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FARM MANAGEMENT.

THE subject announced for special discussion for January in the Michigan Farmer prospectus for 1911, published in a recent issue, is a very broad one. It is broad enough to include every detail of farm practice in which there is any chance for improvement, either by the introduction of new business methods on the farm or in the application of the most advanced scientific knowledge to the problems in hand. It reaches to the very foundation of the business in which we are engaged, in its reference to the general scheme of farm-structure which we may rear upon that foundation. Indeed, this subject is so broad and so comprehensive that little more can be hoped for in this special discussion than to direct the attention of Michigan Farmer readers to its various phases, and thus place them in a better position to solve the problem of farm management for themselves in a more satisfactory manner than they have been able to do in the past. And in its final analysis the problem is an individual one in each case, and for the largest measure of success must ever be considered in the light of the local conditions which surround it in each reader's case. The fact that these hampering conditions are legion makes the problem the more vexed, and their ever changing inconstancy does not tend to simplify it. In fact, the development, or acquirement, as the case may be, of that happy faculty commonly designated as good management in the conduct of a farm involves not a little thought and study, not alone to secure a broad, general knowledge of the underlying principles of the business, but as well in the application of that knowledge in a sane and sensible manner which makes for permanent, economical success.

Good farm management, then, can hardly be more fittingly or simply defined than as the use of judicious means to accomplish an end, and it is particularly of this judicial phase of the problem that the writer would speak as a preface to the discussions which will follow from the pens of successful farmer contributors. One of the first and most important requisites in good farm management is the ability to judge values correctly, to compare them with precision and to arrive at conclusions unprejudiced by preconceived notions. And the nearer home we commence this measuring process

the better. If we are to approach this problem of farm management in the attitude of students, the first thing we should do is to study our own capabilities and limitations, to the end that we may overcome as far as possible the many shortcomings which handicap us in the successful solution of this problem. Then we should take stock of our resources and environments, with due re-

gard to our personal liking for any particular branch of agriculture, and plan our general scheme of farming accordingly. When we have determined whether we will specialize in stock or along dairy lines, in fruit growing, or any other specialty, or whether we will practice general agriculture, or any combination of these, the smaller details of management should be given just as careful con-

sideration in every department of the business which we undertake. In other words, the means used to accomplish the end in view should be judiciously selected, and their judicious selection means that we must be constantly alert, cultivating our faculties of observation to the utmost, in order that we may the better judge the relative value of factors in farm management which are more or less of an unknown quantity, and regarding which actual information must be arrived at slowly through careful experimentation covering considerable time.

"Knowledge is power" in agriculture as in other lines of effort, and knowledge of a positive nature is available to us in many departments of production, if we will but record and tabulate it and file it away for future use. It is entirely possible for every farmer to know what it costs him to grow any crop and the returns which he receives from it. Knowing this for a series of years will enable him to judge values more accurately, so far as any one crop is concerned, than would be possible if he did not make it a matter of record. In like manner it is possible for each of us to know what it costs to keep our individual cows, sheep, hogs and hens, and what they give us in return for the feed and care bestowed on them, and knowing this we can judge of their comparative value with certainty and precision. By experimenting with the use of fertilizers on the different soils of our farms and with the different crops which we grow and carefully observing the results as compared with check plots on which no fertilizer is used,

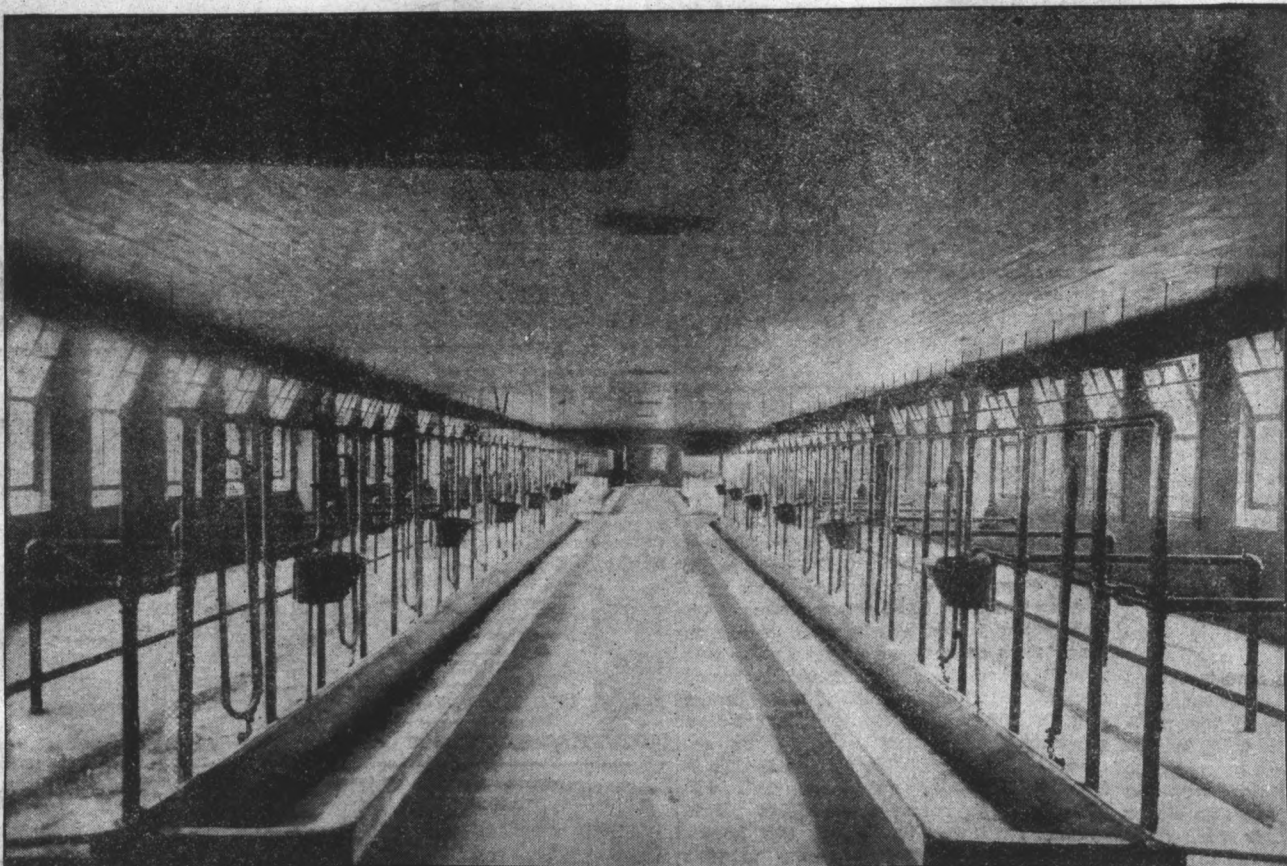
we will be able to know something definite regarding the profit to be derived from their use and what formulas to use to secure the best results. In the matter of the seed which we plant and the live stock which we breed upon our farms the judicial phase of farm management is also of the utmost importance. The best is none too good for our use, but opinions differ as to what constitutes the best, and our judgment as to what is best for us, under the conditions which surround our business enterprise can not be too carefully cultivated, for upon the quality of that judgment will our success or failure depend in no small degree.

The exercise of good judgment is equally important in the marketing of our products and in the purchase of our supplies. In fact, good management on the farm depends very largely upon our



Exterior View of Barn and Stables at Cole Brothers' Ypsiland Farms, Washtenaw Co., Mich.

The stables extend back from the feed barn and are shown between the two silos. The barn, 90x45, has basement under all and partitioned with calf pens in one end, a large feed room in the other, with grain bins fed from chutes from above and opening into the stables. A milk room, fully equipped with separator, cooler, hot and cold water system, cement tank, etc., is in the farther corner of basement and a 100-barrel compressed-air water tank, and gasoline engine with shaft-



Interior View of the Home of Ypsiland Herd of Holstein-Friesian Cattle at Cole Bros' Ypsiland Farms, Washtenaw Co.

The building is 36x130, one and a half stories with the room above left empty so no dust can sift through into the stables. It has no posts or beams, a concrete foundation, steel stalls with swinging stanchions, individual water fountains, King system of ventilation, litter carriers and 30 full-sized windows on each side permitting the sunshine to penetrate both gutters.

ability to judge values correctly all along the line, whether the commodity to be judged is a horse or a cow, a method of accomplishing some given task or an idea which is yet to be worked out. Nor is good management an accomplishment to which some fall heir by nature, but which others can not acquire, although some are undoubtedly better equipped by nature and temperament to develop into good managers than others. Good farm management is simply a business proposition to be mastered in a business-like way by diligent study and close application. Knowledge is the first essential to success, and a thorough knowledge of agriculture is as difficult to acquire as a thorough knowledge of almost any other business or profession, and when once the goal seems to be reached it will require constant study and application to keep up with the progress which is being made in that profession.

The power of example is a great factor in the gaining of the necessary knowledge. Building upon the experience of others saves both time and energy and makes rapid progress possible, hence the necessity of keeping ourselves informed through the medium of the agricultural press and in every way possible as to what others are doing.

The habit of following the line of least resistance is a great handicap to progress. We are creatures of habit, and are ever inclined to follow the methods which our fathers did, or to which we ourselves have become accustomed. Next to lack of accurate knowledge this is probably one of the greatest handicaps suffered by the average man. Most of us do not conduct the affairs of our farms as well as we know how, and many of us assume that we know how better than we really do. The writer has always remembered a remark he once heard made by an agricultural scientist who hesitated to express a positive opinion about what seemed on the surface to be a comparatively simple proposition. Upon being reproached for such hesitation he remarked that "It is better not to know so much than to know so much that isn't true."

If we will but confess it, most of us feel our lack of definite knowledge regarding agriculture more and more as we grow older, and for some of us it is almost as difficult to unlearn the things which we "know" that are not true as to search out the real truth regarding them. But deep as are the mysteries of nature, her truths are being bared today as never before, and he who searches diligently for them will find them, and thus equip himself for successful farm management—the use of judicious means for the accomplishment of an end, the desired end in this case being that permanent financial success which will enable him to secure for himself and family the other good things of life which make life better worth living.

FARM NOTES.

The Crop Rotation.

I have a field of about eight acres that has been run pretty badly, but I did not know it until I had it planted to corn. By lots of cultivating and hoeing to keep all weeds out, and also keeping the ground moist, I got a fair crop of corn. I had intended to put it in oats and seed next spring but it is so full of weeds that I want to cultivate it next year again, and have decided to plant white beans, drill them with a one-horse bean drill, and fertilize. Now what I would like to know is, what kind of fertilizer to use and the quantity per acre. Will get the beans in early and as soon as out will fit the land and put in wheat and seed, or else seed alone in the spring, using mammoth clover to plow under.

G. H. C.

In the writer's opinion the plan outlined in this inquiry would be about as poor a plan as could be followed for the future welfare of this field. The statement is made that this ground has been badly run, and yet it is proposed to add another cultivated crop to the rotation which will further deplete the soil of its content of humus as well as available plant food, merely to get rid of weed seed which is in the soil, but with the probable result that it will be difficult to get a stand of clover when the field is seeded in a grain crop following the beans. It would be a much better plan, in the writer's opinion, to seed this field in the spring, then after it has been mowed once and the aftermath allowed to grow up and go back upon the soil, to plow this clover sod down for beans, if it is desired to make beans a cash crop on the farm. If the clover sod can be fertilized with stable manure and this supplemented with a little acid phosphate, all the better, and a good crop of beans may be expected, provided good culture is given, and the

weed seed which may be present in the soil need be given little thought.

In planning a crop rotation for any soil which has gotten out of condition it is very important to plan on adding vegetable matter to it, since it is very apt to be deficient in humus and humus is quite as essential as plant food in restoring it to a high state of fertility. Commercial fertilizer is a valuable aid in securing good yields when used intelligently but it cannot take the place of stable manure or clover for a run-down soil, since it does not improve its mechanical condition. Where the soil is in poor mechanical condition the best thing to do with it is to get it seeded to clover at the very first opportunity, then use a short crop rotation in which clover occurs frequently and in which but one cultivated crop is grown. In this way it would be possible to improve the mechanical condition of the soil and at the same time build up its fertility and crop-producing power.

The best fertilizer to use for beans depends not a little on the soil. The bean is a leguminous plant and takes nitrogen from the air. On a run-down soil, however, a little available nitrogen in the fertilizer will help in getting the plants started vigorously. On fertile clay soils, acid phosphate used at the rate of about 200 lbs. per acre will give good results. On lighter and poorer soils a standard 2:8:2 fertilizer would probably be better and a heavier application could be made with profit.

THE PERMANENT PASTURE ON CHERRY HILL FARM.

In its primitive state part of the farm was a bog. It laid at the foot of the hill where the water seeped to the surface, forming springs. This land I tilled, thus making it arable and for several seasons raised roots, cabbage, celery and such truck as flourishes on such ground. But I made a mistake in not using larger tile and in a few years the land seemed inclined to revert to its old, boggy nature and after raising potatoes and corn, which gave but indifferent crops, I seeded down again with oats, using timothy, red top and alsike. I secured a couple of good crops of hay, then there came a wet season when the ground was so soft I could not use a team on it, when I abandoned it for cropping purposes and threw it into my permanent pasture. The tame grasses soon gave way to the wild swamp grass with broad leaves, which grows very luxuriantly, starting very early in the spring. Then for a time the swamp grass was disdained by the stock until the drouth of midsummer came, then they were very glad to eat the wild grass.

And I consider it quite fortunate that I have such a pasture, when I observe neighbors with tame pastures perfectly barren. With such pasture as I have, plenty of good, bright ensilage, and plenty of running water and plenty of shade and a cool, darkened stable to be milked in my cows kept up their flow of milk remarkably well during the last season's drouth.

As old age comes creeping on and I have less and less desire for the strenuous activities of the farm and as the fences need repairing I have adopted the policy of squaring up the plow fields and throwing into the permanent pasture ground the odd-shaped corners and broken patches. Thus I have on a farm of 83 acres 12 acres of permanent pasture. With the fertilizer derived from the larger amount of stock kept, I can reap nearly or quite as much as when I tilled it all.

Kent Co.

J. A. S.

GOLDEN OPPORTUNITIES IN THE NORTHWEST.

The Dakotas, Montana, Idaho and Washington offer golden opportunities for the farmer, the business and the professional man. Towns recently established along the new Chicago, Milwaukee & Puget Sound Railway in these states have had a phenomenal but substantial growth. These new towns offer good openings in many lines of business. Adjacent to this new line are thousands of acres of good agricultural land awaiting development and in Montana a 160-acre or 320-acre government homestead can still be secured. THE CHICAGO, MILWAUKEE & ST. PAUL RAILWAY during 1911 will offer very low round-trip fares to points in the Northwest, affording the homeseeker an excellent opportunity to visit and investigate this new and undeveloped country. For descriptive literature, fares and dates on which reduced fare tickets will be on sale, write F. A. MILLER, General Passenger Agent, Chicago. (153)

THE CLIPPER EXCELS

THE MOST PROFITABLE WORK THAT CAN BE DONE ON THE FARM

Is to select and clean all seeds and grains for sowing. This will improve the quality of the seed and bring it up to the highest standard. It will improve the quality, increase the yield and free your land from foul weeds. For this reason you should reclean all clover and other seeds that you buy before sowing. This is just as important as it is to clean your seed, grain and corn from your granary before sowing.

Every farmer knows that Large, Plump, Heavy kernels of seed, grain or corn will produce more and stronger plants, which will increase the yield and improve the quality. Admitting that this will benefit your crop only 10%, what would be your gain for one year? To say nothing of ridding your land of foul weeds, etc.

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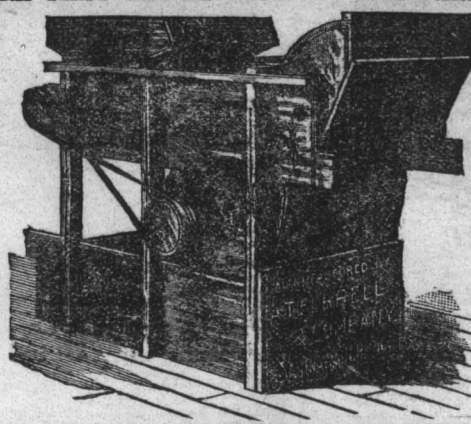
BECAUSE their experience has proven The "CLIPPER" to be the Most Successful Machine for Grading and Cleaning All Seeds and Grains.

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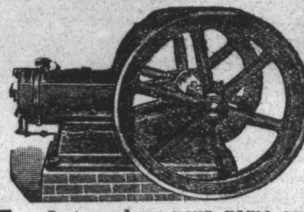
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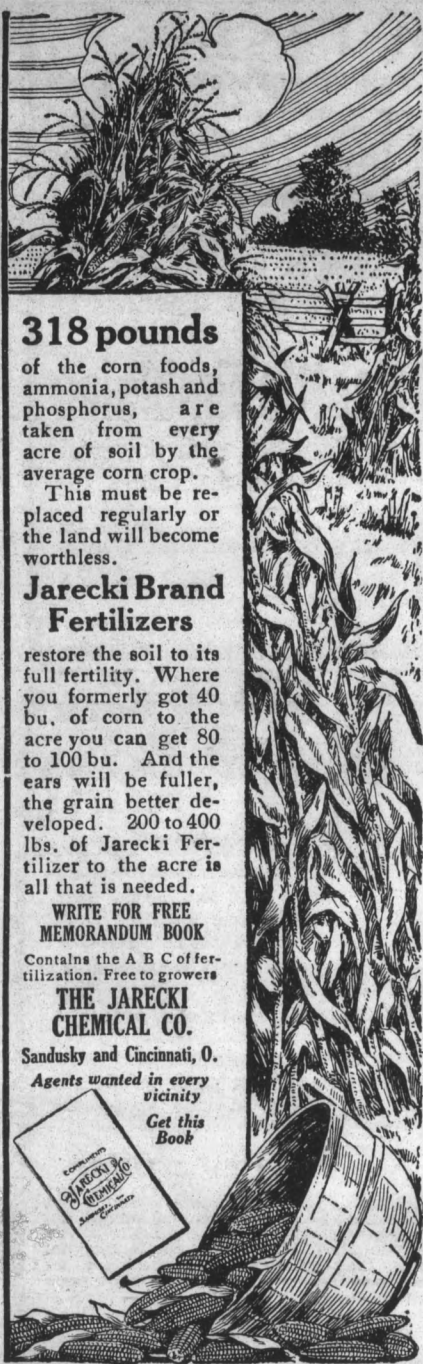
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318 pounds
of the corn foods, ammonia, potash and phosphorus, are taken from every acre of soil by the average corn crop.

This must be replaced regularly or the land will become worthless.

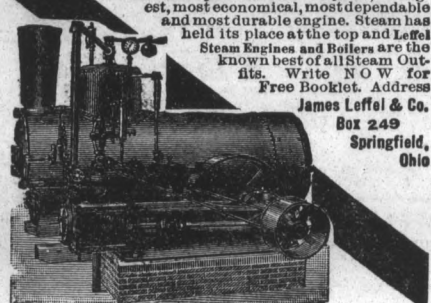
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restore the soil to its full fertility. Where you formerly got 40 bu. of corn to the acre you can get 80 to 100 bu. And the ears will be fuller, the grain better developed. 200 to 400 lbs. of Jarecki Fertilizer to the acre is all that is needed.

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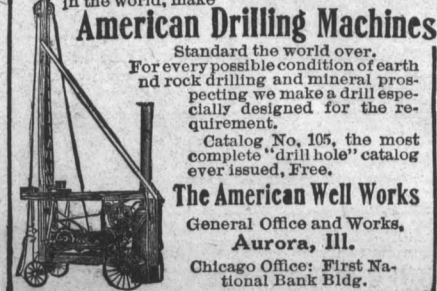
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MAINTENANCE OF SOIL FERTILITY.

The conservation of our country's resources is a cause to which every American citizen should give his earnest support and very best endeavor. While so much is being said and done relative to the conservation of our timber and mineral supply, we should not be forgetful, not alone of the maintenance of our soil fertility, but of the supreme necessity of increasing its productivity. As the food supply of every man, woman and child comes directly or indirectly from the soil, its fertility is a question of vital importance to all, of whatever occupation or social class.

At the rate at which our population is increasing, it will not be many years until our present average per acre yield of food products will not be adequate to the demands of our people.

With practically all of the arable portions of the public domain now located upon and producing and the only remaining sources from which will come additional crop-producing areas being reclaimed, swamp and arid regions, through drainage and irrigation, it is evident that if the increase in agricultural production is kept apace with the rapidly increasing demand, it will have to be accomplished largely through increased productivity. And when we consider the fact that under our present system of farm and soil management as practiced by the average farmer, that the average per acre yield of some of our farm products is decreasing; the necessity of calling a halt upon



One Hill of Potatoes Weighing 18½ lbs. Grown on new ground by A. L. Knapp, f Osceola Co. A yield of 803 bushels was secured from three acres.

some of the many avenues and leaks through which we are allowing the fertility of our farms to escape, will be apparent.

The selling of unfinished products from the farm—hay, straw and grain, each ton or bushel of which represents the entire season's production of the area from which it was harvested, together with its valuable content of plant food, is proving disastrous to many farms.

Clover hay is valued by the chemist at more than \$8.00 per ton simply for the plant food it contains, wheat straw at \$2.50 per ton for its plant content. Add to this its value as an absorbent to take up and hold the liquid, the most valuable part of manure that would otherwise be lost, and its worth is more than doubled.

The animal appropriates but about 10 per cent of the plant food contained in his ration; the rest is voided in the manure, liquid and solid. If we sell a ton of pork, mutton or beef, we get from \$140 to \$200 for it, and are selling but from \$15 to \$20 worth of fertility from the farm. A ton of cheese is worth \$250, and represents but \$25 worth of plant food, while a ton of butter is worth \$500 and is not worth 50 cents as fertilizer.

How important, then, that we feed all grain and roughage produced upon the farm, selling only finished products, and thus get the dollars and save the fertility.

It is estimated that the annual production of manure in the United States is worth more than two and one-half millions of dollars, but that one-half its fertilizing value is lost through careless handling and application.

It is a wise provision of nature that the gases of the excreta escape and are dissipated in the atmosphere. But as a result of this process manure loses in fertilizing value from the time it is voided, and when thrown out in a conical shaped heap with its exterior exposed to sun, rain and melting snow, while the interior fire-fangs, the losses through leaching and evaporation are, in many instances, nearly total.

The disposition made by our cities of their sewage is another source of great loss of fertility. If, instead of dumping their vast amounts of valuable fertilizing material into our seas, lakes and rivers, thus polluting their clear, sparkling wat-

ers, it could be disinfected and in a sanitary way be converted into form in which it could be returned to the soil, in obedience to nature's law of using her energies over and over again, it would go a long way toward solving one of the most important economic problems confronting the American people today.

Mason Co.

HOMER SHIRLEY.

SAVING LABOR ON THE FARM.

As life is short enough at the longest, and a farmer can easily so manage as to wear himself out by the time he reaches middle age, is it not right as well as a duty that he owes to himself and family, that he should study and use methods by which to save labor, and at the same time conduct his farm so as to make it profitable. The trouble with the most of us is, we get in the habit of doing our work in a certain way, and do not take time to stop and think or study whether there is a better or easier way. In these days of improved, labor-saving machinery, there is no need for a man to go tramping behind a team over plowed ground day after day. No matter what kind of a harrow is used, a seat or other device can be attached on which the driver can ride instead of walking. If two horses cannot easily draw the driver if he rides while harrowing or cultivating, then it will pay to use three. There is no use of a farmer making a drudge of himself in this age, if he will only take a little time to study out the quickest and easiest method of doing the many different kinds of work. By this I do not mean he can save time and labor by half fitting the ground, or half putting in the crop or cultivating it afterward, because that would be poor policy and a losing proposition. There is such a thing as being too particular as well as not particular enough. A man can be so particular as to be "fussy," and work all day without accomplishing anything of any account. Poor or wornout tools make extra labor to keep them in running order.

Much labor can be saved by making repairs at the time when anything gets out of order, instead of putting it off, because it is then liable to be forgotten, with the result of more damage to the tool, a greater loss of time and more cost to repair. Much labor can also be saved by having definite plans laid out for doing the different kinds of work. It will pay to have such plans laid out for several days, and even for weeks ahead. Because it will be a great help to keep one from getting behind with their work. It is much easier to get behind with farm work than it is to catch up afterward. It will pay to look over all tools, before it is time to hitch on the team to prepare for putting in or harvesting a crop. Much valuable time, labor and expense can thus be saved.

Some farmers become broken down before they have reached middle age, because they have worked so much land, and tried to keep so much stock that they have been obliged to work from early morn until late at night, and then spend a greater portion of the evening in the barn doing chores. Suppose a man is able in this way to gain a competence, if by so doing he becomes broken down, what enjoyment can he take? Then, farmers, let us try to so manage our farms as not to make slaves of ourselves and families, even if we do not leave quite so much for posterity when we pass off the stage of action.

Ottawa Co.

JOHN JACKSON.

GETTING UP THE WOOD PILE.

This is a subject which will appeal to any man whose early days were spent on a farm and who has a distinct remembrance of the laborious task of getting up the wood pile with the buck-saw and axe of our earlier days. This, however, is the age of machinery and many farmers now have a power saw to lighten this work which was such drudgery to the farm boys of the last generation. Any farmer with any amount of wood to saw should have a power saw with which to do the work. This will enable him to get up his own wood pile quickly and with comparatively little effort and also to do sawing for his neighbors which will enable him to quickly pay the first cost of the saw. In purchasing an outfit of this kind it is essential to buy of some manufacturer with a reputation for making good goods, which is also true of every kind of machinery or equipment, and manufacturers with a reputation of this kind are the ones whose advertisements are to be found in the reputable agricultural papers.

Please mention the Michigan Farmer when writing to advertisers.

DON'T WORK FOR NOTHING.

We have often wondered why it is that some implement dealers persuade the farmer to purchase implements of inferior quality. There is only one logical reason for this, and that is that the dealer makes a larger profit on the inferior article. It is of vital importance to purchase a grain drill of known merit. Just think for a moment what a poor drill can do for the farmer. It will put in his crop in such poor shape as to invite failure, and thereby lessen his profits. In short he virtually works for nothing. Buy a grain drill of a well known make—a drill that will do your work right—a drill that will sow all known seeds and grasses and that will successfully handle all brands of commercial fertilizers, no matter how difficult to sow, and by all means get a drill that will enable you to reseed sod land in the right way. We have in mind the Farmers' Favorite, made by The American Seeding-Machine Co., Incorporated, Springfield, Ohio, and we advise our readers to write to them for their Farmers' Favorite catalogue; also go to your local dealer and ask to see this drill. It pays to own a good grain drill. If you want a good crop the way to get it is to plant it right. When you put in your seed any old time, and in any old way, you shake hands with that enemy of all mankind—Failure.

