday and about steady with last week; run was light and all last week's holdovers were cleaned up today.

Best heavy steers \$7.50@8; best handy weight butcher steers \$7@7.50; mixed steers and heifers \$6.25@6.75; handy light butchers \$6@6.50; light butchers \$5.50@6; best cows \$5.50@6; butcher cows \$4.75@5.25; common cows \$4@4.50; canners \$3@4; best heavy bulls \$6.25@6.50; bologna bulls \$5.25@6; stock bulls \$4.50@5.

Bishop, B. & H. sold Sullivan P. Co. 12 steers av 1240 at \$7.50, 2 do av 900 at \$7, 1 cow wgh 1160 at \$4.25, 2 do av 1015 at \$4.25, 1 steer wgh 940 at \$6.50, 3 cows av 993 at \$5.25, 15 butchers av 997 at \$6.60; to Hammond, S. & Co. 1 bull wgh 1360 at \$6, 3 do av 983 at \$5.50, 17 butchers av 900 at \$6.25; to Mason B. Co. 1 bull wgh 1620 at \$6.50, 4 do av 800 at \$6.50; to Parker, W. & Co. 10 canners av 868 at \$4, 18 butchers av 980 at \$6.75, 11 do av 1104 at \$6, 4 cows av 960 at \$4; to Sullivan P. Co. 4 do av 1075 at \$5.25, 3 butchers av 817 at \$6.25, 1 bull wgh 550 at \$4.50, 3 steers av 1303 at \$8; to Remick 5 cows av 1040 at \$5, 1 do wgh 900 at \$5, 1 canner wgh 860 at \$4; to Breitenbeck 3 butchers av 793 at \$6; to Sullivan P. Co. 7 cows av 1157 at \$5; to Heinrich 7 steers av 937 at \$7.15, 2 cows av 1135 at \$5.85; to Mason B. Co. 1 bull wgh 1900 at \$6.85; to Rattkowsky 4 cows av 942 at \$4, 9 steers av 1163 at \$7.25; to Hirschleman 8 do av 1049 at \$7, 12 do av 720 at \$6.25; to Sullivan P. Co. 4 cows av 1032 at \$5, 7 steers av 837 at \$6.50, 1 do wgh 1180 at \$8, 3 cows av 907 at \$4; to Breitenbeck 2 bulls av 945 at \$5.75.

Haley & M. sold Hoffend 4 heifers av 582 at \$5.25; to Hammond, S. & Co. 6 butchers av 660 at \$6.15, 3 bulls av 957 at \$6, 1 cow wgh 800 at \$4; to Remick 3 do av 920 at \$4, 1 do wgh 1480 at \$5, 2 do av 960 at \$5; to Feldman 5 cows av 990 at \$4.75; to Kamman B. Co. 5 do av 1040 at \$5.05, 21 butchers av 820 at \$6.65; to Thompson Bros. 8 steers av 956 at \$6.90, 6 do av 716 at \$6.25, 3 do av 800 at \$6, 1 cow wgh 1240 at \$4.50; to Sullivan P. Co. 2 steers av 1150 at \$7, 2 bulls av 900 at \$5.50, 1 do wgh 1280 at \$6.25.

Sandal, S., B. & G. sold Golden 7 cows av 1043 at \$4.60; to Mason B. Co. 15 butchers av 840 at \$6.75, 2 cows av 880 at \$5.25, 1 heifer wgh 650 at \$6; to Hoffend 2 cows av 900 at \$4.50; to Rattkowsky 1 do wgh 1280 at \$6, 1 do wgh 1200 at \$5.60; to Breitenbeck 5 bulls av 748 at \$5.25, 21 steers av 800 at \$6.50; to Thompson Bros. 6 do av 915 at \$6.85, 1 do wgh 560 at \$6; to Kamman B. Co. 1 bull wgh 1200 at \$6.20, 8 steers av 1109 at \$7.10, 10 butchers av 752 at \$6.10.

Veal Calves. Receipts 318. Market steady. Best \$10.50; others \$6.50@9.50.

Sandal, S., B. & G. sold Parker, W. & Co. 2 av 150 at \$9.50.

Reason & S. sold Loucker 6 av 155 at \$10; to Garben 7 av 140 at \$10, 3 av 145 at \$9.

Sheep and Lambs. Receipts 3629; market steady on sheep; lambs 15@25c higher. Best lambs \$8@8.25; fair do \$7@7.50; light to common do \$6.50@7; heavy do \$6.75@7; fair to good sheep \$4.50@5.25; culls and common \$3@4.

Sandal, S., B. & G. sold Parker, W. & Co. 6 lambs av 75 at \$7.75.

Roe Com. Co. sold Thompson Bros. 21 lambs av 48 at \$6.50; to Nagle P. Co. 73 do av 75 at \$7.75, 56 do av 80 at \$7.50, 18 sheep av 110 at \$4, 13 do av 100 at \$4; to Barlage 13 lambs av 85 at \$7.50, 10 do av 84 at \$7.50, 6 sheep av 88 at \$3.

Reason & S. sold Parker, W. & Co. 29 sheep av 125 at \$5.15, 2 do av 110 at \$5, 42 lambs av 83 at \$7.90, 21 do av 68 at \$7.25, 3 do av 70 at \$7.75; to Sullivan P. Co. 13 do av 50 at \$6.60, 10 sheep av 72 at \$3.75, 27 do av 85 at \$4.65.

Bennett & S. sold Sullivan P. Co. 33 lambs av 85 at \$7.75.

Hogs. Receipts 8115; none sold up to noon; sellers asking steady prices \$6.85.

Packers bidding \$6.75, few sold at \$6.80; balance being held over.

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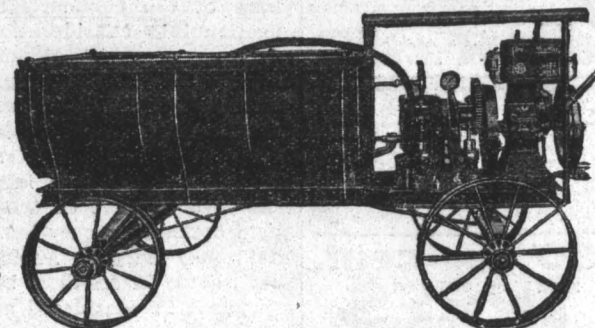
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Michigan, A Favored Apple State.

