

# MICHIGAN FARMER

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## FARM NOTES.

### Preparing for the Alfalfa Crop.

What would be the chances of getting a catch of alfalfa on my land? The land is sand with a gravelly bottom; no water ever stands on the ground any length of time; I have a mammoth clover sod to plow under. I am thinking of covering it with barnyard manure and plowing under to the depth of six or seven inches and then sowing wood ashes on the furrows and harrowing well and then sowing the alfalfa and harrowing in without a nurse crop. How deep should the alfalfa be harrowed in?

Isabella Co.

R. SOMERS.

In the writer's opinion there is very little doubt that alfalfa sown on such a soil as is described in this inquiry, and by the method suggested by the inquirer, would make a successful stand. This clover sod will insure a good mechanical condition of the soil, and not a little actual fertility is stored up in the clover roots. The addition of stable manure, as suggested, will promote an early and rapid growth of the young plants and, with the nitrogen contained in the clover roots, should make sufficient of this element of plant food to cause a vigorous and early growth of the alfalfa if there is not sufficient of the proper bacteria in the soil to inoculate the plants quickly. Then by sowing on the ashes as suggested and working them into the soil an available supply of lime which is considered essential for alfalfa will be provided, as ashes contain something like 32 per cent of lime in one of the best forms for plants. Then the ashes will contain considerable phosphoric acid and potash, also in a form to be easily appropriated by the alfalfa plants. In preparing this land, however, care should be taken to have the subsoil well firmed down so as to make a good seed bed for the alfalfa. This working of the soil in preparation for sowing will kill the weeds that start early, and the alfalfa should make a vigorous and rapid growth from the start. It would be a wise precaution, however, to get some earth from a successful alfalfa field and sow on about 100 lbs. per acre as a means of inoculating the soil with the alfalfa bacteria. This may not be necessary, but a permanent stand of alfalfa cannot be secured without the presence of the bacteria, and they do not seem to be present in a good many soils on which alfalfa has not been previously grown. Care should be taken in thus inoculating the soil to harrow in the earth promptly after it is sown, since inoculation will not be nearly so certain if it is allowed to lay on the surface, especially in bright weather.

If more Michigan farmers who contemplate the sowing of alfalfa would prepare for the crop in the manner suggested by this correspondent, we believe that many more good stands of alfalfa would result, and that this greatest of leguminous forage crops would become much more common upon Michigan farms, a result which would be greatly to the advantage of their owners and the communities in which they live.

### Top Dressing Wheat.

Would you think it a good plan to spread three or four loads of barnyard manure to the acre on ground that has been sown to wheat last fall, or would it possibly hurt the crop?

Tuscola Co.

SUBSCRIBER.

There is no better way in which to use stable manure than in top dressing fall sown wheat during the winter or early spring. It will not only prove beneficial to the wheat crop, but will increase the chance of getting a good seeding of clover in it. Three or four loads, however, would be a very light dressing even with a manure spreader to distribute it, and it would be quite impossible to apply this amount evenly by hand. There need be no fear of injuring the wheat crop by

## TO WHOM IT MAY CONCERN:

As the reader knows, we publish a much larger paper during the winter months, when the farmer has more time to read, than during the busy summer months, when it is an advantage to him to have its contents boiled down.

Many farmers who do not now read the paper, including a good many trial subscribers who took advantage of our summer trial offer, do not know or appreciate this fact. We would like to have them know it. We have so much confidence that any farmer who reads the paper during the next four months will want to read it regularly, that we have arranged a subscription plan by which they can remit 25 cents for four months beginning from January first or February first, as they may desire, the back numbers for January being available, and have the amount remitted apply on the regular subscription price for one, two, three or five years. If at any time before the four months is over the balance for one, two, three or five years is remitted, 50 cents for one year, 95 cents for two years, \$1.25 for three years, or \$1.75 for five years, a valuable free premium will be sent them the same as though the full amount were remitted at the start. We will also send them at once, a farmer's pocket account book, conveniently ruled and containing several pages of valuable information absolutely free, which in itself is good value for the 25 cents advanced on the subscription price of our paper. (See account book advertisement on another page.) If at the end of the four months they have not remitted for the balance of the time, the paper will be stopped without further obligation. We think they will want it, and are willing to give them this opportunity to decide for themselves after reading it four months.

Somewhere in this paper will be found a subscription or envelope blank. Kindly call the attention of your neighbors to this offer and get them to join the Michigan Farmer family under these liberal terms. Five subscriptions given under this plan will be accepted for \$1.00 and a larger number on the same basis. The account book will be sent post paid to each subscriber. Those who subscribe for a year or more will in addition to other premiums (See page 56) be sent one of the account books.

If the reader has not the time, some of the children can do it as well. Simply call on your neighbors who are not taking the paper, present this plan and get them to try it on these liberal terms. Address orders and make remittances to the MICHIGAN FARMER, DETROIT.

a considerably heavier application than this.

### Growing Potatoes on Poor Land.

I saw by The Farmer that Mr. Lillie grew a profitable crop of potatoes on a poor field of a recently purchased farm. Now, I have an exceedingly poor field of sand on a likewise recently purchased forty; not worthless, drift sand, but simply an exhausted soil. This field has been twice to corn, never to my knowledge having any manure or much clover on it, and would another year not grow more than 100 bushels of corn on the whole six or seven acres. You see that it is completely exhausted. Now, commercial fertilizer, I know, would grow a good crop of wheat and secure a good catch of clover after summer following it, which results we also get after early planted potatoes. But can there be enough commercial fertilizer of the right kind applied in paying quantities to secure to one a reasonably paying crop of potatoes instead of leaving the ground idle all summer?

Hillsdale Co.

H. SHAFER.

This question is not an easy one to answer, since much will depend upon the weather conditions which prevail during the summer. A soil which has not been recently fertilized with stable manure and upon which clover has not grown for some years, but which has been exhausted by continued cropping, is generally so deficient in humus that it will not retain sufficient moisture to hold the plant food in an available condition for the growing plants or supply them with needed moisture to insure a good crop in a droughty season. However, if there is a good distribution of moisture throughout the summer, enough fertilizer could be applied to grow a profitable crop of potatoes without doubt. On the so-called hammock lands of Florida, this very thing is done every year, since these lands are so deficient in fertility that profitable crops can not be grown upon them without large applications of commercial fertilizers. Successes obtained in growing potatoes on the wornout and abandoned lands in some of the eastern states thru the liberal use of commercial fertilizers also point to the same conclusion, as do experiments made at a number of experiment stations. However, the fertilizer should be applied as early in the spring as practicable and thoroly worked into the soil so that it may become available as soon as possible for the growing plants. Possibly in the case of this kind it might pay to apply broadcast and in the hill. Of course, in this-kind of an experiment, one would be more at the mercy of weather conditions than would be the case with soil in good mechanical condition. However, in a normal season, one should get a profitable crop of potatoes and the season would be unusual in which a crop could not be secured that would at least pay the expense of growing.

### Spring Wheat for Michigan.

Several subscribers have recently asked if spring wheat can be successfully grown in Michigan and have sought information as to its cultural requirements. There is no doubt that spring wheat can be successfully grown in Michigan. As proof of this fact a Saginaw county grower described his experience with spring wheat in the Michigan Farmer of August 21st, 1909. He has been growing spring wheat successfully for several years on a small scale, but states that so far as yield is concerned, he does not find it as satisfactory as winter wheat. Spring wheat has been grown to limited extent in various parts of the state with fair success but, for the reasons above noted, has not displaced the growing of winter wheat to any extent. Its culture has not differed materially from that suited to winter wheat, except that it is sown in the spring at practically the same season as oats, and with a similar preparation of the soil. It should be sown on a small scale at first, if at all.



THE BUSINESS SIDE OF FARMING.

Prices of Farm Products.

Do not think that there is any royal road to learning or easy plan for farmers to regulate and denominate prices. Among the few reasonable, successful strikes of labor for increased pay was among the anthracite coal miners. The men had prepared for this occasion, i. e., had the means of living provided in anticipation, and educated the public to the actual condition of affairs, i. e., their earning power, manner of living, compensation, etc. No two men of modern times have so well understood publicity as Theodore Roosevelt and John Mitchell, which after all, is but the application of that scriptural injunction, "Come, let us reason together." The public esteem and confidence that those above mentioned have enjoyed together is almost unparalleled and the reason, apparently so simple, is well worth while to study on the part of the business farmer.

If the farmer would carefully make an accounting of his business, as any corporation does, and verify it by itemized account of sales of products, offset by expenditures, charge off depreciation and losses and publish them, it would dissipate the glitter of great gains popularly supposed to attach to farming. It is now only a little past the close of the calendar year and since the United States census schedules will call for the same it would be well for farmers to prepare memoranda of last year's operations. It would be of exceeding interest to know the average, the maximum and minimum output of 40 acre, 80 acre or 160 acre farms, the value of the farm, and the amount paid for labor, and also the wages or salary that a farmer should have, outside of interest on his investment. The writer has examined into many farm accounts with somewhat the zeal that Mark Twain's Puddin' Head Wilson had for taking thumb prints, and the surprising thing is the low wages or salary received by the farmer. A judge charged a jury in a damage suit that the active earning capacity of the complainant, aside from what he owned or had invested, should be considered as the main factor in determining damages. Now, if this were applied to the farmer, what would be his wages or salary? My own observation is that it is reckoned too low. The fact is that the bushel of wheat, the pound of beef and the multiplicity of products and measures should include wages of superintendence, but in the total of the infinitesimals, with the calculation necessary this factor seems to get lost in the shuffle.

The dollar sense is intuitive in man, like cattle driven thru a desert that know water miles away—smell it, feel it, or something, anyhow they know it and make a rush for the water. Why boys don't stay on the farms is answered easily. The farms have not offered the wages that other occupations do. Green fields, immunity from the cares and vexations of the city's hot and crowded tenements, the simple life, prose, poetry and preaching all have been reasonably ineffectual in stemming the tide toward the city. When one tries to add to each of the farm products sold, wages of superintendence, it is like the story of the centipede who tried to determine the order of the movement of his feet and became paralyzed in the calculation. There used to be an old time ditty that "No one so well as the farmer knows, how well peas, beans and barley grows." This might be paraphrased to read, "no one so well as the farmer knows how big a small salary looks."

One of the generally conceded newer points of industry is that it should include profit to compensate those injured or crippled in the line of service. Labor organizations have made this a tenet of faith, and it is now a recognized liability in almost all industries. Since farming has become so much a matter of machinery the fatalities and injuries are largely augmented. Every neighborhood has its corn shredder victim, and while no statistics are available, reputable physicians estimate farm casualties to exceed those of railroads. But, like the problem of salary for farm superintendence, there seems to be no solution of the problem as to how to include cost of casualties in the price of the products of the farm.

These paragraphs are written to serve a double purpose, viz., to call out some scientific suggestions as to including farm superintendence and casualties in the price, and also that farmers might base the present advanced prices of farm products on grounds of equality in comparison with other industries.

The use of publicity is like the quality of mercy; it blesses or enlightens not only he who gives but he who receives. Much of the erroneous idea of farm production is gathered from the boastful and he who delights in exaggeration. Never less than forty bushels of wheat, three tons of hay to the acre and four hundred bushels of potatoes, is a general conclusion, based on isolated instances. There are Dr. Cook's in farm life, but unfortunately no accommodating Danish institution of learning to examine the data.

One of the difficulties of the Interstate Commerce Commission was that railroads had no uniformity in their systems of accounting. This was remedied, so that the exact relations of cost to operation can now be ascertained. Advanced ideas in accounting now make it possible for statisticians to calculate the exact amount that a dollar of taxes paid for state, county or local purposes is divided into. If for county purposes, a certain percentage for court expenses, poor maintenance, etc. The advantage is that it holds officials to a stricter sense of economy, because comparisons can easily be made. So that the public may know and judge as to farm prices for the year 1909, I append a statement of a most reputable and careful farmer from 115 acres of land, operated as a dairy farm. The acreage excludes woodlot area.

Receipts.

Milk sold from 19 cows.....	\$1,584.72
Calves .....	39.00
Wool .....	49.80
Lambs sold .....	98.75
Five lambs kept in flock .....	25.00
Increase in young stock .....	45.00
Hay sold .....	15.00
Potatoes .....	9.80
Apples .....	25.15
Pork sold .....	44.45
Beans .....	17.05
Eggs and chickens .....	47.80
Sheep .....	11.60
Incidentals .....	20.00

Total .....

Expenditures.

Farm rental at \$5.00 per acre....	\$ 575.00
Labor per year, 1 man and wife..	425.00
Silo filling and threshing .....	54.00
Incidentals of seed, fertilizer, feed, repairs, etc. ....	200.00
Taxes and fencing .....	100.00

Total .....

Balance .....

The analysis of the balance, viz., \$679.12 is a subject upon which we might have diverse opinions. If allowance were made for ordinary labor, there would be somewhere about \$2.00 per day. If animal disease, accidents, or the ordinary average losses were calculated, this item would have been reduced much lower. There were losses from the failure of a milk buying concern which, as a matter of fact, equaled 8 per cent of the gross proceeds. The usual argument that this man had his living off the farm is answered by the fact that he lived on an adjoining farm which, from a statistical standpoint, would offer no offset in that line. The rental of the farm at \$5.00 per acre includes the use of all personal property used in operating, in which there is a large percentage of annual depreciation.

However mortifying to our pride the fact may be, farmers are not compensated proportionately to their services, at the present time when they are attempting to establish a new standard, the other workers and social factors raise their voices in horror and actually stop eating meat, or think they will, for a brief spell, which undoubtedly will be very brief. If the proposition was not so overwhelmingly ridiculous the farmers might invoke the Sherman anti-trust law and secure an injunction as in the Bucks Stove Company case, wherein the famous, "We dont patronize you" would be supplanted by "we don't eat meat."

There is no productive business in the world that equals farming in absolute economies, i. e., no extravagances; there is constant attention to details and with this actual, penurious, pinching, where everybody of the family works. The women do the cooking, board the hired help and raise the poultry and the boys all contribute their labor. The average successful sugar beet factory of 500 or 600 tons capacity represents approximately an equal capitalization that the acres of the annual crop of beets grown for it would be worth; equal partners, so to speak, if the capital necessary to operate it were totaled and one-half devoted to the factory and the other half to owning the land. Now apply the same cost of superintendence to the acres and see the outcome. No factory can raise beets as cheaply as can the farmer. If it were otherwise the whole business of production and manufacturing would be controlled. Several large manufacturing in-

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There is an Honorbilt style that will exactly suit you and fit you. Ask your shoe dealer; if he hasn't it, write us. Look for the *Mayer Trade Mark* on the sole.

FREE—If you will send us the name of a dealer who does not handle Mayer Honorbilt Shoes, we will send you free, postpaid, a handsome picture, size 15x20, of George Washington.

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One great advantage of these engines is their ever readiness. They enable you to do your hardest jobs faster, better and easier than ever you have been able to do them before.

There are hundreds of places where you would like to use a power—sometimes for just a little while, other times for a long, steady run. Many a time you can have the job done with your I. H. C. gasoline engine before you could even get ready with your old-style power. If it's a long, steady run, like a day's job of sawing wood, the engine will keep your saw going steadily hour after hour. The engine will take care of itself—all you have to do is to just 'saw wood.

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You need an I. H. C. engine to take the short cut on your work. Figure on the matter—see how soon it will pay for itself by getting full service for you out of your other machines. The engines are simple and easy to understand. You will have no trouble in learning to operate one of them.

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Call on our local agent in your town and talk the matter over with him. He will supply you with catalogues and all information. Or, if you prefer, address us for catalogue and full particulars.

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stitutions own their own iron ore deposits; coal mines and standing timber, but have never gone so far as to want to own land to grow food products to feed their employes for the reasons noted.

In the language of Solomon, there has "been no end in the making of books" devoted to the literature of agriculture. Bulletins on every conceivable subject from boll weevil to cutting up beef have been issued, but I am unable to find any economics of the farm in the sense that "System" has applied it to industries termed business. Common language approves the expression of a man quitting farming, and going into business, presumably because farming was not businesslike. Publicity could be used to educate not only the farmer but all industrial society to recognize increased wages of superintendence in farming. Short term courses in agriculture, as well as the regular courses, could advantageously construct some of the fabrics of farm economics and analyze as well as construct a uniform system of farm accounting to include wages of superintendence and casualties. JAS. N. MCBRIDE.

**SOWING ALFALFA WITH CLOVER IN WHEAT.**

In the further consideration of the inquiry by C. C. S., in January 22 issue of The Farmer, I wish to say that, in my experience, such method of seeding has been very unsatisfactory, especially if sown on the surface of the ground.

June clover, when sown on the surface of the ground, on any of our heavier soils, will, if the weather continues wet, effect an entrance into the soil. Even if the ground is so hard that the point of the root fails to effect an entrance, myriads of small side roots will start, that look more like mold than rootlets and some of these will gain an entrance into the soil and in a few days the plant is established. Sandy land is so much more apt to dry out rapidly after rains, on the immediate surface, that June clover will not so readily become established, as on the heavier soils.

Alfalfa never gains an entrance into the soil in this manner; in fact, if sown on the surface of the ground, I do not think one seed in twenty will usually become established. Neither do I think it advisable to sow alfalfa seed in any nurse crop unless sown at the same time with it.

For the purposes of inoculation C. C. S. may derive some benefit by mixing two pounds of alfalfa seed with his June clover seed and sowing with a disk drill or in some other manner that will insure a covering of the seed, but he must not be surprised if he does not get a plant of it to the square rod, altho if sown early and the wheat is a light growth or a thin stand, it may be more successful.

But why not sow alfalfa seed in the fall with the wheat? I know of a number of good stands that have been obtained in this way. As far north as Saginaw county I would think the snow covering would be sufficient to give a good protection during winter.

A year ago last fall my wheat was sown early and when the ground was too dry to germinate it and continued so dry all the fall that, what wheat did not rot in the ground, made such a weakly growth, that the ground seemed almost bare over a large portion of it, and the winter nearly ruined what there was left of it. The ground was bare nearly all winter and froze and thawed a great many times during the winter. Yet a number of alfalfa plants, that must have come from a few seeds left in the drill from a former seeding, came thru the winter in good shape and made a fine growth during the summer, altho the wheat also made a good growth yielding more than twenty-eight bushels per acre.

Last fall I sowed sixteen acres of my wheat ground to alfalfa, using four and one-half pounds of seed per acre and from present indications will have a good stand, altho the alfalfa may seriously injure the yield of wheat.

In fall seeding of alfalfa in wheat there are a few requirements that should be very carefully observed. Most farmers sow the clover seed broadcast and the wheat in drills. This I think a serious mistake. If the root of the clover is mingled with the wheat roots it is almost impossible for it to become heaved out by the frost, while if sown broadcast each clover plant stands alone unprotected, and is much more liable to heave.

The ground should be plowed early, when moist, if possible, and if well harrowed, and every possible means employed to secure a firm seed bed as alfalfa, as well as all other small seeds seem to do much better when the ground is firmed below, besides the seed must not be sowed too deep, not over an inch, and preferably with a drill that packs the soil still more as a shoe or a roller drill as against the disk or spike drills.

In getting a successful stand of alfalfa much depends on a proper fitting of the seed bed and sowing of the seed.

Most writers advocate the sowing of fifteen to twenty pounds of seed per acre, yet, during the past summer Joseph E. Wing stated "that it would seem that when properly drilled in, four pounds of seed is enough."

Cass Co. F. E. SMITH.

**AUTOMOBILES IN THE COUNTRY.**

Not infrequently the automobile manufacturer or his salesman is asked the questions, "who do you sell your automobiles to?" and "have the farmers begun to buy yet?" He has his answer ready and it is to the effect that the farmer is buying cars, that he is buying intelligently and that at least one-half of the vehicles sold are for country use. If it so happens that a city man has made this inquiry about country business he generally takes a step backward and opens his eyes wide. The fact is, few city people who are not close to the selling department of the automobile industry know how important a factor the automobile is becoming to the life of those who live in the country, in their business and pleasure, and in utilization of all energy and in the conservation of all resources.

A man who is identified with the marketing of medium priced cars in the Thumb of Michigan reports that he has thirty orders in sight for the month of February. Less than six months ago a man from a small town in Ohio bot 120 low priced cars selling in the neighborhood of \$600 to \$1,200. One of the very large concerns making a specialty of delivery wagons, trucks, etc., gives the information that farmers in the states of Illinois and Indiana, and in other sections where the roads are good, have bot commercial cars for marketing grains and produce.

As yet there is no type of automobile that is built for exclusive country use and that is at the same time particularly successful. A city automobile is good for the country if it will do in the country what is required of it. An automobile is seldom accepted by a city man unless it can do country work for the reason that the city man finds his pleasure largely in the suburbs and in the country. An automobile built for the country which will not do as good work as one built for the city is, surely, not what the country needs. The present country demand is for a car that will travel, carry a load and stand hard usage, and that is the kind the farmers are buying.