Something New In Gasoline Engines

Better—Steadier—The First Simple Power

Don't let anyone sell you a farm power of any kind until you know about the remarkably improved engine—the one without valves and packing—the one with only 2 moving parts about the cylinder instead of 25 to 50 as in other engines. Great changes have been made. The complicated 4-cycle engine was never intended for the farmer. The only engine that is really simple and reliable is the

Great Western

Frost proof. No valves—no trouble—just power. Has no equal for running pump, thrasher, sheller, grinder, separator, churn, saw, grindstone, lighting plant—any and every farm purpose. Our two-cycle means power every stroke. Others give power every other stroke. Many other big advantages to you.

FREE BOOK

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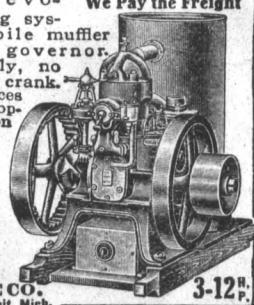
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Equipped with flywheel, cold rolled steel shaft, end thrust ball bearing and 8-inch high carbon grinding plates. Two sets of plates furnished with each mill.

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When you turn the leaf into the new year, the wisest and most profitable resolution you can make is "I will use

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Just now when laying hens are paying best, is a good time to start. Pratts Poultry Regulator must make good or it doesn't cost you a cent. It is

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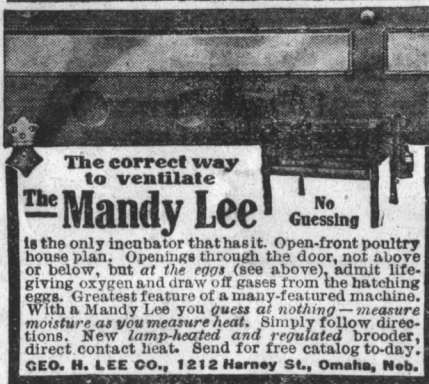
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with asbestos and galvanized iron; has triple walls, copper tank; nursery, egg feeder, thermometer, ready to use. 30 Days Trial—money back if not O. K. Write for Free Catalog today. Ironclad Incubator Co., Dept. 65 Racine, Wis.

POULTRY AND BEES

THE FARM HEN AND THE HEN FARM.

A flock of good hens is an income breeder, pretty nearly any place you put them, but their natural province is as a farm adjunct. There they have free run, unworried by the neighbor's dog or the young street savage with the air gun.

There have been more mortgages indirectly paid by that same old hen than by any other one agent. In explanation let me say that with a good-sized flock of well kept layers there are few months in the year when they will not pay the grocer and during the flush season they will buy a lot of other necessary articles for the home.

The experienced housewife will appreciate the meaning of this. She will get more of these than she would if the farmer had to "go down into his jeans" every time an article was needed, from a needle to a kitchen cupboard. When the farmer has to "tackle" his bank account every time he needs a sack of sugar or a pound of coffee or, worse yet, when he has to pay a grocery bill as long as the line fences on a long forty, the force of this argument is felt.

Most farmers depend upon a few staples to meet their running expenses, taxes, and also their interest if they are so unfortunate as to be in debt—staples such as wheat, or oats, or hay, or cattle, or other stock. When these staples have to be used for living expenses he has no other visible income to pay interest or principal. Right here is where the busy hen steps in and pays the bill that saves the staples to be applied on the mortgage.

So many farmers seem to have an unholy fear of a hen. They have visions of ruination all over the farm if they see one little hen scratching for worms in the garden. Why, bless you! I sowed an orchard to wheat, just to seed it down, over which 300 hens roamed at will and scratched ditto, said orchard, comprising but one and a half acres of ground. A jury of average farmers would have predicted an entire loss of the crop on this orchard. I threshed 40 bushels to the acre off this same orchard. Of course, the trees are small yet.

I have seen this happen many times. I have had the whole front of my farm dotted over with hens, and the loss from their presence was insignificant. I should like to read you the figures of income derived from these same "dots."

Hard to Find the Limit.

I have often been asked, how many hens can be profitably kept on one farm, but have never been able to answer this question as I have never found the limit. It is all a question of house room, feed and care. Of course the danger from disease is necessarily increased in a larger flock. However, cleanliness and plenty of disinfectants will go a long way in preventing or stamping out most diseases.

The larger the flock the larger the man needs to be to handle them, but the man can grow with his flock. I never advise starting out too "big." It is one thing to put a lot of money into a big flock and plant; it is another to make it pay.

Some will say, what is there about tending a flock of hens? Well, to these I would answer, just try it on 500 to 800 and the answer will be legion. It takes some feed for a large flock of hens, and when they go wrong the expense account runs up mighty fast. To those who wish to keep hens to the limit of profit I would say, start at about 150 laying hens of one of the essential laying breeds. Read all you can on their care from reliable sources this winter, and visit the flock or flocks of all the successful poultrymen you can conveniently. Don't be tied down to your own ideas but take counsel of the successful ones. Profit by their experience. You will be all that ahead of where they started.

When starting, don't feed for winter eggs, that is, early ones, at least. If, with proper nourishing feed and good shelter some of your hens lay, very good, but do not make a specialty of winter eggs. This is an axiom with me. Then keep an accurate account of all receipts and expenses for the whole year and find what the 150 hens will produce you.

With a farm flock, where you are not entirely dependent upon them for an income, you can afford to grow into the business year by year. If you succeed, double your flock but keep up the stan-

dard of the same, or better it if possible. You can hardly expect as large a percentage of profit from the 300 as from 150, even with your year's experience, and right here it might be well to drop back a little, say to 250 and devote more care to raising the individual standard in egg production. I cannot too fully impress this upon the prospective egg producer, as there are "hens and hens."

As you go on you will discover how large you are and what your limitations are with the business, that is, if you have them. There are many exclusive poultrymen today, making incomes that run into the thousands, who started with, and builded on, a farm flock. It is the safest way to embark.

A study of the figures of the country's importations of eggs shows that there are no probable limitations to the market for this product. So it is merely a question of whether you are big enough for the job.

Isabella Co.

WM. J. COOPER.

PROFITS IN POULTRY.

It is doubtful if any legitimate enterprise in the world is responsible for more romancing and get-rich-quick fiction than the poultry industry. It is certain that in dollars and cents the business ranks as one of the greatest in the country, and were accurate data attainable it would add millions more to the amount. Now it is not strange that, when these figures (which, insofar as they go are correct but by no means high enough) are given out, and when so many fabulous stories (which are not true) are given to the public, said public, or many of its members at least, should be allured by these tales, and that many rush in where angels dare not tread. The chief reason for so many wrecks along the way is that so many, in deciding to go into the business, look only upon the rosy side of the picture while the cold-facts side is constantly turned to the wall.

The girl about to be married was interviewed by her father: "See here, if you marry that young pauper, who on earth is going to support you?"

"Oh, that is all figured out. You remember the old hen you gave me? Well, a good hen will raise 20 chickens a year. At that ratio of increase we will have 3,360,000 in four years and, at 50c apiece, we will be worth \$1,680,000."

The above is about the basis of reckoning given out by many who have fancy pigeons or chickens for sale, and riches on paper have taken in many people.

This must not be taken for a "wet blanket" thrown upon the aspirants to poultry raising; it, rather, is intended as cautionary, and a thought to be well considered. In poultry raising, as in other business, it must be remembered that "no flowery paths lead to glory." On the contrary, the one who succeeds must go up by the tortuous path of everyday duties well done.

To the farmer and gardener, the poultry, all things considered, is one of the best crops grown. The hen is a good and skillful gardener, and I figure that the "business" hen is worth her price every year as a weed-seed and insect destroyer; and when it is remembered that these noxious seeds and insects are manufactured into eggs and meat we may safely multiply the amount by two. The "business" hen I say, for it is the case almost without exception that the busy hen, the late worker at evening and the early roamer in the morning, is the best layer. True, at certain times they must be kept within proper bounds, for they have little respect for "mine and thine." However, in a good many years of work with them I have found that they do far less damage in general than is usually charged up to them. I have often allowed them free rein among the bush fruits when in full bearing, and the berries destroyed would not be worth mentioning. They are certainly very useful in the berry patches and when allowed to run at will are harmful only at certain times, and then confinement is necessary. Generally speaking, however, they are considered a necessary evil, and during the open months of the year are "shooed" from pillar to post, and in winter are left to shift for themselves, gathering their living as best they may and lodging wherever they can find shelter. But with all this they furnish necessities and delicacies and swell the wealth of the country by millions upon millions of dollars.

Wayne Co.

J. E. MORSE.

Given well-bred stock, a well ventilated house, a variety of good clean feed, and intelligent feeding, and we need not lack eggs in winter.

GIRLHOOD AND Scott's Emulsion

are linked together. The reason is that at a period when a girl's digestion is weak

Scott's Emulsion

provides her with powerful nourishment in easily digested form.

It's the food that builds and keeps up a girl's strength.



Extra eggs soon pay for the outfit. Price of automatic 2-gallon galvanized Tank and Heater complete, \$1. Write today for Circular No. B and testimonials. C. A. S. Forge Works, Saranac, Mich.

Poultry the Best Paying Branch of Farming

The 1911 catalog by Robert H. Essex, poultry and incubator expert, will start you right. Improved incubators and brooders. Read "Why Some Succeed Where Others Fail." ROBERT ESSEX INCUBATOR CO. 92 HENRY ST., BUFFALO, N. Y.



125 Egg Incubator and Brooder Both \$10. If ordered together we send both for \$10. Freight paid east of Rockies. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Send for it today. Wisconsin Incubator Co., Box 126, Racine, Wis.

SHOEMAKER'S BOOK ON POULTRY

and Almanac for 1911 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c. C. C. SHOEMAKER, Box 911, Freeport, Ill.

48 BREEDS Fine pure bred chickens, Northern raised, hardy and very beautiful. Fowls, eggs and incubators at low prices. America's greatest poultry farm. Send 4c. for fine 100-page 17th Annual Poultry Book. R. F. NEUBERT, Box 813, Mankato, Minn.

FOR SALE—Mammoth Bronze Turkeys Mrs. THOS. WYCKOFF, Orchard Lake, Michigan.

GESE Mammoth S. C. Toulouse and LEGHORNS White, all choice prize bred stock. A square deal, prices right. Write your wants. P. R. Fouts, R. 2, Bucyrus, Ohio.

COCKERELS FOR SALE—Light Brahma White Wyandotte & B. P. Rocks, good ones, also pullets. E. D. BISHOP, Route 38, Lake Odessa, Michigan.

BUFF PLY. ROCK and S. C. Buff Leghorn Cockerels. Exceptionally good stock at farmers' prices. Eggs in season. F. J. H. BURCH, Blaine, Michigan.

Big Business Barred Rocks J. E. TAYLOR, Belding, Michigan.

SILVER, GOLDEN and WHITE WYANDOTTES 100 White cockerels at \$2 and \$3 each. New circular after January 15th. C. W. Browning, Portland, Mich.

THOROUGHbred S. C. BROWN LEGHORNS. A few nice cockerels left at \$1 each. LEWIS T. OPPENLANDER, R. No. 4, Lansing, Mich., successor to Fred Mott.

BARRED PLYMOUTH ROCK—Hurry! Hurry! Write quick if you want your pick out of a bunch of Cockerels the large type, narrow barring, bred right sired by first Cockerel at Grand Rapids Poultry Show. A. J. GORDEN, Dorris, R. No. 2, Michigan.

Barred Rock Ckls.—Vigorous, farm raised, and bred from prize winners. \$3 each two for \$5. J. A. BARNUM, Union City, Mich.

WE will have a few ekls. to sell from Barred and White Rocks, Buff and White Orpingtons, Black Minorcas and White Leghorns. Write for prices. H. H. KING, WILLIS, MICHIGAN.

DOGS. TRAINED foxhounds and hound pups for hunting fox and coon. Also collies. Inoculate 2-cent stamp. W. E. LECKY, Holmesville, Ohio.

YOU WRITE W. J. ROSS, Rochester, Michigan, for those beautiful sable and white Collie Puppies, of the finest breeding, and from stock workers.

LIVE STOCK

FEEDERS' PROBLEMS.

Developing the Ewe Lambs for Breeders.

Kindly advise regarding the proper feed and care for a flock of ewe lambs intended for breeding ewes.

Oakland Co.

SUBSCRIBER.

Sufficient importance is not attached to the development of the ewe lambs by the average sheep owner. Every farmer who keeps sheep admires the big, strong, prolific ewes which he sees in the pure-bred flocks, but even though he uses pure-bred rams he is bound to be disappointed in the character of his own ewe flock unless the ewe lambs are properly developed from the start. A good many sheep owners practice the plan of breeding ewe lambs, which is a poor practice from any standpoint. These immature ewes can not be reasonably expected to produce strong, vigorous lambs and supply them with the needed nourishment to make a good growth and develop into profitable feeders, and at the same time reach a desirable degree of development and maturity themselves. It is an impossible task, and the man who points to individual cases, where this has seemed to be attained can not clearly prove his case, as he has no means of comparison to show what kind of individuals these same lambs would have developed into if they had been given a proper chance. Then the common practice of letting the ewe lambs winter with the breeding ewes is one which tends to retard their proper development and growth. The time to develop any animal to the best of which it is capable is during the growing period. If it is not done at this time it can not be done at all. If good, big, strong, well developed ewes with high vitality are desired, the ewe lambs must be given proper care and feed during the first year of their lives. If the pasture is suitable they will need little extra attention up till weaning time, and even then if first-class pasture is available the lambs will do very well without any extra attention. But after they are put into winter quarters they should be provided with a separate stable and yard and with plenty of wholesome forage, made up of a variety of feeds, including clover hay if possible, and be given a suitable grain ration to grow them well and bring them out in the spring in a thrifty condition. The writer feeds a grain ration composed of corn, oats, oil meal and bran with very good results. About 600 lbs. of corn, 200 lbs. of bran, 100 lbs. of oil meal (pea size preferred) and as many oats as are desired. The amount of oats used generally depends somewhat upon the relative price of oats as compared with other grains, and at present prices oats can be made a very considerable factor in the grain ration to advantage. A sufficient amount of this grain should be fed to keep the lambs in a thrifty, growing condition, which will require from one-half to three-fourths of a pound per head, according to the condition in which the lambs went into winter quarters and their size, as well as to character of the roughage fed. Some roots should also be fed, especially as the season advances, unless silage is available for them. Cared for in this way, with plenty of good water before them at all times and a yard to exercise in the lambs will develop rapidly and mature into much more profitable breeding ewes than would be the case if given less favorable conditions. It will pay well to give the lambs the best chance for development.

CARE OF PREGNANT ANIMALS.

One day during the late fall our shepherd was turning a flock of 75 ewes out of a long shed. The boy who was helping him opened one of the four doors, then stopped to let the ewes out. The shepherd shouted at the boy and told him to hold the sheep from coming out. The shepherd, himself, opened the remaining doors and then went quietly among the ewes, separating and starting them toward the different doors.

Once the sheep were all outside the shed, the shepherd stopped to admonish the boy, saying, "Whenever you let these ewes out of the shed or put them through a gate be careful with them. They are all heavy in lamb and it would be very easy to injure them." Our shepherd, by the way, is a native American and just as capable a man as ever handled our sheep.

As I watched the shepherd that morning the inspiration to write this little article came to me. As he opened the big

gate into the pasture, he swung it wide and called to the faithful old dog behind the sheep, "Slow, slow old man, slow." The man stopped at the water trough for a moment and let some fresh water run in for his stock. He lingered among the flock until every sheep had been given a chance to drink. As he walked back to the yard, my pride in him grew, and so did my admiration for him as a true stockman.

Several other lessons in caring for pregnant animals were pointed out that morning. One of them is in regard to exercise. Pregnant animals need exercise. They need exercise to keep up their bodily vigor. They need it in order to keep their digestive and other vital organs in good order. They need exercise in order that they may develop a strong young, in utero, to be able to give birth to it without difficulty, and to be in such bodily vigor that they will nourish the young properly after birth.

The ewes to which we refer have a large blue grass pasture in which they run during the late fall. The pasture is quite rolling and in the course of a day the sheep roam over a considerable area and thereby secure all the exercise they need. Later when the grass becomes closely cropped off or is covered with snow, corn stover is hauled into some open field and scattered over a considerable area in order to induce the ewes to exercise while securing their feed.

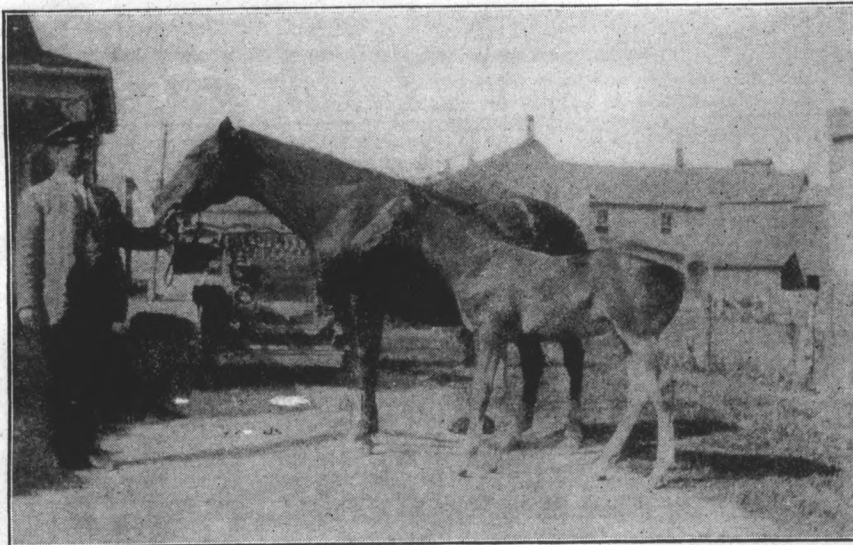
Three things were emphasized that morning. They were, protection from bodily injury; exercise, and a simple,

stipulating effects of the feed is too commonly overlooked. The bowels must be somewhat lax if the best health is to be maintained. The writer is somewhat of an alfalfa crank. He would feed it to cows, sows, ewes, and mares. If it is bright and free from dust it will have no harmful effects. Its good qualities are its value as a food, being high in protein, its appetizing quality and its somewhat loosening effect upon the bowels. Bright clover hay is the best substitute for it where alfalfa is not available.

Concerning cows, what has been written above will apply in nearly all particulars, excepting, of course, working them. One thing, however, that has always appeared to the writer as a short sighted practice, is turning the cows out to rough it after they have been dried off in the fall or winter. If we consider the cow as a living machine at this time we find her run down in vitality which should be restored before the succeeding calving and lactation period. She is usually reduced in flesh, which should be replaced so that she will produce a maximum milk flow when she is once again giving milk. Furthermore, she must nourish her calf in utero, which naturally requires food for that purpose.

A good cow will well repay for care and proper feed during the winter. A poor cow will be a loss whether well cared for or not. The sooner the poor cows are sold the better it will be for the farmer.

Not much need be said of sows in this article. There is not much danger of accidents unless it be with those unfortu-



Brood Mare, 29 Years Old, with Foal. Owned by Dr. R. M. Ardiel, of St. Clair Co.

practical way of securing it; and, third, the value and necessity of feeding properly. Are not these general principles that apply to horses, cattle, or hogs?

With horses we have found a peculiar danger regarding the matter of protection from bodily injury. That is the danger from the heels of more or less vicious old matrons. In any considerable number of mares there is usually at least one spiteful individual that is always bent on keeping the others away from the water trough or out of the shed. Of course, one can and will leave the hind feet unshod and take other precautions but this can not entirely obviate the danger. The only way to be safe against such old barbarians is to keep them out of the yard, either dispose of them or put them to work.

This danger from bodily injury is greater with mares than with any other class of stock. Instances of mares being injured by severe work and throwing their colts as a consequence are so common that they scarcely need mentioning. The writer believes as firmly in working brood mares as does anyone. He believes in it for two reasons, to give the mares exercise and for the economy which it affords. Yet he believes just as firmly, or even more so, that judgment and "horse sense" needs to be used in working the mares.

As pregnancy advances the danger increases. Backing heavy loads, hauling over roads so rough that there is danger of the wagon tongue striking the mares a severe blow on the belly, or slipping, are especially likely to injure them. Now the way to avoid all this does not mean to refrain from working the mare. Rather it means to give the mares the lighter and safer work and to put the geldings or mules or mares that are not in foal to the harder and more unsafe work.

In feeding the mares the principle we follow is just the same. First the feed needs to be nutritious, then it should be appetizing, and have a slightly laxative tendency. The matter of laxative or constate sows that are put behind steers,

Many feeders have learned to their sorrow that sows following steers in nearly all cases lose their pigs early or, if the pigs are carried full time, they are farrowed dead. Sows, like mares, cows, and ewes, need to be shielded from accident. They should be provided with nutritious feed and sufficient exercise, and they must have shelter of the proper kind in bad weather.

Iowa. H. E. MCCARTNEY.

It requires not a little knowledge and skill to become a successful sheep breeder and feeder, and it is generally cheaper to take the expensive experience which is sure to come if one has not that knowledge and skill to start with, in homeopathic doses. Not that we would discourage anyone from going into the sheep business on a large scale, but rather that we would caution all who have had no experience in sheep farming from going into it on a large scale at the start. It is better to grow into the sheep business than to go into it.

Everyone who has had anything to do with horses knows that all horses do not resist in the same way, caused by the variation of their instinctive habits. And no one can think of avoiding the wrong things and always doing the right, if he does not understand the colt's disposition well enough to know that what causes one colt to act a certain way might cause another to act just the opposite.

Sold His Hogs.

J. C. Butler & Son, Portland, Mich., who for years have bred Poland China hogs, writes as follows: "All of our hogs have been sold through our advertisement in the Michigan Farmer. Please change our advertisement to sows, as we have about fifty to dispose of."

Sold Out of Shropshires.

H. Stewart, Lannon, Mich., who has been advertising Shropshire sheep in the Michigan Farmer, writes: "Please discontinue my advertisement, as we are about sold out, thanks to the Michigan Farmer."

Horse Owners Should Use GOMBAULT'S CAUSTIC BALSAM

The Great French Veterinary Remedy. A SAFE, SPEEDY & POSITIVE CURE.

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SUPERSEDES ALL CAUTERY OR FIRING.

Impossible to produce any scar or blemish. The safest best Blister ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

WE GUARANTEE that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin cure mixture ever made.

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\$1. for a Horse
Save a horse and you won't have to buy one. Don't sell or destroy any horse on account of Spavin, Splint, Ringbone, Curb, Sprains or any lameness. Spend one dollar for a bottle of

Kendall's Spavin Cure

—the old reliable remedy. Thousands have made big money buying "broken down" horses, then curing them with Kendall's. Thousands have saved big money using this sure, quick, economical cure. Mr. G. H. Corbin of Kingmont, W. Va., writes: "Gentlemen—Have used a great deal of Kendall's Spavin Cure and have never found anything equal to it. I used it on a mare which I only paid fifty dollars for and since I cured her of the Spavin I have refused to take two hundred dollars for her."

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to try the "CLEAN" Curry Comb and save dollars in time, labor and expense. Automatic action, durable, effective, easy on the horse and always clean. Send address—stating number of horses owned, and we'll send it Comb postpaid. After trial, send \$10 or return comb at our expense. Valuable Horse Book sent free. Clean Comb Co., 34 Fifth St., Racine, Wis.

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Fourth importation for 1910 arrived August 4th. Our present lot, we believe, equals or surpasses any we have heretofore collected. More horses of bone, size and first-class quality than ever. Numerous important prize winners. Write for catalogue.

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Wayne, Illinois

JACKS and MULES Raise Mules and get rich. 18 Jack and Mule Farms under one management, where can be seen 700 head fine large Jacks, Jennies and Mules, 14 to 17 hands high. Good ones. Stock guaranteed. Write for prices today. Address

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—Branch Barns—
Clinton, Indiana.

REGISTERED PERCHERON STALLIONS for sale. 1 and 2 years old. Grays and blacks. West Michigan Fair winners. R. OVERHOLT, Dutton, Mich.

Registered Kentucky Mammoth JACKS, JENNETS and SADDLE HORSES

We are the largest breeders of Mammoth Jacks in America. Registered Tamworth and Hampshire hogs all ages. J. F. COOK & Co., Lexington, Ky.

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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 some one else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Horses.

Indigestion.—I have a horse that kicks the side of stall, bites himself and appears to be out of condition. I have examined him for lice, but he has none. W. F. M., South Haven, Mich.—Change his feed and if you are not feeding him some roots do so. Also give him two table-spoonfuls of the following compound powder at a dose in feed three times a day: Gentian, ginger, fenugreek, quassia, nuxvomica, bicarbonate of soda and salt. Equal parts by weight mixed thoroughly. Groom him well twice a day.

Nasal Catarrh—Chronic Cough.—My seven-year-old mare has been troubled with a discharge from nose for the past two months; she coughs some and her throat seems to be affected. J. W. D., Plymouth, Mich.—Give a teaspoonful of Fowler's solution and a teaspoonful of opium at a dose in feed two or three times a day; if the throat is swollen apply tincture of iodine every day or two.

Atrophy of Shoulder.—Kindly tell me what to do for a six-year-old horse that is sweeney in shoulder. Our local Vet. blowed up shoulder and we gave him eight weeks' rest, which helped him, but he soon went lame again. D. U. W., Long Lake, Mich.—Clip hair off shoulder and apply cerate of cantharides every week and he will get well.

Foot Soreness.—I have a mare that has been very sore in fore feet for the past two years and our horseshoer thinks it a case of navicular disease. At first her feet were very dry and hard, but since I softened them she is more sore. C. F. K., Pontiac, Mich.—I am inclined to believe the foot soreness is either caused by founder, contraction or navicular disease. No matter which, the treatment must be similar. Blister coronet with one part red iodide mercury and eight parts lard every ten days.

Cattle.

Feeding Buckwheat Straw—Sore Eyes.—We have a cow that was troubled with watery eyes all last winter and is in the same condition this season, but her eyes were all right last summer. What can be done for her? We would also like to know if buckwheat straw is a good food for cattle. I have quite a lot of it which I would like to feed, but am told it might produce abortion in cows and mares; if this be true I would like to know it. E. M. W., Stanton, Mich.—The cold air irritates the mucus membrane of eyes, but the sight will not be affected by it. Apply a saturated solution of boric acid twice daily. There is little risk to run from feeding pregnant mares or cows buckwheat straw as it seldom produces a miscarriage; however, it has little feeding value and stock should not be obliged to live on it unless there is great scarcity of other roughage. Buckwheat straw makes good fertilizer but poor food for live stock.