THE whole problem of western and eastern orcharding is well summarized in the expressions of two of the market men, who answered the questions contained in the survey of commercial apple orcharding in Michigan. "If Michigan will exercise the same diligence and care as the far west, and the good judgment and honesty as the east, its fruit will be greater than either." And the other, "Some will say: 'You cannot compete with the west.' Michigan can compete with any section if she will but use the methods of the west."

The results of the survey as might have been expected, showed an overwhelming sentiment in favor of Michigan and the east, with some doubt expressed as to the probable future of apple orcharding in the far west. The chief reasons for this feeling in regard to the far west are primarily the severe handicaps which the western growers must face, such as greater distance to market, with consequent excessive freight rates, higher cost of living, scarcity of labor, increased cost of materials, the additional burden of irrigation, the problems encountered in a profitable utilization of the culls and by-products, etc. The increased color and size which the western growers are able to obtain for their product, with the consequent increase in price, is not sufficient to offset these large factors of cost. A doubled price for fruit, with a trebled cost of production, will not make a profitable business, as it is the net profit that counts.

Optimism Needed in Michigan.
It is a common human failing that the other man's job, or the place just a little farther on, always looks just a little more promising than our own. If this article will make some Michigan orchardist a little more satisfied with his lot, and make him realize that every orchard district has some drawbacks, the writer will feel satisfied. What is needed in Michigan is more men who see the possibilities in the state and who will get behind the movement to put Michigan in her proper place among the great fruit producing states.

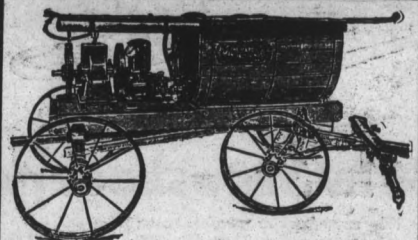
In the past three years the writer has visited nearly every important apple producing section in the country in search of the one perfect orchard section in the United States. He is frank to confess that he has not found the section which meets every requirement, but his travels have convinced him firmly of one fact. Taking every phase of the commercial orcharding question into consideration, Michigan offers as many, if not more, opportunities to the young man with a certain amount of capital, than any other district in the United States. Do not misunderstand this statement. This is made after taking into consideration "every phase of the commercial apple orcharding question." Some districts may surpass Michigan in one point, some in another, but when every phase is considered and the final judgment given, Michigan will hold her own with any state.

Western Optimism.
In his trips in the west the writer encountered many amusing experiences. The promoters of every district always made the claim that each particular district was the one frostless belt in the west. While touring one orchard section with a party of these men, the purpose of a peculiar looking shed located in one of the orchards was asked. One of the men in the party enthusiastically answered, "Now, there is just one example of the progressiveness of the growers in our district. That shed is filled with orchard heaters. We don't take any chances and the minute a frost comes these are placed in the orchard and lighted and all danger averted." When it was suggested that, although very

interesting, the economy of such a large investment in a frostless orchard district could not be understood, the subject was changed immediately.

Irrigation Has its Drawbacks.
Irrigation is another topic upon which the westerner never fails to enlarge. According to him the orchardist on the Pacific Coast never has to pray for rain but simply goes out and turns on the water. And to a large extent this is true. Far be it from the writer to underestimate the value of irrigation—but, he does wish to bring out the fact that even in this matter complications may enter in which place the western orchardist at a distinct disadvantage. In one western district one of the ranchers was extolling the advantages of irrigation over the "wait-and-pray" methods in the east and middle west. "You see we get all our water from the melting snows in the mountains. The hotter the weather, the more snow melts and the water supply is increased." This was in the spring and the writer was visibly impressed, because this appeared on the surface to be as nearly perfect an automatic water supply as could be imagined. July came, and with it intense heat, and the grower explained that he had all his men out in the orchard irrigating, as he did not know how much longer the water would last. The reason for this sudden doubt as to the future of the water supply was not quite clear because the warm weather was just commencing, and according to theory the water supply should begin to be available. When the rancher was questioned on this point he grudgingly explained that the fall of snow had been very light during the previous winter, and so there was not a great deal to melt. Irrigation is a great advantage as long as a district is not dependent for its moisture upon this one source of supply.

All Districts Have Disadvantages.
This article is not intended as a treatise against the Pacific Coast, but merely to dispel the illusion that orcharding in the west consists solely in living in a little bungalow and receiving large dividends from the co-operative marketing organization at the close of the season. Each district has its disadvantages as well as its advantages, and the Michigan grower will do well to stick to his last and not chase the western rainbow. Western orcharding is a highly specialized business and is rapidly concentrating into the hands of large companies who employ trained men of wide experience to handle the growing and marketing problems. Profits must be secured from reduced operating costs and the utilization of by-products rather than from the fancy prices which have prevailed in the past. The average Michigan grower would be absolutely lost among the intensive orchard practices which are necessary to produce and market the fancy western apple, for the Michigan grower has made money in spite of the neglect from which his orchards have suffered. This point is well brought out in a statement quoted from one of the survey answers: "Michigan fruit growers have many advantages over the westerners if they will but awaken to their possibilities. Michigan's natural advantages have been her worst enemy. She has found a fair market with a fair grade of fruit, hence, Michigan has not felt the need of the better systems of organization and better growing which the western fruit grower was forced to adopt. This will soon change and then Michigan will come into her own. Michigan must grow a higher grade of fruit and must practice an honest and attractive pack, and then must market through a proper organization on a business basis." This summarizes the



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exact situation so concisely and forcibly that the writer desires to lay particular emphasis upon this statement. The wonderful system of growing and marketing made possible through the co-operative associations in the west has been accomplished only through dire necessity. The growers were forced to adopt these methods in order to find a market for their fruit, and if ever the same necessity appears in the east and middle west, the same methods will be adopted here. These districts have made money in spite of careless and dishonest growing and marketing methods, and have not been forced to adopt specialized methods in order to dispose of their fruit.

Western Growers Also Have Pests to Contend With.

Anyone conversant with actual conditions in the far west knows that they must soon face, if they are not facing them already, the attacks of all the diseases and insect pests to which the eastern and middle western orchards are now subjected. The western districts are at the present time filled with experts who are attempting through their experiments and inspections to prevent the introduction and spread of these pests, but the western grower must use preventative measures to just as large a degree as the eastern grower.