In the country there are times where from the sheer logic of economy the farmer is persuaded to buy an automobile. There is a general agreement that where many business trips are to be made or light loads are to be carried one automobile will do the work of three buggies and it does not take nearly as much time to look after an automobile as it does to care for three horses. Notwithstanding what economies there may be, automobiles are bot for the country for the same reason they are bot for the city; for the reason that time is saved. You can get to your destination in much less time.

Of course, the unfavorable conditions of many of the roads in Michigan have held back our general development. Yet, in this direction, there are few who do not see a change headed this way. Those of us who appreciate the possibilities, to a country, of hard, smooth, water-shedding roads dream great things for the future. Those of us who have faith that much will be done during the lives of the present generation to put the main roads in proper shape also have the greatest faith in the unusual adaptability of the passenger and load carrying automobiles to country use.

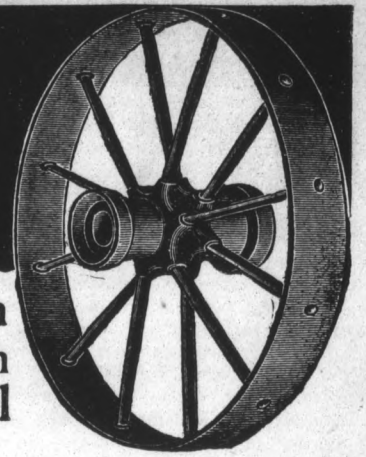
Wayne Co. W. K. WONDERS.

**FREE BOOK ABOUT CANCER.**

The Leach Sanatorium, of Indianapolis, Ind., has published a book on cancer, which gives interesting facts about the cause of cancer; tells what to do in case of pain, bleeding, odor, etc., instructs in the care of the patient, and is in fact a valuable guide in the management of any case. The book is sent free to those interested who write for it, mentioning this paper.

"I received my sewing machine October 22, all O. K. I am well pleased with it so far."—Mrs. C. C. Storms, Millington, Mich.

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Ever think of it? No sense in having your wagon perched away up there on high wheels. Have low wheels for farm work.

Stop the drudgery of loading! Cut out the aches! Lifting kills more farmers than pneumonia, consumption and typhoid combined.

Save your team. These low, broad steel tires by actual test pull from one-third to one-half lighter than high narrow wooden wheels. **You can put a broad platform over your Empire wheels and double your load.** You can't overload Empire Low Steel Wheels and you don't get stalled in the mud. They save you money. No more cracked hubs, rattly or broken spokes or loose tires. No more stopping your hauling to go to the blacksmith with wheel troubles.

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We have determined to distribute at least three times as many of our wheels and our wagons among farmers this year as we did last year.

We can do it. We have the materials. We have the factory. The farmers want the wheels and the wagons. We have fixed the lowest possible prices, based on an output for 1910, three times the largest of any year in our history.

Those who answer this test advertisement will get the benefit now! Does this interest you? Then clip the coupon below and fill in your name and address—or just send your name and address to us on a postal card—and we will send you our catalog and unheard-of low price list. Pick your wheels—pick your wagon—see how little they cost you.

You can order Empire Low Steel Wheels separately to put on your old farm wagon.

We give you plain, simple directions how to measure your skeins for just the wheels you need.

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The best combination for money saving and satisfaction in farm hauling is Empire Low Steel Wheels on the Empire Handy Wagon.]

We build twenty styles of Empire Handy Wagons—a wagon for every purpose—wagons that will carry from one to twenty tons—wagons for general farm use—logging—lumber hauling—combination farm and logging—orchard trucks, etc.

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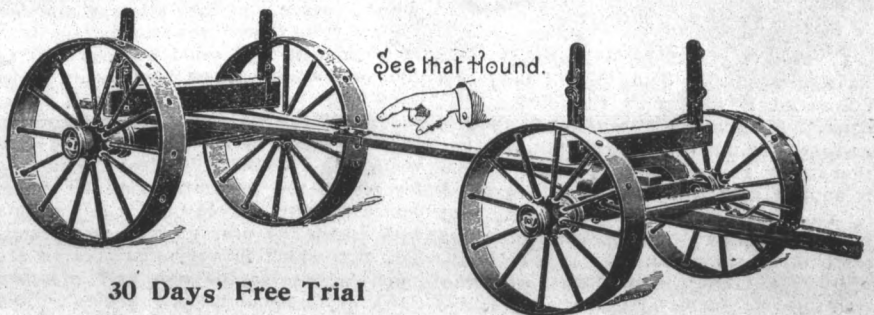
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BOARDING HIRED HELP.

If there is one thing in which the farmer has not been enlightened it is in the matter of boarding hired help for, as a rule, he still does it in the same old way. No one who has ever tried it can fail to appreciate the cost, inconvenience, vexation and in many cases utter humiliation in quartering hired help by the year. Not that farm help is more evilly disposed than any other but it inevitably comes into such close relations with the farmer's family that more or less discord naturally prevails.

The city business man does not board his help. Perhaps it is more excusable in the case of the farmer but I doubt whether it is any more congenial for the latter than for the city man. The farmer simply does so because he feels that he is obliged to, and that the only alternative would be to go without help. Any farmer who hires very much help must necessarily expect to have men of all descriptions whom he must house, feed and otherwise treat very much as equals—not as subjects.

I know from my own experience that even the better class of men will often make unnecessary trouble for their employers. One day while working with a thrashing crew, I heard the men jesting about the employer's family; they seemed particularly anxious to stay at the man's house for dinner, altho it was a small job which they ought to have finished before that time. The machine got out of order and it proved to be of such a serious (?) nature that it took a long time to fix it. So this, and that and the other thing went wrong and the upshot of it was that they not only stayed to dinner but that in the afternoon a shower of rain stopped the work long enough so that the job lasted until supper time! I went home thoroughly disgusted, resolving to let my own thrashing go if I couldn't have a better gang than that to do the work. It was the worst crew of its kind I ever saw, but it simply shows the spirit which commonly prevails not only in thrashing crews but in all others where a number of men are employed who seem bent on having a high old time at the farmer's expense.

To have the regular hired help board themselves would greatly relieve the burdens of the farmer's household. He could afford to pay a little more if they would. It would be worth more to many a housewife than all the labor-saving devices combined and might go a long way toward solving the labor problem. In short, it would do more toward making the farmer's occupation an ideal one. Perhaps many will say that farm help is scarce, that the men are independent, and that this would be an inopportune time to impose conditions which they would not be likely to stand. And so it is. We think it safe to say that most of the help would take French leave in short order if the farmer should suddenly refuse to board them, even if extra wages were offered. But after all, the fault is very largely in ourselves and is due to conditions which in time can be overcome. If every farmer hiring by the year had a snug little tenant house or cottage his help could not only board themselves but there would, in my opinion, be more applicants for farm work. If we want more farm help it is up to us to make the conditions favorable to their living in the the country and one of the conditions is to provide houses for them. This is what the managers of large manufacturing establishments do when they locate in a new city. They often build houses for their employes which the farmer may likewise do on a small scale. As far as my knowledge and observation goes such a plan insures the best satisfaction by all who have tried it as a means of employing help. Until we get out of the old rut the hiring of help will be the greatest burden.

H. E. WHITE.

LIME FOR ALFALFA.

Will it prove beneficial to apply lime to alfalfa sown last spring?

SUBSCRIBER.

I think it would have been better to have applied the lime to the land and cultivated it in before the alfalfa was sown. It would, of course, have had more effect upon the young alfalfa, but there isn't any question but that if lime is applied with a drill or sown broadcast on the field next spring the alfalfa will be benefited by such application. The more thoroly you can mix lime or fertilizer, or anything of that sort, with the soil, the better it is for immediate results, but the lime will gradually be carried

down to the roots of the alfalfa by the rain, and the alfalfa will eventually be benefited by it. I know that some of the most extensive growers of alfalfa are applying lime in large quantities to old alfalfa fields. I heard Ex-Governor Hoard of Wisconsin, say at a dairy meeting that he was applying seven or eight tons of ground limestone to his old alfalfa fields. I cannot give you any definite data showing the amount of benefit received from this application, but I do know that people who have grown alfalfa for a considerable length of time are convinced that the plant needs a large amount of lime. I heard Joseph E. Wing, who everybody recognizes as an alfalfa expert, and who has given considerable thought and study for a number of years to this important forage crop, say that alfalfa could be grown successfully on the lightest sand, if that sand was only well supplied with carbonate of lime and was made fertile, and he attributed the failure of alfalfa on light land largely to the fact that this land was deficient in carbonate of lime. It is always better to sow the lime and the fertilizer, that is, the first application, before the seed is sown, and work it well into the soil. You will get quicker results. But after the alfalfa field is well established of course this cannot be done and it must be broadcasted. You will get better results the following year from the lime applied next spring on top of the ground than you will on the first crop, but you will eventually receive the benefit from it.

THE BEST METHOD OF SEEDING CLOVER.

I noticed on the first page of the January 8th issue of the Michigan Farmer, inquiry in regard to sowing clover seed in wheat. The weather condition has a lot to do with this, for instance, last winter being an open one the best results were obtained by sowing broadcast early in February on bare ground. Those who did this in this section harvested a crop of hay last fall, or had a good pasture. Others who used a disc drill with grass seeder attachment and drill set shallow, sowing in the spring, only got half a stand and some did not get that. However, I think in heavy winters the last method would be the best.

Cass Co. H. H. ROTH.

PREPARATION OF THE SOIL FOR PLANTING AND SEEDING.

In the proper preparation of the soil for planting and seeding, several factors which influence good yields should be kept constantly in mind. Perhaps the first and most important of these is a good seed bed, which can be secured only by packing the sub-surface soil sufficiently to afford a union between it and the sub-soil which will promote the proper distribution of the soil moisture to the roots of the growing crop thru the aid of capillary attraction. Another of these important factors is the proper stirring and mixing of the surface soil which brings about new combinations of soil particles and, thru the chemical and bacterial action which results from this change, makes available the latent plant food contained in the soil. The third in importance of the many factors of success which should be kept in mind is the killing of the weeds as soon as the seeds have germinated, and the making of a suitable earth mulch on the surface to retain a maximum of soil moisture for the use of growing crops. The accomplishment of these essentials with a minimum of labor and the maximum of efficiency, depends not a little upon the character of the implements selected for the work. For the purposes named, the various types of disc harrows have grown in popularity during recent years for the reason that they have been found to be the most efficient tools for this work. The heavier disc and spading harrows have found most favor for the fitting of soils without plowing, while the lighter disc, double disc and cutaway types have greatly increased in popularity for the finer surface fitting of the soil, for the reason that they stir and mix the surface more thoroly than almost any type of implement that could be selected. In the purchasing of new implements to be used in preparing the seed bed and fitting the soil for spring planting and sowing, these implements should be carefully investigated and their utility for the purpose for which the purchase is to be made, compared with the old type of implements with which the user may be more familiar, but which in very many cases are much inferior to the new and improved types of implements now generally and extensively advertised.

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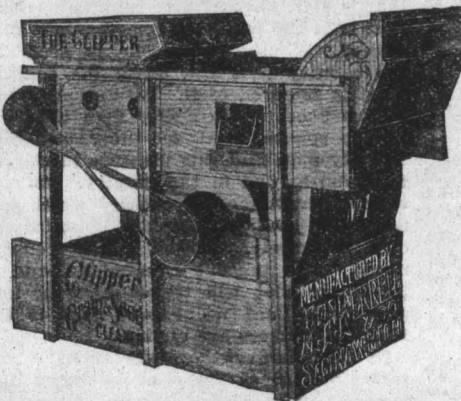
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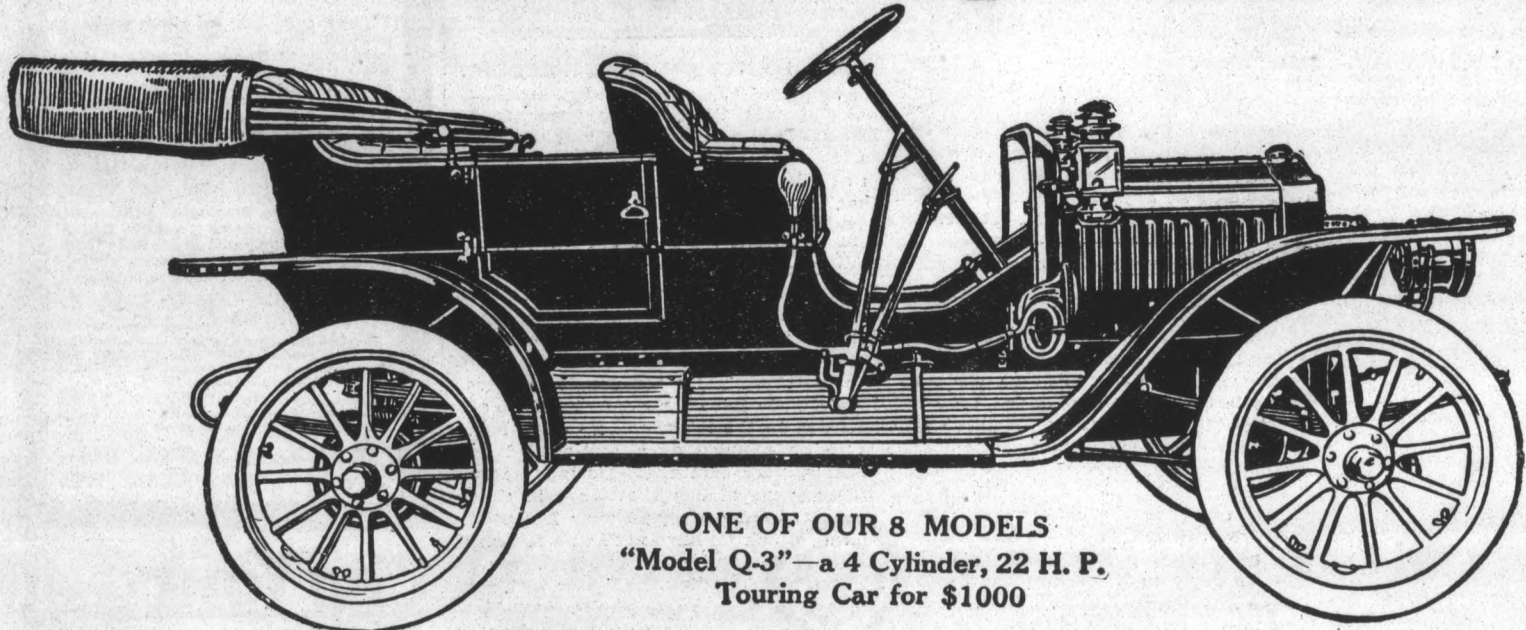
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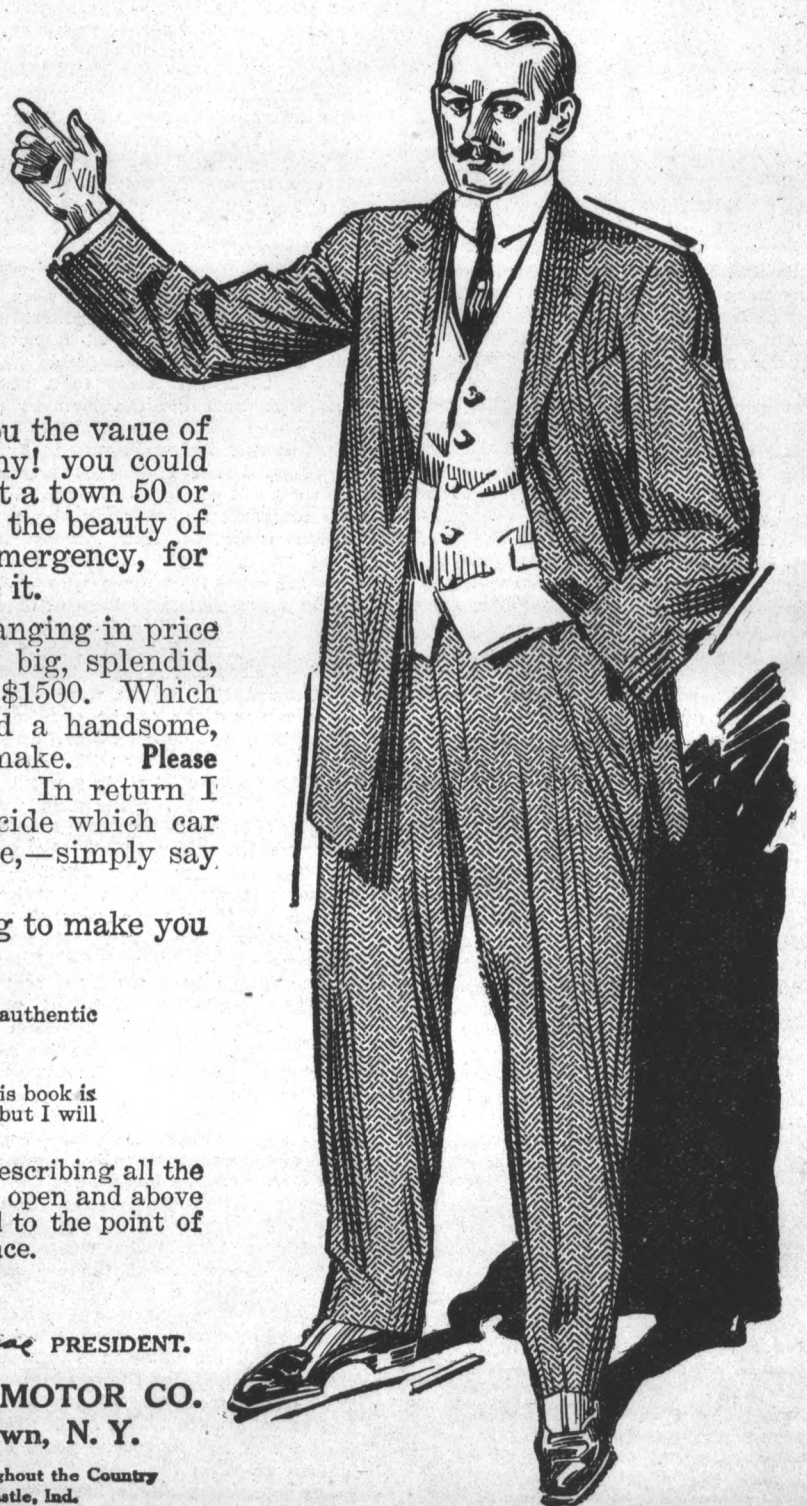
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**LIVE STOCK**

**REPORTS OF RECENT BREED MEETINGS.**

(Continued from last week).  
**Michigan Jersey Cattle Club.**

Owing to the fact that the secretary and treasurer's report book was during this meeting and is still, somewhere in the hands of the express company, said officer was unable to tell which annual meeting this was or to make a report on the financial standing of the club. The program while short was an excellent one as all of the speakers were present and gave good papers.

Dr. Waterman on "Superior Points of the Jersey Cow," devoted not a little time to pointing out some of the non-superior points of the breeders of the Jersey cow showing wherein the breeders fail to do their duty. In the discussion that followed, it seemed to be the opinion that Jersey breeders were apt to take too much for granted when speaking of the Jersey to those who have never had experience with her. The good qualities with which the breeder is thoroughly familiar may not be known to the novice. As, for instance, the cost of production of dairy products. Really the basic principle on which we expect to make net profit in our dairying business. The Jersey man feels that in the Jersey he has a breed of cattle second to none on the economical production of butter. We believe also that the Jersey breed should show more class in breeding and more type than any of the other breeds.

It was also argued that while the large world-beating records were interesting and had their use yet this was far removed from the practical dairyman who depends upon his cows for his income, not for the number of pounds produced but how economically this number can be produced is the vital point to be considered by him.

Mr. Jennings, in dealing with the subject of "Local Jersey Breeders Associations," gave us an insight to the large amount of good as accomplished by the Southwestern Michigan Pedigreed Stock Association, of which he is secretary. I believe he was also the originator of this idea and I believe, also, that the success has been due largely to his energy and interest.

Mr. Probert, on "Breeding for Sex," delivered a very good paper showing close thought and much study. The only trouble being that after nearly proving certain points with the experience of 15 years he rather spoiled the effect by admitting that this last year the calves had turned out the opposite sex from what was expected and planned.

A committee of three, consisting of C. C. Lillie, Dr. Waterman and the secretary, was appointed to investigate the proposition for a Michigan Cow Contest and report at the next meeting, which will be held during the Dairyman's Convention in Detroit.

As stated in the secretary's report of the Breeders' Meeting it was unanimously decided that the Jersey cow was the best cow on earth for the dairyman to own.—T. F. Marston, Sec.