Cow Passes Bloody Urine.—I have a cow that seems to be well and is fed on corn fodder, straw, mangels, carrots, and oil meal, but has fallen off in milk flow. J. C., Petoskey, Mich.—Give 30 drops of creosote (beechwood) at a dose in a pint of water as a drench three times a day for a week, then give the medicine twice a day for ten days.

Sheep.

Ophthalmia.—Several of my sheep are troubled with sore eyes and some of them are badly run down. G. E., Farmington, Mich.—Dissolve one grain of nitrate silver and one grain sulphate atropia in one ounce of clean boiled water and apply to eyes once a day; also blow some calomel into eyes daily. Give each sheep one-half teaspoonful ground gentian and the same quantity of salt at a dose in feed twice a day.

Nodular Disease.—Having just lost two good sheep after showing the following symptoms, I would like to know how to treat another case if we have one. Symptoms: Loss of appetite, throwing head back to either side, trembling, great weakness, unable to stand and died 24 hours later. L. C. B., Reed City, Mich.—If any more of your sheep die cut them open and write me stating what you found; this will greatly assist me in making a diagnosis. Give each delicate, unthrifty sheep a teaspoonful of the following compound powder at a dose in feed twice a day: Ginger, gentian, fenugreek, cinchona and salt; equal parts by weight and mixed thoroughly.

Hogs.

M. A. R., Port Huron, Mich.—Your hogs are troubled with worms; see treatment for them in this column.

J. V. R., Flat Rock, Mich.—For worms in shoats weighing 50 lbs. each, give each one a dessertspoonful of fluid extract of spigelia and a tablespoonful fluid extract of senna every six hours until they purge out freely, then you can safely believe the pig is fairly free from all the large worms.

Dogs.

Goitre.—We have a young dog, about seven months old that has an enlarged neck similar to goitre in man. He seems well and has a good appetite. E. M. W., Stanton, Mich.—Give your dog 5 gr. doses (three times a day in food) of Thyroids Dissicated (Parke, Davis & Co.), and when the bunch has been reduced give this preparation daily for a short time, then three times a week.

The Principle of Feeding

The man who feeds sheep, cattle or swine, so as to bring about rapid growth and a short fattening period, never goes by guess-work. With him, feeding is a science based on one fundamental principle, viz: A strong animal digestion means economical food consumption. To accomplish this—to make the digestive function of his feeding stock unfailingly active—he gives regular daily doses of

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HAM BULLS, 10, 12 and 18 months old. All Reds. J. E. CLARK, Milford, Mich.

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Hampshire, Southdown, and Cotswold Rams and THE CLOVER BLOSSOM FARM, Port Austin, Mich.

HAMPSHIRE—Ram lambs ready for service; also 2 yearlings cheap. C. D. WOODBURY, Lansing, Michigan.

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O. I. C's FOR SALE—An extra good lot of last spring pigs, either sex, weighing from 150 to 300 lbs. 1 yearling boar and 30 fall pigs. OTTO H. SCHULZE, Nashville, Mich.

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SHAMROCK II MAKES ANOTHER
WORLD'S RECORD.

It is always interesting to follow the fate of International prize winners to the block, which is the final test of excellence of meat-producing animals. It is a matter for congratulation to the judge who placed the award, as well as to the exhibitors of Shamrock II, the grand champion fat steer at the Eleventh International, that he made a new world's record for an animal under one year of age by dressing out 67.25 per cent of his live weight. The percentage of choice cuts on the loins and ribs of the carcass was close to 30, and the experts who dressed him reported that his carcass was as smooth as they had ever seen. This is another victory for baby beef and another argument for good feeding from the start where beef animals are produced for sale on the farms of the country.

LIVE STOCK NOTES.

Cattle feeders have been greatly favored this season by the exceptionally pleasant, mild weather, which has enabled them to fatten stock at much less expense than usual. Feed has been plentiful and cheap, and the warm autumn meant a much smaller consumption of corn by stock than in most former years. Owing to their too great abundance and the popular demand for small cuts of beef, the heavy beef cattle have shown much the largest decline in prices this season, and large losses have fallen on their feeders, who in a great many instances made the grave mistake at the start of paying exorbitant prices for feeders. Recently there has been the annual large consumption of poultry incident to the holiday period, and this has cut into the consumption of beef, although turkeys are so dear that sales are checked perceptibly. It is believed that later on there will be a better market for cattle, but indications are much more favorable for the light and medium weights than for heavy beefs. Extremely large cattle have had their day.

Recent developments go far to strengthen the conviction that most of the prime beef cattle, both heavy and long-fed and fat yearlings, have been marketed. For a long time they have been marketed with great freedom, and it is evident that corn has been fed liberally. Butchers in search of fat beefs have had no particular difficulty in finding what they wanted, and packers have also got away with great numbers of medium-priced "warmed-up" and short-fed cattle at temptingly low prices.

John McKinney has received \$1,596 for hogs farrowed last spring on a 110-acre farm near Delevan, in Walworth county, Wisconsin. Besides this sum Farmer McKinney realized \$550 from sales of some old sows, making a total of nearly \$2,200 from hog sales.

A well-informed horse shipper who buys and ships horses in Iowa extensively to the Chicago market says that the Hawkeye state never before had so many horses as at the present time. There are in Winterset county 22,000 horses and 1,400 mules, and 9,000 is the smallest number of horses reported in any county of Iowa.

Many sheepmen have been making their fed lambs too heavy, their great weight resulting in their sale in western markets at much lower prices than were paid for lambs equally well fattened but of less heavy weight. Every experienced sheepman is well aware that the demand is for lambs of medium weight rather than for heavy weights, and this is equally true of yearling wethers. It was unfortunate that the Chicago market received so many half-fat ewes and wethers during December, for they could be sold only by granting liberal concessions in prices, the demand having been mainly for fat lambs for the Christmas holiday market.

Mexico exports considerable numbers of cattle to the United States, despite the heavy protective duty levied by this country on all cattle from foreign countries. Not very long ago a train load of 625 head of cattle from Mexico was sold in Oklahoma, bringing \$3.70 for 560-lb. steers and \$3.50 for 594-lb. cows. Usually, imports of Mexico cattle are intended for feeding purposes.

Dealers handling horses for marketing in the vicinity of Gibson City, Ill., state that there has been a great gain in the number of foals as compared with five years ago. The large demand for prime heavy draft horses at high prices has encouraged farmers to breed and raise to maturity a better grade of such animals, and there is wonderful improvement in the quality of the foals. Farmers have brought a good many imported draft stallions to that region during the past five years, and wonderful progress has been shown in grading up the horses.

Farmers engaged in supplying milk to creameries and in making butter were deeply interested in the recent annual election of officers for the Elgin Board of Trade. The result of the election was that producers, and not wholesale merchants, will fix prices for butter.

Within a short time large supplies of feeder cattle have been shipped from the Chicago stock yards to Ohio, Indiana and Illinois, and good shipments have also been made to Iowa and Pennsylvania. The good market for prime yearling heifers has encouraged the purchase of choice feeding and stock female calves, and this demand is undergoing a marked improvement.

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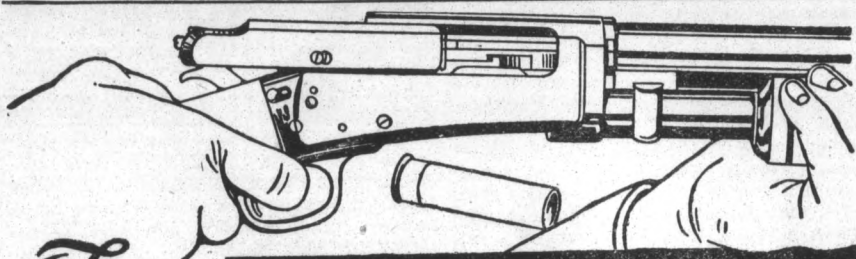
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Horses.....
M.F. 7-11

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The Lawrence Pub. Co.,
Detroit, Mich.

DETROIT, JAN. 7, 1911.

IF YOU RECEIVE TWO PAPERS OR YOUR DATE HAS NOT BEEN CHANGED:

Should a subscriber receive for a week or so two copies of the Michigan Farmer it will be because his name has not been put on the regular list, or that his date has not been changed yet. Those whose dates have not been advanced for the time lately subscribed for need have no fear that it will not be done as soon as we get caught up in our mailing room. We are now behind several days on account of the extraordinary rush of subscriptions, thousands more than we ever received in December before. If within a few weeks your date has not been changed as it should be, kindly write us.

Those getting two copies will do us a kindness by handing the extra copy to some person not now a subscriber.

CURRENT COMMENT.

Scientific Management The question announced for special discussion in the Farmer for

January is one which lies at the very foundation of successful agriculture. Not alone in the general planning of the farm work is good management essential, but as well in its detailed accomplishment, if the net profits from our efforts are to reach the maximum. Such planning and supervision of the farm work is obviously more difficult than similar planning and supervision over the work of men in almost any other industry in which labor may be employed. This is true for the reason that there is ever a great variety of work to be accomplished on the farm, while in other industries men are kept constantly at the same kind of labor, with a superintendent for each gang, so that the details of the work can be systematized in a manner that would be hardly possible on the farm and the labor expended on a given task be thus more closely economized. But more can be done in this direction upon the farm than is generally appreciated, and it is the purpose of this discussion to get Michigan Farmer readers interested in the proposition and thinking along right lines, so as to increase the efficiency and economical use of the farm labor in accomplishing the tasks to be done, as well as to so plan the general scheme of farm-

ing, the crop rotations to be used and the cultural methods to be employed, as well as the business methods to be followed in buying, selling and accounting, as to get the best results at the least cost. After a careful reading of these discussions and the thoughtful study of the individual problems which confront each of us as farmers, profitable results are sure to follow, and after new ideas have been put into practice in our own business, we can help others along the same line by giving them publicity through the channel from which we received the idea and impulse to study the matter of farm management more carefully than we have heretofore done, thus making this discussion of future as well as present benefit to Michigan Farmer readers. Unquestionably there is much good to be derived from this discussion by every reader of the Michigan Farmer, notwithstanding the fact that it must necessarily be of a cursory nature, and we trust that the discussion of this subject in the future issues will be carefully followed by every reader.

A recent dispatch from Washington announces the establishment on January 3, of one postal savings bank in each state in the union, in which a test will be made of the plan, adopted under the new law for the establishment of such postal savings banks throughout the country. Briefly outlined, this plan is as follows: Engraved postal savings certificates will be issued to depositors in denominations of \$1, \$2, \$5, \$10, \$20 and \$50, each bearing the name of the depositor and the date on which the interest begins to accrue. These certificates will bear interest at the rate of two per cent per annum, payable annually, and they will not be negotiable. No accounts of less than \$1 can be opened, and no person is allowed under the rules governing deposits to deposit more than \$100 in any one calendar month or have more than \$500 on deposit at any one time. There is, however, a provision permitting the depositor to convert his funds on deposit into government bonds, which are issued in denominations of \$20, \$40, \$60, \$80 and \$100, and multiples of \$100 up to \$500. These bonds will be issued in both the registered and coupon form and will bear interest at the rate of 2½ per cent per annum, payable semi-annually. The bonds are made payable 20 years from date in gold coin, but are redeemable at the pleasure of the government after one year from the date of issue. No limit is placed on the amount of these bonds which any depositor may acquire, and they are not counted as a part of the \$500 deposit allowed any one depositor. While, as above noted, no account can be opened for less than \$1, 10-cent postal savings stamps will be sold, and postal savings cards will be sold for a like sum, which may be returned with nine stamps affixed, when a \$1 savings certificate will be issued therefor. This is expected to appeal particularly to children and encourage them in forming the habit of saving, as accounts may be opened by any person over ten years of age in his or her own name. Married women can also open accounts in their own names, and no account can be interfered with by any other person. The trial bank for Michigan is located at Houghton, where a large foreign-born population is expected to patronize it. During the trial of the plan, only patrons of these trial offices can avail themselves of the privileges of the banks, but the trial will be watched with interest by the people of the whole country.

The federal insecticide act of 1910 became effective on January 1, and joint regulations for its enforcement have been issued by the secretaries of the Treasury, of Agriculture and of Commerce and Labor. This law prohibits the manufacture or sale of adulterated or misbranded insecticides and fungicides, especially mentioning Paris green and arsenate of lead. It also forbids the inter-state shipment of such articles. Inspection will be under the direction of the Department of Agriculture, and will be along the same line now followed in the inspection of food products. The method of procedure in the enforcement of the law is fully outlined in a recent communication from the Department of Agriculture, but the requirements of the law itself will be of greater interest to Michigan Farmer readers at this time. Briefly stated these are as follows:

"Paris green is considered adulterated if it does not contain at least 50 per cent of arsenious oxide; on the other hand,

it must not contain arsenic in water-soluble forms equivalent to more than 3½ per cent of arsenious oxide; and no substance may be mixed with it so as to lower its strength. Lead arsenate is counted adulterated if it contains more than 50 per cent of water, or if its total arsenic is equivalent to less than 12½ per cent of arsenic oxide, or if it contains arsenic in water-soluble forms equivalent to more than .75 of a per cent of arsenic oxide, or if any substance is mixed with it so as to lower its strength. If lead arsenate contains more than 50 per cent of water it must be labeled "lead arsenate and water," and the extra percentage of water must be plainly stated. Any other insecticide or fungicide is considered adulterated if its strength or purity fall below the standard under which it is sold, or if any substance has been wholly or partially substituted for it, or if any valuable ingredient has been even partially removed, or if it is intended to be used on vegetation and is injurious to vegetation. If the designation of an article imports the presence in it of a certain substance, that substance must be present in the customary amount."

The law further provides for the use of a proper label, and for the statements which same shall contain for the protection of users, which requirements will be given full publicity in a future issue. The law applies to imported, as well as domestic goods, it being assumed under its provisions that Paris green and lead arsenate are imported for use as insecticides unless otherwise stated. This law will be welcomed by all users of these materials, which class includes a large percentage of Michigan Farmer readers.

The law will also prove welcome to the reputable manufacturers of insecticides and fungicides, who were favorable to federal regulation of the manufacture and sale of these goods. It will thus be beneficial to all concerned who are worthy of protection as are all who are engaged in legitimate lines of production.

The modern adaptation of the automobile to farm uses has been responsible for a large increase in the purchase of various types of power vehicles by farmers during the past year. It fact, it is generally admitted that the larger percentage of the automobiles sold during the past year were purchased by farmers or "near farmers," by which term would be included men who own and operate farms in connection with other business and use the machines in daily or frequent trips from the farm to town or vice versa, depending upon which end of the line their residence may be maintained. But the number of farmers who live on their farms and follow farming as their sole business who have purchased automobiles during the past year or two is large, much larger in fact, than is generally appreciated. In one locality in central Michigan, where the situation was canvassed last summer by a member of the Michigan Farmer staff, it was found that within a radius of two miles, 16 farmers owned automobiles, mostly purchased during the year and practically all machines of standard quality and price. This same condition is to be found in very many rural communities, and the locality in which there are no automobiles owned by farmers is rare indeed. The same fact obtains to an even greater degree in the west, where the economic value of the automobile as a means of annihilating distance is more generally appreciated among farmers than it is in the more conservative sections of the country. One recognized authority on this subject makes the statement that in four western states, 40 per cent of all purchasers of automobiles during the past year were farmers who had no other business, while in five other western states 20 per cent of automobile purchasers were farmers of the same class, while the purchasers of automobiles residing in small country towns in the same territory brought the percentage of machines sold for country use up to about 60 per cent of the total sales. The field for the light delivery car as well as the pleasure vehicle for use by the farmer and his family is a very large one, and with the adaptation of the power vehicle to these two types and a combination of them suited to the various needs of the farmer owner, the use of automobiles by our farmers is bound to increase still more rapidly, since the shortening of distances which can be accomplished through their use is an economic factor which is too important to be neglected in an industry where isolation has been a serious handicap to agricultural development in many ways.

HANDSOME TROPHY FOR BEST EAR OF MICHIGAN CORN.

The Michigan Farmer has presented the Michigan Corn Improvement Association with a large and handsomely designed silver cup to be used as an annual honorary award for the best ear of corn shown at the state corn show held under the auspices of this organization. No special class will be made for exhibits competing for this prize at this year's show, which occurs during the week of Jan. 16-21, but all corn entered in any class will be considered by the judge in making the award. The educational object sought is to exemplify the most desirable type of ear as an ideal toward which corn growers may be directed in their efforts to improve this most important crop. Write Sec. V. M. Shoemith, East Lansing, Mich., for a premium list of other prizes and make an entry at this educational show.

HAPPENINGS OF THE WEEK.

National.

Aviation has suffered a severe blow by the accidents which resulted in the death of two prominent aviators last Saturday. Arch Hoxsey, who made a new world's record for high flying at Los Angeles last week, was suddenly dashed to the earth while attempting the spiral glide, and almost instantly killed. At about the same time, Moissant, who was the first flyer to successfully cross the English channel with a passenger, was thrown from his machine and killed at New Orleans where he was entertaining large audiences with his daring feats.

President Taft has authorized formal approval of the new constitutional government of Nicaragua, following the receipt of official dispatches announcing the regular election of Gen. Juan J. Estrada as president.

Former Forster Pinchot has filed with President Taft, a brief appealing to the chief executive to cancel immediately the claims of the Cunningham Alaska concern, over which the controversy between Pinchot and Ballinger started.

The United States supreme court will begin the consideration of three important cases this month, the standard oil and tobacco trust cases and the deciding of the constitutionality of the corporation tax feature of the Payne-Aldrich tariff measure. The first two cases will give the Sherman anti-trust law the most severe test it has yet had, while the latter case concerns an annual income of about \$25,000,000.

Prof. Joseph Uphues, who molded the statue of Frederick the Great, now in the war college grounds at Washington, D. C., is dead.

Fire burned a fertilizer plant in Atlanta, Ga., causing a loss of about \$120,000. At Wichita, Kan., a loss of \$150,000 was the result of a conflagration in a four-story office building.

The production of coal in the United States for the year of 1910 established a new record, amounting to about 480,000,000 short tons, which is an increase over 1909 of 20,000,000 short tons and an increase of one per cent over 1907, the high record year.

Harvard and English astronomers simultaneously discovered a new star in the western sky of about the seventh or eighth magnitude.

New state officials were ushered in in several states on Monday. In Michigan, Chase S. Osborn took his seat at noon and the new legislature convened. In New York the newly elected democratic Governor, John Alden Dix, declares that the legislature should be economical, as that state is now in debt \$13,000,000. Ohio goes over to democratic control with both houses and the governor's chair in the command of that party.

Foreign.

One of the surprises of the British public was the absence of promotions to peerages in the New Year honors issued by the government of Great Britain. It was expected that at least 20 peerages would be appointed, but either the King would not consent to the election or the Premier thought that in the present unsettled state of affairs when the power of the lords was in the balance, it would be better policy not to increase the number of members.

A letter has been issued by the Pope at Rome entreating for the union of the eastern and western branches of the church which are at present united with the Roman hierarchy. There has been a long effort to bring the Greek and Latin churches together, and this appeal for harmony in faith is but another attempt to influence unity in the great institutions.

It has been estimated by a French economist that the armies and navies of Europe for the past 25 years have cost upward of \$29,000,000,000. The program has required the increase in the public debt of these same states from \$105,000,000,000 to \$151,000,000,000, and the keeping from productive labor of 195,000 officers and 3,800,000 men.

Unconfirmed reports have it that a four days' engagement near Casa Colorado, Mexico, resulted in the loss of 600 men. Efforts to substantiate the news have failed. It is expected that an engagement between the federal troops and rebels will occur soon at Guerrero.

CROP AND MARKET NOTES.

Genesee Co., Dec. 28.—Fine winter weather accompanied by sufficient snow for sleighing stimulated Christmas trade in all directions and everybody seems pleased. Farmers are hauling produce to market, which, as a rule, brings good prices although not quite up to last season's mark. Our county is to expend \$40,- (Continued on page 17).

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

When Pasadena Celebrates the New Year.

Unique and Interesting Features of the Annual
Rose Tournament or "Festival of Roses."

By Irma B. Matthews.

IT seems to have been the custom to celebrate the first day of the year as far back as we have any record of social events. The Romans, the Jews and the Chinese all observed the event with more or less ceremony. Of course, they did not all agree as to what day the first of the year should fall on but they all celebrated some day. Even now the Chinese celebrate their New Year in February, as we people who live where there are many of that nationality have a chance to know, for their celebrations are somewhat of an event here. It is almost impossible to get a Chinaman to do anything but drink and gamble during the festival of their New Year, many of them closing their stores and places of business. Also they make presents to their patrons, usually of Chinese nuts and a queer kind of Chinese candy and preserved ginger.

The Romans observed the first of March as the beginning of the year until Numa, according to the legend, transferred it to the first of January, but it was not until the latter part of the 16th century that the first of January was universally accepted as the beginning of the year.

The New Year is still observed, socially at least, in nearly all countries and in some places even now the church bells are rung at midnight to usher out the old year and ring in the new. But it remained for a city in southern California to originate a unique way of celebrating the New Year by inaugurating the "Festival of the Roses," or as it is more often called, "The Rose Tournament."

I am not sure but what in their pride the people wished to show to the rest of the country that when others were surrounded by ice and snow, and King Frost held them in thrall, that here in this sun-kissed land the flowers bloomed and na-

any rate the event is now known from sea to sea and hundreds of people from all parts of the United States, and even from the old countries, witness the beautiful spectacle each year.

When I first came here to live I had great anticipations in regard to this event, but one thing troubled me. I am fully aware that one may plan for any kind of an event they wish here for seven months in the year, serene in the knowledge that nothing will interfere to mar their pleasure, but New Year comes during the rainy season and I was afraid it might rain. If I ventured to express this fear, however, to any of the residents, they only looked at me with a superior sort of pity-you air and remarked loftily, "Oh, it never rains New Year's day," and of course I was silenced if not convinced.

But last New Year something happened. The day before it rained; no, that does not express it—the heavens opened and the waters descended, would come nearer, only if you have never seen such a down-pour as they sometimes have here you will hardly appreciate what it means. It kept it up all day. The streets ran with water a foot deep, and the mountains contributed their surplus for fear there might not be enough.

I was disappointed I own, but I am almost afraid I hugged myself in unholy glee. I did so long to get out and say: "I told you so," but I could not get a chance. I did remark to my immediate family that I thought the festival had gone glimmering for once, but I did not know the spirit of California optimism, as events proved.

Those who were to take part in the parade worked bravely on at their decorations, under some convenient shelter and paid no attention whatever to the weather. But morning came and the downpour



The Earth on Wheels—Float put up by Pasadena Realty Board.

My eyes opened in astonishment and I wondered how they would parade down streets that were flowing with water like a river, but I also began to get ready, for I grimly determined that if they paraded I should be there to see, but it was only another evidence of my not knowing California. How was I, an Easterner, to know that in less than two hours after that rain stopped I could walk down the streets safely without bothering with rubbers even, because the streets would be dry. But I did it and the parade went, too, although many confessed it was not what it would have been because many floats that were entered from outside the city were unable to get here because of the storm, but it was well worth going to much extra trouble to see. And if you will believe it, just as the first of the pageant came in sight of the waiting multitudes the sun shone out as brightly as though his face had never been hidden in the world.

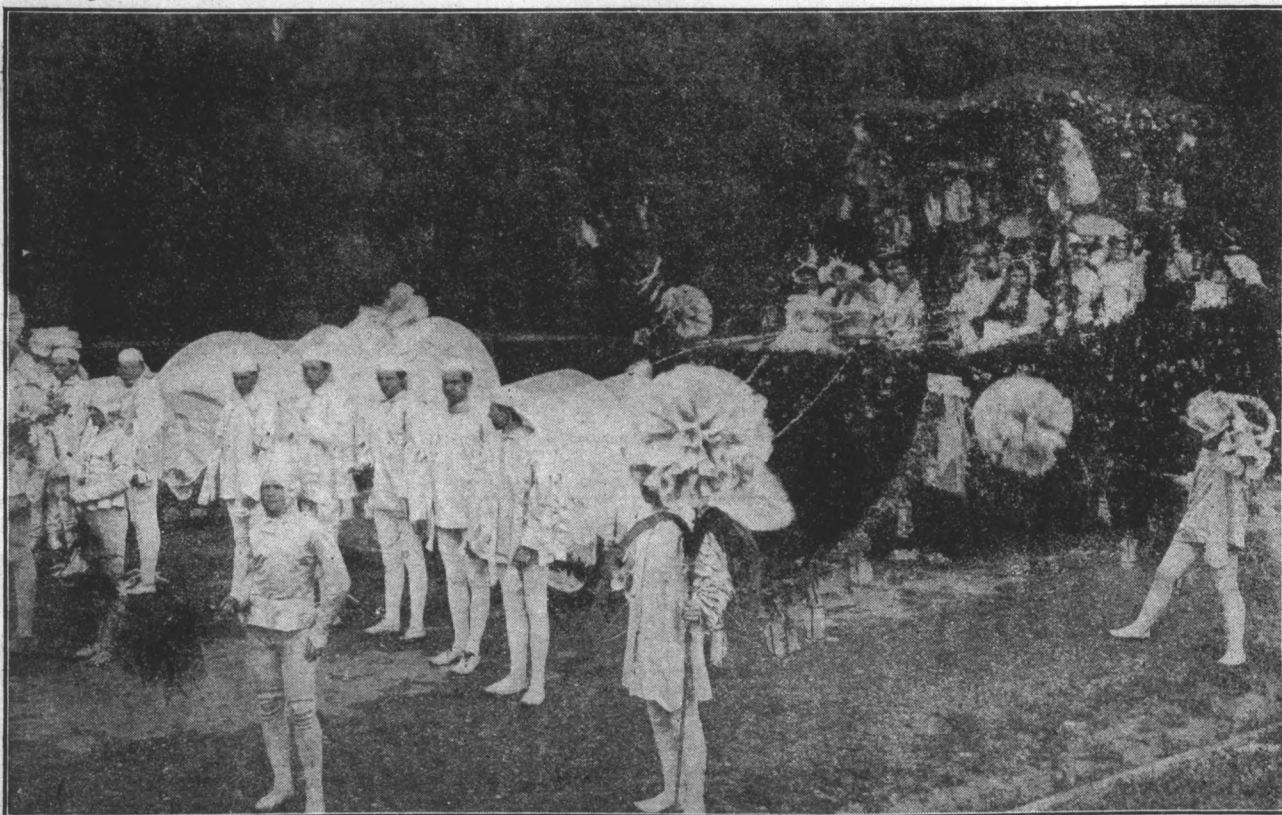
I wish I might describe for you the

the best if the judges had not saved me the trouble. I believe everyone decided, however, that the entry of the high school was the most magnificent; indeed it was a tiny parade all by itself, as fifty-six people took part in it. "A Midsummer Night's Dream," was the subject of the entry. At the head rode a trumpeter, followed by two boys who carried the title of the float in gold letters on a pink ground. There were also nine outriders, all in pink, riding milk-white horses. Their saddle blankets were decorated with gilt and roses, and the horses had collars of the same. Each of the boys wore hats resembling a La France rose and the footmen were in similar costumes. All carried gigantic pink paper carnations over two feet in diameter. Nick Bottom and his six elves were prominent, and following them came seven dragon flies each in heliotrope satin with four large wings. The girls who rode in the float were also gowned in pink. Beautifully decorated in pink and green, this float was one of the prettiest as well as the largest.