The quoted opinions of some of the largest market men of the country as to the future of apple orcharding in Michigan and the far west may be of interest. "Michigan has the ideal climate and soil for producing some of the best and most popular varieties of apples demanded by the trade, and is right at the door of some of the greatest central states, than which a better market does not exist." "Given western care and attention and Michigan apples will sell as well or better—as Michigan fruit is superior to anything west." "Michigan has a wonderful future on apples—the western box apple deal has seen its best days." "Michigan apples are better than any other and will bring as much money if they will give us the right kind of fruit and put them up right. We regard Michigan as the best apple state in the Union." "The middle west is the growing country today, and good fruit grown near a good market will always be profitable." "It is interesting to note that one of the largest apple handlers of this country who closed out his business in Chicago several years ago, now owns a large orchard in northern Michigan territory."

Some Michigan Advantages.

When it is possible to purchase two or three acres of bearing orchard in Michigan for the price that it would take to buy one acre of unplanted land in some western district, and when it is considered that this Michigan land could be purchased within twenty miles of some city where all the fruit, including culls, could be sold at a profitable price and all transportation charges with the exception of the expenses of hauling saved, it is a mystery why people prefer to invest their money in some far away district rather than in their own state. Apples produced in the district immediately adjoining Detroit brought, this season, one dollar a bushel, and the only transportation charges were the costs of hauling twenty miles by motor truck to the public markets in Detroit. Western box apples have not averaged much over this and have had to deduct an average transportation cost of fifty cents a box.

Next week's article will discuss the factors which enter into a selection of the location of an orchard.

J. W. FISHER, JR.

A QUERY.

I would like the judgment of different people having had experience in growing sweet potatoes, as to what variety is the best producer, also the best for market to grow in Michigan. I want to plant three acres this spring.

L. L. L.

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Grange.

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INTERESTING MEETING OF OCEANA POMONA.

Oceana Pomona Grange held the first meeting of the year Saturday, January 2, at Hart.

When the writer looked out somewhere near the beginning of this particular day, he came near taking his hand from the Grange plow and looking back. The wind was blowing and the snow was flying fast, and it seemed very uncertain whether or not our servants—the Pere Marquette Railroad—would be able to get a single train over the road for at least the greater part of the day; but we remembered the perseverance and courage of the good patrons of Hart Grange, and so made our way to the station. The train was only an hour late, and when we arrived at Hart we found the Pomona able to hold the usual morning session.

Reports from subordinate Granges, and echoes from the State Grange meeting occupied the morning session. After dinner, which was no small event, the public meeting opened by an address of welcome by Rev. N. F. Jenkins, of Hart Grange, and pastor of the M. E. Church of that village. Brother Jenkins always says something and this address was no exception to the rule. He expressed in appropriate words the welcome that every patron who comes to Hart Grange is sure to feel. He spoke forcefully of the high standards which the order in the state has set for itself, and told of his satisfaction in being able to help some in so large and splendid a work. He expressed his regret that there are so many good farmers and strong men outside the Order, and made a strong plea for the Grange in a general way.

This address was responded to by the writer, who will mercifully leave the reader to guess what he said.

Bro. C. Leak, of Elbridge Grange, gave one of the best talks we have ever heard upon the treatment of diseases of live stock. The curable diseases of cattle, horses, and hogs were described, and the proper treatment was in each case suggested.

Brother Leak is one of the successful farmers who does belong to the Grange, and his membership is not without advantage to the Order. I quote from the most interesting parts of his address.

"For indigestion, take away part of the ration, give from one to two pounds of salts in two or three quarts of warm water. If animal is no better in six or eight hours, give more salts. Do not give less than a pound of salts at a time.

"For milk fever, use a milk fever outfit. No farmer who keeps good cows should be without one. It will cost two dollars; what is that beside the possible loss of a cow? Do not milk your cow out clean for 48 hours after calving. Do not milk the cow out clean, that has had milk fever, for 24 hours after treatment. If you do, she may have a relapse. If she has a second attack, treat her again as before and don't be scared. It is sometimes necessary to send for a veterinarian, but not often if the man does all that the good practical farmer should be able to do.

"Hogs have milk fever as well as cows. A hog is not usually disposed to take medicine. Put a rubber hose into her mouth, and pour the medicine into the upper end of it, through a funnel. Let me tell you how a woman saved a sow with milk fever. She took an oil stove into the hog house, heated water, wrung out cloths and laid them across the udder of the sow

until she grew easy and the swelling went down. It took all day, but that woman worked away, and saved the hog, which was worth forty dollars at least."

Most excellent reports of the late meeting of the State Grange were given by Brother and Sister Evans.

Mr. H. D. Wendt, of the State Dairy and Food Department, gave a very instructive talk on the subject of clean cream. He used a series of lantern slides to illustrate the first half of his talk. Mr. Wendt is not out to throw bouquets. He gave saints and sinners their meat in due season. He said things all the time, and things that need to be said. He told us that not more than one-tenth of the butter marketed from Michigan creameries is first class. He said the great centralized plant, shipping cream for two or three hundred miles, cream that is none too good when it starts, is lowering the price of butter.

He said we must at last wake up and make better butter, for the butter from Denmark is coming here, and that is first class. If we compete with Denmark we must unite in an effort to raise the quality of our product.

The beginning of our trouble was the hand separator. While the patron took his product to a local creamery, as he was compelled to do when he delivered the whole milk, he had to deliver it sweet. As good butter can be made from gathered cream if patrons can be induced to deliver it in as good condition as they once delivered the milk. Our hope is in the local creamery, the co-operative creamery where it is possible for the people to unite and do business for themselves.

The best of feeling prevailed all through the meeting, and though the day was very stormy at the beginning everyone felt at its close that it had been well spent. W. F. TAYLOR.

THE WIXOM WAY.

Grange workers generally might have gleaned some excellent pointers on new features for a local program had they been present at the Wixom Community Fair in Oakland county recently. This fair was noteworthy from several vantage points; but it is to the demonstration features that attention is here called.

The prize list of the fair offered awards for the usual line of fruit, vegetables, baked goods, sewing and school work. It included, also, an unusual line of babies who presented themselves for measuring, testing, weighing, and judgment of every infant symptom—including temper. But still another feature of the fair was a list of prizes for short cuts, devices for doing farm or home work, and first aid to the injured.