**Michigan Shropshire Breeders' Association.**

On Thursday, January 13, there was organized a Michigan Shropshire Sheep Breeders' Association and the following officers were elected: President, C. S. Baldwin, Bennington, Mich.; vice-president, A. H. Zenner, Detroit; secretary, W. H. Schantz, Hastings; board of directors, Hon. H. E. Powell, Ionia, C. H. Hutchinson, White Pigeon; A. C. Anderson, East Lansing; W. P. Pulling, Parma, H. E. Reed, Howell. There are a large number of Shropshire Breeders in this state and this should make a strong, vigorous organization.—W. H. Schantz, Sec.

**FEEDING YOUNG LIVE STOCK.**

Whenever a young pig, or calf, or colt has been deprived of its mother at birth or within a few days of such time, it becomes necessary, if there is no other animal of the same species that can adopt the little orphan, to feed artificially. This should not be done with pure or straight cow's milk. In this there is far too much casein, or curd. It may easily kill a young pig, as well as a young human baby, in a very short time unless diluted a great deal.

At least twice the amount of water to that of milk, with a little extra cream, and a small amount of sugar should be

given. Little pigs can stand less milk and more cream, little colts a little more sugar but not quite so much cream, and a very young calf, that misses the heavy, dark colored first milk that comes from its mother's fresh bag, might be given a little bit of castor oil, together with an egg whipped up, and mixed thoroly. This seems to be necessary to cleanse the bowels and remove any particles of worn-out materials that were not necessary to the building of bones and muscle.

The little ones should be kept in a warm place. They should have room to run and exercise their limbs for this helps them to get rid of any harmful deposits in their alimentary canal. They should be fed, at first, quite often; say about once every three hours; after this, say in about ten days, the time may be lengthened gradually, to about three times a day.

If scours develop in these artificially fed youngsters, give a little flour, a teaspoonful to a pig, three to a calf or colt and a little soda to correct the acid stomach, but do not feed till the stomach is distended at any one meal. Let them California. E. M. STETSON.

**BREEDERS' PROBLEMS.**

**The Most Profitable Breed.**

Several inquiries have recently come to hand asking some experienced sheep breeder to give an opinion on the most profitable breed of sheep to put upon the farm, and his reason why. If this question were submitted to the sheep breeders of Michigan, there would be as many different breeds advised, as there are patrons of the several improved breeds in the state. Questions of a similar nature have been recently asked with the request that we reply to them thru the columns of The Farmer, and the reply has always been that the farmer contemplating going into the sheep breeding business should consider the conditions which surround him, and then secure the particular breed adaptable to those conditions for which he has a personal preference. There is no best breed of sheep for all purposes, otherwise breeders would have found it out long ago, and there would now be but one improved breed, whereas there are a number of breeds which Michigan farmers find it profitable to breed upon their farms.

Under the conditions which prevailed years ago, the Merino sheep were found to be best adapted to the general farmer's needs. They sheared a maximum fleece of wool, endured hardship well and retained their usefulness to a good old age. But with the development of the range sheep business, and the consequent fall in the price of wool, very many farmers found the old Merinos unprofitable and went out of the sheep breeding business altogether. Later, as the price of mutton advanced, the English breeds found an opening in this country, and were introduced by those who thought they saw in some particular English breed the sheep of the future for America, thus the coarse wools, the Cotswolds, the Lincolns and the Leicesters, representing the largest of the mutton breeds, were established in various sections of the country. The Shropshires, the Hampshires, and later the Oxfords found favor with other breeders, both because of their general utility and the demand for breeding rams of these breeds from western ranchmen. With the later increase in the price of wool the Rambouillets, or the Merinos of France and Germany, were introduced because of their more general purpose type in comparison with the old American or Spanish Merinos, and found favor in many sections both for farm and range use. But it will be noted that, notwithstanding the changing conditions which have surrounded the sheep business in recent years, the several breeds have apparently held their own, the one against the other, and with the revival of interest in the sheep business, all have increased in numbers and popularity, some strains of the old Merinos included.

Briefly stated, the relative advantages of the different breeds may be summed up as follows: The Merino types shear the heaviest fleeces, stand the closest herding, and afford a very good quality of feeding lambs, particularly the Rambouillets. The middle wool or down breeds, so called, including the Shropshires, Hampshires and Oxfords mentioned above, are perhaps more ideal in mutton quality and afford profitable fleeces of a grade of wool which has in recent years brot the highest price on the market. The coarse wools mentioned above have, on account of their large size, been extensively used in cross-breeding in many localities, but

have never obtained the popularity with Michigan breeders that has been noted with the down breeds. The little South-downs, a special mutton breed, never became very popular here, but from the standpoint of mutton quality, they are superior to all others.

With these points in mind, each one of which could be enlarged upon indefinitely, the breeder should make his choice and, if he keeps a pure-bred flock, should adhere to the choice once it is made. Sheep breeding is not given the attention which it merits upon the average Michigan farm, and as the western flocks disappear thru the breaking up of the ranges, more extensive sheep breeding will prove necessary to profitable sheep feeding, which has been an important Michigan industry in many localities.

**SOME POINTS ON LAMB FEEDING.**

About this time, nearly every feeder has his lambs in the shed and is aiming to get them ready for market as soon as is at all possible. Most old feeders know that there is a great deal of danger in this rushing of things. Yet the inexperienced man is always trying to get them on full feed as soon as possible. This propensity toward rushing things almost invariably results in the reduction of profits, especially so when the self-feeder is used.

I do not wish to condemn the use of the self-feeder, for we use it ourselves. However, in this connection, I wish to give warning to the beginner. The self feeder is to be handled as a soft-shelled egg; that is, very carefully. During the past thirty years of our experience in sheep-feeding, hardly a single year has passed during which we have not lost a few sheep while starting them on full feed.

Start out by filling the feeder with some light feed such as oat-hulls, corn-blowings or bran and then gradually decrease the amount of light stuff and increase the fattening part of the ration until the sheep are on full feed. Such a method reduces the losses to a minimum. Another thing to be watched is the choking up of the feeder where it drops down into the feeding trough. That place should be cleaned out at least once a day; otherwise, the feed being constantly wetted by the saliva from the sheep, will become pasty and block up the outlet for the grain. So, if it is not kept clean, there is danger of the sheep not getting any grain for several hours, after which they will fill up, with bad results.

It ought not to be necessary to mention the fact that an abundant supply of good pure water should always be on hand. Especial emphasis should be put on the "always," for "the water is there at intermittent hours, disastrous results are likely to occur.

Feeding lambs relish a change. You can get excellent gains by using cornstalks for a steady diet; but it is altogether likely that you will get better results by changing things a little. Clover hay is an excellent feed at all times, but if you haven't enough to feed every day, it is a good thing to feed a little now and then. We sometimes give the feeding lambs a feed of nice clean straw. Don't do it very often, or don't try to use it in place of a regular feed, but work it in along the line of an extra. Clover chaff is oftentimes relished.

Finally, when they are ready to go, ship them. After a lamb is once fattened, it is a waste of feed to try to get him beyond a certain point. Also there is danger in trying to get a lamb overfinished. After a lamb reaches a certain stage in the fattening process, a continuation of heavy feeding results in a sudden rush of blood to the head, something akin to apoplexy in man. This disease leaves only the wool for you to sell; and the wool is high at present, you want more than that after you have used the time, labor and feed incidental to finishing off a lamb, or yearling.

Ohio.

CLYDE A. WAUGH.

The wide-spread movement to boycott beef in order to force retail prices lower is calculated to discourage beef production, but it now looks as tho the careful feeder would come out ahead. Where short-feeding is carried on right and a good grade of medium-weight beeves sent to market, profits should be remunerative, but it is not so certain that long feeding will produce suitable returns. All that sustains prices for strictly prime heavy cattle is their great scarcity everywhere, for there is no large demand for them. The great mistake that so many stockmen are making is in marketing their short-fed steers before they are fat enough.

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Hundreds are doing it with an Appleton Wood Saw. Why not you? We make six styles—steel or wooden frames—and if desired will mount the saw frame on a substantial 4-wheel truck on which you can also mount your gasoline engine and thus have a

**PORTABLE WOOD SAWING RIG** that is unequalled in effective work and profitable operation.

We make the celebrated Hero Friction Feed Drag Saw also, and complete lines of feed grinders, corn shellers, corn huskers, fodder cutters, manure spreaders, horse powers, windmills, etc. Ask for our Free Catalogue.

**Appleton Mfg. Co.** 20 Fargo Street  
Batavia, Ill. U.S.A.

**GALVES RAISE THEM WITHOUT MILK** BOOKLET FREE.  
J. E. Bartlett Co., Jackson, Mich.  
WHEN writing to advertisers just say "Saw your ad. in the Michigan Farmer."



**BUTTERMILK OR TANKAGE FOR GROWING PIGS.**

Rye is 70c per bu; middlings \$30 per ton. I have several hundred bushels of cull potatoes. At present am cooking four bushels of chopped potatoes and 1 1/2 bushels ground rye for pig feed. Would it be wise to sell rye and hay middlings? Have ear corn which I feed once a day. At above prices for feed would you consider good buttermilk from creamery at 15c per cwt. as being a wise and reasonable feed? Would it be all right to cook potatoes in buttermilk and thicken with ground rye or middlings? Would digester tankage at \$40 per ton be more reasonable than middlings at \$30 to feed with corn and buttermilk for pigs on pasture next summer? Would buttermilk be a satisfactory feed for calves? How does its feeding value compare with skim-milk? Hillsdale Co. L. W. M.

Cooked potatoes, ground rye and corn do not contain a large enough per cent of protein to get the best results in feeding young growing pigs. Middlings would be a very good feed with which to replace the rye as it contains nearly twice as much protein as the rye; but even middlings, and corn and potatoes would not make sufficient protein, because your corn and potatoes both are deficient in protein, while middlings contain just about the right per cent of protein, or the right nutritive ration to make a balanced ration for young growing pigs. Therefore, I would advise adding tankage to the ground rye and potatoes, or, if I could purchase the buttermilk at 15 cents a hundred, I would use this in the place of tankage because buttermilk is rich in protein and makes a splendid ration to help balance up corn for pigs, or corn and potatoes. The potatoes are a pretty good starchy food if they are cooked. I would cook the potatoes in water, then I would make a slop out of the potatoes and the buttermilk and feed them what they would eat up clean of this and then feed them their corn. Now, to have a good balanced ration of corn and buttermilk you want to feed about 100 lbs. of corn to 300 lbs. of buttermilk, but since you are feeding potatoes also which are a starchy food, then I would not feed over 50 lbs. of corn to 300 lbs. of buttermilk, where you make a slop out of the boiled potatoes and the buttermilk. I think your pigs will do exceedingly well on this and I believe with the present price of other foods, that you could get no food that would do you any more good for the money than buttermilk at 15 cents per hundred pounds. It is, in fact, worth more than this as a food.

The digester tankage is a splendid food to help balance up a carbonaceous ration for growing pigs, but it is a very concentrated food and must be used accordingly. Tankage contains from 60 per cent to 75 per cent digestible protein while buttermilk contains only about 3.9 per cent, consequently if you feed 300 lbs. of buttermilk with every 100 lbs. of corn to make a balanced ration, you should not feed over 15 lbs. of tankage with the same amount of corn. Therefore, if you boil up your potatoes and make slop out of boiled potatoes and ground rye, and put enough tankage into the mixture, so that you will feed this with about 50 lbs. of corn, (and in estimating corn, of course, we mean shelled corn rather than corn on the ear, or you ought to figure 70 lbs. to the bushel instead of 56). By a little careful figuring and estimating you can tell just about how much tankage to mix with a barrel of potatoes and rye slop. Or, if you do not care to figure out a ration very accurately, it would be well enough to put in say 10 lbs. of the concentrated tankage into a barrel of the boiled potatoes and rye. Mix them up thoroly together and feed the pigs all they will want and all they will eat up clean of this and feed about 50 lbs. of corn to 300 or 400 lbs. of the slop.

I would not cook the potatoes in buttermilk, but rather cook them in water and then add the buttermilk.

I think the calves could soon get used to buttermilk so that they would do fairly well upon it, but of course buttermilk is practically always sour and sometimes not in very good condition when received and it would not be considered a good food for young calves. After the calves were a month or two old they could gradually be put on buttermilk and I think would do well. In fact, I know that calves have been raised on buttermilk and have been thrifty, healthy calves.

The feeding value of buttermilk is just about the same, practically no difference between the feeding value of buttermilk and the feeding value of skim-milk. If anything, the buttermilk is usually a little bit richer in protein than the ordinary skim-milk from the creamery. They are both splendid growing foods for pigs.

COLON C. LILLIE.

## One Pail, or Two?

Why not make the cows pay better this year than last. You can do it; you can get better returns at the pail and the churn than you've known before in all your dairy experience. Give Dr. Hess Stock Food to the cows twice a day in their grain. No need to increase grain or fodder—it's simply a matter of making the grain and fodder you do give digest more perfectly, and of turning a larger per cent of it into rich, foamy milk.

### DR HESS STOCK FOOD

will do this—is doing it wherever given, because it makes grain, hay, roughage—whatever the cow eats—at once available to pass into the blood as the basis of a larger milk secretion. This attention to animal digestion, rather than to quantity of ration, is known among stock raisers as "THE DR. HESS IDEA" and is practical for all farm animals. Horses work better, steers fat quicker, and sneep and hogs show greatest development when they receive Dr. Hess Stock Food Dairy. Fed twice a day in small doses. Sold on a written guarantee.

**100 lbs. \$5.00** Except in Canada and extreme West and South. **DR. HESS & CLARK,**  
**25 lb. pail \$1.60** Smaller quantities at a slight advance. **Ashland, Ohio**

Also manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.

**Free from the 1st to the 10th of each month—Dr. Hess (M. D., D. V. S.)**  
 will prescribe for your ailing animals. You can have his 96-page  
 Veterinary Book free any time. Send 2c stamp and  
 mention this paper.



### DR. HESS POULTRY PAN-A-CE-A

not be confounded with so-called "poultry foods." It is not a food—its sole reason for being is that all fowls need a digestive tonic so that what they eat will make the most in eggs and flesh. Dr. Hess Poultry Pan-a-ce-a strengthens the digestive organs of the laying hen and growing chick, and thus there is less food waste and more production and growth. It also cures Gapes, Roup, Cholera, etc. A penny's worth feeds 30 fowls one day. Sold on a written guarantee.

**1 1/2 lbs. 25c; mail or express 40c. 5 lbs. 60c; 12 lbs. \$1.25; 25 lb. pail \$2.50.**  
 Except in Canada and extreme West and South.  
 Send 2c for Dr. Hess 48-page Poultry Book, free.

## INSTANT LOUSE KILLER KILLS LICE

### SAVE THE HORSE'S SPAVIN CURE

REG. TRADE MARK




Don't forget, Mr. Man, no matter what your case is, an investment in "Save-The-Horse" means: You simply cannot lose if you get it right. **OUR CONTRACT PROTECTS YOU.**

SIMON & SOX, Tailors, Richmond, Va., Nov. 20, 1909.  
 TROY CHEMICAL CO., Binghamton, N. Y.: I used "Save-The-Horse" as you directed on the place where the horse was kicked and he recovered entirely from lameness. A week afterward he went lame in hind leg, and he was very lame. I had a doctor examine him and he said he had a blind jack. As I had some "Save-The-Horse" left he advised me to use it, which I did, and he is perfectly sound. This jack came on the leg that was sound, for, if you remember, he had a bone spavin on the other leg some time ago. I have had tough luck with this horse, but your remedy has always given him a cure. I thank you for your kindness, always willing to give advice, and I shall always recommend "Save-The-Horse" highly. **NATHAN SIMON.**  
 Norway, Me., Oct. 19, 1909.

TROY CHEMICAL CO., Binghamton, N. Y.: I have a horse, etc. I have faith that "Save-The-Horse" will do as you say, because I have seen four cures, one leg spavin, and one enlarged tendon cured by it for other people. Please let me hear from you regarding my horse. Very resp., **A. H. STAPLES, D. D. S.**

**\$5.00** a bottle, with signed guarantee or contract. Send for copy, booklet and letters from business men and trainers on every kind of case. Permanently cures Spavin, Thoroughpin, Ringbone (except low), Curb, Splint, Capped Hock, Windpuff, Shoe Boil, Injured Tendons & all Lameness. No scar or loss of hair. Horse works as usual. Dealers or Exp. paid. **TROY CHEMICAL CO., 20, Commercial Ave., Binghamton, N. Y.**

### KENDALL'S SPAVIN CURE

The world-wide remedy. Once used, always used. Cures Spavin, Splint, Ringbone, Curb, Swellings, Lameness.

**\$1 a Bottle; 6 for \$5**  
 All druggists. Get free book, "Treatise on the Horse."  
**DR. B. J. KENDALL CO.,**  
 Enosburg Falls, Vermont

### Seldom See

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.


## ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. \$2.00 per bottle, delivered. Book 10-B free. **ABSORBINE, JR.,** for mankind, \$1.00 Bottle. Removes Soft Bunches, Cures Varicose Veins, Allays Pain. Genuine mfd. only by **W. F. YOUNG, P. D. F., 268 Temple St., Springfield, Mass.**

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Coughs, Distemper, Indigestion  
 Guaranteed or Money Refunded

## NEWTON'S



The Standard Veterinary Remedy **Makes the Horse Strong and Willing to Work.**  
**CURES HEAVES BY CORRECTING THE CAUSE** which is Indigestion. Send for Booklet "Horse Troubles." Explains fully about the Wind, Throat, Stomach and Blood. Newton's is safe for colt, adult or mare in foal.  
**A GRAND CONDITIONER AND WORM EXPELLER**  
 \$1 a can at dealers or express prepaid.  
**THE NEWTON REMEDY CO., Toledo, Ohio**

### "Cow Troubles"

Is the title of our Book 6-A that is sent free, telling how to relieve Caked Bag, Sore or Injured Teats, Spider in Teat, Cow Pox, Udder Troubles, and prevent Heifers from becoming hard milkers with

## "Cows Relief"

**\$1.00 per Box**  
 Delivered, or at Dealers'  
**O. H. MFG. CO., 28 Chapel St., Lyndon, Vt.**

### KEEP QUIET CATTLE

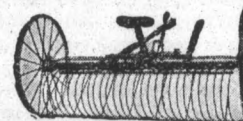
Dehorned cattle are steadier and worry others less—the

## KEYSTONE DEHORNER

gets more milk and more and better beef—hurt is slight—heals quickly.  
 Write for Free Booklet.  
**M. T. PHILLIPS, 145 Main St., Pomeroy, Pa.**

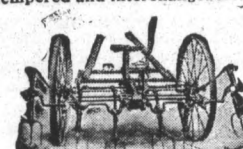
## JOHNSTON HAY TOOLS

enable you to make hay in a day—and good hay at the same time. There is only one kind of hay and that is **GOOD HAY.**



Johnston Hay Rake.

All steel construction—strongly and rigidly constructed—no complicated parts to give trouble. The wheels are light, high and very strong; the frame is angle steel trussed. The teeth are long, flat-pointed, oil tempered and interchangeable.




Johnston Hay Tedder

is also of entire steel construction. This is the original "hurry up" tool. Full roller bearing. Very rigid. More tedders are being sold than almost any other farm tool—and the reason is, that they make good hay quickly—you should have one. Let us give you full detailed information. Write today for 1910 catalog covering the complete Johnston line.

**JOHNSTON HARVESTER CO.**  
 Box 105-T **BATAVIA, N. Y.**

### Warranted to give satisfaction.



## GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price **\$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address **THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.**

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Until you investigate

### "THE MASTER WORKMAN"

any wagon. It is a combination portable, Centrifugal and Power Pumps. **THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR 56th YEAR.**

a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on stationary or traction engine. 1 and 3H.-P. Air Cooled Pumping Engines—



STORY OF THE BREEDS.

Chester White and O. I. C. Swine.

When, how, and by whom was the O. I. C. breed of hogs originated? Are the individuals of this breed having blue spots on the skin the nearest perfect? I have heard it contended that they were simply the common Chester Whites improved by selection; while others say that they were obtained by crossing that breed with the Poland. An authoritative reply to the above would be greatly appreciated by at least one of your readers.

Barry Co.

C. M. H.

The history of this breed of hogs can scarcely be more accurately or briefly told than in the following words used by F. D. Coburn in his work on Swine in America.