The Japanese float was artistic and attracted much attention. It was entered as a compliment by the Japanese residents of the city—a beautiful floral basket, made of the fig palm leaves and heaped high with thousands of pink carnations. Smilax and pink carnations covered the sides of the basket and also covered the body of the float. But what really attracted most attention were the three little Japanese girls in national costume who rode in the front of the float and scattered 3,000 Chinese coins, tied with pink ribbons, to the admiring multitudes. A Japanese in native costume drove the four gray horses.

Another beautiful float was the one entered by the Realty Board of the city. It is their business to sell the earth, and so they brought the earth to the flower show. The float carried a globe eight feet in diameter. The ball was composed wholly of flowers. The continents of North and South America were made of violets with a background of white chrysanthemums, while a gold crown marked the position of Pasadena. The base of the float was violets, while in white letters on either side were the words, "Pasadena, best on Earth." The four white horses wore purple blankets and were led by uniformed Negroes. An American flag floated proudly at the North Pole with no dispute as to who planted it there.

Hotel Maryland has an immense Italian pergola on its west side and when a miniature production of this pergola appeared on wheels everyone knew what it meant even before it got near enough so that the voices of the bevy of pretty girls that it carried could be heard singing, "Maryland, my Maryland." The float was drawn



"A Midsummer Night's Dream"—the subject of a Gorgeous Float Prepared by the Pasadena High School.

ture smiled and was happy. I am not sure, mind you, that this was their reason for the festival, for no one has ever acknowledged it to me, but I am just giving my own opinion of the matter. At

continued. About nine o'clock, however, the clouds broke away and my husband, who had ventured out to a little corner grocery, returned with the news that the floral parade would occur as usual.

beauties of that parade but it would take more space than I shall be able to use and I can only tell of a few of the most notable floats, although it would have been hard for me to decide which were

by six white horses, their trappings decorated, as was the pergola, with green, and white roses.

Covina sent a float in spite of the weather. They wanted people should know of their orange groves and their float represented a typical orange packing scene. The base of the float was a mass of asparagus ferns and carnations. Six girls in white, with sashes of orange ribbon, packed the fruit and tossed it from time to time to the spectators.

Among the private entries the one that pleased me most was that of a gentleman who owns a span of magnificent Arabian horses and they drew a victoria. The name of this entry was 1776. The driver, as well as the ladies who rode, and the two tiny pages, all wore costumes of colonial days with powdered wigs. The harness was covered with pink satin. The top of the victoria was decorated with Cecil Brunner roses and lilies of the valley in a mass of green. Over five hundred of each of the flowers were used in these decorations.

I cannot tell more of the floats, of which

there were many, for I want to mention a few other novelties. Numerous automobiles and electric runabouts were entered, besides individual teams. Then there were the ponies, and bands, and military bodies. Over 150 old soldiers joined the parade and at their head marched the Goddess of Liberty in typical costume.

The floral parade, although it is what interests many, simply from its novelty, is not all of the tournament by any means. In the afternoon, at Tournament Park, people are treated to a regular old Roman chariot race. The prize in this race is a thousand dollars. Also, there is a good old-fashioned stage robbery. A stage that once figured in such a hold-up is still preserved and used; the scene is very real and is excellent for one who likes "thrills."

Anyway, when it was all over with, I was glad that I had seen it, even if it did rain. And would you believe it? The next day the city papers printed this: "It will not rain on New Year's Day, 1911."

THE GATES OF BAKAPPLEIN

By ELIZABETH JEWETT BROWN
and SUSAN JEWETT HOWE.

Chapter IV.—The Harvest of Ice and Sin.

After the Amidons had gone Ned began to fully realize that he had lost probably the greatest opportunity of his life. For a few days he felt keenly the pangs of remorse and thwarted ambition which his folly and false pride had brought upon himself, for he knew that had Mr. Amidon carried out his benevolent designs towards him he would have had his feet planted securely on the first rung of the ladder of success. But, he must remain where he was until another opportunity should present itself, when, he assured himself, he would not let it slip through his fingers. However, after awhile his easy good-nature and self-satisfaction asserted itself, although his association with Jimmy Malley had a tendency to make him discontented.

Jimmy was a young fellow in the early twenties; an unusually good worker and capable of commanding the highest farm wages, for during work hours he attended strictly to his business. Outside, he was fond of haranguing all whom he could get as listeners on the sin of the rich in accumulating property and the foolishness of the workers in accepting, without protest, the wages paid them. He was tonguey, with a sort of persuasive eloquence, and he found ready listeners in young Joe Green and Ned, as well as several of the other men employed on the place. So it was not his fault if Ned did not become thoroughly disgusted with his position on the Jackson farm. Jimmy had early discovered the weak points in Ned's armor and he delighted in piercing them with the shafts of his menial condition until there were times when the boy felt as if his cousin was deliberately wronging him in expecting him to work, ignoring the fact that he was paid higher wages than he could earn elsewhere, besides being one of the family and not a hired man like the others.

Jimmy's influence was not good over young Joe, either, who was a good-natured fellow without much push or brain. Easily influenced, he became his satellite, and nightly went with him to certain of the farmers in the neighborhood to play cards, drink hard cider and listen to Malley's talks on the down-trodden condition of the workman. Jimmy could drink freely and be apparently none the worse for it, but with young Joe it was different; and, after becoming intoxicated once or twice from having been in Jimmy's company, Jimmy was sternly informed by Searls that the next time such a thing happened both he and Joe would be discharged. That was a result of wrongdoing to be avoided, for nowhere else could he command such wages, and after that Jimmy's restraining hand kept his weaker companion on the safe side of the line. He had no influence over Raymond Carver, who was bending all his energies towards saving his money for a course at the agricultural college; also, he was a cousin of Mary Baker and she looked after him sharply, keeping him in the straight and narrow path as far as she could. Once or twice Ned had gone with Jimmy for an evening's fun, but Searls' bitter disapproval, and Merle's tears, had prevented him from ever going again, although it did not hinder him from accepting the hard cider which Jimmy usually managed to keep concealed on the place. Ned's twenty-first birthday came the

following summer, and as the time drew near Merle's anxiety over her brother increased, for she felt that at the first opportunity he would leave the farm. In his frequent talks with her he made no secret of his discontent. He did not say much before his cousin, but he made no secret to Merle of his belief that he was not accorded the privileges of a gentleman, and that he did not intend to remain there much longer. Once away for himself he would live by his brains, for he argued that as Searls was reaping the profits of other men's labor, why could not he? He had imbibed enough of Jimmy's talk to make him despise labor and desire to be a capitalist, whereby the other fellow would receive the nineteen cents on the dollar and he the other eighty-one. But when Merle very reasonably asked how he was going to get rich if he did not work first, he answered loftily, that, as lucky as he was, he would be sure to strike something immensely profitable as soon as he could leave the Jackson farm. "It is the big head and not the big hands that win nowadays," was his favorite saying. He was born a gentleman and he would live like a gentleman and let the other fellow work. His sister smothered her apprehensions in regard to his future, though constantly hoping that he would change his mind and be contented. Ned was constantly at war with Ben, who seemed to take delight in finding fault with him. When he wanted to see what he could do with the gasoline engine one day when it broke down during the wood-sawing, Ben would not let him. "He would have no fool boys tinkering around who thought they knew twice when they didn't know once," he said gruffly, and Ned was still angry with him when the ice cutting commenced on the Beverly pond which furnished ice for both families.

Searls was at the Capitol and Ned had gone with him for a couple of days to attend the meeting of the horticultural society of which she was an enthusiastic member. Ben was left in full charge of the ice cutting, and Mary in charge of the house. Merle, having nothing especial to do, besides looking after Yvonne who was capable of amusing herself, was rather restless and lonesome, especially as the day was so intensely cold that she did not think it prudent to take her accustomed walk.

"The men will freeze down there on the pond," she said to Mary. Ned had just been in to warm himself after bringing a big load of ice to the house where Ben and Raymond packed it away. "I wish they did not have to work this awful cold day."

"Got to cut it when it is ready," answered the woman briefly. "The ice is first-class, and as this is the third day of the cold snap we will have a thaw next—always do in January—so they must get it when they can. They haven't had such ice in January before in five years."

"But Ned isn't used to the cold as the other men are," persisted Merle. "I wish he did not have to drive one of the teams. I believe he would be warmer if he was down there cutting with Jimmy and the rest."

"He'll be warm enough," said Mary, significantly. "I never yet knowed them

(Continued on page 12).

Galloway Engines

Make Big Money Sawing Wood

My New 1911 Catalog is the most complete Engine book ever printed. My 1911 prices simply baffle all competition and are based on the most tremendous factory output of any concern in the world selling direct. No matter what style or size engine you want to buy, don't order without first getting this book which is absolutely FREE for the asking. A postal card will bring it to you by return mail.

This is What They All Say

Gentlemen: I would rather refer anyone to the Galloway Engine than any other on the market for several reasons. First, because it is so well constructed that any unskilled person can operate it. Second, because it uses less gasoline than any other engine of the same rated power I have ever seen. In talking about rated power I will refer you to our 5 h. p. Galloway Engine pulling a 34-inch rip saw and it does its work well. In summing this altogether the Galloway Engine in my estimation will take the honors for the best gasoline engine on the market for simplicity, economy and rated power. Your truly,

Hopkinton, Iowa. W. R. BLANCHARD.
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THE THINGS WE MEANT TO DO.

BY LALIA MITCHELL.

When fall the shadows, then we lonely sit
And to our heart there comes a weariness
That is more poignant than the physical
That we have borne, nor asked that it
be less.
'Tis then we think of all the task-filled
days
Their privileges ours, if we were true
To morning visions; and we see undone
So many of the things we meant to do.
When fall the shadows, and with dimming
eyes
We wait the Curfew that shall bid us
sleep.
Then we review, soul-sad, the years gone
by
And vigil there, with chiding Memory
keep.
The dreams of youth, ambition's early
flight,
The wasted hours that held achieve-
ment true.
Death has no sting so sharp, as facing
then
Undone, so many things we meant to
do.

WHAT ALICE DID.

BY V. P. GOKEY.

Doctor Williams leaned back in his easy chair and gazed about his study. He had just finished making his regular sick calls and was deeply engrossed in thought. While he sat there musingly, a curly-headed girl of about six years rushed into the room.

"Oh! Doctor, will you play house with me?"

The old man laughed slowly and shook his head in refusal.

"No, dear, I am too tired to play with you just now. You may amuse yourself with this book." He passed her an illustrated volume which lay on a table nearby.

The little one sat on the floor, and as she rustled the pages in admiration of their contents, he looked down at her with a good-natured perplexity. Alice

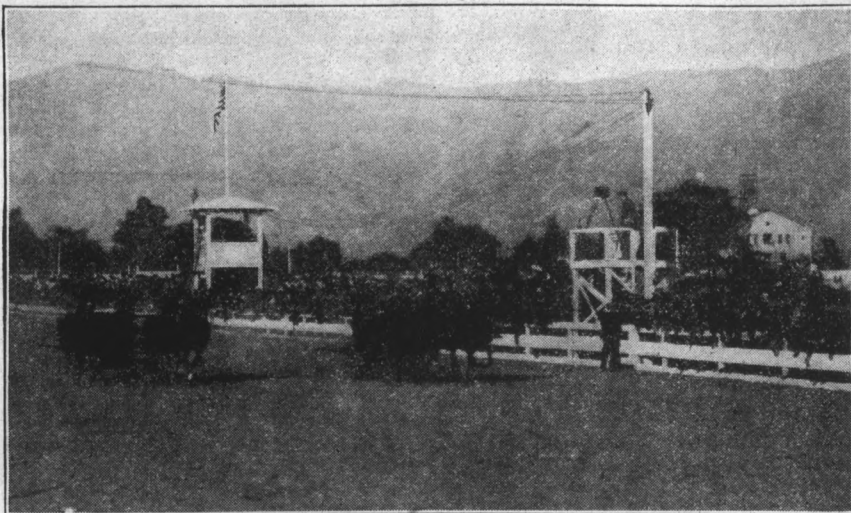
"So robbers will not steal it, my dear." "When will you give it away?" demanded the little one, as she gazed at the doctor with her soft blue eyes.

"Oh! tomorrow, perhaps." He gave the knob a twist to make sure the safe was securely locked.

It had grown quite dark. The house-keeper, coming downstairs, had turned on the lights.

Lunch was served at six o'clock, and in about an hour or so Alice was safely

was thrown open. A dark figure looked in, climbed through the aperture, and drew forth a small lantern, which, after pushing a slide, emitted a thin cone of light. The man stood motionless, pointing the light in the direction of the safe. Getting down on his hands and knees the intruder crept up to it. Drawing forth a heavy iron instrument he started to pick the lock of the old-fashioned safe. For the next five minutes he worked; he was rewarded by the door swinging open. He



The Chariot Race—A Thrilling Feature of Pasadena's New Year Celebration.

placed in bed, in a little room near the second floor landing. The doctor retired early and by ten o'clock the house was dark again, all except the hallway. A small flame of a gas jet lighted this dimly. Sometime between midnight and morning a soft patter of feet disturbed the quietness of the house. Alice, in her white nightgown and little cap, stood at the head of the landing. She smiled and

reached for the sack of money with a grunt of satisfaction.

Alice had all this time remained motionless behind a large chair in the hallway. She was more surprised than afraid. As she saw the man reach for the money a thrill ran through her frame and she reached for the button and filled the room with light.

The man leaped to his feet instantly, with a startled cry on his lips. He drew his pistol and was prepared to defend himself. But as he gazed at the little one before him he shrank away, losing all his desire to shed blood. Something touched his heart; he had had a little one of his own once. He glanced about the room, expecting to see somebody else, but he was alone with the child. She was the first to recover, and spoke to the man.

"What do you intend to do with that money?" she asked.

The man hesitated to speak, so peculiar was the situation.

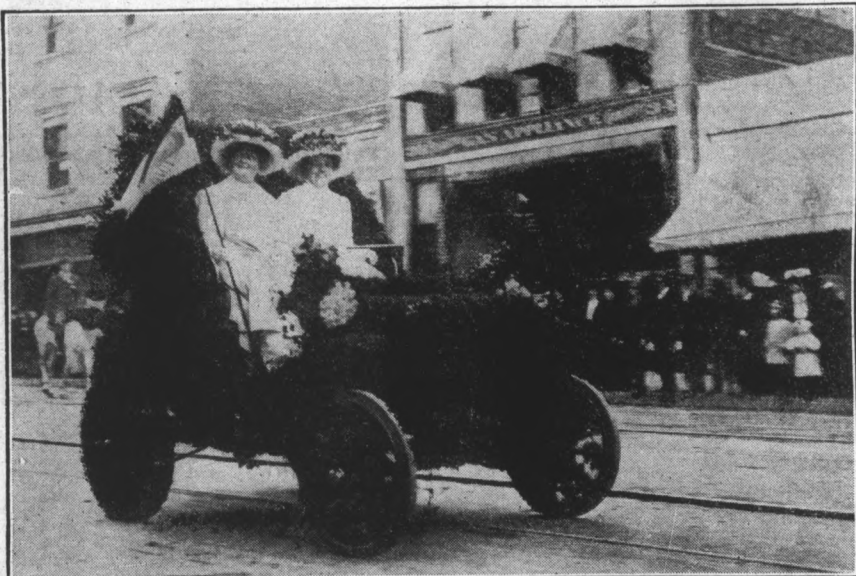
"Now don't tell me a lie," she lisped. "I saw you reach for the bag."

"Well, he finally managed to blurt out, still wondering whether he should laugh or cry, 'what about it?'"

"What about it!" she repeated, her voice rising. "A whole lot about it! That money belongs to the poor orphans and you was going to steal it."

A change came over the man. His head bent forward and his eyes were fixed on the innocent child before him. He vaguely remembered that at the death of his wife he had placed his little child in an orphan asylum. Now he was trying to steal the money that belonged to her. He raised his head slowly, tears were in his eyes, and a lump rose in his throat.

"You have changed my life little one," he said, dropping the bag mechanically. "May God bless you for what you have done." His eyes rested for a moment upon the figure before him, then filled with tears. "God bless you," he mur-



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was the adopted child of his brother. Edgar Williams had, by his own efforts, removed the child from an orphan's home a year before and during that brief interval they had both found joy and contentment in each other.

While he sat there watching the child it occurred to him that the most important duty of the day had been overlooked. He went to the telephone, took down the receiver.

"Cedar, Three-Four-One, Yes, Please!" He spoke in quick tones.

"Hello! Is that you, Mr. Perkins?" "Yes," replied a voice at the other end of the line.

"When are you going to bring over the money?"

"Oh! I almost forgot! I will be over at once."

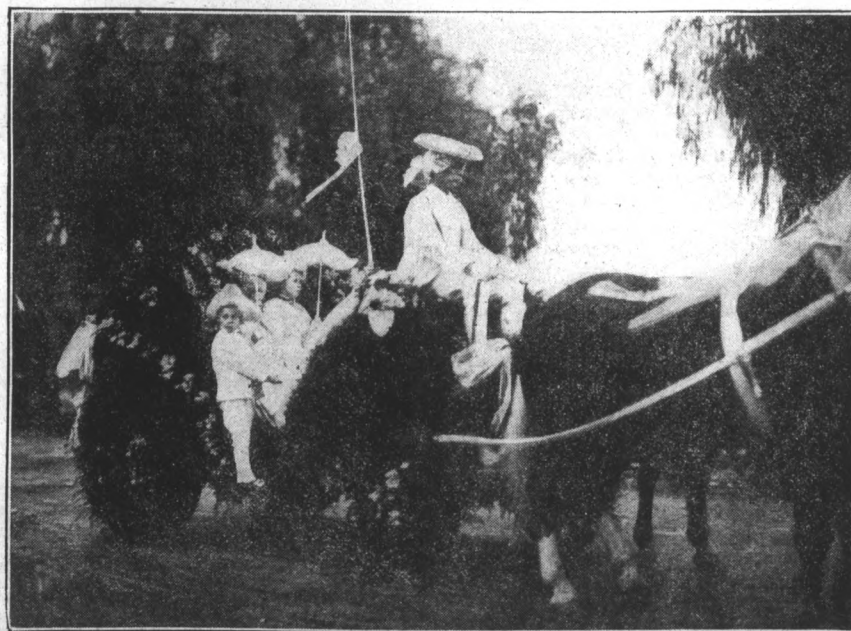
Five minutes later Mr. Perkins, the president of the orphans' society, mounted the steps of the doctor's residence and delivered the money. A collection for the orphans had been taken up and the sum was intrusted into Doctor Williams' hands.

After the visitor had left he walked to the little safe which stood in the corner of the room and deposited the money therein, closing the door and whirling the knob of the lock.

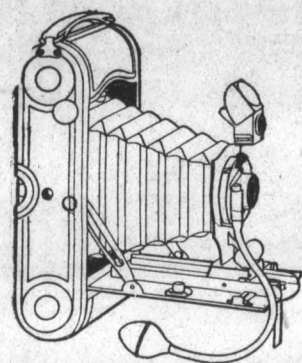
"What are you going to do with all that money?" innocently inquired the child, who happened to look up.

"That is for the poor orphan children. It will buy them clothes, food, and beds," explained the doctor.

"Why did you put it in there?" asked the child, pointing towards the safe.



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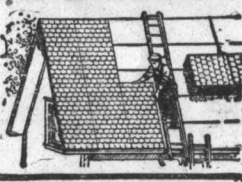
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mured again. "I—" a noise was heard; someone was coming down the stairs. "Good-bye," he said quickly, and was gone.

T. E. GATES OF BAKAPPLEIN.

(Continued from page 10).

to cut ice when Searls was away but that they had a 'warmer' with them so they could get at it handy."

"What do you mean?" she asked, perplexedly.

"If you can't see you must be blind. What I mean is this, that Jimmy has got his jug there and the hull lot of them, unless it's himself, will be drunk by night," she replied gruffly.

"Ned won't," defended Merle. "Do you suppose he would get drunk? Anyway folks can't get drunk on cider."

"Can't, eh? Well, I don't want to bet on Old Joe, nor Young Joe neither, to say nothin' uv of the rest. Ned's been havin' a swig uv it, and it ain't the first time either. He likes his cider as well as the rest uv the boys," she continued. "I thought that's what they'd be up to, so I told Ben to keep Raymond with him."

"But why doesn't he stop it if the men have it with them? He is in charge, isn't he? Anyway, I'll see that Ned leaves it alone," she declared, stoutly.

"Ben don't meddle with the men as long as they do the work," she returned, convincingly. "If they don't sass him, it's all right; but you'd better not say nothin' to Ned. You can't help it. If you ain't ever seen him when he's been takin' a little, then you ain't been very smart—that's all I have to say," she declared, returning to her knitting with increased vigor. "I've got enough to do in knittin' these socks for Ben without worryin' over the men as long as my man lets it alone."

Merle returned to the sitting-room, where from the west windows she could command a view of the long, sloping field which extended to the pond. She felt uneasy over Ned. It had never occurred to her that he, or anyone else, could drink hard cider enough to get drunk. She had never thought much about drinking in any way. She had always been accustomed to associating with people, before coming to the farm, who drank wine at dinner, but she had never known of anyone's being intoxicated. She supposed that it was only the ignorant, uneducated class that allowed liquor to get the best of them; and drunkenness had seemed as remote to her as the poles. True, she knew that Old Joe Green, who was an habitual drinker, had occasional sprees, but she had never even given the subject a second thought in regard to her brother's ever drinking to excess any more than her father had done. Searls and the Beverlys were strictly temperate men she knew, and, for the first time in her life, she began to wish that Ned was also.

Presently she saw him driving up with the big bay team and she waited eagerly until he ran into the house for a moment to get warm. His eyes were shining and his cheeks flushed with something besides the cold, but he was whistling gaily and seemed in the best of spirits.

"It's always fair weather when good fellows get together

With the stein on the table and the song ringing clear,"

he sang as he caught Yvonne in his arms and waltzed around the room with her. "It is great, this getting ice, Merle. Too bad you are not a boy so you could go, too. Finest ice you ever saw; eighteen inches thick and clear as crystal," he boasted merrily.

"But I'm afraid you'll freeze," she said, studying his face with serious eyes. "How can you keep warm?"

"Easy enough," he guffawed. "Jimmy is the Johnny-on-the-spot boy," he said coarsely. "When the cat's away the mice will play, meaning my respected cousin, who is so mighty sanitimonious that he would discharge the whole bunch of us if he knew we had a 'warmer.' It is just the stuff to drive the cold out and keep warm in, such a day as this. You ought to see Young Joe; he's getting happy already."

Merle was disgusted. "It is driving the sense out and letting the foolishness stay in. I wish you would let it alone, Ned. You ought to have more sense than to make a fool of yourself because somebody else does."

He caught her in his arms and rumbled her bright, fluffy hair, planting a kiss between her big brown eyes, while she shrank from his breath. "Don't be a goose, my girl. I'm a man and know how to take care of myself. One more

load and then I will be through for the night. By-by!" He tossed her a kiss and, laughing loudly, went to the ice-house.

"What did I tell you?" demanded Mary as Merle burst into tears. "You see how happy he is, and you can imagine what the rest will be. It is lucky for their necks that Searls Jackson ain't here. Ice or no ice, he'd send the hull caboodle packin', Ned among 'em, too. P'raps he will now, ef Ben tells uv their goin's on."

In all her young life Merle Jackson had never suffered the shame and agony of disgrace that she did that afternoon. With all of Ned's faults, which were many she knew, she had been indulgent, excusing them to herself and to others; but this last departure—his becoming openly intoxicated—humiliated her beyond measure. She could find no excuse, no palliation of his conduct, and in her hour of keen shame and humiliation she wished that she had died before she had ever seen him come into her presence in such a state. She was devoutly thankful that Searls was not there; then she endured an agony of apprehension, fearing the consequences when he returned. It seemed to her that both she and Ned were everlastingly disgraced by his conduct and she felt as if she could never hold up her head again, now that he had descended to the level of Joe Green whom he had always despised.

It seemed an interminable time to her before she saw him and the second team, which was driven by Old Joe, return to the ice-house. She waited till he unloaded, then when he came to the house she was shocked at the change. His laughing good nature had given way to a heavy surliness, and he answered her questions roughly. Ben had found fault about something and he had given him to understand that he was a Jackson and would take no orders from any hired man; if Merle thought he should, she would find out that he had been tied to her apron strings long enough.

She was wise enough not to reason with him, for she saw that he was becoming ugly. He pushed Yvonne away when she danced around him, calling her a Frenchman's brat who was taking his place in the name and fortune of the Jacksons; then when Mary turned on him fiercely he ordered her to "shut up" as he was boss there when Searls was away.

Merle was in a frenzy of despair and misery. She did not know what to do or say. Finally she ventured a remark about the chores and asked where Young Joe Green was, as she had not seen his team of blacks come with their load.

"Gone to the devil for all I care," snapped Ned. "He was ready to come when I did and if he hasn't got here it is none of my business."

"Does Ben know he hasn't come with his load?" demanded Mary, belligerently.

Merle shrank at the first oath she had ever heard Ned utter as he angrily told the woman that it was none of her business what Ben knew. It wasn't his place to go around telling of the men, and he wasn't going to do it, either. Then when Merle urged him to go and see for himself what was keeping Joe, he stamped out of the house, muttering that he had already done one day's work and he wasn't going to work all night doing chores in the barn for the sake of going back to the pond, as cold as it was, for anybody.

Merle strained her eyes through the fast gathering darkness to see if the big black team was coming. It was the best and strongest team, and she knew how angry Searls would be if anything happened to them. Finally she put on her sweater and heavy coat, and with her red tam-o'-shanter pulled down over her ears, she ran to the ice-house, the biting air stabbing her lungs with sharp needle-like pains. There was no team there and all the men were in the barn doing the chores. She wondered how Ben had come to overlook Joe's team, but she knew that he would miss them as soon as he finished in the cow barn and went to the stable. Then there would be trouble for Ned, who had not reported his absence. She wondered why the other men had not noticed it, but as they had taken turns at the ice-house, and each had his chores to do, probably all supposed that Joe was in the horse barn with his team. (To be continued).