It was on this last point that Grange Lecturers could have gotten pointers. The first contestant was a boy of 11 or 12 years of age, who illustrated how to suspend seed corn among interlacing strings for purposes of drying it. A young man showed how to splice a rope by dexterously doing it before the crowd. Two young men demonstrated first aid to a drowning man; while two others showed how to use bandages of different types and on different parts of the body.

The only strictly woman's work to be demonstrated was the commonplace one of washing dishes; but this was done by a young woman in such an uncommonly deft manner and with such terse, happy explanations as to make it a unique performance.

As I say these practical, needful tasks so ably illustrated by these young people, and observed the close attention of all spectators, I could but ask, "Why do we not use such demonstrations as these oftener as 'surprise features' upon our programs?"

JENNIE BUELL.

Wayne Pomona Grange No. 8 will meet with Plymouth Grange, Saturday, January 30.

Farmers' Clubs

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—R. J. Robb, Mason.
Vice-president—C. J. Reed, Spring Arbor.

Secretary and Treasurer—Mrs. J. S. Brown, Howell.

Directors—Alfred Allen, Mason; Joseph Harmon, Battle Creek; C. B. Scully, Almont; C. T. Hamline, Alma; W. K. Crafts, Grass Lake; Edward Burke, St. Johns.

Address all communications relative to the organization of new Clubs to Mrs. J. S. Brown, Howell, Mich.

WHAT THE LOCAL CLUBS ARE DOING.

The Essex Farmers' Club, of Clinton county, was reported as having 50 members and an average attendance of 35. Nine meetings were held during the year, and in August a union meeting was held with the Greenbush and Washington Center Farmers' Clubs. The Club holds a fair and has a temperance meeting as special features. This Club was organized in 1887.

The North Owosso Farmers' Club holds 11 meetings during the year and a midsummer picnic which is largely attended. One of the novel methods used in this Club is the plan of entertainment by which the hostess provides the program. The children are largely interested in this feature of the work.

The Rives and East Tompkins Farmers' Club holds 11 meetings during the year, including a picnic and a fair, the proceeds from which are devoted to charitable purposes. The programs are provided by a program committee. The question box is made a permanent feature in the Club meetings. The refreshments are provided for by a special committee of three.

Mr. W. P. Johnson, delegate from the Highland and Hartland Farmers' Club called the attention of the conference to the fact that the official associational questions were no longer in use, and he strongly urged that the executive committee select one associational topic for each month during the year for general discussion by the Farmers' Clubs of the state. This Club holds 11 meetings during the year, with an annual picnic, and is in a prosperous condition.

The delegate from the Ellington and Aylmer Farmers' Clubs reported a membership of 60 in the organization. Twelve meetings are held during the year at the homes of the members, the summer meetings being afternoon meetings, and all-day meetings being held during the winter season. This Club made an exhibit at the county fair and was awarded a premium of \$25 on same. The members entertain the Club in alphabetical order. Mention was made of union meetings by the Clubs of the county.

The delegate from the Cambridge Club of Lenawee county reported that in that organization the executive committee arranges for the places of meeting during the year, also providing questions for discussion. Ten meetings are held during the year, and a picnic is the feature in August.

The Columbus Farmers' Club, of St. Clair and Macomb counties holds 12 meetings during the year. Yearly programs are used, a committee appointed for the purpose makes out the schedule for the year and arranges for any vacancies. Membership includes 45 families.

The Spring Arbor Club, of Jackson county, was reported by its delegate to be in good live condition, holding 10 meetings and an August picnic during the year.

The Grass Lake Club, of Jackson county, holds 10 meetings and a picnic. The delegate from this Club told of the good road which the Club

had been instrumental in promoting, and other public work in which the members had been interested.

TO MEMBERS OF THE FARMERS' CLUBS OF MICHIGAN.

Whereas, Reliable statistics show that a very large percentage of the poverty, suffering and crime which exists is the result, directly or indirectly, of the use of intoxicating liquors, as a beverage, and

Whereas, We believe it to be one of the highest and most imperative duties devolving upon us, as good citizens, to aid in all proper ways in destroying the drink curse; therefore, be it

Resolved, By the Michigan State Association of Farmers' Clubs that we do hereby ask most earnestly that a state-wide prohibition law be enacted at the next session of our state Legislature whereby to banish from our beautiful state the baneful effects and influences of the liquor traffic.

The above resolution needs neither apology nor explanation but it does need the earnest aid and active support of everyone who feels a worthy interest in the highest welfare of his fellowmen.

The outlook for state-wide prohibition is encouraging, the state senate having a "dry" majority and the house being nearly one-half "dry." The senate committee on "Liquor Traffic" is composed of strong temperance men, the chairman being Senator Henry E. Straight, who is a strong advocate of state-wide prohibition, having introduced a prohibition measure at two previous sessions of the Legislature.

The purpose of this communication is to urge that everyone write the senator and representative from his district urging in earnest words, their active support of a state-wide prohibition law. Such requests will receive thoughtful consideration from members of our Legislature and now is the time for the temperance forces to be fully awake and forcefully active. If you are intending to help, now is the time to "take hold" and "lift."—J. T. Daniells, Chairman of Committee on Temperance.

CLUB DISCUSSIONS.

Hold Annual Meeting.—The East Otisco Farmers' Club met at the home of Mr. and Mrs. Clarence Chickering, January 7, with an all-day meeting. There were about 35 present and a fine dinner was enjoyed by all. After dinner the meeting was called to order by President Clarence Chickering, after which came the election of officers for the following year. They are as follows: President, Ernest Chickering; vice-president, Mrs. O. A. Nummer; recording secretary, Miss Ida Nummer; corresponding secretary, Mrs. Ernest Anderson; treasurer, S. D. Chickering; flower fund, Mrs. A. J. Kohn. Miss Ida Nummer collected the dues from those present and turned it over to the new treasurer. The next meeting will meet at the home of Mr. and Mrs. M. L. Howe, February 4.—Mrs. Ernest Anderson, Cor. Sec.