"The Chester White Breed had its beginning about 1820, or slightly earlier, in Chester county, Pennsylvania, by the use of some white boars brot from Bedfordshire, England, for crossing upon the better class of sows then reared in Chester county, and mostly white. By careful selection and mating, during the ensuing forty years, the more painstaking of the thrifty Quakers, who found a market in Philadelphia for their surplus swine, had a stock quite uniform and notable in its characteristics. These were: Length and good size, growthiness, good breeding qualities, remarkably quiet and gentle dispositions, short legs, rather large, coarse ears, drooped so much as to almost obscure the eyes, and hair usually abundant and not too coarse, frequently quite curly or wavy and always silvery white, altho the skin itself might sometimes show here and there a brown spot or freckle.

"Following the Civil War, these Pennsylvania hogs had a wide reputation, which was largely added to by shrewd advertising. As the supply was confined to but two or three counties and was, therefore, quite limited, the demand was met by shipment from speculations and others of almost any sort of white pigs that could be found, especially if the pigs had large ears. Nondescripts of this kind were distributed over the country as pure-bred Chester Whites, and in consequence the reputation of the breed received a setback, from which it has never fully recovered. A few of the original breeders kept some of the pure stock, persevering in its breeding and improvement until now they have better Chesters than were known in the earlier days, and the demand for and appreciation of them is steady.

"Soon after the close of the Civil War some northern Ohio men began crossing the Chester county hogs on stock found in their locality, and the descendants of these are now recognized as a breed somewhat distinct from the others and designated as the 'Ohio Improved Chester,' or more briefly as the 'O. I. C.' swine. In a general way, these are not now essentially different from the swine descended wholly from the Chester county stock, but it may be that the best of them have slightly more compactness and a less lubberly style, fatten more quickly, and reproduce themselves with equal certainty. At the same time, only the man who had reared a given animal could, from its appearance alone, be positive as to which family of Chesters it belonged."

With regard to the blue coloring mentioned by the inquirer, the scale of points adopted by the American Chester White Record Association, reads as follows: "Blue spots in skin, and black specks shall not argue impurity of blood." Touching this same point, the scale of points for O. I. C. swine, adopted by the Ohio Improved Chester Swine Breeders Association, reads: "Black spots in hair disqualify, but blue spots in hide (freckles) while objectionable, do not argue impurity."

A BETTER SYSTEM REQUIRED IN HORSE BREEDING.

What may properly be called a boom in horse breeding commenced in the middle west about 1870. From that time to the present, immense sums have been spent annually in the purchase of imported stallions for the improvement of our farm draft horses, and yet, after forty years of persistent effort, there are but very few districts and they quite small, where anything like a distinct or uniform type of heavy horses can be found.

The reason is, no definite plan was laid out at the start. Scarcely anyone had a fixed type in mind, nor even made a study of the characteristics of the different breeds; hence a zig zag course has been followed with unsatisfactory results.

Without considering their fitness for each other, stallions and mares have

been mated, which only exaggerated the faults to be corrected and the blame was placed on the stallion and a change made. Requiring more style and action half-blood Percheron mares have been crossed with rangy Coachers. At one time I was largely interested in English Coachers as well as Shires, and if a buyer came for one to breed to draft horses, I discouraged him all I possibly could; I explained that while a good Coacher could be bred to roadster mares with unqualified success the same horse on draft mares would be a wretched failure; the produce a lank, leggy, no class horse and unsalable, but my best efforts often failed—the buyer knew what he wanted and could not be mistaken—hence, exit coacher.

My advice has always been, stick to draft stallions with grade draft mares. If the mares are sluggish or are deficient in bone, select a compace, nerry Shire with heavy, clean bone, straight easy action and the result will be favorable every time and you wont need a "ton" stallion to get it either.

In going over my sale book recently, running back thirty-five years, I find that the most uniform, good breeders, have weighed from 1,700 to 1,850 lbs., with bone in proportion. The trouble with many stallions weighing a ton or more, is that their proportions are not correct, or that they are out of small stock on one side and their excessive weight produced by high feed.

Random breeding thus far followed in America is in marked contrast to the English system—there, a definite line was fixed on and followed persistently, the son taking it up where the father left off; as a result England has three fixed breeds, the finest and most prepotent in the whole world: The thoroughbred racer, the Coacher and Shire. The good they have done in other countries where high-class horses are bred is beyond calculation.

A great injury to the Shire breed has been done by American importers bringing inferior and unsound stallions, because they could be bot cheap and readily sold here because of their great weight. Stallions can not secure patronage in England unless they can pass inspection of a competent Vet. and produce a certificate of absolute soundness. "Government approval" is not required in England for the average farmer is a born horseman.

So many Shire stallions with defective feet and rough legs having been brot over because unsalable at home, has given the impression that they are characteristics of the breed, which is not correct. Shires, as a breed, have perfect feet, otherwise they could not stand the country roads, which are all macadamized and as severe on feet as city pavements.

Shires, as a rule, do have more hair on their legs than other breeds and some families have too much, and that coarse and curly. It is not necessary to buy them, for the most popular strains have a light growth of hair, silky in texture and with it one always finds the very best quality of flinty bone.

Some stallions of other breeds produce good colts if suitable mares are selected which can not always be done. What is needed is one that will mate with all sorts and show marked improvement and that one is found in the high-class up-to-date Shire with short back, deep ribs, strong quarters and heavy flat, flinty bone. They outrank all others in hardy, construction, strength, natural energy and endurance. "Like begets like" has long been a recognized principle in breeding.

Illinois.

G. E. BROWN.

THE VALUE OF TONICS TO THE STOCK FEEDER.

Perhaps the skillful stock feeder who knows just how to encourage the appetite of each animal under his care, by feeding a variety of feeds which are naturally adapted to the promotion of appetite and the healthful bodily secretions that make for thrift and rapid growth, may have little use for those tonic preparations commonly called stock foods. But not every feeder is a skillful feeder. Indeed, only a very small proportion of those who have live stock under their care may properly be designated as skillful feeders. Perhaps few of them will lay claim to this distinction, but regardless of their own opinion, it is but necessary to look at the stock under their care to determine intelligently whether they may be properly called skillful feeders or not. If the animals show a desirable thrift, they will show it unmistakably, not alone in the flesh which they carry but in the

(Continued on page 138).

CHILDREN

In disorders and diseases of children drugs seldom do good and often do harm. Careful feeding and bathing are the babies' remedies.

Scott's Emulsion

is the food-medicine that not only nourishes them most, but also regulates their digestion. It is a wonderful tonic for children of all ages. They rapidly gain weight and health on small doses.

Send 10c., name of paper and this ad. for our beautiful Savings Bank and Child's Sketch-Book. Each bank contains a Good Luck Penny. SCOTT & BOWNE, 409 Pearl St., N. Y.

Which Breed Do You Prefer



No matter which is your preference, all are subject to the same diseases and pests. None can do their best when pestered with lice, mites, ticks, germs, etc.

Hygemo A Dip

and disinfectant is a non-poisonous coal tar preparation that is positive death to insects and all germs. Makes sweet and sanitary stable conditions—prevents diseases getting a foothold. Pays well to dip your stock in Hygemo A. Cleanses skin, sleeks the hair. A money maker—money saver. If your dealer can't supply you, send to us.

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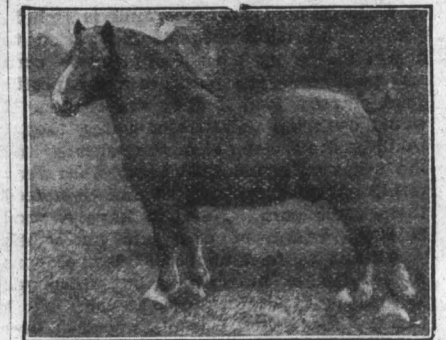
5-ft. Boiler Steel Hogtroughs \$1.95

Write for free descriptive circular "Made of Heavy Boiler Steel 1-8 in. Thick" FULTON SUPPLY CO., 1614 Fulton St., Chicago, Ill.

Are the best that skill and brains can produce. Made for 2, 3, 4, 5 and 6 horses. HEIDER 3-horse Wagon Eveners for wagon, manure spreader, grain drill or any other implement with pole. HEIDER 4-horse Plow Evener works 4 horses abreast on gang sulky or disc plow, 1 horse in furrow, 3 on land. No side draft, all horses pull equal. We make Clevises to attach our Eveners to all plows. ASK YOUR DEALER for HEIDER EVENERS; if he can't supply you write us at once, we will tell you where and how to get them. Let us prove to you the many points of merit, why you should accept no other kind and insist on getting HEIDER EVENERS if you want the best on the market. We also make wagon doubletrees, singletrees, neckyokes HEIDER MFG. CO. Dept. 27 Carroll, Iowa.

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Our last importation arrived last November, and are in a very good condition and of the VERY BEST TYPICAL DRAFT QUALITY. We have over 60 head of Stallions and Mares from two to five years for sale, and we invite prospective buyers to come to our barns where he will find THE IDEAL DRAFT HORSE, of both breeds above mentioned. Our terms are liberal, and every sale is backed up with the best of guarantees. Write, or better—come and see us. Address FRISINGER & SPRUNGER, Decatur, Indiana.

Prairie Stock Farm

The Leading Horse Importers in the State of Michigan. We have opened the eyes of all Michigan horsemen by our large exhibit at the State Fair. In the previous issue of the Michigan Farmer they gave the startling news of our wonderful success, not alone over our Michigan exhibitors, but over all exhibitors of the several States that were represented in competition. We won every prize in the stallion and mare classes except the 4th prize in the 2-year-old stallion class. All our horses are now at our Barns ready for sale for less money than a good horse can be bought elsewhere with a guarantee that has stood the test for the past 22 years. Come and be convinced. Terms to suit purchaser. E. Metz Horse Importing Co., Niles, Mich.

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Next large importation stallions and mares here FEBRUARY 10th, which, added to our present stock, offers intending purchasers the finest collection in America. If you want the best horses, horses with bone, quality, size, action and best breeding, stallions or mares; if you want fair and liberal treatment; if you want lowest prices consistent with good merchandise, visit Oklawaha. Catalog shows the place and the horses. W. S., J. B. & B. Dunham, Wayne, Ill.

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These Horses are all Prize-Winners from the leading shows in Europe; ages from two to four years old; terms to suit the purchaser. Byron is located on the Toledo & Ann Arbor R. R., 44 miles north of Ann Arbor and seven miles south of Durand, immediate connections off the Grand Trunk R. R. Every horse guaranteed, and all at low prices. CALKINS & AUGSBURY Props., BYRON, MICH.

57 Imported Stallions & Mares

WITH PRACTICAL HORSEMEN A short statement of facts will have more weight than a whole page of MUSH. I have a stable full of SHIRES first-class in every respect. They combine weight, quality, good conformation and the best blood. I will sell as low as legitimate business will permit. Also WELSH MOUNTAIN PONIES OF HIGHEST TYPE. Write for particulars. GEORGE E. BROWN, Aurora, Illinois. Thirty-seven miles from Chicago by C., B. & Q. and N. W.; also trolley trains every hour.



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**THIS IS A SENSATION OF THE WONDERFUL WORLD CHAMPION AND GREATEST TRIUMPH IN THE MARVELOUS AND REALISTIC MOVING PICTURE ART.**

It is a New Invention that you can carry in your pocket and show your friends instantly day or night, either once or a hundred times and without a machine, curtain or light. It is the most Attractive Novelty and most pleasing Dan Patch Souvenir ever Invented and shows Every Motion of Dan Patch 1:55 in pacing one of his Marvelous and Thrilling World Record Miles and it is Absolutely True To Life.

I want to assure you that it is the most successful Moving Picture ever taken of a world champion horse in his Wonderful Burst of Speed. If you love a great horse and want to be able to see him in Thrilling Motion Pictures at any time as long as you live **Be Sure And Accept My Remarkable Offer Before They Are Gone.**

I reserve the right to stop mailing these very expensive moving pictures without further notice, as this is a special free and limited offer.

### A MILE OF THRILLING RACE PICTURES, 2400 MOVING RACE PICTURES OF DAN PATCH 1:55

The original with 2400 Pictures shows the King of all Horse Creation as plainly as if you stood on the track and actually saw the mighty Dan Patch 1:55 in one of his Thrilling Speed Exhibitions for a full mile. Just think of it! 2400 Moving Pictures Taken Of Dan in 1 min. and 55 sec. means 21 pictures taken for every second all of the way around the entire mile track from the back seat of a high power automobile.

Wherever the Original Moving Picture, of the Fastest Harness Horse In The World, is shown, people involuntarily call out "Come on Dan"—"Come on Dan." The Original Moving Picture Of Dan Patch Pacing A Great Mile Is The Most Realistic, Thrilling Picture You Ever Saw. I Used A Large Number Of The Original 2400 Wonderful, Sensational Pictures And Made Them Into A Newly Invented Pocket Moving Pictures that you can easily carry with you in your pocket and show to your friends at any time, day or night. It does not need a machine, it does not need a curtain and it does not need a light. It is all ready to show instantly, either once or a hundred times

You Can See Dan Shake His Head To Let His Driver Know That He Is Ready And Then You Can Watch Every Motion Of His Legs As He Flies Through The Air With His Tremendous Stride Of 29 Feet. As A Study Of Horse Motion Alone This Is Better Than If You Saw The Actual Speed Mile Because You Can See Dan Patch Right Before You For Every Foot Of The Entire Mile And Not A Single Motion Of His Legs, Body Or Head Can Escape You.

#### CREATES A SENSATION WHEREVER SHOWN.

If you admire a Great World Champion who has gone more Extremely Fast Miles than All of the Pacers and Trotters Combined that have ever lived then I am sure you will write me today for one of my Wonderful Moving Pictures of the King of all Harness Horse Creation, Dan Patch 1:55. The Pictures On This Page Show Dan In Many Positions in this great mile. **Your Moving Pictures Will Be Much Larger and Many More** and they show his marvelous rapid fire motion as He makes a desperate burst of speed to Beat Father Time To The Wire.

You can see his Thrilling Finish as he strains every nerve and muscle to reach the wire in record breaking time, you can see his driver dismount and look at his watch while thousands of people crowd around, you can see his caretaker force his way through the crowds, uncheck Dan and then throw a beautiful woolen blanket over him to prevent catching cold and then you can see him walk up the track before a Madly Cheering Multitude of 93,000 people.

#### MY NEW, POCKET MOVING PICTURES MAILED FREE TO ALL STOCKOWNERS

With Postage Prepaid---If You Are A Farmer, Stockman Or Poultry Raiser I Require A Correct Answer To These Three Questions. **Be Sure** and Answer These Questions.

1st. In what paper did you see my Moving Picture Offer? 2nd. How many head Each of Horses, Cattle, Sheep, Hogs and Poultry do you own? 3rd. How many acres of land do you own or how many acres of land do you rent?

I Personally Guarantee, Free To You, One Of These Marvelous Moving Pictures, If You Answer These Questions And Write Me Today. Signed.--M. W. SAVAGE, owner of International Stock Food Co., Dan Patch 1:55 and also International Stock Food Farm.

#### IF YOU ARE NOT A STOCKOWNER AND WANT THE MOVING PICTURES SEND ME 25 CENTS FOR POSTAGE,

Packing, etc., In Silver or Stamps and I will mail you this wonderful Moving Pictures of Dan Patch 1:55, the fastest harness horse the world has ever seen. -- If you send me Twenty-five Cents in Silver or Stamps--EVEN if you do not own any stock or land, I will mail it to you postage prepaid. It costs Thousands of Dollars to have one of the original pictures taken and reproduced. Your Money Returned If Not Satisfied.

Write At Once to INTERNATIONAL STOCK FOOD CO., MINNEAPOLIS, MINN.

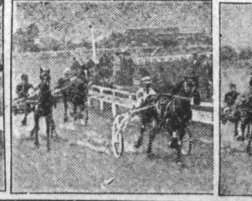
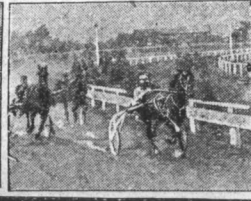
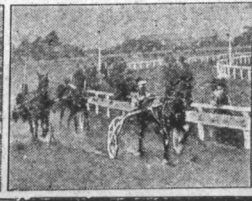
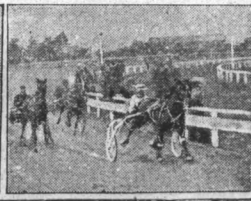
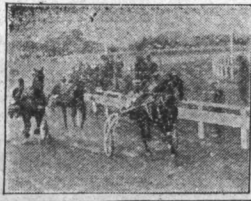
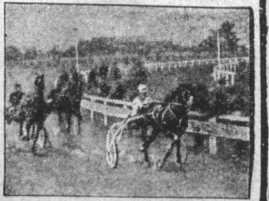
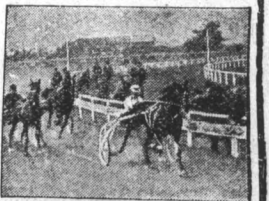
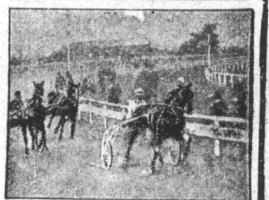
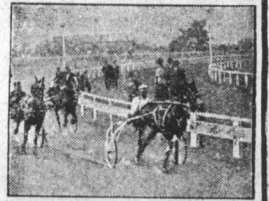
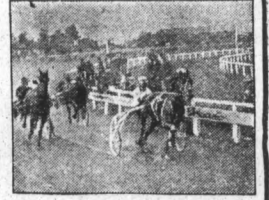
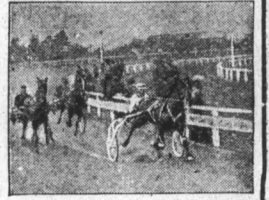
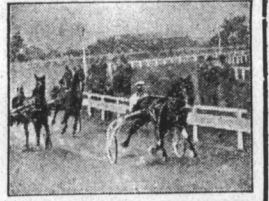
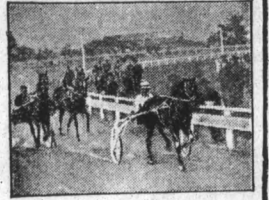
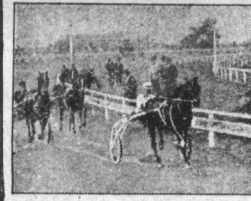
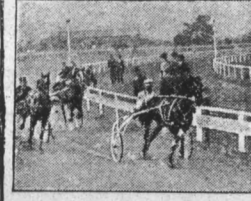
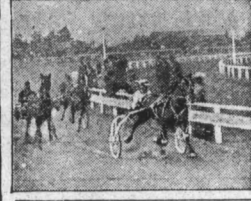
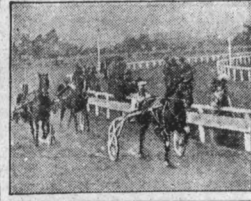
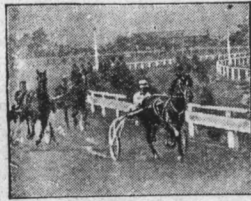
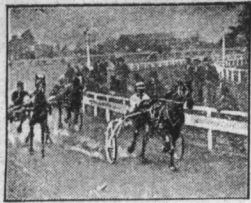
#### DO YOU EXPECT TO SEE THE DAY WHEN THESE WONDERFUL DAN PATCH RECORDS WILL BE EVEN EQUALLED?

#### DAN PATCH 1:55 HAS PACED

1 MILE IN . . . . .	1:55	30 MILES AVERAGING . . . . .	1:57½
1 MILE IN . . . . .	1:55¼	45 MILES AVERAGING . . . . .	1:58
2 MILES IN . . . . .	1:56	73 MILES AVERAGING . . . . .	1:59½
14 MILES AVERAGING . . . . .	1:56½	120 MILES AVERAGING . . . . .	2:02½

#### DAN HAS BROKEN WORLD RECORDS 14 TIMES

In addition to all these records Dan Patch is proving to be one of the Greatest Sires of both pacers and trotters in all horse history - Look up his large official list of Standard Performers. See his rapidly growing list of 2:10 Performers. Breed to a World Champion. Dan Patch 1:55 has gone more Extremely Fast Miles than the combined miles of all the trotters and pacers that have ever lived. Remember this when you think of any horse equalling his Marvelous Performances. Your good mare might raise a \$50,000 Dan Patch colt. For seven years Dan Patch has eaten "International Stock Food" every day mixed in his regular grain feed. It has given Dan Purer Blood, More Strength, More Endurance, More Speed and Perfect Health. It is constantly used and strongly endorsed by over Two Million Farmers and Stock Breeders, as the Greatest Animal Tonic, and has been for 20 years. No other preparation has such strong and practical Stock Breeders Endorsement, as has International Stock Food, the great animal tonic and blood purifier.





appearance of their coats and in their every general expression. But if the feeder is not one who may be properly designated as a skillful feeder, the animals will show it equally plainly in their dejected appearance and general air of unthriftiness, which is familiar to every one who is anything of a judge of live stock. This large class of stock feeders, unlike the others mentioned, have need of some agent to promote the appetite and accelerate the digestion of the animals under their care, since they will not know just how to provide the natural feeds in the ration which would accomplish this result in a natural way. The tonic stock food, for which the skillful feeder often has an unconcealed contempt, proves the very agent which will accomplish these desirable results for the unskillful feeder in a very large number of cases, and the man who notes that his stock is not doing as well as it should, who sees their coats staring and lacking in that glossy appearance characteristic of the thrifty animal, will do well to resort to such means of promoting a healthy appetite and that liberal secretion of digestive fluids which the skillful feeder is able to secure without them.