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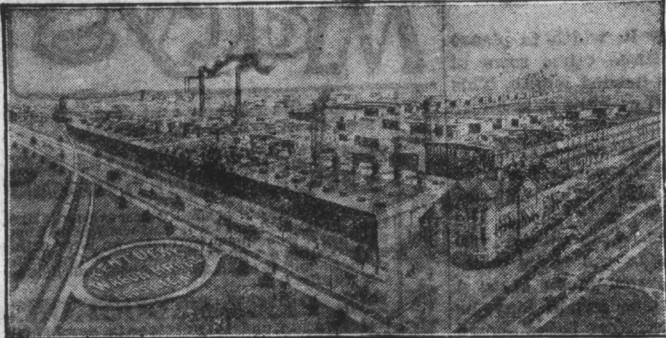
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Woman and Her Needs

At Home and Elsewhere

How Can We Cure Destructiveness in Children?

IF there is any inherent trait in human nature which seems to me more reprehensible than any other it is destructiveness. That tendency to destroy things just for the pleasure of seeing them smash which seems inherent in most small boys and many grown men, has always impressed me as being the most detestable, the least excusable of all human frailties. I suppose that must be the reason why I am blessed with two small sons who show a most astonishing tendency to destroy every toy and story book which comes their way. At least that is the way matters look just now to a distracted mother. The older boy has a respect for books, but an apparently fiendish desire to demolish every engine, cart, drum, horn or doll that he espys. The younger has a certain veneration for toys, but shows every evidence of glee when tearing books to pieces, leaf by leaf. As they are now just four years and two and a half years respectively, I have some hopes that time may show them the error of their ways, but at present I feel that I am being punished for the sin of saying, in other days, what I would do if I had children of my own.

Seriously, however, I often wonder if parents do lay enough stress on the value of property in their education of children? It makes no difference whether the prop-

erty which in the house belonged to father and mother and what to the boys. I have tried to reason them into seeing the foolishness of destroying playthings and then having to go without, and so far without any apparent effect. But still, I shall keep on and hope.

My observation of the manners of boys at home and abroad convinces me that other mothers have similar troubles. Country schoolhouses with their whittled and scratched benches, their broken blackboards, their defaced outer walls, bear silent testimony to the fact that boy nature is part savage. While city boys trooping over the lawns of other people, throwing stones and hard snowballs through car windows, writing on sidewalks and store windows and upsetting the carts of banana peddlers bear out the belief that boys are alike the world over.

It is all very wrong. But what is to be done? I do not believe that the parents of boys of 12 and 14, who are as destructive as any four-year-old, encourage the boys in their lawlessness. But it does look as though if they discouraged them in the right way they would reform. But what is that way? Are we to resort to flogging, if arguments and reasoning fail? Or shall we invoke the law and frighten the boy with a thought of reform school, or shall we simply ignore it, trusting to added years to bring him more wisdom?

It is a real worry to me. When I think that in ten years more my own boys may be wantonly defacing the property of others, as I see lads doing today, I wonder what more I can do. I wish some of the mothers who have met the problem and solved it, would tell me their experiences. For a year I have been liberally dishing up advice to you, whether you liked it or no. Now have I a generous reader who will advise me?

DEBORAH.

Open-work Curtain Bands—By Mae Y. Mahaffy.

THE durability of plain scrim, particularly the linen quality, is well known to almost every housewife, therefore needs no encomiums in that respect. It is this feature which makes it so very desirable for curtains, its inex-

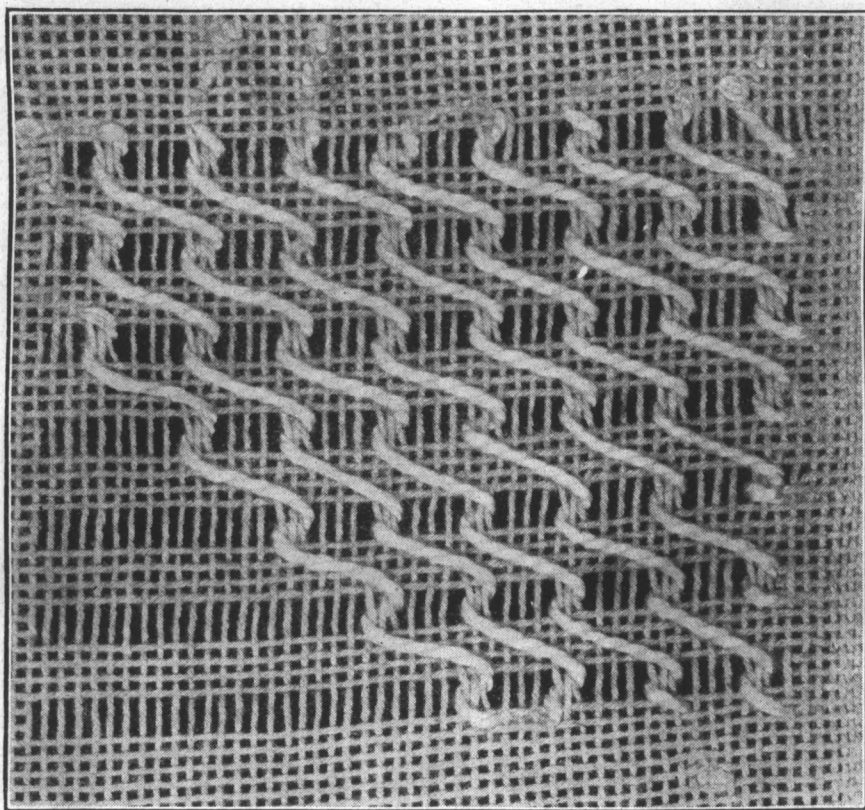
band, which may vary in width to please the worker, and continue other rows of the same kind for the needed length. This is very speedy work when once it is under way.

For No. 2 the threads are drawn exactly as in No. 1, but the work is carried forward on straight lines. The ordinary herringbone stitch is used across the strips of scrim threads, three threads being caught at either side and three omitted, alternately. One row alone gives a pretty border, but wider bands may be made if one prefers, five rows being shown in the illustrations, with hemstitching as a finish. The groups of threads caught by the stitches are made to correspond in these rows, giving the appearance of lattice work if made in one color.

Four threads are drawn in No. 3 both ways of the material, six being left between, giving a block effect. The working thread is coiled about the heads between scrim blocks, then carried over these blocks diagonally. After progressing in this fashion the length of the strips, work in the same manner across their width, thus forming a cross on each block.

Any of the washable flosses, sansilk or similar cottons are suitable for this work, and any color scheme may be followed. In the case of No. 3 one color may be used lengthwise and another crosswise to good advantage, and in No. 1 with the herringbone a pretty effect is secured by using different shades or colors for the different rows. All one-color effects are usually desirable for bedrooms, and these may be in the soft old blues, yellow, red, pink, etc., to suit one's needs. For libraries, living-rooms and dining-rooms it is frequently pleasing to use more than one shade, following the tones in the rugs or wall paper.

After the threads are drawn the material should be basted over oilcloth or stiff



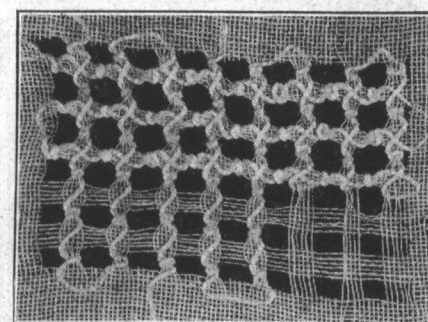
No. 1.

erty is a valuable house or a circular thrown on your porch by some advertising agent. Why should anything be destroyed just for the sake of destroying? The house, we can easily see, is too valuable to be injured, yet how many times we see fine buildings marked and defaced by thoughtless children or malicious men. The paper, though we care nothing for the article advertised, might come in useful to kindle a fire or to wrap up some article. Why, then, tear it up or throw it away? Perhaps you think that is carrying things too far, but in the training of children one can hardly go to extremes.

From the time my boys could sit up and take notice I have tried to teach them a certain respect for the property of others and for their own. Up to date I must confess failure. I have said "no, no," and patiently removed baby fingers from articles they should not touch, when I felt calm and peaceful, and "slapped paddies" when I was hurried and tired. As the lads grew older I have explained that no one had any right to touch an article belonging to someone else without first getting permission. I have explained

pensiveness and soft lines being added virtues. It may be had in white, cream or ecru, and made up sill length, with a simple heading at the top, and a border in some easily made open-work pattern, either in self-tones or a color to harmonize with the furnishings of the room for which the curtains are intended, will prove a source of great satisfaction for several seasons to the owner.

The elaborate drawn-work patterns usually are inclined to break in places, if frequently laundered, and it is best on this account to use only simple patterns, involving the withdrawal of only a comparatively few threads. In the illustrations Nos. 1 and 2 demand the withdrawal of two threads between rows of four, no cross threads being removed. The edges may be buttonholed, hemstitched or overcast. No. 1 is worked diagonally. Beginning at one corner carry the working thread under three of the scrim threads, then over these three and six in advance of them, going under the last trio beyond the adjoining row of scrim threads which were left intact. Proceed thus across the



No. 3.

paper so there will be no danger of drawing the stitchwork too tight in places. The bands should be carried down the inner edge of the curtains and across the bottoms, the hem coming just outside where it will be caught into place by the hemstitching.

Try This Home-Made Cough Remedy

Costs Little, But Does the Work Quickly, or Money Refunded.

Mix one pint of granulated sugar with ½ pint of warm water, and stir for 2 minutes. Put 2½ ounces of Pinex (fifty cents' worth) in a pint bottle; then add the Sugar Syrup. Take a teaspoonful every one, two or three hours.

You will find that this simple remedy takes hold of a cough more quickly than anything else you ever used. Usually ends a deep-seated cough inside of 24 hours. Splendid, too, for whooping cough, chest pains, bronchitis and other throat troubles. It stimulates the appetite and is slightly laxative, which helps end a cough.

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This plan of making cough syrup with Pinex and Sugar Syrup (or strained honey) has proven so popular throughout the United States and Canada, that it is often imitated. But the old, successful formula has never been equalled.

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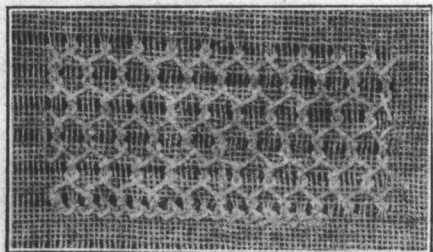
Two Recipes for Apples with Rice.

For apple snowballs, cook one cup of rice in two quarts of salted boiling water until tender. Drain and dry a little by leaving the cover off kettle and letting it stand on the back of the range on something which raises it from the heated top. Pare and core as many mildly sour apples as there are people to serve. Have some small squares of cheesecloth ready, and spread half an inch thick with the boiled rice, first wetting each piece of cloth in cold water. After the rice has been spread on, lay an apple on each, sprinkle with sugar, a little cinnamon, and a tiny bit of butter, then tie up securely, lay in a steamer, and steam for one hour. Serve with cream and sugar, or with any sweet pudding sauce.

Cook sufficient rice to fill a mold; pour the rice in while hot, and fill the center with apples cooked tender and well sweetened; flavor as desired. Let this cool, then heap with whipped cream and serve.

Toasted Cheese.

This is one of those dishes rarely well prepared, but when rightly done is very nice. Cut a slice of stale bread an inch thick, pare off the crust and toast it a light brown, without making it hard. Then cut a slice of good cheese, a quarter of an inch thick, but not as large as the bread by half an inch on each side. Cut off the



No. 2.

rind and lay it on the toast in a toaster; carefully watch it that it does not burn and stir with a spoon to prevent a thin skin forming. Flavor slightly with prepared mustard, cayenne and salt.

Puree of Turnips.

Pare and cut up two turnips into slices, put them on to boil in water till tender. Strain them through a sieve, throw away the liquor and put the turnips into a stew pan with a piece of butter, a gill of cream, a little sugar, salt, cayenne pepper, and one quart of milk, thickening with one tablespoonful of flour.

Cream of Oyster Soup.

Scald one quart of oysters in their own liquor; remove them from the liquor, chop them small, put two level tablespoonfuls of butter in a pan; when melted add two tablespoonfuls of flour; add one cupful of oyster liquor, the oyster pulp, salt, pepper and paprika; just before serving add one cupful of whipped cream, beating it well into the soup.

CHEESE OF VARIOUS SORTS.

No. 31.

BY MRS. ALTA L. LITTELL.

THE two most important milk products so far as the farmer's wife is concerned are butter and cheese. Every woman is supposed to understand butter-making, but perhaps the composition of the finished product is not known by everyone. Of course, we know it is largely fat, but it contains besides casein, sugar and salt as well as some water. The fat comprises about 85 per cent of the whole, the remaining 15 per cent consisting of the other substances.

The characteristic flavor and odor are given to butter by certain fatty acids peculiar to it. The absence of these acids and the consequent odor and flavor, enables us to distinguish between butter and butterine or oleomargarine. These two substitutes for butterine are manufactured from beef fat or mutton fat, with the addition of other oils, and are artificially colored and flavored.

Cheese making is an industry few women try at home, though there are some women who conduct dairies. The process has been fully described in the Home Queries department by Mr. E. A. Havens, State Dairy and Food Inspector. The

casein and cream of the milk is precipitated as curd by the addition of rennet or junket; the curd is then placed in a mold and pressed into shape, after which it is left to ripen. This is a process of fermentation due to the action of bacteria, during which the cheese gets richer in fat, loses much of the water by evaporation, and acquires its characteristic odor and flavor by the development of aromatic extractives. In many cheese molds form which add to the value as they are not harmful, like the usual mold.

When we speak of cheese we usually mean the ordinary cheese, or American cheese as it is known to trade. There are many imported cheeses, however, and every housewife should know something of them. The cheeses most commonly spoken of are Parmesan, Neufchatel, Camembert, Rocquefort, Gorgonzola, Edam, Stilton, Cheshire and Cheddar.

Parmesan is a hard cheese used principally in cooking as it is so hard it must be used grated. It contains 32.5 per cent water; 17.1 per cent fat; 6.86 per cent nitrogen, and 43.6 per cent casein. Neufchatel is a good table cheese, containing 50 per cent water; 18.7 per cent protein; 27.4 per cent fat. In serving, it may be passed whole with a cheese knife, or cut in cubes which are arranged on a small plate and passed with a fork. Camembert is served in the same way, its composition being 47.9 water; 41.9 fat; 3.43 nitrogen; 21.8 casein. Rocquefort is a soft cheese made from ewe's milk. When new it contains 85.5 per cent casein and only about 3 per cent fat, but after ripening it contains 32 per cent fat and about 43 casein, thus giving a good illustration of the change which takes place in cheese during ripening.

Gorgonzola is a hard cheese containing 40.3 per cent water; 26.1 fat; 4.36 nitrogen; 27.7 casein. Edam is a small cheese which is served by cutting off the top and passing with a cheese scoop. Stilton, which is made of new milk with some added cream, contains 19.4 water; 42.2 per cent fat; 4.73 nitrogen; 21.1 per cent casein. Cheshire is 37.8 per cent water; 31.3 fat; 4.03 nitrogen; 25.7 per cent casein. Cheddar is 33.5 per cent water; 29 per cent fat; 4.3 per cent nitrogen, and 27.4 per cent casein. American contains 31.6 per cent water; 28.8 protein; 35.9 fat, and .3 per cent carbohydrates.

While cheese is a valuable food for those who can digest it, people with weak stomachs are much better without it as it is very difficult of digestion. So far as composition goes it is as valuable a food as meat, but it is so hard to digest that it is really valuable only to those who are active and healthy. People of sedentary habits who can not digest it raw, are usually able to eat it if grated and cooked with a slow fire. Grated cheese adds a piquant flavor to many dishes, as shirred eggs, macaroni, scalloped tomatoes, potatoes sliced and served in white sauce, and many others. In such cases it should be grated, sprinkled over the top, and the dish placed in the oven until the cheese is well melted.

A LETTER ON DOMESTIC SERVICE.

To the Editor and Housewives of the Michigan Farmer:—I have read this paper for many years and have taken a great deal of interest in the discussions, but have not seen anything in regard to the working girl—why they work, why they fail or succeed, and the effect, or, as our teacher taught in history, the cause.

I've in mind a girl in a large family who is an excellent worker in the country. Her mother needs her badly—more than the father needs the extra dollars. He is a big farmer, has a windmill, a model barn and is a very practical farmer—but a scapegoat father. Insists that his daughter should paddle her own canoe. Well, she has tried it; had places, demanded high wages, knew absolutely nothing of refinement, or of town housework, though this was not her fault as she never was taught anything. She tried the patience of several women who tried to teach her to do very simple things and when one of her mistresses told her just what was what, she said she never had to do so and so at home and she wasn't going to do it there.

Why does a girl go out to do housework? It is generally either because she wants to go or her parents want her to go. If she wants to go, let her try it. She will soon be cured. But if her parents want her to go, what is she to do? Of course, if she got a really nice place and if she got top wages and if she had nothing to do, and if she could be the "boss," well, then, she would be married to the place. But if, on the other hand,

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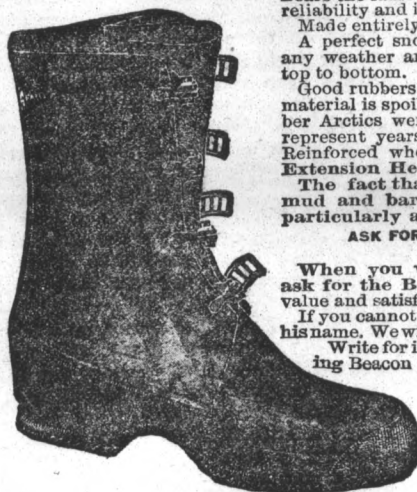
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Bears the famous Beacon Falls Cross, a guarantee of quality, reliability and independence from any trust.

Made entirely of Fine Rubber—no cloth used for the uppers. A perfect snow-excluder. Keeps the feet warm and dry in any weather and absolutely waterproof and dampproof from top to bottom.

Good rubbers can't be made of poor material, but lots of good material is spoiled by poor construction. "Corn Belt" All-Rubber Arctics were not built on the spur of the moment—they represent years of careful study as to the needs of the wearer. Reinforced where most needed. See the famous Samson Extension Heel, and the "Armor-plated" toe cap.

The fact that it is absolutely waterproof and that mud and barnyard filth can be washed off makes it particularly appropriate for use about the farm.

ASK FOR THE "CORN BELT" ALL-RUBBER ARCTIC LOOK FOR THE CROSS

When you want rubber boots or shoes of any kind ask for the Beacon Falls line. You will be sure of good value and satisfactory service.

If you cannot buy Beacon Falls Arctics of your dealer, send us his name. We will see that you are supplied. Write for illustrated booklet, describing Beacon Falls rubber footwear.

The Beacon Falls Rubber Shoe Co.

Chicago, New York, Boston.



Trade Mark Look for the Cross

Stiff knee gives visions of crutches, wheel chairs,

RHEUMATISM

Rub your knee with

ST JACOBS OIL

It takes out the pain AT ONCE, removes the stiffness and prevents its return. Fine for Bruises, Sprains, Soreness and Chest Colds. Have it always in the house. 25c. and 50c.

IT'S THE OUNCE OF PREVENTION.

St. Jacobs Oil, Ltd., Baltimore, Md.



she gets a place opposite, what becomes of the girl?

Do you see what girls attend the cheap theatres? Go with low boys, to where, nobody hardly knows? And if that same girl gets in trouble, her parents can hardly believe it possible that a girl of their circumstances should do such a thing. Such a girl has my sympathy for she is not to blame.

If there is not enough housework in their own homes, make them piece quilt blocks or knit stockings for themselves. If you teach them to be sweet, homey girls, I'm sure they can marry any good young man. Keep your girls home and out of mischief. On the other hand, if you have too much housework, try to simplify it so that their work will not be drudgery. And let those that want to hire help do their own work or have it left undone.

Some say they can learn to do fancy cooking and sewing, and city ways. I'm very sorry to say that out of every ten girls, nine of them become impudent and saucy and two or three years of such experience will spell spoiled.

I say, mothers keep your girls where you can know what they are about. For only too soon you lose them. There is not one person out of a hundred who will do the right thing by your daughter. When a woman hires a girl she intends to have her work done. That is what she pays for.

I don't mean to say that girls are too good to work, or should not work, as work there is, and work there must be, for all of us and it has not disgraced anybody, but I do mean to say that a person should level their work to keep it even and in its right place. Until then there will always be domestic help wanted.

Now I want to hear different opinions on this score and I'm sure it will help more than one girl.

Yours for an argument,

E. M. F.

WILD PLANTS FOR THE WINDOW GARDEN.

BY DELIA A. GREEN.

Our native wild flowers do not receive the attention that their beauty and gracefulness deserve. Many of them have a charm not to be found among the cultivated plants but because they are "only wild flowers" they are neglected. There are half a score of native plants to be found in every woodland, that not only may be domesticated, but that improve under cultivation and surpass our favorite annuals in delicate beauty; their blossoms and foliage having that woody charm so pleasing to the lover of nature.

It is not necessary to wait for the return of spring to enjoy all of these wild beauties, if one has access to a woodland. One who is at all familiar with the haunts of wild flowers can soon gather a sufficient supply of roots to make a charming window garden. No matter if it is mid-winter. Wait for one of those warm, sunshiny days that come frequently in the winter. The mid-day sun will melt the snow from south slopes and draw the frost from the soil. It is on such days that one is apt to feel the call of the outdoors and sigh longingly for bright spring days, with woodlands carpeted with blossoms, birds singing among the budding branches, and the drowsy hum of myriad insects in the air. With basket and stout trowel, hie away to the woods and seek a gentle slope bordering a woodland rill. It is in such a location that wild flowers are to be found in greatest profusion, for the ground is always moist and the slope affords protection from winds that would sweep the ground bare of its protecting blanket of leaves. On the surface there is no indication of the presence of the plants you are seeking; but scrape away the leaves and close to the surface—sometimes only half covered with soil—you will find the roots and bulbs of the dainty anemone, the blood-root, dielytra and claytonia or spring beauty. Here, too, you are apt to find the scarred roots of Solomon's seal; perhaps its stem loaded with berries still stand above the leaves. The crow-foot, jack-in-the-pulpit and adder's-tongue are widely distributed, abounding alike on slope and level. The latter two are most difficult to obtain as their bulbs are usually several inches underground—sometimes as much as ten inches. Often the young bulbs are near the surface but they will not give immediate blossoms.

The collection would be incomplete without a few ferns and these, too, abound along woodland rills, usually among the roots of a tree or beside a rot-

ting log. They can be located now only by their dead tops, except the Christmas fern, whose fronds remain a glossy green throughout the year. The maidenhair is one of the most common ferns as well as one of the prettiest. A few roots will soon fill a box or hanging basket with the tall, umbrella-like fronds held aloft on their wiry stems.

In gathering these wild flowers it is not necessary to take up any soil with them. Shake the roots free from soil as you then can carry home a more generous supply. But it is well to get a basket or two of soil from the woods as the wild flowers grow best in their native soil. To get quick results from your window garden, a warm, even temperature must be maintained in the room where the flowers are kept. After planting the roots keep the soil in the boxes moist but never allow it to become excessively wet, as too much moisture would cause the bulbs to decay.

The use of a single large box in which a dozen sorts of plants may be grown together gives a most pleasing effect. To support it a small table may be used or two uprights may be nailed to one side of the box, the other side resting on the window sill. Cover the soil with a layer of leaves and on top of them put a few bits of bark to hold them in place. When the plants push up through the leaves it gives a decidedly "woody" effect. Keep the plants well watered and soon they will make the box one solid mass of foliage and flowers. The blossoms are not as long lived as those of most cultivated flowers but for weeks the foliage will be a delight to the eye and will brighten up a room wonderfully.

SHORT CUTS TO HOUSEKEEPING.

In making pie-pastry, mix flour and lard with a chopping knife instead of using the hand or spoon. Put sugar on the bottom crust before putting in the fruit. Let pastry stand over night in a cool place and make your pies the next day. —Mrs. R. L. B.

Use a bicycle pump to clean the sewing machine when it is clogged with dust and it seems impossible to reach the parts with a cloth. Blow out all the little particles of thread and dirt with the pump; finish cleaning with a soft cloth and then oil the machine. —Mrs. O. I. W.

A very simple and convenient arrangement to place above the kitchen table is a strip of wood about one inch thick, two inches wide and any length desired. Nail securely to the wall and in the middle of the strip put small screw hooks about three inches apart. Put screw eyes in the end of the handles of bread, cake, and butcher knives, cleaver, rolling pin, tack hammer, etc. Even the large metal spoons, forks, egg beaters, etc., may also be hung on these hooks and always be ready for immediate use. —Mrs. D. H. M.

Always keep your work planned a day ahead. Through the day if you think of anything special that is to be done tomorrow jot it down on a piece of paper and at night after your work is done take a pencil and paper and make out a list of tomorrow's work. Then as each task is done it can be marked off the list. Unless you have tried it you will be surprised how quickly you can get your work done. M. B. S.

Rub a small quantity of lard on a piece of wrapping paper, and it will be a great aid to the ironing as it prevents the flat-iron from sticking, also will make a rough iron smooth. —Mrs. J. C.

I give a little hint that may be useful in finishing outtings, flannels or heavy linens, such as bibs, washrags, etc. Turn the edge of the goods a little and with a steel crochet hook make from three to five single crochets into the one place from a quarter to a half inch from the edge of the goods, thus forming little fans or scallops similar to those on boughten blankets, with silk or sansilk on flannel, and sansilk or linen floss on the outing and linen. Pretty blankets, kimonoes, nightrobes, etc., may be made with less trouble and be more satisfactory than if made with hems in the usual way. The ends of the thread must always be firmly secured. —Mrs. T.

WHO WILL VOLUNTEER TO HELP THIS SISTER?

Dear Editor:—I have long wanted some kind of receptacle for holding spectacles, something that could be fastened or pinned to waist, so as to have them handy when wanted. It would save old people so many unnecessary steps. If some good sister of the Household Department could help me out with pattern or some suggestion in this line I would be very grateful. Would like it right away. —Mrs. H. W. C., Allegan.

GOT IT

Got Something Else, Too.