Men's Day.—The Wells-Dayton Club of Tuscola county, met at the home of A. Hunter, where they were royally entertained. There were about 60 members and visitors present. It being men's day the ladies had a very nice time visiting. S. G. Ross and his able assistants served a fine dinner to which all did justice. After dinner the meeting was called to order by President Adams. The first on the program was a song, "I want to be Back in Michigan," by Mrs. C. E. Riley, which was well received. Mrs. Mary Daily gave a recitation, "The troubles of Widow Magee." Mrs. A. L. Adams gave a recitation, "An open talk," which pleased the Club. She gave another short recitation. S. G. Ross read a paper, "Can our present system of agricultural credit be improved upon?" George Rumble read a paper on the war. The question box brought out a lively discussion on the different questions. The visitors were then called on and responded in a happy manner. Taking the day all through, it was considered the best meeting yet held. The next meeting will be held at the home of George Walls in Dayton, February 3, which will be character day, and it is expected each one will represent some character and dress according.—Mrs. S. G. Ross, Cor. Sec.

A Big Christmas Meeting.—Clover Leaf Club held a stirring meeting on December 22, with a visit from Santa Claus, a Christmas tree and Christmas suggestions generally in evidence. About 75 were present and officers were elected for the ensuing year as follows: President, John Miller; first vice-president, Mrs. Curtis Brigham; second vice-president, Eugene Springer; recording secretary, Miss Ethel Buzzard; corresponding secretary, Mrs. Starr Fenner; treasurer, Mrs. Morgan Myers.—Mrs. Starr Fenner,

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Registered Morgan Stallion No. 6572 A. M. R. Dark R. Ober. 4 years, A-1 individual, will sell at sacrifice. This ad will not appear again. Box 471, Bad Axe, Mich.

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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.

Loss of Appetite—Hens Fail to Lay.—Have a couple of two-year-old heifers, freshened in July. Had good alfalfa pasture all fall, since stabling have had shredded corn fodder, clover hay, alfalfa, ground oats and corn, but have fallen off on milk, only giving four quarts at a mess. They seem to have no appetite and are very thin, while the other cows are in good condition; they don't seem to relish the ground feed. What can be done that will bring back their appetite? I also have a flock of 65 hens, all in good condition, but they don't lay. They have a good warm house, scratch pen with south window. Am feeding mash, corn, cracked oats, vegetables and alfalfa. O. M. R., Lapeer, Mich.—Give each of your heifers 1 dr. of ground nux vomica, ½ oz. ground gentian and 2 drs. of salt at a dose in feed or as a drench three times a day. Your hens will soon commence to lay if they are kept warm, for I believe you are feeding them all right.

Congestion of Spinal Cord.—Have a heifer 20 months old that freshens in February, about two weeks ago she commenced to stagger and seemed weak in hind parts and for the past ten days she has been unable to get up higher than necessary to move from side to side. B. E. C., Johannsburg, Mich.—Give heifer 1 dr. ground nux vomica, 1 dr. ground capsicum and ½ oz. ground ginger at a dose in feed three times a day. Apply equal parts turpentine, aqua ammonia and olive oil from root of tail to center of back once a day.

Punctured Sole.—I have a horse that has a small hole in sole of foot near toe, which oozes pus. I have been applying peroxide of hydrogen to heal it, and have also used iodine and alcohol as a dressing. A. J., Eaton county, Mich.—Apply one part iodoform, one part powdered alum and six parts boric acid once a day, covering sole with oakum and a bandage.

Indigestion.—I have a five-year-old mare that has bowel trouble occasionally, coat is rough, six weeks ago she had a slight attack of colic and I would like to know how to put her in condition. R. P. T., Cedar Springs, Mich.—Her teeth may need floating, change feed, notice that her water supply is good, and give her a tablespoonful of bicarbonate soda, a tablespoonful of ground ginger and a tablespoonful of ground gentian at a dose in feed three times a day.

Cracked Heels—Stocking.—I have a five-year-old mare whose heels crack, legs stock, skin itches, but she is in fairly good condition. G. M., Clio, Mich.—Give her a dessertspoonful of Donovan's solution at a dose in feed two or three times a day. Groom her well twice daily, dissolve ¼ lb. acetate of lead, 3 ozs. of sulphate zinc, 2 ozs. of carbolic acid in one gallon of water, wet sore heels and itchy leg three times a day. Her legs should not be washed with soap and water, and if she is out in snow or slush, apply cotton and a bandage to legs when she returns and leave it for two hours.

M. W.—Some of your chickens suffer from roup and those you examined after death died of tuberculosis. Destroy every sick bird, whitewash their roost and keep them free from cold drafts of air; also feed them easily digested food. Burn every one you kill.

Bruised Fetlock.—Last September a bunch came on hind shin and fetlock joint of my ten-year-old horse, causing lameness; as a remedy I applied blister, but it only reduced the bunch one-half. He is yet quite lame and I wish you would give me a remedy. Apply one part red iodine mercury and six parts lard to bunch every ten days.

Chronic Foot Soreness.—I have a seven-year-old gelding that has a peculiar lameness which my home Vet. is unable to cure or help. Last spring I turned the horse out in yard for exercise; feeling good, he ran, jumped and had a good time, but the next morning was very stiff in front legs, but appeared to get over it. Have worked him some this summer; favors one foot for a time, then the other. Sometimes exercise helps him, but not always. Have applied blister

and liniment from point of shoulder down to hoof. I fail to detect any soreness by hand pressure. M. J. R., Smyrna, Mich.—Give 1 dr. of salicylate of soda at a dose in feed three times a day, and apply lanolin to fore feet once a day. This horse may perhaps be incurable.

Bog Spavin.—My three-year-old colt has a soft bunch on fore part of each hock joint, but these bunches do not cause any lameness. C. A. B., Marlette, Mich.—Clip off hair and apply one part powdered cantharides and six parts fresh lard every ten days; or, if you do not care to blister, apply one part tincture iodine and two parts spirits of camphor three or four times a week.

Semi-Heat—Ridgling—Knuckling.—We have a Percheron mare in foal that acts occasionally as if in heat, but does not appear to be sick. I also have a three-year-old gelding that acts as if he had not been properly castrated and this same colt knuckles some, and has enlarged pasterns. J. K. L., Brant, Mich.—Leave your mare alone. The colt is a ridgling, having had only one testicle removed, the other remaining in body; however, these kind of cases are easily castrated, but the work should be done by an expert. Apply to ankle and pastern one part turpentine, one part aqua ammonia and two parts olive oil three times a week.

Out of Condition.—I have a mare with fairly good appetite, has rough coat, but is not thriving. S. P. L., Scofield, Mich.—Give her a dessertspoonful of Fowler's solution, 1 dr. of powdered sulphate iron at a dose in feed three times a day.