LIVE STOCK NOTES.

Cattalo stock, a cross between buffalo and cattle, is being bred on the Bruce G. Eaton ranch in Colorado, and a fine young bull buffalo has been shipped there to become the head of a herd. Cattalos are much valued for their meat, their hides being much like those of buffaloes, but their hair is of a more silky texture. Mrs. Jane Worth, of Nebraska, marketed a lot of prime hogs at Omaha recently that topped the market at \$8.60 per 100 lbs., averaging over \$25 per head. When hogs were selling around \$8 and everybody was selling, she figured it out that prices were bound to go still higher and that while corn was high, there would never be a period when corn and pork would sell very much out of proportion.

Two Minnesota sheepmen were on the Chicago market recently with lambs that sold 60@75c per 100 lbs. above what they had expected to receive. The lambs averaged 75 and 87 lbs. and sold at \$8.60 and \$8.75. They were dropped last April and allowed the run of timothy and pasture meadows up to the close of November, after which time they were put in corn fields. When marketed the lambs attracted everyone's admiration on account of their splendid breeding and handsome appearance. Their owners always have registered bucks to head their flocks and give both ewes and lambs careful attention, trimming and docking lambs from one to two weeks after their birth. Few such lambs are seen on the market.

The southern demand for cured hog meats and lard is excellent. Packers are getting big prices for lard, and there is a particularly strong demand for hams. As there is everywhere a lively demand for fresh pork products, hogs bring high prices.

The railroads have been greatly hampered in moving consignments of live stock this winter by the extremely cold weather and the numerous big, old-fashioned snow storms. It is not altogether owing to these disturbances, however, that these provoking delays have occurred, for there is a great lack of motive power to move the long trains of live stock, and this explains in great measure why stock has been delayed as long as twenty-four hours while being moved 50 or 60 miles to the Chicago stock yards.

Wyoming stockmen state that the winter has been unusually severe on the range, and the rapid disappearance of feed has been a matter of no small concern to men who have flocks of sheep and lambs. Stockmen are feeding their hay carefully, and if the severe weather continues much longer, many cattle will die from exposure and starvation. A Wyoming sheepman says: "A great many stockmen would no doubt ship the bulk of their stuff to market right now if they could get transportation service, but it is almost as hard to get stock to market as it is to secure feed."

There has been so much snow and severe weather this winter that sheep and lambs have not made as good gains as usual, and it has been an extremely unfavorable season for out-door feeding. Colorado advices are that flocks on feed are doing very well compared with former years, but it is reported that the number on feed is only about 40 per cent of last year's feeding.

It surprises Chicago commission men to see so many half-fat sheep and lambs coming on the market, yet the packers are buying these shipments at such high prices that intending feeders stand but little show of getting any to send back to the country. Usually, at this season feeders are able to buy considerable stock on the market at reasonable prices for late feeding and shearing purposes, but this winter has been an exception, and less feeder stock has been shipped from Chicago than for years.

The new Kansas City Live Stock Exchange building, which will not be completed before next autumn, will be the largest office building in that city, with 5 1/2 acres of floor space, and will be a fitting structure for the clearing house for live stock for the trans-Mississippi country.

Down in Missouri they have been having a cold winter, and roughage is going to be short, according to late reports. Feeders bot most of their corn around 55@60c a bushel, late sales being made at the top price. In Boone county there is a great scarcity of hogs to follow the cattle, but in Scotland county the usual numbers of cattle and hogs are reported on feed.



Have You Seen the Wood?

Inspect this King of the hayfield before buying a mowing machine. The "Admiral," which is the new Wood Mower, has the only genuine under-draft. There is no side-draft nor pole vibration to wear out your horses. Note the draft rod in cut, with even attached under the tongue. It is the only machine in the world in which tilting the guards up or down does not throw the cutter bar out of perfect alignment, causing friction. These and other exclusive features make the

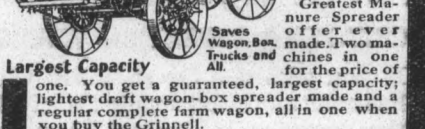
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Auction Sale of Jersey Cattle.

On Thursday, at 1 o'clock, p. m., Feb. 10, 1910, rain or shine I will sell at auction at my farm on Southfield Avenue in Birmingham (1/2 mile from center of village) one registered Jersey bull 2 years old, 98 Jersey cows and heifers, nearly all registered, and 5 grade cows and heifers.

Veterinary's certificate of health of all animals submitted. C. K. LATHAM, Owner. M. H. BLUNT, Auctioneer.

JACKS AND MULES. Raise mules and get rich. 300 fine, large Jacks, Jennies and mules, 14 to 17 hands high, weigh from 700 to 1500 lbs. Good ones. I pay a part of shipping. Mules in teams or car-load lots. Stock guaranteed. Write for prices today. KREKLER'S JACK FARM West Elkton, Ohio.

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Jacks, Jennets and Saddle Horses. 260 head to select from. Tamworth Swine, all ages. Catalogues now ready. J. F. COOK & Co., Lexington, Ky.

KENTUCKY bred Jack, 9 years old, weighs 1075 lbs. Good disposition and sure. Sell for half value or trade for horses. C. M. Hinckley, Middleville, Mich.

HEAVES CURED PERMANENTLY. DR. FRANK'S REMEDY CO., Detroit, Mich., tel s how, FREE.

For Sale or Exchange—Imp. Black Percheron Stallion Montcalm, 11 years old, one of the best sires in the state. Only reason for letting him go, too many of his colts in this locality. A sure foal getter, Extra fine actor, sound and kind. Weight 1,800 lbs. Priced very cheap for quick sale, or would exchange for another good Percheron Stallion. Inspection invited. Address H. L. POLLOCK or ECK, KREBS, Charlotte, Mich.

100 Percheron Stallions 100 and Mares

Imported and pure bred registered Stallions from.....\$400 to \$1200. Mares from.....\$250 to \$600. Write for Art Blotter.

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PERCHERON STALLIONS. One 4 and one 2 years, record-ed. Shorthorn cattle, both sexes, reasonable prices. T. M. Southworth & Son, R. 13, Allen, Mich.

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A Splendid Animal, Ready for Service When you want high class stock write or come at once.

FAIR LAWN STOCK FARM, REED & KNOWLES HOWELL, MICHIGAN.

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Thursday, Feb. 24th, 1910. Five young registered cows, all will have calves this spring. Also 2 well bred bull calves, one 4 months old, one 14 months. Send for Pedigree Catalog. Dr. E. L. Wilkinson & Son., Jackson, Mich

HOLSTEIN BULL CALF WANTED Best to be had in Michigan. C. D. WOODBURY, Lansing, Michigan.

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Herd headed by UNDULATA BLACKBIRD TD 83836, one of the best sons of PRINCE ITO 50006, and Grand Champion Bull at the Detroit and Grand Rapids Fairs of 1907, 1908 and 1909. Herd consists of Erics, Blackbirds, Prides, etc. WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—A Dairy Breed of much merit. Young stock for sale—also Berkshire Pigs, and ten varieties highbred Cockerels. Eggs in season. Mich. School for the Deaf, Flint.

Maple Ridge Farm Breeders and Importers of high class Guernseys. Write us your wants. E. & J. T. MILLER, Birmingham, Mich.

LONG BEACH FARM. 40 HEAD HOLSTEINS All Registered.

YOUNG BULLS, all A. R. O. stock, \$50 and \$60; F. S. KENFIELD, Augusta, (Kalamazoo Co.) Mich.

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TOP NOTCH HOLSTEINS.

Top Notch registered young Holstein Bulls combining in themselves the blood of cows which now hold and have in the past held World's Records for milk and butter-fat at fair prices. McPHERSON FARMS CO., Howell, Mich.

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Northern Crown Jerseys. ROYCROFT FARM, Sidnaw, Mich.

JERSEY BULL CALF born May 12, '09. Dam gave 10,950 lbs. milk, last year test 5%. Sire's Dam's record 10,060 lbs. in 10 1/2 months, test 5.2%. THE MURRAY-WATERMAN CO., R. 6, Ann Arbor, Mich.

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Register of Merit Jerseys. Official yearly records. T. F. MARSTON, Bay City, Michigan.

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Oxford-Down Sheep and Polled Durham cattle for sale. A. D. & J. A. DEGARMO, Muir, Mich.

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also registered Hornless National Delaines and Black top delaines. Romeyn C. Parsons, Grand Ledge, Mich.

OXFORD DOWNS A few good field rams for sale.

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Rockland Farm Delaines—A few choice rams for the 1909 trade. Prices right. D. E. TURNER & SONS, Mosherville, Mich.

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For Sale—17 grade breeding ewes \$5 each, a few reg. Shrop ewes \$15 each. All good young ewes. M. A. BRAY, Okemos, Mich.

SHROPSHIRE HALL STOCK FARM.

Will make special prices for thirty days, on ewes from 1 to 3 years old, all bred to Imported Cooper, and Mansell rams to lamb in March and April, also on very choice ewe lambs, this is to make room for an importation that is going to arrive this spring. L. S. DUNHAM & SONS, Concord, Michigan.

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Have a fine lot of spring pigs, both sexes. The type for profitable pork production. Vigorous and strong and of best blood lines. Satisfaction guaranteed. F. A. BYWATER, Memphis, Mich.

BERKSHIRES Unexcelled in breeding. Selected boars, sows and gilts. Choice fall pigs. T. V. HICKS, R. No. 11, Battle Creek, Mich.

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Two Boars, do for fall service. A few Gilts left. Also a fine lot of fall pigs ready for weaning. Either sex or pairs askin. A. A. PATULLO, Deokerville, Michigan.

A DAMS BROS. Improved Chester Whites, Litchfield, Mich., won 125 premiums in '09. Booking orders for bred sows; boars ready for service. Buff Rock, W. Orpington, W. Leghorn cock 's. Shorthorn bulls ready for service

IMPROVED CHESTERS. Choice young Boars ready for service. Sows bred or open. Also choice Holstein Bull Calves, of the best of breeding. W. O. Wilson, Okemos, Mich. Both phones.

Puritan Herd of Chester Whites—The peer of any in America. Mature sows and spring gilts, bred for March and April farrowing. WILL W. FISHER, Watervliet, Mich.

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DUROC-JERSEYS—50 bred and open sows, plenty of growth and quality. Boars ready for service. Prices right. Write J. C. Barney, Coldwater, Mich.

O. I. C. SWINE—Grandson of JACKSON Chief, the World's Champion and Grand Champion O. I. C. Boar, heads my herd, he is also a grandson of Tutesy, the World's Champion sow. I am sold out of spring and June farrow of both sexes. A. J. GORDEN, R. F. D. No. 2, Dorr, Mich.

O. I. C. GILTS bred for April and May farrow. C. J. THOMPSON, Rockford, Mich.

O. I. C. swine of spring farrow, both sexes. Some Aug. and Oct. pigs. All of right type and breeding. Geo. P. Andrews, Dansville, Ingham Co., Mich.

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POLAND-CHINA PIGS—Butler's Famous Wonders—Sept. farrow. Big, western type, big bone, long bodies, big litters. The farmers' hog. Pairs & trios. They'll make you smile. J. C. Butler, Portland, Mich.

POLAND-CHINAS—Perfection strain. Choice young boars ready for use. Also sows. E. D. Bishop, R. 38, Lake Odessa, Mich.

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P. C. SOWS, bred—These sows are of great quality and breeding. A few choice S. C. B. Minorca cockerels. R. W. MILLS, Saline, Mich.

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**VETERINARY**

CONDUCTED BY DR. W. C. FAIR, CLEVELAND, OHIO.

Advice thru 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.

**Kidney Disease.**—I wish you would tell me what to do for a six-year-old mare that stands with right hind foot resting on left foot. Besides, she appears to suffer pain. She attempts to urinate every few minutes; therefore, I am inclined to believe that she is weak in back, for, by pressing the hand on back she flinches. She is fed hay once a day and straw twice. This ailment first showed itself four months ago. G. D., Clifford, Mich.—Give 4 drs. citrate of lithium at a dose in her drinking water or dissolve it in water and mix it with feed two or three times a day, for a few days, then not so often, or in such large doses. This will render the urine alkaline and relieve her of irritation of the kidneys and bladder. She should not be fed much food which contains acid, such as vegetables. After you discontinue giving lithia give 1 oz. doses fluid extract buchu every day or two. This will act gently on the kidneys. Be sure and feed her a good quality of food and supply her with clean water.

**Thrush.**—I have a three-year-old colt that showed some lameness in hind foot seven weeks ago; a portion of the frog has dropped out and left the foot raw and tender. I applied hoof ointment, but it failed to help her. A. S., Tyre, Mich.—After applying peroxide-hydrogen to fatty frog, dust on some calomel and cover the sore with caking and a bandage.

**Canker in Dog's Ears.**—I have a very fine dog that has an eruption in his ears; quite a number of red spots can be seen, which makes him uneasy. B. F. S., Man-celona, Mich.—Dissolve 1/2 oz. baking soda in 1 pt. of water and add 30 drops carbolic acid and apply to sores twice a day. Also give 10 grs. bicarbonate soda and 4 drops Donovan's solution of arsenic at a dose in feed twice daily. If his ears are discharging pus, use peroxide of hydrogen.

**Injured Udder.**—I have a valuable Jersey cow that came fresh the middle of November. She did well up to a week ago when suddenly one quarter of her udder became gargety and swollen, which made milking difficult, and lately her milk is a little stringy, but her bag does not appear to be tender. This cow is fed wholesome food, such as oats, corn, fodder, and vegetables and is allowed to run out three or four hours on pleasant days. What could have brot this trouble on is somewhat of a conundrum to me. F. L., Twining, Mich.—It is very difficult many times to account for a gargety condition of the cow's udder; however, when we think seriously about the matter we should not be too much surprised that a cow's udder should become infected, bruised or inflamed. I believe your cow suffers from bacterial infection. Apply hot camphorated oil twice a day and give four tablespoonfuls of hypo-sulphite of soda at a dose in feed once a day. If the udder blocks give one dram doses of iodide of potassium at a dose twice a day.

**Roup.**—The heads of my chickens are swollen, their eyes are closed and their heads are turning black. What shall we do? Mrs. C. O. B., Montgomery, Mich.—Your chickens suffer from roup and the quicker you cut the heads off the sick ones and thoroily disinfect their coop, the better, for it will not pay you to treat any of the sick ones. Use kerosene in their roosting place, whitewash their coop, using fresh lime, fumigate thoroily with sulphur, or saturate the coop with a solution of formaldehyde, one part to a hundred, or fumigate with a 20 per cent solution. Its fumes are somewhat irritating but not dangerous. A very useful solution of formaldehyde is made by dissolving one dram in a pint of water.

**Looseness of Bowels.**—I have a young mare that has been troubled with looseness of the bowels since last fall. I am inclined to believe I brot this trouble on by feeding her too many carrots. What had I better give her and how should she be fed? L. D., Frederic, Mich.—Your mare was fed too much food that contained acid and perhaps she had too many carrots. Give her 2 tablespoonfuls baking soda, 2 tablespoonfuls of ground ginger and 2 tablespoonfuls of prepared chalk at a dose in feed three times a day. Feed her oats and well-cured timothy.

**Hernia.**—My two-year-old colt has a soft bunch at navel which, when pressed, can be pushed into the body thru a small hole and I would like to know what it is and if there is a remedy. I am an attentive reader of this department of the Michigan Farmer but have failed to notice a similar case; therefore, I hope you will tell me how the colt can be cured. R. W., Port Sanilac, Mich.—Your colt suffers from umbilical hernia (rupture). The only treatment for such an ailment is a surgical operation performed by an experienced operator. The opening being small it is not likely to hurt him and if he was mine I should let him go until April before I operated. There is very little danger from this operation.

**Bog Spavin—Knee Sprung.**—I would like to know if there is any cure for a blood spavin? My horse has had one for 12 months. Our Vet. first treated him for bog spavin, but later tells me it is a blood spavin; also I would like to know the best method of shoeing a knee-sprung horse. H. B. S., Lakeview, Mich.—In addition to your horse having a bog spavin, he may suffer from varicose veins; however, there is no such disease as blood spavin. It is impossible to remove

chronic bog spavin if the swelling is extensive; however, repeated blisters will reduce the bunch, but if the animal is not lame I usually advise my customers to leave them alone, and perhaps you had better do so with yours. A knee-sprung horse should be shod level.

**Kicked by a Horse.**—My five-year-old mare got kicked, making a wound on shoulder which, when discovered I applied peroxide of hydrogen, a few minutes later applied carbolic acid and water, then stitched wound. The shoulder swelled badly, tearing out the stitches; the leg below is quite swollen, so is the elbow and shoulder. A portion of the hide and muscle hangs down which I believe will not heal. What had I better do? L. S., Jenison, Mich.—You have managed the case very well. The leg will remain swollen until the wound heals; cut off the hanging portion of skin and muscle for it never will unite, and apply equal parts powdered alum, oxide of zinc and borac acid twice a day.

**Swollen Sheaths.**—Three of my horses are troubled with swollen sheaths. I am feeding good clover hay twice daily, oat straw once with a grain ration (according to their weight table, under idle rules), of oats, barley and oil meal ground, and an appetizing of corn on ear, beets and potatoes as green food. They are all in good condition. N. C., Harbor Beach, Mich.—Swollen sheath is usually the result of an injury or lack of exercise. Your horses need exercise and, if foul, should be washed with soap and water, but be sure and wash off all the soap. Give each horse 1 oz. of fluid extract of buchu or powdered buchu at a dose in feed three times a day until their kidneys act freely, then use your own good judgment as to how often it is necessary to give the medicine.

**Bunch on End of Teat—Heifer Coughs.**—How can I remove a bunch from the end of a cow's teat? I have applied iodine without results. I also have another heifer that was troubled with a cough about a year ago, but seldom ever coughs now. Had I better give her medicine? C. H. D., Montague, Mich.—The bunch you refer to should be cut off, then apply equal parts oxide of zinc and powdered alum once or twice a day. It is not necessary to medicate your heifer that occasionally coughs.

**How to Prevent Milk Fever.**—I have a cow that has an attack of milk fever every time she comes fresh and I would like to know if it can be prevented? B. B., Park Lake, Mich.—This disease is almost exclusively confined to deep milking cows and your cow must be one of this kind. Reduce her grain supply for three weeks, before she calves and a few days after calving. Exercise her before calving, keep her bowels open and rather active and if it is necessary give her some epsom salts or raw linseed oil. When she calves avoid emptying her udder completely for a few days, milk out a portion only. By inflating an empty udder with oxygen, sterilized air, or a solution of iodide of potassium and water or salt and water seems to be a remedy. Now, then, dairymen who are customers of mine tell me that following this line of feeding and milking partially prevents a recurrence of milk fever. Every farmer who owns large milk-producing cows should be equipped with a milk fever outfit, in order that they may fill the udder with sterilized air promptly after the cow shows symptoms of milk fever. This is generally all that is necessary to bring about a recovery, except the cow should be clothed warm, the legs bandaged after being hand-rubbed and cold applications applied to the top of the head. Never drench a cow while suffering from milk fever, the medicine should be poured thru a rubber tube that has been passed below the throat; this prevents a drench going very often down the wind pipe and bringing on mechanical bronchial pneumonia.

**Pigs Have Worms.**—Please give me a formula that will rid pigs of worms, and also state if the same remedy will do for sheep. I have been very much interested in your veterinary replies and have profited by them. C. H. Y., Charlotte, Mich.—Every pig and every hog has worms, but unless they have quite a few the worms do not appear to interfere much with the health of the hog, but if a pig shows an unthrifty condition, a roughness of the coat, a dryness of the skin and a voracious appetite, you can safely call him wormy. The least expensive remedy is one-half teaspoonful turpentine in three or four ounces of raw linseed oil given on an empty stomach once a day for two or three days and if you suspect that the hog has tapeworm give 20 drops oil male fern and a teaspoonful of powdered areca-nut in 3 ozs. of raw linseed oil. This should be given once a week for two or three weeks, one dose may be sufficient. By mixing some ground tobacco stems or fine cut tobacco with the sheep's feed it will help prevent them becoming very wormy. Also salt them well.