"I liked my coffee strong and I drank it strong," says a Pennsylvania woman, telling a good story, "and although I had headaches nearly every day I just would not believe there was any connection between the two. I had weak and heavy spells and palpitation of the heart, too, and although husband told me he thought it was coffee that made me so poorly, and did not drink it himself for he said it did not agree with him, yet I loved my coffee and thought I just couldn't do without it."

"One day a friend called at my home—that was a year ago. I spoke about how well she was looking and she said:

"Yes, and I feel well, too. It's because I am drinking Postum in place of ordinary coffee."

"I said, what is Postum?"

"Then she told me how it was a food-drink and how much better she felt since using it in place of coffee or tea, so I sent to the store and bought a package and when it was made according to directions it was so good I have never bought a pound of coffee since. I began to improve immediately."

"I cannot begin to tell you how much better I feel since using Postum and leaving coffee alone. My health is better than it has been for years and I cannot say enough in praise of this delicious food drink."

Take away the destroyer and put a re-builder to work and Nature will do the rest. That's what you do when Postum takes coffee's place in your diet. "There's a Reason."

Read the little book, "The Road to Wellville," in pkgs.

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

GORDON'S Blizzard Front

On your buggy will keep you dry and warm, regardless of snow, rain, wind or cold. It will keep out every drop of rain, and no matter if it is zero weather, the heat of the body will keep the inside of the buggy as comfortable as your home. No foot warmers or extra robes necessary, and you are comfortable.

Notice the Large Window; it is 12x20 inches, made of tough transparent celluloid; the line pocket is 14 inches wide and so strongly reinforced by light metal that it cannot tear out or sag. This allows you perfect control of the horse and you can open the "Blizzard" at either side and get in or out with ease, or you can pull on the strap on either side and jerk the front down on your lap in one pull; hence, it is called the "Safe Blizzard."

It is made of Gordon cloth, which is a double texture cloth, black on one side and tan on the other side, and being double texture it is ABSOLUTELY WATER AND WIND PROOF and is the finest cloth that can be used for "Blizzard Fronts."

When the "Blizzard" is not in use it can be folded up and put under the seat and is ready at any time. Sent by express on receipt of price, \$5.00; and we send it prepaid and your money will be refunded if not exactly as represented. Send for one; it's worth the price for one drive.

We manufacture BLIZZARD FRONTS, HOODS, APRONS, ROBES, HORSE COVERS, STABLE BLANKETS, ETC.

THE VEHICLE APRON & HOOD CO., Main Office, 95 North 4th St., Columbus, Ohio. Branch, 31 Barclay St., New York, N. Y.

THE BEST LIGHT

MAKES and burns its own gas. Produces 100 candle power light—brighter than electricity or acetylene—cheaper than kerosene. No dirt. No grease. No odor. Over 200 styles. Every lamp warranted. A year's warranty. Write for catalog. Do not delay.

THE BEST LIGHT CO. 280 E. 5th St., Canton, Ohio

ASK US HOW WE Give This Chair

and 1500 other nice things for the home free with orders for our Guaranteed Groceries—Tea, Coffee, Soaps, Extracts—nearly everything you use every day.

OUR FACTORY-TO-FAMILY PLAN cuts out dealer's profits—you get the benefit in handsome premiums—groceries cost no more, often less. Postal brings 100-page catalogue showing all premiums and products. Write for it today and see how you can save a lot of money.

GROFFS & REED CO., Dept. B 128, CHICAGO.

Taxidermy Mount Birds

We teach you by mail to stuff and mount all kinds of Birds, Animals, Game-Heads. Also to taxidermy and make rugs. Decorate your home with your beautiful trophies, or command big income selling specimens and mounting for others. Easily, quickly learned in spare time by men and women. Success guaranteed. Write today for our free book "How to Mount Birds and Animals" absolutely free. N. W. SCHOOL OF TAXIDERMIES 3631 Elwood Bldg., Omaha, Neb.

PATENTS IN CASH DEMAND

Many deals closed by our clients—one recently for \$650,000.00—our proof of Patents that PROTECT. Send \$c. postage for our 3 books for Inventors. B. S. & A. E. Lyce, Div. 89, Washington D. C. Estab. 1869.

LET US TAN YOUR HIDE.

Cattle or Horse hide, Calf, Dog, Deer, or any kind of skin with hair or fur on. We make them soft, light, odorless, wind, moth and water proof, and make them into coats (for men or women) robes, rugs or gloves when so ordered.

Your fur goods will cost you less than to buy them, and be worth more. Send three or more cow or horse hides in one shipment from anywhere east of Denver and we pay the freight both ways.

Get our illustrated catalog which gives prices of tanning, taxidermy and head mounting. Also prices of fur goods, and big mounted game heads we sell.

The Crosby Frisian Fur Company, 571 Lyell Ave., Rochester, N. Y.



THE LARGEST AND BEST LINE OF WELL DRILLING

MACHINERY in America. We have been making it for over 20 years. Do not buy until you see our new illustrated Catalogue No. 14. Send for it now. It is FREE.

Austin Manufacturing Co., Chicago

Michigan Farmer's Club List.

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 is the regular subscription price of the other papers. The second column gives our price for a year's subscription to both the other paper and Michigan Farmer. The third column gives the price at which the other paper may be added when three or more are ordered. Example: We will send the Michigan Farmer and Detroit Semi-Weekly Journal for \$1.60. If, for instance, McCall's Magazine also is wanted add it at 40c making total \$2.00. Any number of papers may be added at third column price if they are for a subscriber to the Michigan Farmer.

If you want the MICHIGAN FARMER THREE YEARS and the other papers one year add 1.00 to the second column price. For the Michigan Farmer 5 years add \$1.75. We do not send samples of other papers. Address the publishers direct.

Send all orders to the Michigan Farmer or through our agents.

We will take your order for any publication you want whether it is listed or not. Write for rates.

NOTE.—So long as a subscriber is on our list for one or more years he may order at any time any publication at third column price. So that a three or five-year subscriber does not lose the advantage of the reduced price if he wants any other paper next year or the year after.

Subscriptions ordered to Canada require postage. Write for rates unless postage is known, in that case include with order. Postage on Michigan Farmer alone to Canada is 1 cent per week.

NAME OF PUBLICATION.	See explanation above.		
Daily, (6 a Week.)			
Journal, Detroit, Mich. on rural route	2 50	3 50	2 55
" " " " " " " "	5 00	5 25	4 75
Times, Detroit, Mich.	2 00	2 75	1 75
News Grand Rapids, Mich.	2 00	2 25	1 50
Courier-Herald, Saginaw, Mich., (inc. Sunday) on R. R.	2 50	2 55	1 60
News, Cleveland, Ohio.	2 00	2 55	1 85
Tribune, Bay City, Mich.	2 00	2 75	1 85
News-Bee, Toledo, Ohio.	2 00	2 50	1 65
Tri-Weekly, (3 a Week.)			
World, New York, (3 a week)	1 00	1 70	75
Semi-Weekly, (2 a Week.)			
Journal, Detroit, Mich.	1 00	1 60	75
Weekly Newspapers and Current Comment			
Blade, Toledo, Ohio.	1 00	1 30	35
Commoner, Wm J. Bryan, Editor, Lincoln, Neb.	1 00	1 60	65
Inter Ocean, Chicago (w)	1 00	1 35	75
Cattle, Sheep, Swine, Poultry, etc.			
American Poultry Journal, Chicago (m)	50	1 30	35
American Poultry Advocate, Syracuse, N. Y. (m)	50	1 30	35
American Sheep Breeder, Chicago (m)	50	1 75	80
American Swineherd, Chicago, (m)	50	1 30	35
Breeders' Gazette, Chicago, (w)	1 75	1 90	1 00
Farm Poultry Boston, Mass. (s-m)	50	1 30	35
Gleanings in Bee Culture, Medina, O. (s-m)	1 00	1 70	75
Hoard's Dairyman, Fort Atkinson, Wis. (w)	1 00	1 70	1 00
Horse World, Buffalo, N. Y. (w)	2 00	2 25	1 50
Horseman, Chicago, (m)	1 00	1 75	80
Jersey Bulletin, Indianapolis, Ind. (w)	1 00	1 85	1 00
Kimball's Dairy Farmer, Waterloo, Ia. (s-m)	40	1 30	35
Poultry Keeper, Quincy, Ill. (m)	50	1 30	35
Poultry Success, Springfield, O. (m)	50	1 30	40
Reliable Poultry Journal, Quincy, Ill. (m)	50	1 30	35
Swine Breeder's Journal, Indianapolis, Ind. (s-m)	50	1 30	35
Popular Magazines.			
American Magazine, (m)	1 00	1 95	95
Etude, Philadelphia, Pa. (m)	1 50	1 95	1 00
Hampton's Magazine, N. Y. (m)	1 50	2 00	1 10
Metropolitan Magazine, N. Y. (m)	1 50	2 00	1 00
Mechanical Digest Grand Rapids (m)	50	1 15	25
McClure's Magazine, N. Y. (m)	1 50	2 05	1 50
Musicalian, Boston, Mass. (m)	1 50	2 05	1 10
Outing Magazine, N. Y. (m)	50	1 40	80
People's Home Journal, N. Y. (m)	50	1 25	80
Pearson's Magazine, New York (m)	1 50	1 75	1 50
Red Book Magazine, Chicago, Ill. (m)	1 50	2 30	1 25
Success, N. Y. (m)	1 00	1 75	80
Ladies' or Household.			
Designer, N. Y. (m)	75	1 55	60
Everyday Housekeeping, Salem, Mass. (m)	50	1 40	35
Harper's Bazar, N. Y. (m)	1 00	1 75	1 00
Housewife, N. Y. (m)	35	1 25	30
McCall's Magazine, N. Y. (m)	50	1 35	40
Mother's Mag., Elgin, Ill. (m)	50	1 35	50
Modern Precilla, Boston, Mass (m)	75	1 55	60
Pictorial Review N. Y. (m)	1 00	1 75	80
Woman's Home Companion, N. Y. (m)	1 50	2 05	1 25
Religious and Juvenile.			
American Boy, Detroit, Mich. (m)	1 00	1 65	75
Little Folks, Salem, Mass. (m)	1 00	1 75	1 00
Sunday School Times, Philadelphia, Pa. (w)	1 00	1 80	85
Young People's Weekly, Elgin, Ill. (w)	75	1 45	75

(w—weekly; m—monthly; s-m—semi-monthly.)

FREE PREMIUMS.

Those subscribing for the Michigan Farmer in combination with other papers are allowed premiums just the same as if the order was for the Michigan Farmer alone. One premium only for every Michigan Farmer order. Orders for other papers alone will receive no premium under any circumstances.

(Continued from page 8).
good roads the coming year and material for same is now being gotten on the ground ready for use when spring opens. Considerable road building machinery has been purchased. Farm lands changing hands freely. In fact, real estate of that class is being sold for at satisfactory prices, as it seems to be understood that it is desirable property to have. Particular attention is being paid to the dairy and to sugar beets in this locality.

Lapeer Co., Dec. 19.—The weather this fall has been very bad for corn husking. Much still in the shock. There is some complaint of shredded stalks spoiling in the mow. Considerable June clover seed still in the field unthreshed. Poultry is scarce. Turkeys, 18½c; chickens, 10c; alive; beans, \$1.75; butter, 28c; eggs, 30c; dressed pork, 8½c; potatoes, 30c, not many being marketed. Live stock looking well.

MICHIGAN FARMERS' INSTITUTES.

County Institutes.

Alcona Co., Harrisville, Jan. 30-31.
Alpena Co., Long Rapids, Jan. 27-28.
Antrim Co., Bellaire, Jan. 30-31.
Bay Co., Auburn, Jan. 25-26.
Benzie Co., Benzonia, Jan. 26-27.
Clare Co., Clare, Jan. 20-21.
Clinton Co., Ovid, Jan. 20-21.
Eaton Co., Charlotte, Jan. 18-19.
Grand Traverse Co., Traverse City, Jan. 26-27-28.
Gratiot Co., Ithaca, Jan. 16-17.
Huron Co., Bad Axe, Jan. 31 and Feb. 1.
Iosco Co., Whittemore, Jan. 31 and Feb. 1.
Kent Co., Grand Rapids, Jan. 27-28.
Lake Co., Baldwin, Jan. 23-24.
Leelanau Co., Sutton's Bay, Jan. 30-31.
Manistee Co., Bear Lake, Jan. 25-26-27.
Mason Co., Ludington, Jan. 20-21.
Midland Co., Midland, Jan. 23-24.
Muskegon Co., Ravenna, Jan. 30-31.
Oscoda Co., Fairview, Jan. 20-21.
Ottawa Co., Coopersville, Jan. 31 and Feb. 1.
Presque Isle Co., Millersburg, Jan. 25-26.
Saginaw Co., Freeland, Jan. 27-28.
Tuscola Co., Caro, Jan. 30-31.

One-Day Institutes.

Antrim Co., Elk Rapids, Jan. 9; Alden, Jan. 10; Eastport, Jan. 11; Jordan Twp., Jan. 12; Alba, Jan. 13; Mancelona, Jan. 14.
Cass Co., Pokagon, Jan. 10; LaGrange, Jan. 11; Jones, Jan. 12.
Charlevoix Co., Clarion, Jan. 16; Boyne River, Jan. 17; Maple Grove, Jan. 18; Charlevoix, Jan. 19; East Jordan, Jan. 20; Deer Lake, Jan. 21.
Clinton Co., Westphalia, Jan. 24; Ben-gal, Jan. 25.
Eaton Co., Eaton Rapids, Jan. 12.
Grand Traverse Co., Summit City, Jan. 24-25.
Hillsdale Co., Litchfield, Jan. 16; Mosh-erville, Jan. 17; Moscow, Jan. 18; North Adams, Jan. 19; Camden, Jan. 20.
Ionia Co., Lake Odessa, Jan. 23; Berlin Center, Jan. 24; South Boston, Jan. 25; Keene, Jan. 26; Belding, Jan. 27; Orleans, Jan. 28; Palo, Jan. 30; Hubbardston, Jan. 31.
Saginaw Co., Hemlock, Jan. 16; Bridge-port, Jan. 17; Frankenmuth, Jan. 18; Birch Run, Jan. 19; Lawndale, Jan. 20.
Macomb Co., New Haven, Jan. 20; Chesterfield, Jan. 21; Davis, Jan. 23; Armada, Jan. 24.
Mecosta Co., Stanwood, Jan. 13; Rod-ney, Jan. 14.
Muskegon Co., Dalton, Jan. 9; Holton, Jan. 10-11; Muskegon, Jan. 12; Trent, Jan. 13-14.
Oscoda Co., Comins, Jan. 23.
Ottawa Co., Nunica, Jan. 16; Herring-ton, Jan. 17; Jamestown, Jan. 18; Drenthe, Jan. 19; North Holland, Jan. 20; Zeeland, Jan. 21; Grand Haven, Jan. 23.
St. Joseph Co., Parkville, Jan. 13-14; Constantine, Jan. 16-17; Burr Oak, Jan. 18.

CATALOGUE NOTICES.

"Old Hickory" and "Tennessee" farm, log, and other wagons, manufactured by the Kentucky Mfg. Co., Louisville, Ky., are described and illustrated in their new catalogue just out. This company sells direct from the factory to the user and makes a variety of wagons suited to every use. A number of the features of these wagons are new and add not a little to their value and convenience. Among these features are short turning devices for the farm wagon and numerous exclusive features which add strength and service, without increasing the weight or cost. This catalogue tells all about the material used in the construction of these wagons and illustrates the finished product minutely. It will enable any farmer in need of a wagon to select one well adapted to his use.

"Western Michigan Fruit with Flavor," is the legend on the cover of a 50-page book recently issued by the Western Michigan Development Bureau, which gives a brief history of the Bureau and the work which it is undertaking to do and recounts the advantages of the territory as a whole and the several counties embraced within the territory covered by this organization. The book is profusely illustrated with half-tones made from photographs taken on farms in Western Michigan, illustrating as well as describing the advantages of that section from an agricultural standpoint, particularly for the fruit grower. If interested, write the Western Michigan Development Bureau at Traverse City, Mich., for a copy.

The Johnston Harvester Co., of Batavia, N. Y., has just published a beautiful art catalogue, printed in colors and profusely illustrated, describing the Johnston machinery, including grain and corn binders, reapers, mowers, disc harrows, hay rakes, tedders, manure spreaders, spring and spike tooth harrows, rollers, etc.

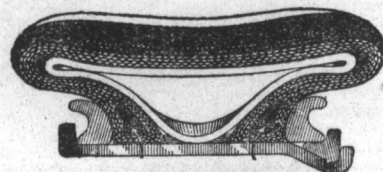
How to Save Half on Your Tire Cost

Here are tires which, until lately, cost 20% more than the ordinary. All because they can't rim-cut, and because they are oversize. Now these same tires, which save half on one's tire bills, cost no extra price.

We have sold half a million Goodyear No-Rim-Cut tires at 20 per cent more than the price of other standard tires. Last year our tire sales trebled—jumped to \$8,500,000.

All because the tires can't rim-cut, and because Goodyear tires are 10 per cent oversize.

Now these same tires—No-Rim-Cut tires—tires 10 per cent oversize—cost no extra price. Our multiplied output has cut the cost of production. All motor car owners should insist on them now.



The 63 Braided Wires

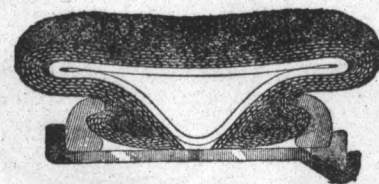
No Rim-Cutting

The picture shows how a Goodyear No-Rim-Cut tire fits any standard rim for quick-detachable tires. Also demountable rims.

Note that the rim flanges—which are removable—are turned to hook outward with No-Rim-Cut tires. There are no hooks on the tire base to hook into this flange, as there are on other tires.

The rounded flange comes next to the tire casing, and rim-cutting is made impossible. Half a million of these tires have been used.

We have run them flat in a hundred tests—as far as 20 miles. Yet there has never been a single instance of rim-cutting.



The Cause of Rim-Cutting

The above picture shows how an ordinary tire—a clincher tire—fits this same standard rim. The removable rim flanges must be turned to face inward—to grasp hold of the hooks in the tire. That is how the tires are held on.

Note how that thin edge of the rim flange digs into the tire. That is what causes rim-cutting. That is how tires are wrecked beyond repair if you run them flat, even for a few hundred feet.

That rim-cutting ruins more auto-

Goodyear Tires 10% Oversize

Here is another feature which, with the average car, saves 25% on the tire bills.

The Goodyear—while it fits the rim—gives you 10% more tire for your money. That means 10% more carrying capacity. It means, with average conditions, 15% more mileage per tire.

The reason is this:

Motor car makers, in adopting tire sizes, figure on the weight of the car as they sell it and the weight of the passengers at 150 pounds each.

They supply the tire size to support

mobile tires than any other single cause.

How We Avoid It

The difference is simply this: In the Goodyear No-Rim-Cut tires there are 63 braided piano wires run through the base on each side. That makes the base unstretchable. The tire can't creep on the rim, and nothing can possibly force it over the rim.

When these tires are inflated the braided wires contract. They are then held to the rim by a pressure of 134 pounds to the inch.

That is why Goodyear No-Rim-Cut tires don't need to be hooked to the rim. The rim flanges can be turned to hook outward, and you can't rim-cut the tire.

Other makers, to meet our competition, run a single wire through the base. Or they use a hard rubber base. But neither plan will do. The braided wires, which contract under air pressure, are absolutely essential to a safe hookless tire. And we control that feature.

that load, but they rarely leave any margin. They cannot afford to at the present prices for cars.

You may add a top, a glass front, gas lamps, gas tank, an extra tire, etc. And passengers may over-weight. With nine cars in ten the expected load is exceeded. The result is a blow-out—often while the tire is new. Overloading, with the average car, adds 25% to the tire cost.

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It adds, on the average, one-fourth to the tire mileage.

We give you this extra size without extra cost to protect our reputation. When tires are wrecked by overloading, one naturally blames the tire maker. We wish to avoid that blame.

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MARKETS

DETROIT WHOLESALE MARKETS.

January 4, 1911.
Grains and Seeds.

Wheat.—The tendency of wheat prices through the holiday season was upward, although the change did not amount to any wide margin. The cold wave has been a prominent bull factor, as the plant in the southwest is endangered by the extreme weather and such days as Tuesday always supports an advancing market. This in connection with the smaller primary receipts and the improved milling demand compose the chief features of the bull side of the deal. The bears are a little uneasy, not knowing whether to attack the trade or cover their wants. They are watching the world's supply which is large and which looks to them as if it ought to keep prices on the present basis at least, but they realize, too, that the American people consume more than ever before and that possibly the farmers are sold down closer than the early estimates have put it. At all events buyers seem to be more nervous than sellers and there is promise that the market may improve. The visible supply increases. One year ago the price for No. 2 red wheat was \$1.26½ per bu. Quotations for the week are:

	No. 2	No. 1		
	Red.	White.	May.	July.
Thursday	.96	.95	1.01	.96½
Friday	.96	.95	1.00½	.96
Saturday	.96	.95	1.00½	.96
Monday	.96½	.95½	1.01½	.97
Tuesday	.96½	.95½	1.01½	.97
Wednesday	.96½	.95½	1.01½	.97

Corn.—Quotations are given this week on the basis of new corn. They are ruling a little stronger than prices for the same grades last week, the cold wave being an influence, as is also the rising wheat market. The visible supply increased nearly two million bushels for the week. Receipts from farmers have been small the past week. One year ago the price for No. 3 corn was 63½¢ per bu. Quotations for the past week are:

	No. 3	No. 2		
	Yellow.	White.	May.	July.
Thursday	.46½	.47½		
Friday	.47	.48		
Saturday	.47	.48		
Monday	.47	.48		
Tuesday	.47	.48		
Wednesday	.47	.48		

Oats.—The course of oat trading has been opposite to that taken by wheat and corn; while the latter were looking upward a feeling of weakness seemed to be taking possession of the former market. The visible supply shows no material increase, but on the markets there are seemingly more sellers than buyers. The prices average below those of a week ago. One year ago the quotations for No. 3 oats was 48¢ per bu. Prices for the week are:

	Standard.	No. 3		
	White.	Yellow.	May.	July.
Thursday	.34	.33½		
Friday	.34½	.34		
Saturday	.34½	.34		
Monday	.34	.33		
Tuesday	.34½	.34		
Wednesday	.34	.33½		

Beans.—The trade has seen fit to advance the nominal quotations as given below, and at the new figure no one appears to be ready to let go of what they are holding. Farmers are not selling liberally at the range of quotations now ruling. Following are the figures given out at the local market:

	Cash.	Jan.		
Thursday	\$2.02	\$2.02		
Friday	2.02	2.02		
Saturday	2.05	2.05		
Monday	2.05	2.05		
Tuesday	2.05	2.05		
Wednesday	2.05	2.05		

Clover Seed.—Activity continues in this deal and prices are ruling on about the same basis as a week ago. Quotations are as follows:

	Prime Spot.	Mar.	Alsike.	
Thursday	\$9.00	\$9.05	\$9.00	
Friday	9.00	9.05	9.00	
Saturday	9.10	9.15	9.10	
Monday	9.10	9.15	9.10	
Tuesday	9.10	9.15	9.10	
Wednesday	9.10	9.15	9.10	

Rye.—Offerings are small. Market is steady and firm. Quotation for No. 1 is 85½¢ per bu.

Visible Supply of Grains.

	This week.	Last week
Wheat	44,282,000	43,929,000
Corn	5,099,000	3,300,000
Oats	16,267,000	16,129,000
Rye	491,000	478,000
Barley	1,600,000	1,555,000

Flour, Feed, Provisions, Etc.

Flour.—The flour trade is easy with prices unchanged. Quotations are:

Clear	\$4.95
Straight	4.65
Patent Michigan	5.20
Ordinary Patent	4.75

Hay and Straw.—Hay values are steady. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$16.50@17; No. 2 timothy, \$15.50@16; clover, mixed, \$15.50@16; rye straw, \$7@7.50; wheat and oat straw, \$6@6.50 per ton.

Feed.—All prices are steady with those of last week. Carlot prices on track are: Bran, \$27 per ton; coarse middlings, \$23; fine middlings, \$26; cracked corn, \$25; coarse corn meal, \$25; corn and oat chop, \$24 per ton.

Potatoes.—Market is easy and steady, with no immediate indications of any large advance. In car lots Michigan potatoes are selling at 37@40¢ per bu.

Provisions.—Family pork, \$23@24; mess pork, \$23; medium clear, \$22; smoked

hams, 14½¢; briskets, 13¢; shoulders, 12¢; picnic hams, 12¢; bacon, 18@19¢; pure lard in tierces, 11½¢; kettle rendered lard, 12½¢.

Dairy and Poultry Products.

Butter.—The best grade of creamery, down a half cent and other grades remain steady with last week. In all other respects the market shows no particular change from the conditions then. On Monday 135 packages were received. Extra creamery is quoted at 30¢ per lb; first do., 28½¢; dairy, 23¢; packing stock, 20¢ per lb.

Eggs.—The attractive prices now being offered for fresh eggs are bringing them to market as soon as produced, and the offerings have now increased so that prices are off a half cent. Fresh eggs, case count, cases included, are now quoted at 31¢ per dozen.

Poultry.—With the holidays past there is no excitement in the poultry deal. Supplies were pretty well taken care of and values are ruling on practically the same basis as prevailed last week. Quotations are: Dressed—Turkeys 20@22¢; chickens, 13@14¢; fowls, 12@13¢; ducks, 16@18¢; geese, 14@15¢ per lb. Live—Spring chickens, 11½@12¢; fowls, 10½@11¢; old roosters, 9¢; turkeys, 14@20¢; geese, 13@14¢; ducks, 14@15¢ per lb.

Cheese.—Michigan, 17¢; Michigan sharp, 17@18½¢; York state, 17½@18¢; York state sharp, 19¢; limburger, old, 16@17¢; Swiss domestic block, 20@22¢; cream brick, 17@18¢.

Dressed Pork.—Price is steady at 9@10¢ per lb.

Veal.—Market steady. Choice, 12@12½¢; ordinary, 8@10¢ per lb.

From Farmers' Wagons on Detroit East.

Fruits and Vegetables.

Rabbits.—Steady. Per dozen, \$1.50.

Apples.—Market is quiet and steady. Fancy greenings are quoted at \$5.25@5.50; Kings, \$5.25@5.50; Baldwins, \$4.50; Steel reds, \$6; ordinary grades, \$2.75@3 per bbl.

Cranberries.—Steady. Quoted at \$3.25 per bu.

Cabbage.—Higher. Selling at \$1.75 per bbl. for new.

Onions.—Unchanged. 85@90¢ per bu.