Cow Fails to Come in Heat.—I have a cow that had a second calf July 27. She came in heat soon, was not served, but has not been in heat since. S. B., Sunfield, Mich.—Give her 1 dr. of ground nux vomica and ½ oz. of ginger at a dose in feed three times a day.

Catarh.—My young pullets have sore eyes, have poor appetite, act dumpy for ten days, then die. H. V. B., Byron Center, Mich.—Dissolve 40 grs. of borate soda and 40 grs. of boric acid in ¼ pt. of water and apply to eyes and nose twice a day; also dissolve 1 dr. of citrate of iron in one gallon of drinking water and keep them supplied with this drink until they get well.

G. P. W., Dowagiac, Mich.—Your chickens die of either liver disease or tuberculosis.

Worms.—I am pretty sure that my horses are troubled with worms and would like to know of a none too expensive remedy for them. E. H., Shelbyville, Mich.—Mix together one part powdered sulphate iron, one part of ground wormseed, one part fenugreek and three parts ground gentian and give a tablespoonful at a dose in feed three times a day; also give him a teaspoonful of salt in feed night and morning.

Indigestion.—Colt eight months old has been dull and dumpy for the past four weeks, sheath swells, gait is somewhat stiff, but his appetite is good. Am feeding some mixed hay, oat straw and corn stover. He also has two quarts of oats daily. W. V., Suttons Bay, Mich.—Mix together one part ground nux vomica, three parts ground ginger, two parts bicarbonate soda and four parts ground gentian, give him a tablespoonful at a dose in a quart of ground oats, pint of bran at a dose three times a day. Feed him clover and roots. Also groom him well.

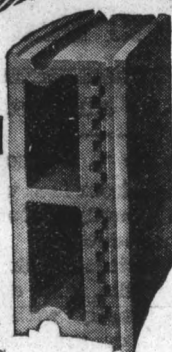
Eczema.—I have a black mare four years old with itchy condition of the skin which makes her miserable. Her coat is rough, full of dandruff, but I can find no lice. W. E. P., Traverse City, Mich.—A case of this kind can be treated much more satisfactory after they are clipped. Apply one part bichloride mercury and 500 parts water to itchy parts of skin once or twice a day, and give her a dessertspoonful of Donovan's solution at a dose in feed three times a day.

Suppurating Sores.—Our 11-year-old mare has a few suppurating sores on different parts of body which I would like to know how to treat. A. B. C., Allegan, Mich.—First apply hydrogen peroxide to sores, then apply equal parts of powdered alum, oxide of zinc and boric acid twice a day. Give a dessertspoonful of hypo-sulphite soda at a dose three times a day.

Knuckling—Split Hoof.—My thirteen-year-old mare knuckles in hind fetlocks and I also have colt that has split hoof, cracks running the whole length of hoof. C. S., Yale, Mich.—Clip hair off fetlock and apply one part powdered cantharides and six parts lard every ten days. Blister coronet of colt with same ointment and have horseshoer apply a plate with screws or use nails to clamp edges of split hoof together so that they will not open, and either cut or burn through hoof at coronet at right angles to split in order that the hoof will grow down solid.

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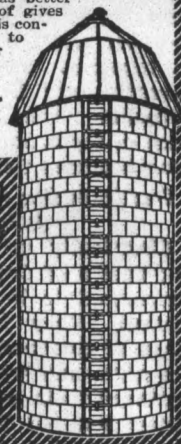
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Practical Science.

FRUIT JELLIES.

BY FLOYD W. ROBISON.

(Continued from last week).

Fruit Jelly is Usually a Concentrated Product.

When fruit juices, such as apple, grape, or the like, are cooked and concentrated, usually with the addition of sucrose or granulated sugar, they after a time assume a consistency by which we recognize jelly. Some fruit juices will jelly without heating and without the addition of sugar, simply by standing for a considerable time, but it is usually considered necessary with most fruit juices that they be heated and that sugar be added as well.

Some types of fruit juices have little jelly making properties and in such cases it is customary to blend these juices with the more pronounced jellying types of juices. For instance, the pear and the grape may be blended together. The pear juice has apparently very little jelly-making constituents. The grape has an abundance of them, so a blend of grape and pear becomes feasible.

Pectin Bodies Are the Jelly Making Substances.

Chemically speaking, the jelly-making bodies of fruit juices are usually considered to be the so-called pectin bodies. They belong in the same class of compounds as do the vegetable gums and while of very great importance their true nature and composition has not been wholly, satisfactorily established. Their relationship to sugar and to starch is very close and it may be simply that one simple carbohydrate molecule is superposed upon several others to form this pectin molecule.

Why Cooking is Necessary.

In some fruits, such as the apple, the jelly-making compound seems to be united with the cellulose molecule and it becomes necessary to boil the product for a considerable period of time in order to break up the compound thus formed. The process of cooking and boiling splits the molecule, putting the cellulose on one side and the pectin on the other, and the pectin thus liberated is in a position to exercise its jelly-making function. In the case of the grape this relationship does not seem to exist. For the grape juice itself will jelly with great facility when the conditions are right. When fruit juices such as the grape, apple, etc., are prepared in the proper way with the addition of sugar and the boiling of the juice to concentrate the product, the jelly thus formed is a very nutritious and appetizing product.

Fruit Jelly a Very Nutritious Food.

In its relationship to the human diet the so-called artificial jelly prepared from gelatine can in no sense be compared in value or in excellence of its flavors to the really true fruit jelly. It may be supposed that because the imitation jellies made from animal gelatine contain nitrogen that they would on this account be more valuable for food purposes. The nitrogen in gelatine, for instance, does not have the same relationship to nutrition as does the nitrogen in true proteids such as egg white and lean meat. Whether the gelatine be a stage in the production of protein in the animal body, or whether it be a stage in the reduction of protein to the simpler products is not certain, but while it is entirely soluble in the digestive fluids of the body it seems to be of such a nature that very little nutriment is credited to it in the diet.

Gelatine is a Sparer of Protein.

Gelatines furnish ideal nutrients for bacteria. Being soluble and of so simple a composition apparently that the small germ bodies can assimilate

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For the benefit and convenience of our subscribers we have arranged the following list of papers on which we can save them money. Besides the money, they save the trouble and expense of sending each order separately.