**Thumps.**—My 9-months-old Berkshire boar was taken with an attack of thumps, ate very little for one week, was treated by a Vet. but is not right. His appetite is poor at times, but ravenous at others. I would like to know if his produce are apt to inherit his ailment? E. W. M., Ann Arbor, Mich.—Thumps usually attack young pigs before weaning time and the causes are none too well understood; however, fleshy pigs that are short of exercise are the ones generally affected. Your hog being nine months old may have indigestion and by giving him enough epsom salts or castor oil to clean out the stomach and bowels, he should get well and keep his bowels open. He should be obliged to exercise and it is also important to keep him in a dry, warm place. The causes that produce colic will produce a spasm of the diaphragm (thumps). Give him a teaspoonful of ground gentian and a tablespoonful of ground ginger at a dose in feed twice a day.

(Continued on page 163).

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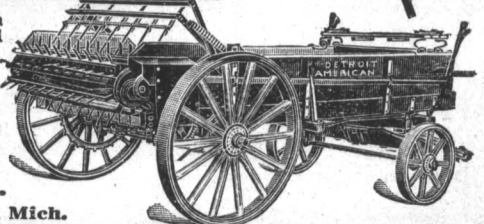
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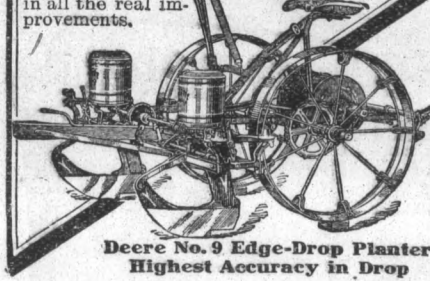
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POULTRY AND BEES

THE FOUNDATION OF THE TURKEY FLOCK.

The unprecedented price obtained for market turkeys in Michigan, during the holiday season just past, has renewed interest in this too often neglected source of income. If, on the many farms where attempts to raise turkeys have failed, the causes of failure were investigated, it would frequently be found that not the fowls but the methods used, have been at fault. Nine-tenths of the failures may be attributed to treating the turkeys as if they were chickens, which they resemble neither in manner of living nor feeding. It may be added also that the price of the finished product differs materially from the price of chickens, per pound, turkeys during the season just past having commanded one-half more than choice chickens.

The evolution of the wild ancestors of the hen to our present domestic fowl has been an old story for so long that we have lost all interest in it, and for all practical purposes it need not be considered. But many a Michigan farmer today raises turkeys for market on the very land where, as a boy, he shot their wild progenitors. Perhaps he will tell you how after the domestic turkey became a feature of the farm, an occasional bird from the wild flock—injured or strayed—joined forces with the farm family, there raised its young, and finally became as "tame" as the rest. No less an authority than Audobon tells of the pairing of the wild turkey with the turkeys of his barnyard.

But in all the interesting stories of turkey hunting, who ever heard of the hunter discovering a flock of sick turkeys—or one sick turkey? In the early stories of the settlement of America we read of great flocks of the wild birds, flocks of hundreds and thousands. Later, like the other game supplied so lavishly, these were ruthlessly exterminated by so-called sportsmen. But a few remain, and today poultry papers advertise wild, or half-wild, turkeys to brace up the domestic flock, giving it new strength and vigor. This is especially true of the favorite Bronze, where over-domestication and excessive size demand toll in weakened constitution, unless, from time to time, the type be strengthened by a cross with the wild.

After the turkey has been domesticated as many centuries as the hen, there may be developed a type—that survival of the fittest for farm purposes—that will endure as much thwarting of his primeval instincts as does the common hen. But, in the meantime, if we would avoid discouraging losses in the growing stock, it may be well to consider that most common warning—that warning constantly ignored—"Do not inbreed." Why not? We all know people who do not introduce new blood into their flock of chickens once in ten years, altho the writers always advise it. Their chickens get along somehow, at least they lay eggs. Yet a Department of Agriculture authority, in protesting against the ordinary neighborhood exchange of turkeys and resulting inbred stock says: "Better send a thousand miles for a new male than to risk the chances of inbreeding."

By many people this statement will be dismissed with the phrase, "that may be all right for book farming, but—it isn't practical." Why not? If it can be proven to be nature's method, and if it brings returns, then it must be admitted to be practical.

Nature's method many in Michigan have had the opportunity, as stated above, to study at first hand. In the descriptions of wild turkeys their most striking and interesting characteristic is the great fall gathering. As the young approached maturity the hens left their place of summer seclusion, and joined forces with their neighboring flocks, just as our own flocks attempt to do now. Following a wise instinct, and guided by their far-sounding cry, these bands united with more distant bands until their number was enormous. Such a gathering of the clans of turkeydom, such a babel of gobbling voices—in fact, one great mixup, in which the members of one family should almost inevitably become separated. In the pairing for the next season there was little chance of related birds uniting. The resulting young were vigorous of constitution, sturdy of limb, strong of wing. As with quail and other similar feathered forest rangers, the losses were due, not to weakness and disease, but to storms, ac-

cident and birds and beasts of prey. Later, they fell before the gun of the hunter. But the survivors were nevertheless vigorous and strong.

Note the contrast in breeding the domestic turkey on the average farm, with the constant battle to prolong the life of the weaklings until marketing time. The old male is usually marketed each fall, on account of his superior weight. If the same old breeding hens are kept they are apt to be forced to pair with one of their own young, and again with related birds. Often no thought or care is given to the selection of the breeding stock for the next season, but the left-overs, the late-hatched and undersized, the sick or physically unfit at market time, remain to form the foundation of the next year's flock. Even the most careless farmer would scorn such methods in selecting seed grain. He would not plant cull beans. Then why not use the same kind of common sense in selecting the foundation of the turkey flock? If a small fraction of the time and that employed in the busiest part of the summer season in attempts to brace up the delicate or dying young were used months before in obtaining suitable breeding stock, much time and worry would be saved and larger profits obtained.

Only the best and soundest hens should be used, preferably those one or two years old. They should be of good but not excessive size, as their eggs are larger and the young stronger. Then, for the male, a strong vigorous bird should be obtained from an entirely different locality, so avoiding danger of even remote relationship. And each year a new male bird should be procured.

Even where grade hens are kept it will be found profitable to use a pure-bred male of whatever breed is preferred. If the introduction of fresh blood, by so doing, should insure the living to maturity of only two extra birds from next season's crop, or if a half pound only should be added to the average weight of the young, his cost would be returned.

Reputable breeders sell pure-bred stock of the various breeds at very reasonable prices, and it is a mistaken idea that the cost is prohibitive. A canvass of many leading growers of pure-bred turkeys of the various breeds in Michigan and adjoining states shows that, except for prize-winning fowls, they charge about twice the price, or less, that the fowls would bring on market by the pound. During the fall, and until January 1st, stock is plentiful. At this season good birds are still obtainable, but a little later the replies of "all sold out" will become frequent.

The census of 1890 showed that, in spite of the demand and the low cost of production, the five million farms of the United States produced, on an average, but a slight fraction over one turkey apiece. If, of all the farmers who have tried and failed, a few would make another attempt, resolving that their flocks should at least begin right, we would hear less about the discouraging business of raising turkeys. Saginaw Co. E. H. McDONAGH.

LEG WEAKNESS AND BOWEL TROUBLE.

"Have had trouble with my chickens the past two winters. I built a new hen-house two years ago. It is 12x16 ft. and so well built that there is no freezing in it. It is well ventilated. The flock consists of 40 June and July pullets. They started laying the first of December and have laid from 12 to 20 eggs per day since that time. However, there isn't a day but what several of them are unable to walk, seemingly having no use of their legs. First symptoms are distress and then great thirst, after which they develop a white diarrhoea. Most of them recover, but I have had to kill a few of them. I feed a warm mash containing a few lard scraps every morning, and about 3 qts. of wheat and all the ear corn they want to eat. They have charcoal, oyster shells, a head of cabbage and fresh clover chaff every morning. Clinton Co. READER.

Your ration and the method of feeding it are no doubt at fault. While the pullets have been doing remarkably well as layers, they appear to be getting too much fattening food and not enough exercise. The fact that matters are not worse than they are is probably due to the charcoal and green food they have been receiving. If you continue using the mash we suggest reducing the allowance, for if enough warm food is given to satisfy their wants they will remain idle thruout the forenoon, and this is just the time when they should be busy. Cut out the lard scraps and substitute, if possible, ground or finely cut green bone. Scatter wheat and cracked corn in deep litter, and keep them sufficiently hungry that they will work for it. Give whole corn only at night.

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DOGS.

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Collie Puppies and bred bitches for sale. A. E. Sable and white & of the best breeding, W. J. ROSS, Rochester, Mich.



**BEE-KEEPING AS A BACK-YARD INDUSTRY.**

Nearly everyone who has even a small back yard or other open space has felt, at one time or another, a longing for the pleasant occupation of tending bees, but most people are frightened away from the undertaking by the difficulties which seem to present themselves. In the first place, they are puzzled to know how to fill the old cook-book requirement of first catch your hare. That is, they do not know where or how to get the bees. A little looking into the question will usually disclose the fact that someone within a radius of five or ten miles of you is a bee-keeper. If this is the case, it is well to buy your bees close at home, even if they are common bees and in a common box hive. It may be considered best to begin with only one colony, which consists of one queen, a few hundred drones, and from twenty to fifty thousand workers. This will keep you fully occupied at first, and will furnish you with experience which would be costly if obtained on a larger scale. The colony of common bees in a box-hive should not cost more than \$2 to \$5. Afterwards you can remove them to a movable frame hive and italianize them.

**Some Things Which Have Simplified the Work.**

In the days of the old-fashioned bee gum and box hives, the bees had no choice but to build their combs onto the walls of the hive. There was no way for the bee-keeper to note the progress of affairs while the work of gathering and storing was going on. When the time came to rob the hives there was nothing else to do but kill the goose that laid the golden egg, in other words, to exterminate the bees with brimstone, after which the honey had to be cut out in chunks, an operation which, of course, caused the hives to bleed and much honey to run to waste. With the movable-frame hive all these difficulties are overcome; the bees build their combs in neat sections, which can be taken out and examined at will without injury to the bees or to the honey itself; when it is thoroly ripe, it is taken from the hive ready to market in an attractive form.

From time to time there have been rumors that the making of artificial combs has become an accomplished fact, but so far these rumors have proven false, and the honey bee still keeps the patent royal on comb making. The most that the inventor has been able to do in this direction is to furnish the bee with a pattern to induce her to build her combs straight and in an orderly, ship-shape fashion. These wax sheets, with the impression of the cells stamped on them, are called starters.

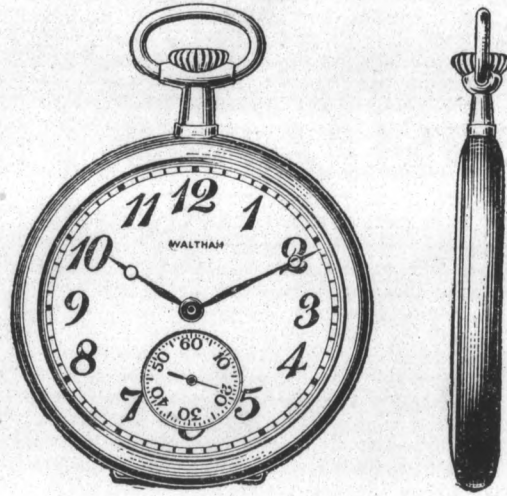
Another very important invention is the honey extractor, a device whereby the liquid honey can be extracted from the combs by turning them swiftly, in a sort of cylinder, the honey being forced out by centrifugal force. This does not in any way injure the combs, which are put back into the hive to be refilled, and thus a great saving of time and honey is wrought. New Jersey. F. G. HERMAN.

**PROGRAM FOR ANNUAL MEETING OF STATE BEE-KEEPERS' ASS'N.**

- Wednesday Morning, Feb. 23. Secretary's report and preliminary business session.
- Live topics and question box.
- Wednesday Afternoon, Feb. 23. "A new method of getting rid of Foul-brood"—Ira D. Bartlett, Secretary of the Northern Michigan Bee-Keepers' Association, East Jordan.
- General discussion of the subject and question box.
- Election of officers.
- Wednesday Evening, Feb. 23. "Size, ventilation and construction of hives"—R. F. Holtermann, Brantford, Canada.
- General hive discussion.
- "The Bee-keepers' real problem"—E. B. Tyrrell, Detroit.
- Discussion and question box.
- Thursday Morning, Feb. 24. President's address.
- "Some of my experience as a farmer bee-keeper"—W. J. Manley, Sandusky, Discussion.
- "Science and theory of bee-keeping"—Hon. Geo. E. Hilton, Ex-President of National Bee-Keepers' Association, Fremont.
- Thursday Afternoon, Feb. 24. "A few suggestions"—N. E. France, Manager of National Bee-Keepers' Association, Platteville, Wis.
- Suggestions discussed and question box.
- The various sessions will be held at Hotel Wentworth, corner of East Michigan and Grand Avenue, Lansing.
- Prizes are offered for exhibits of the following: Best 10 sections clover comb honey; best 10 sections raspberry comb honey; best 10 pounds clover extracted honey; best 10 pounds raspberry extracted honey; 3 pounds of extracted honey containing the smallest per cent of water; best 10 pounds of beeswax.

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The Lawrence Pub. Co.,  
Detroit, Mich.

DETROIT, FEB. 5, 1910.

LEADING ARTICLES OF THE WEEK.

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TO EXPLAIN OUR DATES.

A few months back we changed the designation of the date on name tabs by which papers are directed to destination. You will notice your date tab now shows the month with a figure 1 before it, and a figure designating the year in which the subscription will expire, after it. For instance, if your time is up February 1, 1910, it would read "1Feb0." Before we changed it, it read "Feb10." We made the change for the reason that many of the figures, in place of meaning 1910, meant the 10th of the month, that their subscription expired on that date,

and that when their paper stopped the last issue in the month previous we were cutting them short. We do not make our name tabs show the week, but they show the month. With our large list, correcting them weekly would be a big task. We therefore send the back number to all orders received before the 15th, and date them back to the first of the month. Orders received after the 15th, unless they request back numbers, are dated the month following. We make this explanation so that all may understand we are not cutting any subscriber's time, but send in every case the full 52 issues, and to some more than that. We ask our agents and friends to make the above explanation to any who might think their time has been cut, by not remembering that they got back numbers when their subscription started.

THE SPECIAL CASH PRIZES.

The special cash prizes offered agents for the month of January will be mailed immediately our count is verified, which will be about the 7th.

In the meantime the offer made in January is duplicated for February and time extended to March 10, making the new offer begin February 1, and run to March 10, inclusive. Any of our readers having a little spare time during the next few weeks can make a nice lot of money.

Terms, etc., will be mailed on request.  
THE MICHIGAN FARMER.

CURRENT COMMENT.

As noted in our announcement in another column of this issue, we are offering a handy farmer's pocket account book free with each subscription to the Michigan Farmer under the liberal trial offer plan which is outlined in said announcement. In the article on the "Business Side of Farming," which will be found in this issue, special emphasis is given to the importance of keeping farm accounts because of the publicity which could thus be given to the smallness of the farmer's income in comparison to its generally supposed abundance. But apart from this, it is certainly to every farmer's advantage to know just where he stands at the end of each year, just what crops are paying him best, just what his expenses are, and all of the facts in connection with his business which will aid him in improving it in future years. This little pocket account book, simple tho it is, will, if used in accordance with the instructions which are printed in it, accomplish all of these desirable results in the most simple manner possible. The average farmer does not want a complex system of accounts. We have larger and more complex account books for those who desire them, but this little book has been prepared with the idea of combining simplicity with practical results in a manner which will make it not only practical, but easy for every farmer to keep an accurate account of his business, not only as a whole but in its various departments. If this book has the result of inducing a large number of farmers to keep an accurate account of their business affairs, it will have accomplished the purpose for which it has been gotten up. Only one thing is necessary for it to accomplish these results, and that is for them to subscribe for the Michigan Farmer under the plan outlined secure a copy of the book and follow the simple instructions contained therein.

If one were to paraphrase the popular campaign question and ask the average city man, "What's the matter with the farmer?" the answer would be quite different from the usual reply of the political booster. By the average city worker the farmers as a class are blamed almost equally with the trusts for the high cost of living, and are commonly supposed, if the expressions one hears are to be credited, to be accumulating wealth almost as rapidly. A well paid tradesman upon being heard to express such sentiments with regard to the price of butter was recently asked what he thought the cost of butter would be if the labor which went into its production was paid for at the same price per hour which he received for his services. This question, he, of course, could not answer intelligently. But the average farmer could, since he well knows that, under the old established order of things, a large part of the labor which went into the making of butter, for instance, was never paid for at all and was not even charged against the cost of the

product by the farmer himself. Like a large part of the farmer's work, it was called chores and was done before the regular day's work commenced and after it was over. Naturally the young men of the country did not like this order of things and gradually they have drifted from the country to the cities and towns to such an extent as to make a very noticeable scarcity of labor upon the farms of the country. Under these conditions those engaged in the production of butter, for instance, found themselves obliged to institute a new order of things in which the chores became a part of the day's work in order to keep the necessary help upon the farm. This fact, together with the increased population to be fed and the rapid growth of other industries which have employed labor extensively, has had the natural result of increasing prices for farm products in a proportionate degree. Other factors have, of course, entered into this result, notably the increased production of gold, our standard money, which is claimed to have cheapened the value of our dollar to some extent and to a variety of other causes which it is unnecessary to mention in this connection and which are so complex in their relation one to another, that it would be difficult, if not quite impossible, to separate and analyze them intelligently.

In these advanced farm values for agricultural products there has been much of encouragement and hopefulness for the American farmer. In the strenuous days of cheap foodstuffs, it was impossible for the farmer to make even a living without drawing too largely upon the store of fertility in his soil. This he has done to an extent which has so depleted the fertility of the average soil that he must now add to the cost of production the cost of needed fertilizer, or the time required to build up the soil by natural methods, a cost which the operation of the law of supply and demand has passed on to the consumer in most instances during very recent years. There has been much of satisfaction in this readjusted condition of affairs because it has afforded the farmer a fairer rate of compensation for his work. There has been much of hopefulness for the future because it has seemed to make it possible for more of the capable young people of the country to stay on the farm, since it promised an opportunity for them to acquire a farm home of their own, which it was difficult for the young man to do a few years ago unless willing to do two days' work in one, the one to make a living and the other to add to his savings for the necessary capital to pay for a farm. The advancement of agricultural knowledge and the improvement of business methods on the farm have aided him in this respect, and have done much to raise farming from a mere occupation to the range of a business. In the meantime, this increased prosperity of the American farmer has been generally conceded to be a foundation upon which the nation's prosperity has been built.

Possibly all along the line, and certainly in some lines, the exploitation of agricultural products thru their manipulation in distribution, has increased their cost to the consumers to an exorbitant degree, but be that as it may, a large class of consumers have become aroused over the increased cost of living, their action in consequence of such agitation being directed toward an effort to cheapen the cost of meat thru a concerted movement to reduce its consumption for a short period. Let us, then, study the possible cause and the probable outcome of this effort.

While the cost of living has steadily increased with the general prosperity which has marked recent years, yet it has suddenly become a favorite theme for nearly everybody from newspaper writers to the wise men who gather at the corner grocery. Just how the boycott on meat started is a matter of discussion. Certain Metropolitan newspapers are very willing to assume credit. Another report is to the effect that it started in a joke in a Cleveland factory.

If that were true, and the joke had been inspired by the great packing interests, it is doubtful if it could have had a more satisfactory outcome for them, or ultimately a more serious result for the self-sacrificing people who have joined in this boycott in the interest of the public good as they see it. While the packers and the retail meat dealers have unquestionably levied a greater tribute on the consumers than they properly should, yet the very scarcity of live stock has made this possible. When the commodities in which

they deal are limited in quantity, the conditions are most favorable for the advancement of prices on those products. Under these conditions they are able to regulate the quantity of the several meat products put upon the market to the demand for them in such a way as to insure advantageous prices and large profits. With the relatively small receipts of live stock which have been marketed in recent months, it is not probable that there are very large stocks of dressed meats and meat products on hand and, coming just before Lent when the demand for meat is considerably reduced, the temporary slump in the price of live stock which has been caused by this agitation is advantageous rather than otherwise to the packers; and, while the price of meats to the consumer may and will undoubtedly be temporarily reduced in consequence of this agitation, a permanent reduction in the price of live stock can only come thru an increased production, and any falling off in the price of live stock is certainly not calculated to stimulate an increased production with a consequently lower range of values for meat products.