Honey.—Choice to fancy comb, 15@18¢ per lb.

ern Market.

Market was small. Pork is quoted at 10½@10¾¢; potatoes, 48@50¢; apples, 75¢@1.60; cabbage, 50¢.

OTHER MARKETS.

Grand Rapids.

Beans are higher. A sharp increase to \$2.75 per bu. is reported in red kidneys, while white beans are worth \$1.75@1.80, a few stations in eastern Michigan paying \$1.85. Potatoes continue dull, with no improvement in demand. Prices at loading stations are a little lower, ranging from 20@22¢ at up-state points and 22@25¢ in this territory. Despite the heavy movement since digging time there still remains a lot of potatoes in farmers' hands owing to the big crop. Dressed hogs are worth 9@9½¢. The supply of poultry since the holidays is limited, and prices are as follows: Chickens and fowls, 11¢; geese, 11¢; ducks, 13¢; turkeys, 18¢. Veal is worth 6@10¢. Dealers are paying the country trade 32¢ for eggs, candled stock. Dairy butter is lower, bringing 23¢ now. Creamery is worth 29½¢. Clover seed is worth \$7@8 from farmers' hands, and when released is sold by local dealers for \$9. Timothy seed is selling for \$5.

Chicago.

Wheat.—No. 2 red, 95½@96½¢; May, 98½¢; July, 95½¢ per bu.

Corn.—No. 2, 46@46½¢; May, 49¢; July, 49½¢.

Oats.—No. 2 white, 32½@33½¢; May, 34½¢; July, 34½¢.

Barley.—Malt grades 80@90¢ per bu; feeding, 60@70¢.

Butter.—Creameries barely steady; dairies stronger and quoted higher. Creameries, 23@29¢; dairies, 25@27¢ lb.

Eggs.—Fancy grades in good demand and 1¢ higher; others unchanged. Quotations: Prime firsts, 32¢; firsts, 30¢; at mark, cases included, 19½@22½¢ per doz.

Potatoes.—Cold weather is restricting receipts; market firmer at former values. Choice to fancy are quoted at 43@45¢ per bu; fair to good, 38@40¢.

New York.

Butter.—Trade is easy with prices down. Creamery specials are quoted at 30¢; extras, 28½@29¢; thirds to firsts, 23@29¢.

Eggs.—The tendency of the market is toward an easier trade, although some of the ordinary grades are quoted above the figures given last week. Nearby eggs quoted at 42@48¢; fresh gathered extras, 36@37¢; firsts, 34@35¢; refrigerator stock, 24@24½¢ per dozen.

Elgin.

Butter.—Trade firm at 30¢ per lb., which is the quotation of last week. Output for the week, 593,700 lbs. as compared with 603,700 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

January 2, 1911.

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

Receipts of stock here today as follows: Cattle, 100 cars; hogs, 12,800; sheep and lambs, 12,600; calves, 700.

Receipts of cattle on our market here today, 100 cars, and all grades sold strong, and in many instances steer cattle and prime she stuff sold 10@15¢ higher than last week. There were no strictly prime cattle on our market here today, but we quote prices the same as last week, as any strictly good cattle would have brought full last week's prices, or perhaps 10¢ per hundred weight more.

We quote: Best 1,300 to 1,400-lb steers,

\$6.25@6.65; good prime 1,200 to 1,300-lb. steers, \$5.65@6.25; best 1,100 to 1,200-lb. shipping steers, \$5.50@6; medium butcher steers, 1,000 to 1,100 lbs., \$5.40@5.80; light butcher steers, \$4.85@5.25; best fat cows, \$4.60@5.15; fair to good do., \$3.75@4.25; common to medium do., \$3.25@3.75; trimmers, \$2.65@3.10; best fat heifers, \$5.50@5.75; good do., \$4.75@5.25; fair to good do., \$4.25@4.75; stock heifers, \$3.25@3.50; best feeding steers, dehorned, \$4.50@4.75; medium to good feeding steers, \$4@4.25; stockers, all grades, \$3.75@4; best bulls, \$4.75@5.25; bologna bulls, \$4@4.50; stock bulls, \$3.75@4.25; best milkers and springers, \$5.00@6; good to best do., \$4.00@5; common to good do., \$2.50@3.50.

Impossible to sell late springers at any kind of satisfactory price; have to be sold mostly by the pound.

Our market opened strong a nickle to a dime higher than Saturday, and closing strong on light hogs, and a shade easier than the opening on the best weights, with a good clearance of all that was yarded in time for the trade.

We quote prices as follows: Medium and heavy, \$8.35@8.40; mixed and medium, \$8.40@8.45; yorkers, \$8.45@8.50; strictly pigs 110 to 115-lb. av. sold as high as \$8.70@8.75. Light yorkers and pigs mixed, \$8.65@8.70; roughs, \$7.35@7.40; stags, \$6@6.25. Weather warm and prospects only fair.

The lamb market opened active today; most of the choice handy lambs selling \$6.60@6.65. Heavy lambs steady, \$5.25@5.50. Sheep market was active today; most of the choice ewes selling at \$3.75@3.85; few fancy at 4¢; wethers, \$4@4.15; few light, \$4.25.

We quote: Best handy lambs, \$6.60@6.65; heavy lambs, \$5.25@5.50; bucks, \$2.50@3.25; heavy ewes, \$3.75@4; yearlings, \$4.75@5.25; wethers, \$4@4.25; cull sheep, \$2.50@3; handy ewes, \$3.85@4; northern Michigan lambs, \$6@6.50; veals, choice to extra, \$10.75@11; fair to good do., \$7.50@10.50; heavy calves, \$5@6.50.

Chicago.

January 2, 1911.

Cattle. Hogs. Sheep.
Received today 24,000 30,000 17,000
Same day last year, 21,321 27,795 20,420
Received last week, 36,625 108,857 48,306
Same week last year, 60,533 102,591 52,481

Cattle were marketed unusually sparingly last week, as country shippers know from past experience that the period between Christmas and New Year's is the poorest time for this branch of business. The stock yards were open on Monday, and there was some trading, but the day was pretty generally observed throughout the country as a holiday, and the packers were not doing any killing, their forces taking a rest. That the market advanced a little on that day was due wholly to the extremely light supply. Further improvement took place later in the week for the same reason, but buyers declined to pay the recent liberal premiums for fancy little yearling steers and heifers, these having been taken before for the holiday trade. A sale was made of 29 fancy 1,787-lb. steers at \$7, which was the top of the market, choice steers going at \$6.50 and upward, with good steers bringing \$6 and over, while inferior to medium lots found buyers at \$4.60@5.75. Packers found feeder competition a lively affair at times in the class of steers going at \$5@5.50, and some prime heavy feeders sold at \$5.60@5.75, while stockers were disposed of at \$3.15@5.25, and feeding heifers had a good outlet at \$3.50@4.35. Butchering cows and heifers were fairly active at \$3.30@6.40, few selling higher than \$5.25, while canners brought \$2.25@2.75, cutters \$2.80@3.25 and bulls \$3.20@5.25. Milk and springers were in light supply and demand at \$30@65 per head, and calves were alternately active and slow on the basis of \$3@9.10 per 100 lbs. Top prices for beef cattle were lower than during the previous week, with packers centering their demands upon a good class of killing cattle that did come too high. Many people think that stockmen are paying pretty steep figures for feeders, as well as for good stock steers, but buyers of these cattle are mostly extremely hopeful of the future and evidently anxious to use their corn on the farm.

Last week saw a great curtailment of supplies, and it was evident that a great many stockmen were afraid of bad markets during the Christmas holidays. They were right in expecting a restricted general demand, for both local packers and butchers and eastern shippers required decidedly smaller numbers of hogs than of late, and normal receipts would have caused a much lower scale of prices. The light receipts, however, acted as a brace to the market, and buyers were apt to come to the views of sellers, although sharp reactions took place at times, especially after prime hogs had sold up to \$8. The great bulk of the offerings sold within an extremely narrow range of prices, a big share going at a spread of 15¢, and light hogs sold near the top, with medium to rather weighty butcher hogs going the highest. As usual, eastern shippers secured the best droves, and their selections, while smaller than usual, formed a good proportion of the receipts. The offerings continued extremely choice in average quality and showed evidence of having been fed plenty of corn. At ruling low prices, no better use can be made of corn than by fattening swine for the market, and owners of healthy growing pigs should make them fat and heavy, for there is a great shortage.

Sheep and lambs were received last week in extremely small numbers, as a poor demand was expected. The outlet was small most of the time, but after some declines in prices there was a rally, the filling of a good-sized export order sending values upward. Sheep and yearlings closed 25@40¢ higher than a week earlier, and lambs gained 10@15¢. Lambs closed at \$5@6.40, wethers at \$3.75@4.45, ewes at \$2.50@4.15, bucks and stags at \$2.50@3.25 and yearlings at \$4.60@5.50. Breeding ewes went for \$3.50@4.50.

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Gentlemen:—Your check for \$100.00 as per your offer of last Spring through the press, for a new name for your Blemish Eradicator received. I acknowledge it with many thanks and can say that you have lived up to the advertisement in all respects. Horsemen who may deal with you can look for fair treatment in all respects. Wishing you success and that "JUST IT Blemish Eradicator" may make you a fortune, I remain, Yours respectfully,
F. A. Smith.

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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 5, 1911.

Cattle.

Receipts, 573. Market 10@20c higher than last Thursday; active; arrivals all very late.

We quote: Best steers and heifers, \$5.50@6; steers and heifers, 1,000 to 1,200, \$5@5.25; steers and heifers, 800 to 1,000, \$4.75@5; steers and heifers that are fat, 500 to 700, \$4.25@5; choice fat cows, \$4.50@4.75; good fat cows, \$4@4.25; common cows, \$3.25@3.75; canners, \$2.75@3; choice heavy bulls, \$4.50@4.75; fair to good bolognas, bulls, \$4@4.25; choice feeding steers, 800 to 1,000, \$4@4.50; choice stockers, 800 to 1,000, \$4@4.50; fair stockers, 500 to 700, \$3.50@3.75; stock heifers, \$3.25@3.50; milkers, large, young, medium age, \$4@50; common milkers, \$25@35.

Bishop, B. & H. sold Hammond, S. & Co. 2 steers av 790 at \$4.35; to Fromm 4 cows av 925 at \$3.50; to Parker, W. & Co. 5 do av 1,140 at \$4.15, 3 do av 940 at \$3.25; to Sullivan P. Co. 13 butchers av 646 at \$4.35, 9 do av 746 at \$4.75, 3 cows av 950 at \$3.25; to Rattkowsky 1 do weighing 1,150 at \$4.60, 1 bull weighing 1,150 at \$4.50; to Hammond, S. & Co. 7 cows av 908 at \$3.25, 9 butchers av 708 at \$4.50, 1 bull weighing 1,000 at \$4.50, 4 cows av 980 at \$3.25, 2 do av 965 at \$3.75, 2 heifers av 810 at \$4.50, 7 cows av 903 at \$3.25, 2 do av 590 at \$3.25; to Mich. B. Co. 2 do av 855 at \$3, 1 do weighing 1,050 at \$4.50; to Kamman 3 steers av 910 at \$5.25, 2 do av 640 at \$4; to Thompson Bros. 11 butchers av 886 at \$4.25, 1 cow weighing 600 at \$3; to Sullivan P. Co. 2 steers av 1,100 at \$5.50.

Roe Com. Co. sold Newton B. Co. 3 cows av 1,133 at \$4.25, 3 butchers av 617 at \$4.50, 1 cow weighing 1,020 at \$4, 1 bull weighing 1,280 at \$4.50, 1 do weighing 1,260 at \$4.50.

Spicer & R. sold Sullivan P. Co. 1 bull weighing 1,250 at \$4.75, 2 steers av 805 at \$4.75, 3 do av 963 at \$5.75, 1 do weighing 440 at \$4.25, 1 cow weighing 1,010 at \$3.25.

Haley & M. sold Hammond, S. & Co. 5 cows av 930 at \$3.30, 1 bull weighing 1,180 at \$4.50, 3 butchers av 543 at \$4.50, 2 cows av 840 at \$3.40, 1 do weighing 1,040 at \$3.85; to Sullivan P. Co. 10 do av 1,155 at \$4.15; to Thompson Bros. 2 do av 1,040 at \$4.25.

Robb sold Hammond, S. & Co. 2 steers av 1,175 at \$6, 7 do av 780 at \$4.75.

Veal Calves.

Receipts, 338. Market 50c higher than last week. Best, \$9@9.50; others, \$4@8.75. Milch cows and springers steady.

Spicer & R. sold Mich. B. Co. 8 av 135 at \$8.75; to Parker, W. & Co. 10 av 137 at \$8.75, 16 av 130 at \$8.25, 8 av 140 at \$8, 9 av 120 at \$7.75.

Roe Com. Co. sold Newton B. Co. 5 av 150 at \$9.50.

Haley & M. sold Parker, W. & Co. 6 av 320 at \$4, 7 av 145 at \$8.25, 4 av 110 at \$8.50, 2 av 290 at \$4, 9 av 140 at \$8.50; to Goose 5 av 145 at \$8.50, 1 weighing 100 at \$5; to Newton B. Co. 1 weighing 140 at \$8, 5 av 160 at \$9.50.

Mayer sold McGuire 3 av 160 at \$9.50.

Long sold same 6 av 165 at \$9.50.

Kendall sold same 9 av 160 at \$9.50.

Bishop, B. & H. sold Newton B. Co. 4 av 130 at \$8.75, 3 av 120 at \$8.50; to Sullivan P. Co. 3 av 160 at \$9, 3 av 150 at \$9.50; to Parker, W. & Co. 2 av 145 at \$9.25, 7 av 120 at \$9, 2 av 130 at \$9.50, 3 av 150 at \$9.50; to Goose 9 av 118 at \$8, 2 av 140 at \$8.25.

Sheep and Lambs.

Receipts, 2,903. Lambs 15@25c higher than last week on light grades; heavy and sheep no higher. Best lambs, \$6@6.25; heavy lambs, \$5@5.25; light to common lambs, \$4.50@5.50; fair to good sheep \$3.50@4; culls and common, \$2.50@3.

Spicer & R. sold Newton B. Co. 57 lambs av 85 at \$5.65, 40 do av 80 at \$6.15, 1 do weighing 80 at \$4.50; to Mich. B. Co. 90 do av 75 at \$6.15, 3 sheep av 95 at \$2.50, 105 lambs av 90 at \$6.25; to Hammond S. & Co. 11 do av 85 at \$6; to Fitzpatrick Bros. 65 do av 70 at \$5.75, 7 sheep av 90 at \$3; to Barlage 12 do av 50 at \$5.10.

Taggart sold Hammond, S. & Co. 4 sheep av 105 at \$3.50, 29 lambs av 70 at \$6.10.

Bishop, B. & H. sold Newton B. Co. 153 lambs av 85 at \$6; to Swift & Co. 176 do av 80 at \$6.25, 10 do av 93 at \$6, 48 do av 90 at \$5.50, 14 sheep av 115 at \$3.35, 7 do av 115 at \$3.25, 10 do av 92 at \$2.75, 43 do av 80 at \$4.50, 7 do av 105 at \$3.25, 25 lambs av \$5, 50 sheep av 95 at \$3.40, 16 lambs av 45 at \$4.50; to Sullivan P. Co. 19 sheep av 80 at \$2.75, 13 do av 90 at \$3, 13 lambs av 65 at \$5.50; to Swift & Co. 208 do av 80 at \$6.25, 10 do av 98 at \$6; to Fitzpatrick Bros. 8 do av 100 at \$5.50, 18 sheep av 110 at \$3.25; to Nagle P. Co. 182 lambs av 95 at \$5.50, 142 do av 87 at \$6.25; to Sullivan P. Co. 57 do av 80 at \$6; to Fitzpatrick Bros. 12 sheep av 85 at \$3, 14 do av 120 at \$3.75.

Haley & M. sold Stocker 11 lambs av 85 at \$6.25; to Goose 109 sheep av 85 at \$2.85; to Breitenbeck 19 do av 105 at \$3.25, 20 lambs av 80 at \$5.75, 8 do av 90 at \$5.50.

Roe Com. Co. sold Young 19 sheep av 140 at \$3, 29 lambs av 77 at \$6.

Hogs.

Receipts, 4,075. Market 10c lower than Wednesday; \$5@40c higher than last Thursday.

Range of prices: Light to good butchers, \$8.15@8.20; pigs, \$8.15; light yorkers, \$8.15; stags one-third off.

Bishop, B. & H. sold Hammond, S. & Co. 2,150 av 180 at \$8.20, 225 av 150 at \$8.15.

Sundry shippers sold same 416 av 155 at \$8.15.

Spicer & R. sold Parker, W. & Co. 615 av 190 at \$8.20.

Haley & M. sold same 450 av 180 at \$8.20.

Roe Com. Co. sold same 420 av 200 at \$8.20.

Friday's Market.

December 30, 1910.

Cattle.

Receipts this week, 1,039 last week. \$19. Market steady at Thursday's prices.

We quote: Extra dry-fed steers and heifers, \$5.75@6; steers and heifers, 1,000 \$4.25@4.75; fair feeding steers, 800 to 1,000, \$4.25@4.75; do, 800 to 1,000, \$4.75@5.25; steers and heifers that are fat, 500 to 700, \$4.50@4.75; choice fat cows, \$4.50; good fat cows, \$3.75@4.25; common cows, \$3.25@3.50; canners, \$2.50@3; choice heavy bulls, \$4.50; fair to good bologna bulls, \$4@4.25; choice feeding steers, 800 to 1,000 \$4@4.50; choice stockers, 500 to 700, \$4@4.25; fair stockers, 500 to 700, \$3.25@3.75; stock heifers, \$3@3.50; milkers, large, young, medium age, \$4@50; common milkers, \$25@35.

Veal Calves.

Receipts this week, 503; last week, 774. Market steady at Thursday's prices. Best, \$8.75@9; others, \$4@8.50.

Milch cows and springers, steady for good; common dull.

Sheep and Lambs.

Receipts this week, 6,750; last week, 3,634. Market dull at Thursday's close. Best lambs, \$5.75; heavy lambs, \$5@5.25; light to common lambs, \$4.50@5.50; fair to good sheep, \$3.50@4; culls and common, \$2.50@3.

Hogs.

Receipts this week, 5,639; last week, 8,095. Market, 10@15c higher than on Thursday. Range of prices: Light to good butchers, \$7.90; pigs, \$7.90; light yorkers, \$7.90; stags one-third off.

Stop My Advertisement.

"Please discontinue my advertisement in the Michigan Farmer as I am all sold out of rams, and it is not much fun to answer correspondence without the stock to fill same."—A. H. Warren, Ovid, Michigan.

This makes room for someone else who has a surplus to dispose of.—(Eds.)

Only **\$29⁷⁵** and up
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Never before in Cream Separator history could you get a high grade Separator— with gears running in a "Bath of Oil"—the superior of any \$85 to \$110 Separator at such a low direct-from-factory price as I'll make you. Save 25% to 50% this way. I make and sell so many I can afford to make the price as low to you as dealers and jobbers have to pay in carload lots—spot cash—for their high grade Separators.

TAKE 90 DAYS' FARM TEST OF A GALLOWAY "Bath in Oil" Separator

Closest skimmer—Easiest running—Easiest to clean—No trouble oiling or danger of running dry like others, which alone is worth \$50 extra. Costs nothing extra on a Galloway. Send me your name today so I can write you my Special Proposition, at the price I'm making direct to farmers and dealers, based on my output of 14,500 Galloways this year. I'll also send you my big BOOK FREE. Address—Wm. Galloway, Pres., Wm. GALLOWAY CO., 643 Galloway Station, Waterloo, Iowa.

I WANT FAIR PLAY.

For 45 years I have fought all forms of trust combinations, have kept my prices down where every farmer could buy a first class scale at a fair price and have protected the dealer. Now the implement dealers largely subsidized by the trusts say that if I sell my scales to a farmer they won't let me sell to any dealer. All right. I am Money talks and any responsible man can buy my scales on approval to be paid for on agreed terms at dealers price. Money talks and your request on a postal card will bring you my offer on any kind of a scale that you may want, big or little. Money talks and if you have the money I have the scales and the inclination to fight the trust which says that no man can buy my scales without paying a profit to the dealer. Write me and soon.

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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

MEANS OF PROCURING CLEAN MILK.

Farmers do not generally appreciate that they are to a large extent responsible for the quality of dairy products and therefore, for the prices realized for them. The rather unsatisfactory butter prices that have prevailed lately are generally conceded to be the result of too much poor butter caused by poor cream. Rather than pay high prices for poor butter, consumers are investing in oleomargarine, the consumption of which has very materially increased during the past few months.

The basis of high quality in all dairy products is clean milk. And to produce clean milk is not an expensive matter, as many believe it to be. It does not require costly buildings and equipment; what is more important is intelligent care and management in milking and in the handling of the milk. The following experimental results by Stocking will serve to show what a little extra care will do in reducing the germ content of milk:

When the cows were milked before feeding, the number of bacteria per C. C. (1-30 of an ounce) was 1,233; when milked immediately after feeding, the number of bacteria was 3,656, or three times as many.

When the udder and flanks of the cows were wiped with a damp cloth, the number of bacteria per C. C. was 716; when not wiped the number was 7,058, or ten times as great.

These results indicate that a little extra care is the chief requirement in getting clean milk.

Wiping or washing the cow's udder before milking not only very materially reduces the bacterial content of milk but also lessens the amount of dirt to a very great extent. Frazer has shown that the average weight of dirt which falls from muddy udders during milking is ninety times as great as that which falls from the same after washing, and when the udder is slightly soiled it is eighteen times as great.

A valuable aid in getting clean milk is the use of a partially closed milk pail. The amount of dirt and bacteria that drop into milk during milking is proportional to the size of the opening of the pail. A six to eight inch opening is sufficiently large to milk through and pails of this kind, while slightly more expensive than ordinary pails, should be used in all dairies. The use of such pails will mean milk at least two or three times as clean as that obtained with ordinary pails.

A little care in washing milk vessels will reduce the bacterial content of milk to a very great extent. A carelessly cleaned milk pail may contain many millions of bacteria at milking time. A satisfactory method of cleaning milk vessels is as follows:

First, rinse with warm or cold water. Second, scrub with moderately hot water containing some sort of cleaning powder. The washing should be done with brushes rather than cloths because the bristles enter into crevices which the cloth cannot possibly reach. Third, rinse in clean water and sterilize with steam or boiling water. Invert the vessels upon a clean shelf without wiping. If possible place the vessels where the sun can strike them. The sun's rays have strong germicidal action.

Wisconsin. JOHN MICHELS.

A VERY GOOD RATION.

What would be your criticism of the following ration for milch cows: For coarse feed, I feed at night good, bright clover hay; at noon good stalks; at morning stalks and a small fork of hay. For grain, I mix one bag of corn meal with two bags of wheat bran and give each cow four quarts morning and night. Also, one pound of cottonseed meal is given to each cow morning and night, mixed with the meal and bran.

Ionia Co. E. N. P.

Clover hay and corn stalks make a very good roughage ration while corn meal and wheat bran and cottonseed meal make a good grain ration. About the only fault I can find with this ration is that there is no succulent food. Where one does not have ensilage for succulency it is desirable and profitable to have some sugar beets or roots of some sort to feed once a day, because you get better results out of your dried food than when no succulent ration is fed.

Regarding the grain ration one can tell little about the quantity you feed when you speak of quarts; you ought to weigh

the ration. So far as the protein and carbohydrate in the ration you are feeding are concerned, you are feeding the right kind of materials and the proper variety of feed. I would suggest that you continue to feed one pound of cottonseed meal per cow night and morning. I would feed a certain number of pounds of corn meal and bran instead of a certain number of quarts and I would also make a difference in the ration for individual cows according to their needs and the amount of butter-fat each produces. Feed a cow according to the work she does. Feed each cow as many pounds of your grain ration per day as she produces pounds of butter-fat in a week. You might continue feeding the cottonseed meal as you do now, and then feed a sufficient amount of the other grain to make the required ration.

WILL CORN LOSE ANY OF ITS VALUE IN HEATING IN THE SILO?

Will corn put into a silo lose its feeding value by heating?

Mecosta Co. G. F. B.
There is a slight loss by heating and fermentation in the silo. The extent of the loss depends upon the amount of fermentation. If you have a good air tight silo and mature corn is put in, experiments at the experiment stations go to show that the loss should not exceed 5 per cent in food value of the ensilage. If you have a poor silo, or if you put your corn in green the loss will be larger. Experiments go to show that when corn is dry-cured in the field, husked and the stalks fed, that the loss of food value by the dry fermentation, which goes on constantly in the open air, is much in excess of that in the silo. Under ordinary conditions, the loss is as high as 25 per cent, and with inclement weather the loss could easily run up to 50 per cent, or half its food value, while, by being put into the silo at the proper stage, the loss need not exceed 5 per cent.

Of course, you understand that the loss of food value of corn silage stops just as soon as the fermenting ceases. If it would keep on fermenting long enough, the whole would be spoiled, but as long as you have an air-tight silo the fermentation only takes place until the oxygen of the air mixed with the corn when it is put into the silo, is consumed. Then fermentation ceases and there is no further loss in food value. But corn cured in the open is constantly deteriorating until it is fed. One reason why many farmers at first hesitated about building a silo, was that chemists told them there was a loss in food value by heating, but chemists forgot to explain that there was a greater loss in dry-curing. The farmer hesitated about putting his corn into a silo when he knew there was going to be a loss in food value. Now he understands that if he does not put it into a silo, the loss is far in excess, and under ordinary conditions, he saves at least 25 per cent of the food value of his crop by ensiling.

KEEP OUR LAMPS FILLED WITH OIL.

There is apparently a general feeling existing among other people that no oleomargarine legislation will be enacted at this winter's session of congress. Inasmuch as the session only lasts until March 4th, and that the holidays intervene, there are good grounds for such an opinion. It should not, however, cause us to rest on our oars and not be prepared for whatever move may be made by the oleomargarine interests.

The National Dairy Union will be on guard, but its work must be supported from "back home." Keep in close touch with your congressmen all the time. Do not take it for granted that nothing will be done until the new congress convenes.

While the Groat law should be amended so that it will accomplish what was intended it should accomplish, its friends can afford to wait if necessary. The public mind is being educated to the rights of pure butter and the combine of special interests that has so brazenly attempted to create conditions where fraud could be more easily perpetrated is right now on the run. They took advantage of a popular prejudice against legislation which enhances food prices to proclaim that the Groat law has increased the price of butter, but they failed to accomplish their purpose. Now they will probably realize that their opportunity has passed, but it is not safe to take anything for granted when dealing with such shrewd people. They must be aware of the fact that the tide has turned and that the consumers

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will run for ten years and then be a good, serviceable machine for many more years. A standard size of Tubular separator costs \$75.00, or \$7.50 per year for ten years, and you will still have a good separator left. You can buy a (so called) cheap separator for \$50.00, the average of life of which is one year. You can buy another the next year, and so on until you have spent \$500.00 in ten years;—\$50.00 per year. Which do you want? You can own and use a Sharples Tubular Cream Separator for less than any other separator built. We guarantee it. Shall we tell you how?