EXPLANATION.—The first column gives the paper's regular subscription price. The second column price is for the Michigan Farmer and the other paper, both for one year. Add 50 cents when the Michigan Farmer is wanted three years, or \$1.00 if the Michigan Farmer is wanted five years. The third column price is for those who are paid ahead on the Michigan Farmer from one to five years and want the other paper only; such orders must be sent to us direct. All combination orders may be given to our agents or sent to us, as is most convenient.

Any number of other papers may be added at third column prices. Write for prices on publications not listed. We can save you money.

We send sample copies of the Michigan Farmer only.

Mention if you are a new or renewal subscriber. Renewals will be dated ahead from their present date.

Allow monthlies three to four weeks and semi-monthlies two weeks before making complaint, if not received. We forward orders day we receive them.

NAME OF PUBLICATION.	See explanation above.			
Daily, (6 a Week) on R. F. D. only.	\$	\$	\$	
Free Press, Detroit, Mich.	2 50	2 50	50	
Journal, Detroit, Mich.	2 50	2 50	50	
Times, Detroit, Mich.	2 50	2 50	50	
Herald, Grand Rapids, Mich.	2 50	2 50	50	
News, Grand Rapids, Mich.	2 50	2 50	50	
Press, Grand Rapids, Mich.	2 50	2 50	50	
Courier-Herald, Saginaw, Mich.	2 50	2 50	50	
News, Saginaw, Mich.	2 50	2 50	50	
Tribune, Bay City, Mich.	2 50	2 50	50	
Blade, Toledo, Ohio.	2 50	2 50	50	
News-See, Toledo, Ohio.	2 50	2 50	50	
State Journal, Lansing, Mich.	2 50	2 50	50	
Chicago Herald.	3 50	3 50	10	
Morning Tribune, Detroit, 1 year; Michigan Farmer 3 years.	2 00	2 00		
Tri Weekly Newspapers				
World, N. Y. City.	1 00	1 20	75	
Semi Weekly Newspapers				
Journal, Detroit, Mich.	1 00	1 15	70	
Weekly Newspapers				
Blade, Toledo, Ohio.	1 00	1 00	55	
Commoner, Lincoln, Neb.	1 00	1 05	55	
Enquirer, Cincinnati, O.	1 00	1 05	55	
Produce News, Chicago.	1 00	1 05	55	
Cattle, Sheep, Swine, Poultry, etc.				
American Bee Journal, Hamilton, Ill. (w)	1 00	1 50	60	
American Poultry Journal, Chicago, (m)	1 00	1 20	75	
American Poultry Advocate, Syracuse, (m)	50	80	35	
American Sheep Breeder, Chicago, (m)	1 00	1 35	90	
American Swineherd, Chicago, (m)	50	75	35	
Breeders' Gazette, Chicago, (w)	1 00	1 45	95	
Poultry Weekly, Boston, Mass.	1 00	1 30	35	
Fruit Belt, Grand Rapids, Mich.	1 00	70	25	
Green's Fruit Grower, Rochester, (m)	50	80	35	
Hoard's Dairyman, Fort Atkinson, Wis.	1 00	1 20	75	
Jersey Bulletin, Indianapolis, Ind. (w)	1 00	1 35	90	
Kimball's Dairy Farmer, Waterloo, Ia. (s-m)	1 00	1 05	75	
National Sportsman, Boston, Mass. (m)	1 00	1 15	70	
Poultry Keeper, Quincy, Ill. (m)	50	80	35	
Poultry Pointers, Grand Rapids, Mich.	50	70	25	
Poultry Success, Springfield, O. (m)	50	75	25	
Reliable Poultry Journal, Quincy, Ill. (m)	50	80	35	
Swine Breeders' Journal, Indianapolis, Ind. (s-m)	50	80	35	
Popular Magazines.				
Everybody's Magazine, N. Y. City. (m)	1 50	1 60	1 15	
Etude, Philadelphia, Pa. (m)	1 50	1 60	1 15	
McClure's Magazine, N. Y. City. (m)	1 50	1 60	1 15	
Musical, Boston, Mass. (m)	1 50	1 55	1 10	
People's Home Journal, N. Y. City. (m)	50	85	40	
Red Book Magazine, Chicago, Ill. (m)	1 50	1 55	1 10	
Review of Reviews, N. Y. City. (m)	3 00	3 00		
Ladies' or Household.				
Delineator, N. Y. City. (m)	1 50	1 60	1 15	
Desiderer, N. Y. City. (m)	75	1 05	60	
Housewife, N. Y. City. (m)	50	80	35	
Ladies World, New York City. (m)	1 00	1 15	70	
McCall's Magazine, N. Y. City. (m)	50	75	30	
Mother's Mag., Elgin, Ill. (m)	1 50	1 55	1 15	
Pictorial Review, N. Y. City. (m)	1 00	1 00	60	
Woman's Home Companion, N. Y. City. (m)	1 50	1 60	1 15	
Woman's World, Chicago. (m)	35	60	15	
Today, Chicago (m)	50	70	20	
Religious and Juvenile.				
American Boy, Detroit Mich. (m)	1 00	1 00	55	
Boys Magazine, Smethport, Pa.	1 00	75	30	
Little Folks, Salem, Mass. (m)	1 00	1 20	75	
Young People's Weekly, Elgin, Ill. (w.)	75	95	50	
Youths Companion, Boston, Mass.	2 00	2 25	2 00	

NOTE—If the Michigan Farmer is wanted 3 years add 50 cents to the second column price, or \$1 if wanted five years.

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We have arranged here a list of special bargain combinations which will save you considerable on your reading matter. No substitution of other magazines which are the same price can be made. You must take the entire combination just as it is. You can make up your own club from the club list if none of these suit you, or add to any of these others at third column club list prices.

NOTE—The Michigan Farmer is figured in all combinations at three years, price \$1. All others are for one year only. If the Michigan Farmer is only wanted 1 year deduct 50 cents from the combination price, or if the Michigan Farmer is wanted five years add 50 cents. The other paper alone can be had from us another year at a reduced price.

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Order by number. Address all orders to the Michigan Farmer or hand to our agents.

EXPLANATION—Wk. means the paper comes each week, mo. means each month, S.-mo. semi monthly. Dailies on R. F. D. only.