The student of agricultural affairs understands that prior to the development of our western country, the middle, or then northwestern states, of which Michigan is one, produced a large part of the meat animals to supply the needs of the country. But with the opening up of the western country with its vast area of free ranges, the days of the bonanza cattle king commenced and the industry of not only cattle raising, but sheep raising as well, multiplied mightily, while the cost of production was so low that a large part of the meat and meat products consumed in this country were drawn from this source and a large residue was still left for exportation to foreign countries. But, like the proverbial dog, the cattle king had his day, and with the settling up of the more fertile sections of our western states by farmers and the development of irrigation projects in the more arid sections, as well as the conservation policies adopted by the government with regard to its forest reserves in the mountainous sections, have caused a gradual breaking up of the great western ranges from which this supply was drawn and a consequent reduction in the amount of live stock received at the great markets.

The farmers who have followed the cattle kings in this section have not yet become stock raisers to the extent which should insure the liberal supplies which formerly came from the west. It is undoubtedly true that were the western farmers to engage in the stock raising business extensively, they would produce a larger supply than did the ranges of earlier days, but they could not produce them so cheaply on account of the more expensive methods which they must necessarily employ, nor will they raise them except at prices which will compare favorably from the standpoint of profit with the staple crops which they are now growing. The production of live stock, considered in the aggregate, has again passed from the hands of the cattle king and the ranchman to those of the farmers, and so long as other products range at fair values, which our best economists agree they will continue to do, it will be a vain hope for the consumers of the country to expect meat to recede to the values which generally prevailed during the period when prices were more than ordinarily depressed by the unprecedented shipments which resulted from the breaking up of the ranges and the reduction of the range-fed herds.

In the future the farmer will be the autocrat of the dinner table, so far as the meat supply is concerned, and he will not increase production except at prices which insure a reasonable profit. Any agitation which seems to threaten the future values of meat animals will only further postpone the day when preparations will be made for increasing the supply and thus satisfying the demand at more moderate prices. However, while a temporary hardship to producers of meat animals, the present agitation may in the end prove beneficial to them by reducing the margin of profit levied by the packing concerns and the retail meat dealers upon the consumer, whose ability to purchase in maximum quantities may be limited when he is compelled to pay too exorbitant prices.

When all has been said, the earnest student of present conditions must arrive at the conclusion that one real cause of the

(Continued on page 157).



# 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

## DOWN THE RHINE IN A ROWBOAT

BY EDWY. B. REID.

WHILE in England, and even before leaving America, my companion and I had figured on taking a trip down the Rhine river in a rowboat of some description. We had planned on about two to three weeks to make the trip from Basel, Switzerland, to Emmerick or Rotterdam, Holland.

Now that we were getting tired of tourists, of the great cathedrals and the bustle and noise of cities, and as the work of pushing a bicycle had begun to lose its charms, we concluded that we could make the trip down the Rhine, see the cities and little towns, learn something of the ideal German life, get a glimpse of Switzerland and her mountains, and finally land in Antwerp, Belgium.

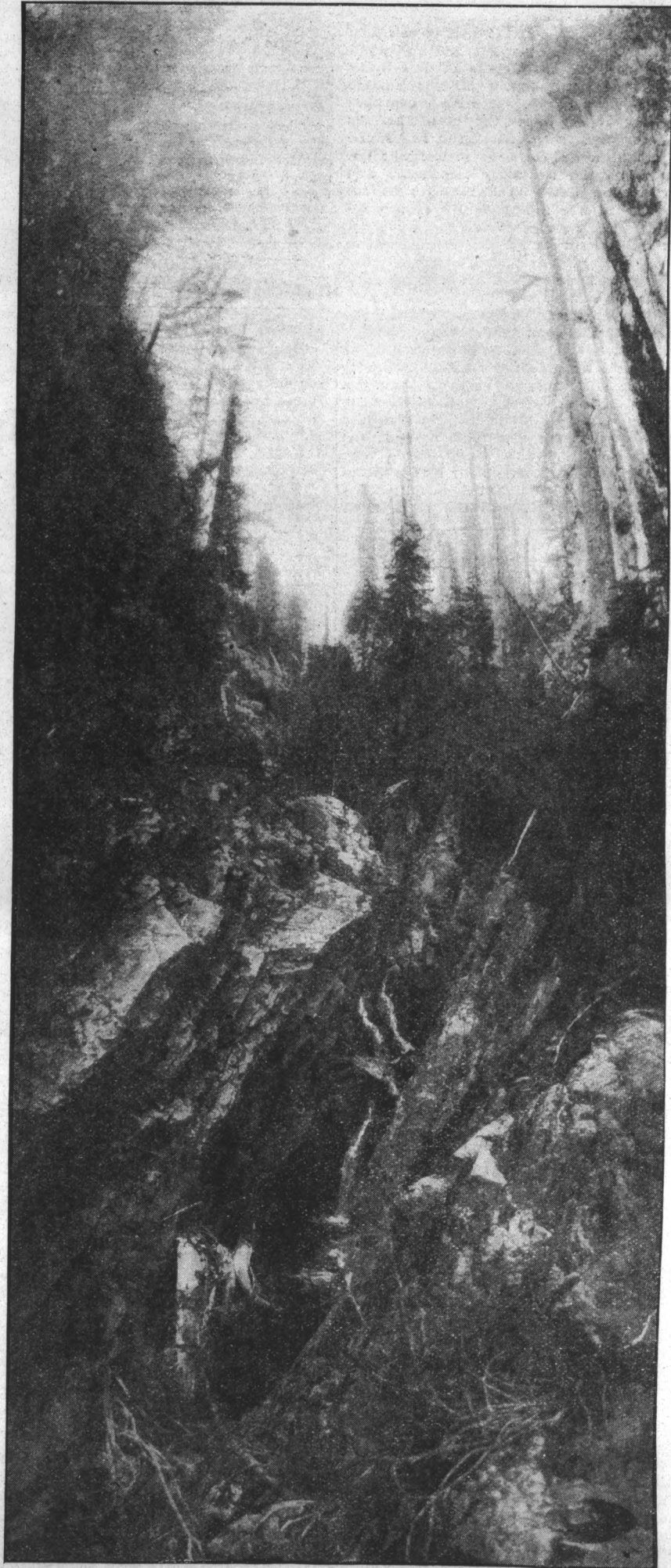
With this ideal trip in mind we sold our wheels, after riding thru the southern part of Holland, and proceeded by train to Basel, Switzerland. After a little sight-seeing here, we started out to find a suitable boat in which to make our trip. Alas! here our troubles began. We walked practically all over the city, thru its crooked winding streets, and down the river for several miles, but could find only a few fishing boats, and they were not for sale.

We finally decided that we would not lose the opportunity of seeing the Rhine valley if we had to walk, but we hoped to get a boat before we had traveled far down the river. Accordingly we shipped all our baggage, except one camera and some films, and our rubber capes, but us each a blanket and gepack, and began our journey.

The river at Basel is from three to twelve feet deep and about a quarter of a mile wide. It flows about ten miles per hour—so fast that it is not navigable. It sweeps past the town at a tremendous rate and its speed may well be illustrated by one of the curious things of the town. The ferry across the river is made to run by the power of the river itself. A long cable stretches across the river, suspended about twenty feet in the air. On this cable is hung a pulley to which is attached another cable running to the boat. This is attached, at a tangent, to the prow of the boat, and the force of the water hitting the boat drives it across automatically.

As we were walking down the road and unconsciously crossing the border between "Sturtzerland" and Germany, we were accosted by an officer who demanded to know where we were going, what we had with us, and whence we came. He saw our new blankets and at once hurried us to the station here we had to explain all about the blankets, what the camera was, and tell about everything we had with us. One of the fat officials could not speak anything but German and had evidently never been outside of the realm. He had no mercy for us, and had a very strong idea that we were smuggling those new blankets across the border. He would throw the German at us by the mouthful and expect us to understand him. When my companion made the mistake of calling him friend, when asking him not to speak so fast, the man went into a rage and declared he was no friend of ours nor did he want to be. We finally turned his penurious actions into a huge joke, which made him angry at the other inspectors as well as ourselves. We succeeded in getting free from the revenue officers after an hour's harangue and more or less of a good time.

The first night our blankets came into good use. We had wandered up from the river to a small town on the mountain side. It was not yet dark, but we could see that as soon as the sun went behind the mountain darkness would follow without any twilight, so we traveled on looking for a sheltered place to sleep. When we were half way up the mountain



A Wild and Rugged Vale In the Roughest Part of the Rhine Region.

and on the outskirts of the village we came to a hay field and that we could not find a better bed than a cock of hay, so proceeded to make ourselves comfortable. We arose at daylight and found we had made our camp in front of a blind fortress. These are very common in the Rhine district, and on reading the signs we learned that strangers were not allowed in this region. Accordingly we congratulated ourselves on not being caught and proceeded to the valley again.

At about ten o'clock we came to a little town where we found a fishing boat that was for sale. However, the owner was not in town but would return at noon. We went to the hotel and ordered "fries-tig," which corresponds to our breakfast, only it consists of simply coffee and rolls. Then, as we were rather sleepy, because of our early start, we decided to return to the river at the edge of the town and sleep a little while to kill time until the return of the boat owner.

We were just folding our blankets and preparing to return to the village, when we were startled by a series of yells and a crowd of people running down the hill toward us. Foremost was the constable, waving his cane, and behind him were several other officers and a mob of children. We knew we were in for it, but could not guess what was up. They came at us talking so fast that the air was full of German. In the midst of it I caught the words "nicht arbeiter" and "gestohlen," and was in doubt which offense we would be held for, not working or stealing. The deputy was furious, waving his heavy club in our faces and shouting all kinds of absurd stuff. Because we took it calmly they shouted the louder, and we wished again for a greater command of German to give them a piece of our mind. We were driven before the mob to headquarters and there we were searched and asked to prove our identity, which was a hard thing to do for the reason that our letters and other marks of identification were in Strasburg. Here our American express order checks came in handy. These gave us a little prestige and, after many explanations, we were allowed to go.

Several, besides the sheriff, went along to see us purchase the boat, which was a long, narrow fishing-boat, about twenty-five feet long and three feet wide, built in the shape of a scow. The owner of the craft spent several hours calking it so it would float, and we passed the time watching the good women of the town do their washing in the river.

Nothing would seem to offer less interest for a tourist than the clothes-washing of the people thru whose country he travels, yet, on reflection, I think that we are more indebted to the women by whom this Rhine-side washing is done for the impression of life and activity that appears so fresh in memory, than to any other element, save the innumerable children. These latter were dressed in their bathing suits most of the time, and were as tanned as Indians and as good swimmers. One would say, from appearances that the women flock generally to the Rhine, where, from Monday morning until Saturday night, they chat, and scold, and wash, and laugh. Whether all the washing of a wide back country is done at the Rhine-side during the three weeks of the year when we were near the Rhine, I cannot say; but much of our course lay thru an almost uninterrupted succession of women washing, scrubbing, pounding, rinsing, drying and transporting some form of wasche.

Finally the boat was made so it would not leak and we pushed off, amid the German cheers, one steering and the other paddling. As I have said before, the river here flows at a tremendous rate and we were soon passing the stone-built



banks, so made to control its spring rampages, at a speed equal to that of a German train. For a while we did not have much time to view the beautiful landscape, as the river was a succession of whirlpools and rapids. Toward evening we had become fairly familiar with the management of the boat, so we decided to take the next day to explore what we could of the famous Schwarzwald, as we were in its most beautiful portion—Baden.

**From Black Forest to Fair Bingen.**

It is necessary to see a German forest to comprehend its beauty, a beauty entirely different from the rugged, mild beauty of our Washington forests. Before seeing these forests I had little idea of what constituted a well-kept forest, but after passing thru miles of the Black forests, the many German songs and poems which describe them have a different meaning and are more appreciated. The Black forest is about ninety miles in length and twenty-five in breadth. One can drive or walk thru it on finely graded, macadamized roads, amid the thousands of majestic trees which are kept in fine condition by the government foresters, free from underbrush and useless limbs, while here and there a ruined monastery or romantic castle cuts its profile sharply against the sombre background. Threading here and there among the stately pines, like little streaks of silver, are little streams which fill the woods with their babbling voices. And what wonder that the Schwarzwald is rich in poetic legends. Whole books have been written merely describing them; castle walls preserve testify to their truth, of the giants, fairies, and princes who inhabited this famous woods to enhance the stories of childhood. And who will claim that the world today is not poorer from calling those legends absurd?

"The German people need the forest," says Reihl, "as man needs wine." Granted, neither is essential to existence. Were it not for the common woods from which the fuel is cut, the monotony would kill the soul. Germany must retain her forests, not merely to keep the ovens supplied, but also to keep the pulse of the life of her people warm, and make it beat joyously.

Proceeding again by boat we were floating along in the afternoon, fast leaving behind the scenes of the upper Rhine. A great railroad bridge loomed up across the river and we successfully shot between the abutments, only to see a pontoon bridge a short distance below us. This bridge, like most pontoon bridges, was constructed of a series of boats, some iron and others wood, about eight feet wide, forty feet long and six feet deep. These boats are anchored in pairs, about twenty feet apart, to a cable stretched across the river, and a plank road is built over them. Well, we saw there was nothing to do but try to shoot thru one of these open spaces. Now, the current goes against these anchored boats with such force that the water is piled up on each side of the boats, leaving a concave watershed about twenty feet wide with the water foaming and boiling on either side. We chose the open space between the two boats in the center of the bridge, but the current was so strong and going so fast, first one way and then the other, that we soon saw our boat was too long and heavy to make that opening. So we tried to reach the next. We paddled our hardest to the last instant before the boat struck the bridge, but the best we could do was to get three-fourths of the boat into the open space. Enough said. We were soon on the other side of the bridge and we were both lucky enough to come to the surface near the boat. The bridge watchman was soon in his boat and landed us and the outfit on an island about a half mile below the bridge. After a few hours' work drying our clothes and patching the boat we were ready to start again.

The next few days were spent in the grape country surrounding Bingen on the Rhine. The climate of the valley of the lower Rhine is influenced much by the proximity of the North sea, whose ameliorating influence makes the temperature remarkably equable. Due to this are the mild, long autumns enjoyed here. This ameliorated climate is favorable to the ripening of the grapes, its action being the same as lake Michigan's or Lake Erie's influence on the temperature of the land near its shore, making possible the marketing of the fruit. It is to this region that many people go each autumn to take the "grape cure," as it is called.

In many places on the mountain sides the natural rock is used as fences, and

the whole side of the mountain sloping toward the river is terraced, each terrace being guarded by a stone wall. In many places the soil on which the grapes are grown is carried up the mountains and deposited on the rocky mountain sides, so scarce is the eroded soil. Along this part of the river grape-growing is practically the only industry carried on. In most places great areas are owned by one man, and these areas are sub-divided and worked by several. Here, as in all Germany, the rotation of crops is practiced. It is not uncommon to see a small patch of ground in the center of a large area of vineyard planted to some soil-value-restoring crop.

In this country where the industry is so great, one would at least expect to find grapes growing on trellises of some sort, but such is not the case. The trellis in our country is almost universal, but the pole or stake is almost invariably used in the Rhine region. Perhaps one reason for this is the uneven contour of the ground which would make the stretching of wires a difficult task.

A chief purpose of the visit to this part of the Rhine Valley was to get an insight into some of the details of the Rhine wine and grape industry. The vintage had not yet begun, nor were the grapes ripe as we had hoped they would be. As an industry, the production of fine Rhine wines is hazardous, save to one who not only has the necessary knowledge and experience, but who has also sufficient capital to live independently of the returns from his vineyards. There will not be a good season for grapes more often than once in four years, and sometimes ten years have elapsed between satisfactory seasons.

However, if one has the capital and the patience, the good years compensate for all the loss. When a good year's product is offered for sale the succeeding year it sometimes brings as high as \$3.00 per gallon on the average. In bad years the expenses are quite as great as in the good ones, and the wine is sold—at the vineyards and without name—for a very trifling sum. It is not chiefly by the "wine doctors," who, by skillful chemical manipulation, convert it into the high-priced Rhine-wine of the restaurants of Europe and America.

There is a difference in the quality of the vines or of their product at different spots on the same hillside. The best vineyards are worth \$10,000 per acre, or about \$2.00 per vine, while the poorest—perhaps within a few hundred feet of the best—are worth not more than \$1,200 per acre. The soil of the Rhine, due to its recent geological formation, is a strata of slaty and quartzose rock, thru which the roots penetrate to a great depth, and which are supposed to derive chief merit from their power of absorbing and retaining heat. Animal manure, in considerable quantity, is very important, but the refuse of slate quarries and of tunnel-work in the slate hills, is of great value for dressing the vineyards.

The life of full bearing of the vines along the Rhine is about twenty-five years, while those along the Mosel last as long as sixty or sixty-five years. It was interesting to learn that the quality which a wine has is imparted to it almost entirely by their "bouquet." As a chemical compound the wine of the bad years is almost equal to that of the good, but the delicacy which gives the value to the select product marks the wide difference between the two. We get practically very little good Rhine wine in this country and what is obtained here is at very high cost. A gallon of wine that costs \$4.50 in the cask at the vineyards accumulates, before it is ready for bottling and sale, a mass of charges for transportation, handling, sacking, leakage, evaporation, and interest which fully doubles its cost. To this cost is added the wholesale and retail profits, so that in Germany the best Rhinewine sells at \$2 to \$3 per bottle. In America one can not get it for less than \$5. The universal beverage along the river is the poor or common wine which is drawn from the wood and bottled as it is brot to the table. The price of this is so low that beer drinking among the well-to-do classes is limited.

**Peasant Life in the Rhine Valley.**

In the little towns along the Rhine which are either supported by tourists or the grape and wine industry, very little is known by the peasants outside this industry. They work continually at their one life work of producing good grapes and wine. At the time we visited these towns the peasants were busy spraying the vines. In many places the mountains were so steep that it was impossible to

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haul their carts, and in fact the vines were so thick that it would have been impossible to get the carts into the vineyards. The Bordeaux mixture was carried up the mountain sides in large cans strapped to the back of man, woman, or child, and the spray operated or controlled by means of a crank attached to the bottom of the tank.

In a little town near Bingen we had the chance of watching the operations of the whole town starting for its day's work. This little village impressed us as did probably no other in our whole trip, tucked away among grand old hillsides, clad with immemorial vineyards; among old valleys wherein a time-honored simplicity still holds sway; among hills around which Old World legends cluster; and in valleys where all is peace and plenty and content—here we roamed most of the day in a dreamy, blissful, antiquated land, where the best that nature can do for hill and dale greeted us at each step, and where the work of Art's best days lies softened by Time's lightest touch. In this little town the peasants were engaged in carting the spraying mixture to the bottom of the hillside. Their creaking carts with their heavy burden of Bordeaux were hauled by two shambling cows which had already that morning contributed a good share toward the owner's support. These cows were as well trained as oxen usually are and seemed to be acting as sort of "triple purpose" animals. Everyone in the village seemed to be at work and most of them were busy with something in connection with the wine industry. Many of the men and women were an odd sight, being as blue as the sky—hands, arms, face, and clothing. They had been busy for several days spraying with Bordeaux mixture and were consequently covered with the blue preparation. Great quantities of this mixture were prepared at one time in the great metal tanks on the wagons or carts and hauled as far into the vineyards as possible.

Bingen itself is a very picturesque little town, practically given over to hotels and tourists, as it is the point on the Rhine

## THE DESERT SIREN.

BY H. D. SMILEY.

### Chapter I.

The woman was garbed in a strange mixture of male and female attire. Her gaunt, bent shoulders were covered with a tattered canvas coat, and beneath this was a coarse cotton skirt that reached barely below her knees. Her feet were incased in heavy cowhide boots that were dry and cracked from many miles of desert travel. Her face was creased with a network of wrinkles into which the desert dust had settled, giving it the appearance of yellow parchment thickly covered with deep pencil marks. Her dingy white hair was cropped short and on her head rested a battered old sombrero.

As she entered the store she gave no sign of recognition to the several men present, but, without glancing to the right or left, shambled directly to the counter behind which stood the storekeeper.

He evidently knew his customer, for without a word he turned and began to do up parcels of bacon, beans, candles and other sundries which he had placed before the woman, who with bowed head leaned heavily against the counter.

When he had finished she dropped the parcels into a sack she had brot in with her, and reaching into her coat pocket extracted therefrom a nugget of pure gold about the size of a hickory nut. This she handed to the storekeeper.

The man weighed it in his hand and nodded silently. Without a word the woman swung the sack over her shoulder and shuffled out of the store to the hitching post where two jaded and decrepit burros were tied. Fastening the sack on one of them she took the lead straps and walked slowly off down the road in the direction from which she had come.

"Who was that?"

The speaker was Bruce Hampton, a

Bruce looked puzzled. From what he had read of sirens they were very beautiful young mermaids, who sat on the rocky coast of some land or other and lured sailer men to their deaths by their charms and sweet songs. How this old woman could possibly figure in such an enactment as that was beyond his comprehension.