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Different from all others. 4 or 2 horses. Geared 18 to 1 or 7 to 1. Grind Corn with shucks or without. And all small grains including Oats and Wheat. (Also make 10 sizes belt mills.)

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You better try

DRIED BEET PULP

this year. You can not lose but you will profit by doing so. Used by many of the best feeders of the state who find it a valuable feed, selling below its true feeding value as compared to the other feeds and grain.

Cheaper, and gives better results than bran for which it is substituted by the best dairymen.

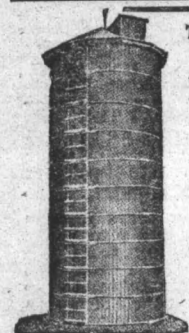
Forms a valuable addition to any ration, being vegetable the mechanical effect is good which causes a better assimilation of the other feeds.

Especially good with cotton seed meal as it counteracts the objectionable features of this feed.

Dried Beet Pulp will cheapen any ration. Substitute it for a portion of the ration you use and you will secure better results in both production and improvement in the health of your animals.

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Government statistics show there were 48,000,000 bushels less of potatoes grown in the United States last year than in 1909. This with increasing population must necessarily make a larger demand for potatoes in 1911. No crop as a

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The best made. Give a clean, smooth cut—no crushing or bruising. Satisfaction guaranteed. Anyone can dehorn cattle this way. Valuable booklet free about this quick, easy, humane method.

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of the country are coming to realize that their friends are the people who wish to prevent fraud, not those who wish to create conditions where fraud is easily practiced. The National Dairy Union, E. K. SLATER, Secy.

BALANCING A RATION WITH CLOVER HAY AND BEAN STOVER.

Please balance me a ration of the following feeds for common cows, giving 30 to 35 lbs of average test milk per day. I have clover hay, corn and bean stover. For grain I have oats and corn and can buy cottonseed and oil meal and bran. Kent Co. SUBSCRIBER.

If you have plenty of oats and corn, at the price of those grains now, I would use them both in the ration. But they are not rich enough in protein to balance up your roughage and so I would mix equal parts of corn meal, ground oats and oil meal together, and then feed as many pounds per day to a cow as she produces pounds of butter-fat in a week, giving her, of course, all of the clover hay and corn stover and beans stover that she would eat up fairly clean.

THE DAIRY COW AS A BENEFACTOR.

The greatest problem of agriculture is soil fertility. Schemes of farming which retain and add fertility to the land are sought by progressive men. Methods which fail in these essentials are being substituted by those that do. As a result of this selection, dairying is fast taking the place of general farming in many of the older sections of this country. And the more men are converted to such a policy the greater will be the output of the farms in dollars and cents. It needs but a cursory study of the history of farms that have changed from general farm program to the dairying business, to demonstrate to the satisfaction of the most unreasonable and determined of men that the dairy cow is "making good." There are some too blind or prejudiced, however, to make the change even now when so much testimony is at hand to prove every allegation in the bill challenging the efficiency of the milk pail, the silo and the cow; but they will be convinced when necessity drives them to the change through proceedings in bankruptcy—bankruptcy of themselves and their soil by wasteful methods which draw constantly upon the resources of the land.

A VALUABLE COW.

If a cow giving 175 lbs. of butter in a year is worth \$60, how much is a cow worth that gives 350 lbs.?

Suppose that butter will average 25c the year round, and it will do better, and that the feed is worth \$40 for the year. The first cow would give a return of \$43.75, less \$40 for feed would leave a profit of \$3.75, counting that the milk, calf and manure pays for the labor.

The second cow would give a return of \$87.50 for butter and would give at least 4,000 lbs. more milk which at 20c per hundred lbs., and it is worth more for feed, would bring \$8.00. The calf from the good cow is worth more, but let that go. The return would be \$95.50, less \$40 for feed, or a profit of \$55.50 on the same basis as the other cow made a profit of \$3.75. It would take practically 15 175-lb. cows to make as much profit as the one 350-lb. cow.

Concluding our calculations, \$3.75 is 6.2 per cent on \$60 and \$55.50 is 6.2 per cent on \$895.16. On the basis of percentage income, when the 175-lb. cow is worth \$60, the 350-lb. cow is worth \$895.16. The keeping of the cows should be looked at from the business standpoint. The poor cow is dear at any price but the good cow is usually not rated at her real value.

North Dakota. W. C. PALMER.

OHIO DAIRYMEN MEET.

The seventeenth annual convention of the Ohio State Dairymen's Association will be held February 1, 2, 3 and 4, at the State Fair Grounds, Columbus, in connection with the National Corn Exposition. A rich program by the best dairy authorities of the country and a comprehensive exhibit of equipment for producing and manufacturing dairy products will furnish an opportunity worth while; and it is expected that these features will attract a large attendance, especially is this to be anticipated because of the joint meeting with the corn men who are now confident they will bring together the best show ever collected by the organization.

Premium Shears Dandies.

"The premium shears you sent me are dandies. You have my sincere thanks."—H. S. Remington, Clinton, Mich. A pair of these shears sent free with a 1, 2, 3 or 5-year subscription.—Eds.

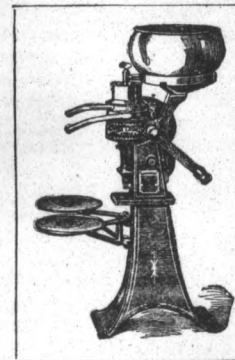
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Closest skimming, easiest running, easiest to wash, longest lived—these are the chief reasons why the U. S. is the best separator of **today.** Don't buy any separator until you have sent for catalog 111.

Vermont Farm Machine Co., Bellows Falls, Vt.

HORTICULTURE

IRRIGATION IN MICHIGAN.

Fruit growers in the vicinity have purchased the Taliaferro farm on the west bank of the Paw Paw river one and one-half miles north of Paw Paw, upon which they purpose to construct a reservoir to hold water for irrigation during dry seasons. The farm is high enough so that water will readily flow from it to all contiguous territory. Water will be pumped to the reservoir from Maple Lake 30 rods away, or from the Paw Paw river. The undertaking will not be an expensive one considering the insurance it will give the fruit crop of that section against droughts. While the need for this kind of insurance is far less imperative here than in the west, the numerous opportunities afforded by natural water courses among our hills should be improved, which, together with other advantages, will retain to our state her enviable position among fruit growing commonwealths.

PROCEEDINGS OF MICHIGAN HORTICULTURAL SOCIETY.

Commercial Insecticides and their Control.

On Thursday morning, Prof. L. R. Taft took up the laws relating to spraying and spray materials and explained them fully. It was stated that neither his department nor the College knew of this law until it was passed, and that there are some defects in it; however, it is much better than none. It makes it mandatory for manufacturers to label their packages and to file the analyses with the state. The Inspector of Orchards and Nurseries is to get samples and make analyses, but no funds are provided for analyses, so few have been made. Those that have are well up to the guarantee. There have been more adulterations in Paris Green and mixed Bordeaux than elsewhere. One mixture labeled Paris Green and Bordeaux mixture was found which contained no lime or blue vitriol, but ultra marine blue instead, and but 7½ per cent of Paris Green. Prof. Taft thinks that growers should mix more of their materials at home.

The lime-sulphur guarantee should contain the amount of sulphur, the amount of lime, and the amount of water contained. Eighty-eight brands have received sale permits in Michigan. As a rule, 25 per cent of soluble sulphur is guaranteed in lime-sulphur solutions. This can be used for scale at the rate of one gallon to eight of water; 18 per cent solutions at the rate of one to six. On trees not badly infested, one to 10 of the stronger solutions will answer.

Most firms guarantee 15 per cent arsenic in the paste arsenate of lead. This combined with lime-sulphur makes an excellent general spray. Much lime contains 15 per cent magnesia, and some as high as 40 per cent, which wastes the sulphur. Sibley and Alpena limes run about one per cent of magnesia. Ohio and Kelley Island limes are high in magnesia, and hence undesirable.

Question 43, in regard to the method to pursue when a neighbor refused to spray his scale infested orchards was called for. It was stated that the township boards must appoint commissioners and pay them. If no one can be found to act the state inspectors can take the matter up. If the owner refuses to remove the tree or spray as directed within a reasonable time the commissioners can do it or order it done for him, and report the expense to be levied with his taxes.

New Phases of Nursery Inspection.

Prof. J. C. Sanders spoke on the above subject from his experience in inspection work in Wisconsin. It was reported when he began his work that the scale did not exist there, but plenty of it was soon found. The inspector must be thorough in his work and get right down in the dirt and look sharp. It is the little inconspicuous insects that cause the most trouble and are more often overlooked. The greatest pest of horticulture is the dishonest nurseryman. For example, a nursery in Illinois took out a license in Wisconsin, and began to sell common cherry trees for a new introduction at \$1.10 per tree. Substitution has been a common practice. Only 20 per cent of the stock sold in Wisconsin is grown in the state, and a large class of jobbers has arisen, so that it is almost impossible to tell where stock is grown. Prof. Sanders proposes to have a list of nurserymen with their addresses and amount of acreage given, and will advise against buy-

ing of jobbers. This will show who are bona fide nurserymen and who are jobbers. A large number of the trees which are shipped in come from the south and are not fitted to the climate. Poor nurseries are a detriment to the business of honest ones, and all should feel it of interest to help along the campaign for good trees.

In the discussion Prof. Sanders stated that he believed that trees as well as foods and spray materials should be labeled, i. e., bear the name of the variety and the grower; that exposure before fumigation was productive of more trouble than the weakening by fumigation, and that he considered crown gall a sufficient reason for rejecting nursery stock, though the danger from this disease was not well settled. Hutchins believed that crown gall would sometimes spread and eventually kill the tree. Prof. Taft explained that there were several kinds of gall, some being more dangerous than others.

Peach Growing.

Mr. O. W. Braman, of Kent Co., who has had especially good success in growing peaches, described the essentials in his method of handling the peach orchard. He considered the ideal location a rather high one, rolling but not hilly, with a clay subsoil, and a west, north, or east exposure, not a south one. In pruning, heads are formed about 30 inches high, of three to five limbs so disposed as not to form a weak crotch. When bearing age is reached thin out the tree somewhat.

For the first spraying, 60 lbs. of sulphur, 40 lbs. of lime, and 60 gals. of water were cooked together for a half hour, then diluted to 200 gallons. After the fruit has set, self-bolled lime-sulphur and arsenate of lead were used, for the brown rot, scab, brown spot, and curculio. A few weeks later another spray was given for the brown rot, omitting the lead. The first season hot water was used to slake the lime, and there was some burning of the foliage; last season cold water was used and no injury was noticeable, and the fruit was perfect in every way.

Cultivation is begun in April if possible, and is thorough, and harrows are worked close to the tree by means of attachments. No crops are allowed in the orchard after the second year. Cover crops of clover, oats, or vetch are sown about August 1. If possible a clover sod, or at least a grass sod is plowed down before setting the trees. The soil is kept well supplied with the four essential elements of plant food, humus included. For bearing trees commercial fertilizers are used as follows: 300 to 500 lbs. of potash, 300 to 500 lbs. bone meal to the acre. Thinning must be thorough, and is begun soon after calyx drops. Last year the fruit was thinned twice, aiming to thin to six to eight inches and one fruit in a place.

All trees are inspected before picking time, and diseased trees market and removed after the picking season. To prevent the spread of yellows the co-operation of neighbors is secured.

A discussion of methods of handling yellows trees followed. Mr. Crane stated that he was more careful in handling yellows trees than Mr. Braman, as he cut them out at once, not waiting to harvest any fruit from affected trees. Mr. Braman believed that the disease was spread at blossoming time, and that removing after blossoming was sufficient. One grower reported that he could follow the trail where yellows trees were cut and dragged through the orchard on previous years from the affected trees; another believed that trees would thus inoculate only when wet. To avoid a possibility of inoculation it was advised to cut and leave in the orchard until fall, or to bring wood and burn on the stump. The symptoms of little peach were described by Mr. Braman to be a drooping of the leaves near the trunk and base of twigs. They lose their normal color and become yellowish and unhealthy. The next season the fruit is poor in color and delayed in ripening. Mr. Smythe and Mr. Hale told of the difficulty in detecting the disease, especially by the novice. It was thought by some that these diseases were spread in pruning, also that too many chances were taken by leaving doubtful trees in the orchard. Mr. Welch stated that the best success was had in combating the disease where trees were taken out as soon as they were found to be infected.

S. B. HARTMAN.

The tulip tree, which might be called the king of the globe, is sometimes called whitewood, although the wood is not white but a yellow of dull greenish hue, streaked with dark or blackish brown. It has a tulip-like flowers four or more inches across. Its timber is valuable.

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Seed that grows—that gets right down to business and makes good plants—is the only kind you can afford—and it's the kind you get when you order from us. Every strain of our seed has a pedigree—has made a record for years. Nearly all of it is grown on our own farms; we give it a careful germination test, to prove just how much of it is good. When we've found that out, we print it on a special label appearing on each package, so that

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12 APPLE TREES \$1.00

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1 Y. Transparent, 1 Red Astrachan, 2 Duchess, 2 Baldwin, 2 N. Spy, 2 Tallman Sweet, 2 Wealthy. Order now and ask for our Free Catalogue.

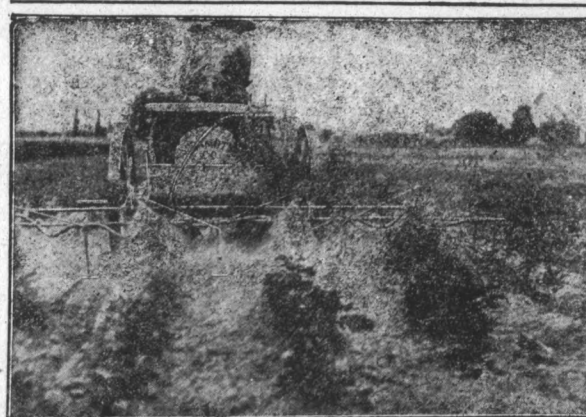
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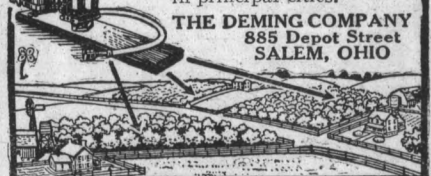
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If you hesitate about buying a spray pump because you have only a few trees and think it wouldn't pay you, why not go in with your neighbors and buy an outfit that you can all use—that will do good work, and stand rough handling? A little money invested in a

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There are three nozzles to a row and four rows two spraying from the sides and one from the top. Adjustable as to height and width up to 40-inch rows. Absolutely non-clogging nozzles. Twelve-gallon air tank, automatic and hand-controlled; 125 lbs. pressure guaranteed with 12 nozzles open. Has agitator clean-cut pressure relief into tank, and nozzle protector, all under control of driver from seat. For

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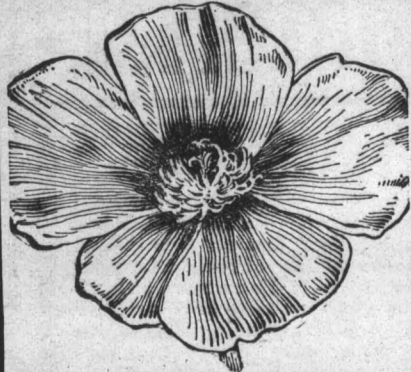
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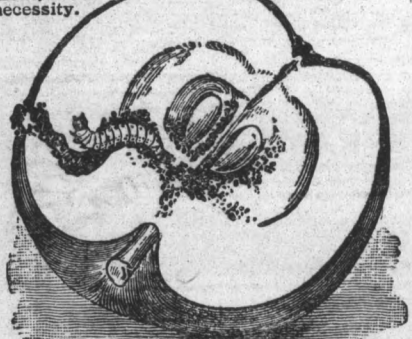
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Easy to operate;
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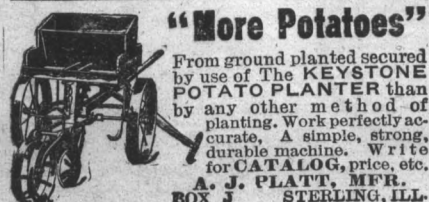
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FARMERS' CLUBS

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

Associational Motto.—

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

Associational Sentiment.—

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

CLUB DISCUSSIONS.

Hold Poultry Show.—The Looking-glass Valley Club has enjoyed two rousing meetings, the first had as a special attraction a poultry exhibit, at which 125 birds were shown, the nearby town of Grand Ledge making several fine exhibits. Mr. Wise, an expert, was present to score the birds. Several of the members gave reports on the year's poultry profits and a great deal of enthusiasm along this line was created. A big chicken-pie dinner was served and reports on wheat crop given, showing a profit of from \$9 to \$11 per acre. At the December meeting two excellent reports on dairy profits were given, showing a profit of over \$50 per cow. The oat report showed a gain of about \$8 per acre above all expenses. An abundance of excellent music, both vocal and instrumental, was furnished by the music committee, and Mrs. E. A. Rice gave a poem on "The Club Dinner," telling of the mountains of mashed potatoes and dressing, chickens, beefs, and pigs enough for a stock show, lakes of coffee and cakes to reach the Pacific, cooked and eaten by the Club. A report of the first day's session of the state meeting was given by the delegate, F. C. Openlander. Taken all together, the Club is not only an ideal social center but is helping in more ways than one to lift the calling of the farmer to the high place, where it rightly belongs.—Bel Main, Reporter.

Discuss Farmers Prosperity.—The Salem Farmers' Club held its November meeting at the home of Mr. and Mrs. Geo. Roberts. Ninety guests and members of the Club gathered and enjoyed the day, and the good program. Music, select readings and discussion made this an interesting meeting, notably the selection of Mrs. Wm. Naylor, on the "Harvests of the present year," was enjoyed; also a humorous number by Mrs. Myrtle Wheeler. A good talk was given the Club by Rev. E. Millard, congratulating the farmer on his environment, as being uplifting and ennobling. Former President C. Deake, was present. A discussion on "Cost of production as compared with former years," was led by President Ross, followed by Herbert Smith and others. Many interesting points were brought out, but these are, after all, exceptionally prosperous times for the farmer. Club voted favoring New Orleans as the place celebrating the completion of the Panama Canal. The president referred to the recent action of St. Louis convention in favor of roads for automobiles.—H. C. Thompson.

A Christmas Program.—The December meeting of the Essex Farmers' Club was held at Prairie Bell Farm, the pleasant home of Mr. and Mrs. Frank Bottum. Nearly all members were present and with several invited guests made a lively company of "Farm Folk." Following the usual opening exercises, the question of the desirability of using commercial fertilizers, to aid in restoring and maintaining soil fertility, was interestingly discussed. Several of the speakers cautioned against the general use of same, as results seemed to indicate that commercial fertilizers are but a temporary stimulant and not of permanent benefit. Barnyard manure was regarded as the best fertilizer and, with the judicious aid of clover, plowed down at maturity, it was deemed that resort to commercial aid would not generally be required to place and keep Michigan's farms up to the high standard of production which they have acquired. A reading, "Christmas in the Old Home," by Mrs. J. Wolcott, brought tender, old-time scenes and memories to all. The next number was "Dinner and Sociability," and here is where the Essex Club declines to take a "back seat." Indeed, it is its social feature one of the most valuable of its many good points, and this is true, doubtless, of all Farmers' Clubs. The afternoon exercises were opened with singing by the Club, followed by roll call, bringing in response, "Christmas-time Thoughts."

Report of State Meeting.—The report of Delegate S. F. Gilson, to the Associational meeting at Lansing, was next given, and contained many of the good features of that important meeting. The Essex Club has never failed to be represented to the annual meeting, and appreciates the help which it has received therefrom. A paper, "The Story of Santa Claus," by Mrs. J. Blemaston, was next enjoyed. Christmas was first observed as a festival in the third century, and Santa Claus made his first appearance in Germany. Do good at Christmas time—and at all times. Show every kindness, with good deeds, omitting all "pomp and show." The above were among the many helpful thoughts contained in the paper and which was so fully appreciated that, by vote of the Club it is to be published in the local press. A reading by Mrs. Robert Bottum, brought to memory the many pleasant—now sacred—scenes of "Childhood's Happy Days" in the "Old Home," and especially at "Christmas time." "Sale and Exchange" was the last number and closed a very pleasant and profitable meeting.—J. T. Daniels, Cor. Sec.

GRANGE

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

STATE GRANGE OF 1910.

Minor Committee Reports.

The committee on temperance incorporated in its report a resolution submitted by Quincy Grange, of Branch Co., which read: "We, the members of Quincy Grange, No. 152, assembled in regular meeting Dec. 10, 1910, living in a county where local option has been in force for two years, wish to say to our sister counties that local option here has grappled with and eradicated that enemy of mankind and the home, the saloon, and we heartily recommend its adoption in other counties as the most efficient means of reaching and securing state-wide and national prohibition." The committee then recommended the adoption of the following:

1. Resolved, That we look with approval upon the splendid enforcement of this law in most, if not all, of the counties where it is now in operation. We favor only such changes in this law as shall aim to make its operation and enforcement more effective, and call upon our friends in the legislature to use their vote and their influence in behalf of any amendments which may be offered to that end. We recognize the county as the unit of enforcement, the unit of taxation whereby the product of the saloon is cared for, and the law enforced, therefore the smallest unit that should be considered in voting upon the question of local option. We oppose the enactment of any law for township, village or city local option.

2. Resolved, That we join with the State Association of Farmers' Clubs in protesting against the disloyalty of the officers of the State Fair in allowing the sale, upon the State Fair grounds, after giving their promise to discontinue such practice.

3. Resolved, That we rejoice in the success of the Anti-Saloon League movement which has driven the legalized traffic from 40 counties of the state, and we hereby pledge our hearty co-operation and support, and recommend that Mrs. O. J. C. Woodman, A. F. Mead, and J. C. Ketcham be elected members of the board of trustees of the Michigan Anti-Saloon League for the coming two years.

The entire report received the unanimous endorsement of the delegates.

The committee on co-operation had evidently given most of its time to the vexed problem of co-operative selling, and its work was practically summed up in a recommendation for the establishment of a central state bureau, by the Grange, as a means of bringing buyer and seller together without the intervention of the middleman. This proposition provoked a somewhat lengthy discussion which developed the fact that the delegates were opposed to any plan which might lead to the Grange engaging in the construction of warehouses and the handling of products after the manner of a commission firm. It was finally voted to strike that section from the report although the delegates heartily concurred in the recommendation that the Grange encourage co-operative selling among farmers, in a local way, in every manner possible.

The new feature of the report of the good roads committee was the proposition to tax automobiles on a basis of 50 cents per horsepower, as recommended by the State Master in his annual address. This was adopted after an unsuccessful effort to reduce the tax to 25 cents per horsepower. In other respects the work of this committee followed closely the lines of former years.

The members of the committee on forestry contented themselves with declaring that attempts to re-forest non-agricultural lands have not proven satisfactory and that conservation is a national question—larger than any one state—and that the final solution must be national, applied to all states alike.

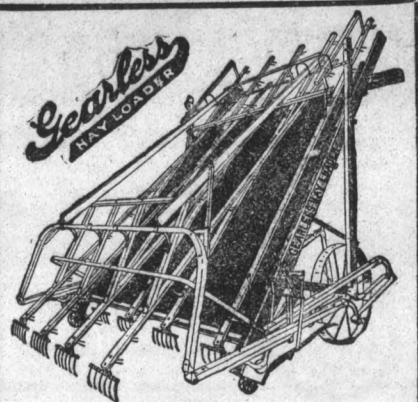
The work of the committee on education was pretty well covered by the standing committee whose report was given in a previous issue. It, however, declared for the enlargement of country school grounds, for fees for foreign students at the state university which shall be on a par with those charged by other Michigan institutions of learning, and for a chair of domestic science in the state university. It also warned the delegates that at the coming session of the legislature an effort will be made, on the part of the railroads, to raise the valuation on all other kinds of property, which will have the effect of reducing the proportions of the primary school interest fund.

The committee on insurance commended to the delegates and to the Grange at large the new life insurance company established by the organization during the past year, and predicted that it would prove as strong a factor in building up the order as fire and cyclone insurance has proven.

Later in the session came a report from the State Grange executive committee to the effect that the new life insurance company will commence issuing policies with the beginning of the new year, and that the company has been organized and put in shape to begin business at a cost, to date, of less than \$900. At a meeting of the executive committee held prior to adjournment of State Grange, Former Master Horton was chosen chairman of the committee for the coming year.

COMING EVENTS.

Pomona Meetings.
Washtenaw Co., with Ypsilanti Grange, Tuesday, Jan. 10. Election of officers.



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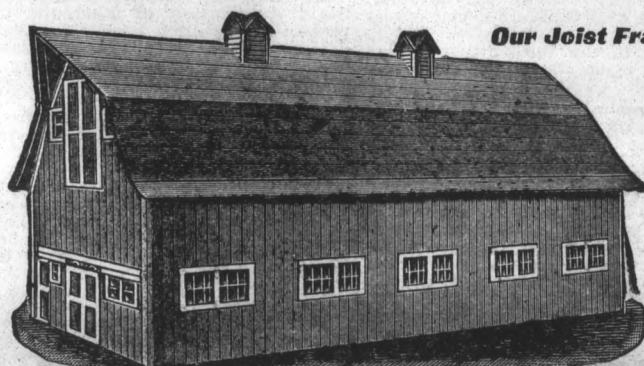
Front Door, 2 feet 8 inches by 6 feet 8 inches by 1 1/2 inches. No. 10B425. **\$2.30**
Frame for same, soft pine. No. 10A99. **1.85**
Interior Finish for same, clear yellow pine. No. 10B975. **.22**
24x28, 2-Light Window, glazed. No. 10A71. **1.05**
Frame for same, soft pine. No. 10A100B. **1.35**
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Sizes and Prices

No.	Size	Ht. to Plate	Ht. to Top of Roof	Price
221	36x 48	18 ft.	38 ft. 6 in.	\$523.00
222	36x 64	18 ft.	38 ft. 6 in.	651.00
223	36x 80	18 ft.	38 ft. 6 in.	770.00
224	36x 96	18 ft.	38 ft. 6 in.	901.00
225	36x112	18 ft.	38 ft. 6 in.	1023.00

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