No. 1	No. 8
Michigan Farmer, 3 yrs., wk. \$1.00	Michigan Farmer, 3 yrs., wk. \$1.00
The American Boy, mo. 1.00	Poultry Pointers, mo.50
The Ladies' World, mo. 1.00	Boys' Magazine, mo. 1.00
	McCall's Magazine, mo.50
Regular price \$3.00	Regular price \$3.35
OUR PRICE ONLY \$2.00	OUR PRICE ONLY \$1.75
No. 2	No. 9
Michigan Farmer, 3 yrs., wk. \$1.00	Michigan Farmer, 3 yrs., wk. \$1.00
The American Boy, mo. 1.00	Choice of either:
Woman's World, mo.35	The Breeders' Gazette, Ameri-
Poultry Pointers, mo.50	can Sheep Breeder, Hoards's
	Dairyman 1.00
Regular price \$2.85	Poultry Success, mo.50
OUR PRICE ONLY \$1.75	Boys' Magazine, mo. 1.00
No. 3	No. 10
Michigan Farmer, 3 yrs., wk. \$1.00	Michigan Farmer, 3 yrs., wk. \$1.00
Kimball's Dairy Farmer, S.-mo. 1.00	To-Day's Magazine50
The Ladies' World, mo. 1.00	Choice of one May Manton Pat-
	tern (see this issue).
Regular price \$3.00	Poultry Pointers, mo.50
OUR PRICE ONLY \$2.00	Boys' Magazine, mo. 1.00
No. 4	No. 11
Michigan Farmer, 3 yrs., wk. \$1.00	Michigan Farmer, 3 yrs., wk. \$1.00
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Boys' Magazine, mo. 1.00	News) 2.50
	American Swineherd, mo.50
Regular price \$3.00	Hand Book on the Sow50
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No. 5	No. 12
Michigan Farmer, 3 yrs., wk. \$1.00	Michigan Farmer, 3 yrs., wk. \$1.00
Youth's Companion, wk. 2.00	Any Grand Rapids Daily 2.00
McCall's Magazine, mo.50	Fruit Belt, mo.50
Poultry Pointers, mo.50	Kimball's Dairy Farmer, S.-mo. 1.00
	Poultry Pointers, mo.50
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No. 6	No. 13
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The American Boy, mo. 1.00	Morning Tribune, Detroit Daily.. 2.00
McCall's Magazine, mo.50	Poultry Pointers, mo.50
Poultry Pointers, mo.50	
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Woman's World, mo.35	
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Boys' Magazine, mo. 1.00	
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OUR PRICE ONLY \$1.50	

ATTENTION.—On any one of these combinations you save the price of the Michigan Farmer three years and on some considerably more.

it, it has come to be an ideal culture media for germs. In the intestinal canal, particularly well down in the great colon, the bacterial flora has a very important modifying influence on digestion. In cases of sluggish digestion sometimes almost the entire nutrient value of food consumed is attacked and rendered of no avail to the body through the activity of germs present in the colon. The influence, therefore, of bacteria is a very important one, and inasmuch as their activity in the intestinal canal reduces to a considerable degree the net value of a fruit product to the body it may be seen that gelatine bodies which are ideal food for bacteria may thus exert an indirect value in the diet in furnishing material for these bacteria to live upon, thus sparing the other true foods which are consumed by the individual.

Gelatines from animal products have therefore been very aptly termed in many instances, "sparer of proteid." As we have attempted to explain

somewhat in detail in this paper, they should not be confounded with the jellies produced from fruit products which are recognized to be the true jellies.

EXPERIMENTS WITH WHEAT.

According to a report of rotation experiments conducted by the Australian government, wheat grown continuously on the same land for six years produced an annual average yield of 16.8 bushels per acre, wheat alternated annually with bare fallow averaged 24.8 bushels, and wheat alternated annually with a fodder crop averaged 26.4 bushels. In testing the value of burning the straw, plowing the straw under, or removing the straw with the binder, average yields, respectively, of 23.5, 22.6 and 22 bushels per acre were obtained.

In the continuous wheat section the application of manure was found to be most beneficial, its relative value increasing as the yield from the unma-

nured portion decreased. The best return was obtained from the complete manure, followed closely by the combination of phosphoric acid with potash, and of phosphoric acid with nitrogen. In the "wheat after bare fallow" section, the increases throughout were slight, the best return being given by phosphoric acid and potash, followed, a long way after, by the complete manure. In the "wheat after fodder crop," the best returns were given by phosphoric acid and potash, followed closely by phosphoric acid alone and the complete manure. Nitrogen, in combination with phosphoric acid, was also of considerable benefit, while the effects of the others was negligible.

Honest men esteem and value nothing so much in this world as a real friend. Such a one is, as it were, another self, to whom we impart our most secret thoughts, who partakes of our joy, and comforts us in our affliction; add to this, that his company is an everlasting pleasure to us. —Pilpay.

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40 High Grade Holsteins—20 giving milk, 18 are 2 to 5 years old.
 Six Serviceable Bulls—including 2-year-old registered, well marked herd bull.
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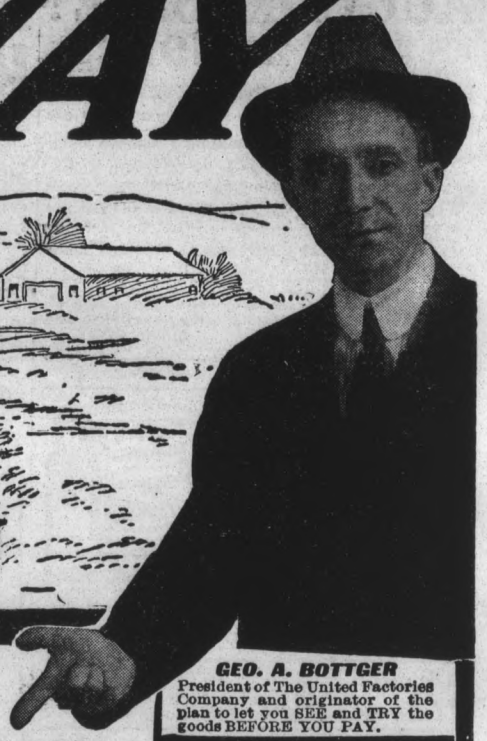
The University of Missouri has a herd of thirty-five purebred registered Holsteins all descended from four cows purchased ten years ago for \$450. Animals have been sold from this herd for breeding purposes to the amount of five times the cost price and the herd now contains more than thirty cows worth at least ten times the cost of the foundation stock. Here is an object lesson for any man ambitious to go into dairying on a money-making basis.

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