"Is there any particular reason for her being called a siren?" he asked.

"You're right sure there is. She's probably lured more men to their deaths than all them fairy-tale sirens rolled into one. And she's still at it, too."

"But, how?"

"Well, it's because she is the only person living who knows the precise location of the Pegleg."

"The what?" asked Bruce, still unenlightened.

"Didn't you ever hear tell o' the lost Pegleg mine, son?"

"Oh, yes, I believe I have read of that. But that is a myth, isn't it?"

"Perhaps so," answered Long Bill, dryly. "Howsomever an' notwithstanding, you'll find a considerable bundle o' people hereabouts that don't think so. You can pick me for one."

"But how on earth could such a mine exist in this part of the country without being discovered sooner or later?"

"It has been. That woman has been lugging in nuggets at the rate o' one a month for the past twenty years, and her husband shipped a cartload o' it east, before they busted up."

"Oh, she's been married, then?"

"Well, I reckon. It'll probably surprise you to learn that such a hid'ous old hag as she is ever owned a husband; but I want to tell you, son, that when she an' her husband hit Gila City, twenty year ago, with their little year-old babe in her

"Well, o' course there was considerable excitement flittin' around for a spell—there always is whenever the Pegleg gets rediscovered. Everybody gathered around them two folks and demanded the details. But, did they get 'em? Oh, no. Them folks weren't handin' out any superfluous information."

"The woman didn't go back again, but put up at the hotel, while the man continued his little jaunts into somewhere or other, and returned again with the regulation load. He made four trips altogether, an' I reckon he toted out fifty thousand dollars worth each trip. As fast as he'd bring it in he'd express it east, just keeping enough on hand to meet the general expenses."

"It was durin' his last trip that the trouble come up and separated him an' his wife. There was a tin horn gambler hangin' around here, then, named 'Handy' Jim Belcher; handsome sort o' feller, an' considerable o' a masher amongst the wimen folk. Well, it was while her husband was absent that he begun to set up to the woman—and I want to state for her, right here, that she wouldn't have nothin' to do with him. But, just the same, he buzzed around the hotel some continuous, smirkin' an' smilin' an' tryin' every way he knowed how to get into the lady's good graces, until us boys, who was lookin' on, were most plumb ready for a lynchin'."

"Well, we never figured out just what, or how it happened. Some o' the boys had an idea that some one or more o' the numerous prospectors who was scootin' around the desert, tryin' to locate her husband, preliminary to locatin' the Pegleg, met him comin' in an' imparted some erroneous information. Anyhow he come snortin' into town one day, without his burros, an' first pop out o' the gun he shot Handy, dead. Then he sailed up to his wife's room. What he said to her an' what she said to him, nobody will ever know; but next thing we did know, he'd took the kid an' vamoosed the diggin's. Ain't none o' us laid our eyes on him since then."

"And what happened to the woman?" asked Bruce, apparently much interested.



A bit of the Picturesque and Historically interesting Rhine Valley where rocky and brokenly wooded slopes are backed by imposing mountains.

where the most beautiful scenery begins. Here we took the Rhine steamer and, after leaving the dock, passed the tower made famous by the myth of a very cruel bishop supposed to have been eaten to death by mice, the Mousetower of the Rhine. From Bingen down the river for perhaps fifty miles the mountains extend their precipitous sides down to the very edge of the river, and they are covered in some places by great vineyards, in others by the old-world forests, and then again the sheer rock juts out to the very edge of the river. These changes in dress of the mountains make a very pleasing and interesting sight. On one side or the other the little inter-vale, presented to view by the winding of the river, was filled with village, vineyard, or field, a high steep hill terraced with vineyards in the sun or overgrown with forest trees in the shade. It is not easy to carry relative heights in one's eye, and the width of water has much to do with apparent elevation; but, with no statistics to guide me, I should say that the hills that enclose the Rhine in this region are as high, as abrupt and as varied as are the banks of the Hudson, with all the difference that vineyard cultivation, frequent ruins of towers and castles, better kept forests, and thick clustering medieval villages can give, a difference which, at least when helped by the sensation of entire novelty and strangeness, is all in favor of the less familiar scene.

young man whose clothes proclaimed him as but recently arrived from that section of the country that lies east of the Mississippi Valley. His question was directed to "Long Bill" Wilkins, a grizzled son of the west, who was seated on an upturned barrel, ruminatively chewing on the stem of an old cob pipe.

The old man did not immediately answer, but slowly raised his head and eyed the young man quizzically from beneath a pair of heavy eyebrows.

"Son," he said finally, and with deliberate emphasis, "if some liberal-minded party would happen along an' hand me one silver dollar for every time that that question has been put to me in the last twenty years, I'd need a full-grown borax freighter to cart 'em off—an' in a whole lot o' instances it has brot fatal results to the questioner."

"Oh, I beg your pardon," said Bruce, somewhat abashed at this reply. "I meant no offense, sir. Of course, I understand that it is none of my business, and—"

He was interrupted by a shout of laughter from the other men present. Evidently they saw a good joke in his apology.

"It ain't that son," Long Bill assured him. "Personally I ain't got no objections to the question, nor has the lady, that I knows of—leastwise she's never made no remarks on the subject. Furthermore, I don't mind enlightening you a bit. She doesn't go by any regular name, but is known hereabouts as 'The Desert Siren.'"

arms, she was about as purty a little woman as you ever laid eyes on."

"What caused the separation?"

"Well, that ain't been just rightly understood. O' course, there's been more or less theorizin', an' it's pretty generally conceded that the woman wasn't in no wise to blame."

"You see, it was this way: When them two and the babe hit here, from the Lord knows where, they 'peared to have a definite object in view. We boys sort o' come to the conclusion that the man had a map or something like that. Anyhow they bot a grubstake and three burros, and, without impartin' any information as to their object an' destination, they struck out into the desert, one night, leaving the babe in the care o' the landlady at the hotel."

"They was back again inside o' a week with two o' them burros loaded down to the last ounce they could tote with gold nuggets, running all the way from as big as your fist down to the size that Buckley just took in from her. Well, every one o' us knowed right off that they'd found the Pegleg."

"How did you know it was the Pegleg?" interrupted Bruce.

"Just take a squint at that nugget o' Buckley's," answered Long Bill.

Bruce did so. "It looks darker than gold usually does," he observed.

"Correct you are. She's sunburned, son. It's so blame hot out there in the desert that even the gold gets tanned."

"Well, for the next month she set around in her room, cryin' her eyes out, an' refusin' any comfort the wimen folks could offer. Some o' 'em tried to get her to write to her husband's folks and get them to explain things to him; but, no, she was so blame proud that she wouldn't do a thing. Said that he had wronged her cruelly, an' that he could find out his mistake for himself. She hadn't done nothin' wrong an' she wasn't goin' to make no advances to him."

"Then one day, after she'd made up her mind that he wasn't comin' back, she bot a grubstake an' a couple o' burros an' hit out into the desert, in the same direction she'd took the time she went with her husband. That's the last we saw o' her for a month, when she showed up an' bot another supply o' grub. She's been doin' that reg'lar, ever since, an' she ain't spoke to a livin' soul fer twenty years—just plumb broken hearted."

"Hasn't anybody ever tried to follow her?"

"Lord! Son, thousands o' 'em has tackled that game; that's where the lurin' comes in. While she's never given nobody a invitation to view the Pegleg, there's been a lot that undertook to trail her to it. But she's as sly as a coyote, an' has always led 'em off on blind trails an' into strange parts o' the desert, an' then, when they was least expectin' it, she'd disappear like the sand had opened up an' swallowed her. By that time most o' the



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trailers would be plumb off their bearings, an 'all up in the air as to the right way back. There's a lot o' 'em that never come back again, too."

"What became of them?" asked Bruce. "Well, son, if you ever have occasion to get out into that desert, you'll understand. The temperature's usually around a hundred an' twenty, in the shade, an' there's darn little shade. It's so blame hot, day times, that water'll evaporate right thru tin cans, an' the air soaks the moisture out o' the human body like a blotter soaks up ink. How the woman ever stood it until she became inured to the heat, is more than any o' us fellers could ever figure out. She must have a lot o' water holes located promiscuous over the country in order to trail around like she does when somebody thinks they're followin' her."

"Which is precisely what I believe I will do," said Bruce suddenly. "I came out here for the express purpose of making a stake, and I don't know of a better way to do it than to find that Pegleg mine—if it is the Pegleg."

Long Bill looked the young man over from head to foot before he spoke.

"You'd last about as long out there as a snowball would in Hades," he remarked, dryly.

"Others have done it," retorted Bruce. "Yes—an' a lot aint. Why, son, the men who've been thru that furnace were, for the most part, big, husky experienced prospectors, who'd stomped over mountains an' trails for years before they dared to tackle it."

"The woman did it," persisted Bruce. "Well, you've got me there. As I remarked before, there don't me nor nobody else understand how she ever stood the racket."

"But she did," said Bruce with conviction. "And what a woman can stand, a man ought to endure. I'm going to make a try for it, anyhow, and if you gentlemen will kindly advise me as to what kind of an outfit is needed, I'll be much obliged to you."

"Son," said Long Bill, in a final effort to head the young man off, "you take it from me an' keep out o' that desert. You ain't got no more business out there than a side-winder has at a tem'prence meetin'.

There's lots o' good prospects in this country besides the Pegleg, an' you don't have to take such risks to find 'em, either. If you want to get a stake real bad, get a job skinnin' mules or cowpunchin'. That's a whole lot safer'n what you propose to undertake, an' you'll get your stake a blame sight quicker, too—if you save your wages."

But Bruce merely shrugged his shoulders and again requested advice on the outfit.

#### Chapter II.

In the shadow of an overhanging ledge of rock, which sheltered him from the blinding glare of the sun, crouched Bruce Hampton. Before him stretched a vast expanse of yellow sand, dotted here and there by withered bunches of sage brush and straggling clumps of mesquite bushes.

The young man shifted his position and took a small sip of water from his canteen. His face was pinched and dust begrimed, and his whole body had visibly shrunk.

And yet, less than twenty-four hours had elapsed since he had started out from Gila City on his quest for the mythical Pegleg mine. He had left at sundown the night before, with two burros, an ample supply of provisions, and enough water, as Long Bill had judged, to carry him thru to Hidden Springs.

The westerner had also provided him with a rough map of the country he was about to invade, locating the various known water holes. He had advised Bruce to head straight for Hidden Springs, which place he should reach about sunrise, and to remain there in the shelter of the rocks during the day, as traveling in the intense heat of the sun would be beyond his endurance.

Bruce had followed his friend's directions as best he could with his limited knowledge of such things, but the desert trail, little used, and, in places, entirely obliterated by the drifting sand, had proved too much for him. With nothing but instinct and the dim light of the stars to guide him, he had found it difficult to keep the trail at all, and some time during the night he had lost it altogether and had drifted out into the desert.

When the heat of the rising sun had driven him to cover he had crept under the overhanging ledge, which was the only shelter in sight, except for the range of mountains that rose to the right of him.

With a recklessness born of total ignorance of the terrible desert thirst, Bruce had drawn heavily on his supply

of water during the night, in full confidence that he could refill his canteens at the springs. As a result he was now down to one canteenful. Realizing that he was lost and that his life depended on his finding water before this pitiful supply was exhausted, he had taken but occasional small sips during the day—just enough to moisten his lips.

His burros, picketed close by, hugged the shadow of the rock, panting wheezily. Bruce had shared his water with them during the night, but thru the day he had given them none, and they were suffering keenly from thirst.

Crawling further into the shadow, Bruce took a letter from his pocket and read it thru for the twentieth time. It had arrived on the afternoon mail, the day before, about an hour before he had taken his departure from Gila City.

The letter was postmarked New York, and written in a clear, feminine hand. Over one paragraph in particular the young man lingered.

You must know, dearest, that had I been aware of this thing you are undertaking for my sake, you would never have left me. I would have married you against Papa's wishes before I would have consented to your going. I was furious when he told me about it, right after I had returned from Elsie's house party. It was cruel of him to send you off on such a wild goose chase, and merely because he wants his daughter's future husband to have a fortune before he marries her. For my part I would much rather have started on the salary you were drawing here and fought out way up together, than to have you take such risks. Instinctively I feel that something terrible is liable to happen to you on this trip.

Oh, do be careful for my sake; don't do a thing that will put you in the slightest danger. If I didn't know what a determined man you are, I would command you to come straight back to me. But I know you will do this thing, now that you are started. Therefore I shall pray with you that you succeed in making the stake—our stake—so that you can show Papa that you are every bit the man I know you to be. Write to me every day that you can or I shall be frantic; and come back to me just as soon as you can.

Always your devoted, ISABEL.

From his pocket Bruce drew a small leather case and gazed long at the photograph therein. It was of a sweet, fair-faced girl, whose eyes looked straight into his own with an expression of infinite trust and love. She had had the picture taken expressly for him, and as Bruce watched the face the eyes seemed to take on an almost living expression of understanding and tender sympathy.

Replacing the letter and case in his pocket, he turned to Long Bill's map. For a long time he studied the crude tracings of the westerner, recalling as best he could the verbal directions that had been given with them.

Finally he crawled forth from beneath the ledge and swept the landscape in a vain search for some mark that would set him right in his bearings. He saw only the glare of the yellow sand, the scattered, ashen vegetation, the gray and sombre rocks that rose like grim sentinels here and there, the intense blue of the sky, and, in the distance, the range of mountains wherein lay his hope of life.

He had already given up the idea of finding the Pegleg. One day's experience with the desert heat had convinced him that such a quest would be hopeless to any but a hardened prospector. He had not, by any means, given up the hope of finding a stake, but he would hunt for that in the mountains, he thought, where he would find water and protection from the terrible heat.

He crawled back under the ledge and waited until the sun had sunk into the desert sands, and then he came forth again and began clumsily to pack the burros, preparatory to making his dash for the mountains.

#### Chapter III.

Years before, when a boy back in Vermont, he had slipped over a rail fence, one autumn, starlit night, waded thru a field of dew-laden clover and crawled under the orchard fence into Farmer Carver's melon patch. He could see them now, great, green, luscious fruit, glistening with dew, and scattered over an acre of verdant weed-grown land. He had broken them open against a rock, dug out great handfuls of the rich, red hearts and conveyed them, dripping and wet, to his mouth—

An impatient movement of the burros trot Bruce back to his surroundings. They had suddenly pushed ahead and were tugging at their leading straps. Plainly they were excited over something. An experienced desert prospector would have guessed at once that the animals had scented water somewhere in the vicinity and were eager to get to it. The significance of this, however, was lost on Bruce.

"Whoa, you brutes," he said huskily,

(Continued on page 150).

### HOUSEHOLD ECONOMY

How to Save \$2 on Cough Medicine by Making it at Home

Cough medicines, as a rule, are mostly syrup. To make the best syrup, take a pint of Granulated Sugar, add 1/2 pint warm water, and stirred about 2 minutes.

Get two and one-half ounces of Pinex (50 cents worth), put it in a clean pint bottle, and fill up with the Granulated Sugar Syrup. This makes a full pint of unequalled cough syrup, for about 54 cents. Keeps perfectly. You couldn't buy as much ready-made cough syrup for \$2.50.

This home-made remedy is pleasant to take, and usually stops even the most obstinate cough in twenty-four hours. It is splendid, also, for colds, whooping cough, bronchial ailments, etc. Take a teaspoonful every one, two or three hours.

The Sugar Syrup is an excellent sedative. The Pinex is the most valuable concentrated compound of Norway White Pine Extract, rich in all the healing elements of Norwegian pine. Be sure to use the real Pinex itself. Your druggist has it or can easily get it for you.

Strained honey can be used instead of the syrup, and makes a very fine honey and pine tar cough syrup.



Next Time You Go To Town

be sure to ask your storekeeper to show you a pair of Extra Heavy

### PRESIDENT SUSPENDERS

Just give them a try-out as a work suspender. You'll find them so much more comfortable than the rigid-back kind you have been wearing and last so much longer, that you will never want to wear any other kind.

The sliding cord in the back takes all strain from your shoulders, allows freedom of motion, and prevents chafing.

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## Marlin



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Marlin repeating shotguns are guns of perfect proportions, made in 12 and 16 gauges, with simpler mechanism than any other repeater.

They have the Marlin solid top always between your head and the cartridge, the side ejector, and the closed-in breechbolt that keeps out rain, snow and sleet, dirt, leaves, twigs, and all other foreign matter. These features add greatly to the efficiency of a gun and to the comfort and convenience of the shooter.

The Model 16, 16-gauge Marlin is the only light weight repeating shotgun made. It weighs but 6 1/2 pounds, handles fast and shoots close and hard. It is unequalled for quail shooting, for squirrels, rabbits and all small game.

Before buying a gun, just get our 136-page catalog. Sent free—by return mail—for 3 stamps postage.

The Marlin Firearms Co., 127 Willow Street, NEW HAVEN, CONN.



MOTHER WRITING LETTERS.

BY CORA A. MATSON DOLSON.

What little letters she would sometimes write While others were asleep, on Sunday night, Telling, perchance, how had the baby grown, Or how he took his first glad step alone, Or what the dinner Thanksgiving Day, Or how the wee one broke her doll at play.

She loved not lamp-light, and, with snuff-ers near, The tallow candle's blaze was soft and clear.

A dish of apples, golden-green and red, Within the circle that the candle shed, The cradle, with its bright pink quilt tucked in, Around the small plump hands and dimpled chin, Myself, with fancy that could range at will In this, my task, to keep the baby still, For, while my foot the rocker moved ajar, With Prince and Princess journeyed I afar.

And she wrote letters; but the blue-lined page, Filled with home-truths, and maybe, learning sage, Has vanished; not a one is left, of all Her letters; and but faintly I recall The woman-writing, close, and cramped, and dim, Yet stays within my mind, as some sweet hymn She used to croon, her picture, sitting there At letter-writing, in her low-backed chair.

SOME QUEER BEDS.

BY DORA H. STOCKMAN.

On the second day of February, Allen's father came into the living room with a large, partly decayed log on his shoulder and rolled it into the huge fireplace.

As he piled the smaller sticks about it he remarked, "Well, I guess the ground-hog saw his shadow this afternoon and he'll go back and sleep six weeks."

"What is a ground-hog, father, and will he really sleep six weeks?" asked Allen eagerly.

Mr. Thoreau laughed and sat down by the fire, taking the small boy upon his knee.

"A ground-hog," he replied, "is a wood-chuck, the rascal that digs those holes in the meadows in the summer."

"Oh, yes, I remember him," said Allen; "he used to look so cute sitting up over in the meadow, just like Fido does when he begs for something to eat. He would jump down in his hole pretty quick, tho, when anyone came near. Is that where he sleeps, papa?"

"Yes, he digs out quite elaborate rooms for his castle underground, and he always has two doors. You remember, when the older boys tried to smoke one out last fall, how he came out on the other side of the bank and scampered away before they could catch him."

"Why does he sleep in the winter?" asked Allen.

"When it gets cold and the ground freezes or is covered with snow, he cannot get any grass or food to eat. So he goes into his home and sleeps until spring, unless a very warm spell comes in the winter when he sometimes comes out."

"Don't he have to wake up and eat something?"

"No, he doesn't need to eat, for he lives on the fat he stored in his body during the summer and fall."

"That must be why he is so poor, and thin, and hungry when spring comes," reflected Allen soberly. "What a queer way to live."

"That is the way Mother Nature taught

them to live when the weather is cold and there is no food for them to get, else they would freeze and starve to death."

"I never thot of that," said Allen. "Do any other animals sleep all winter?"

"Quite a number hibernate, as we call the winter sleep of animals," Mr. Thoreau answered. "There was a big hollow elm tree near the road where I used to go to school when I was a boy. One winter a bear took up his winter quarters inside the tree among the leaves and decayed wood. One night, toward spring, we boys were chasing a partridge that was fluttering along and it flew into the hollow tree. When we climbed in after it we were pretty much surprised, I can tell you, to find Mr. Bruin lying there asleep. We didn't wait even to apologize for going into his bedroom, but ran for home as fast as we could go. When the men went to look for him in the morning he had gone."

"Tell me about some more animals that lie in bed all winter, papa," begged Allen, snuggling down comfortably in his father's arms.

"I saw one last week, when I was hauling gravel," said Mr. Thoreau. "After we had dug down nearly five feet we came to a snake, standing on its head where it

was blazing brightly at one end. "A cricket, a cricket."

Whether Master Cricket that we were waiting for a song, or whether, because of the warmth, he believed spring had come, I can't say. At any rate, he lifted up his rasp-like bow and drew it across the other wing cover on his back, fiddling and chirping away as if life were all one summer day.

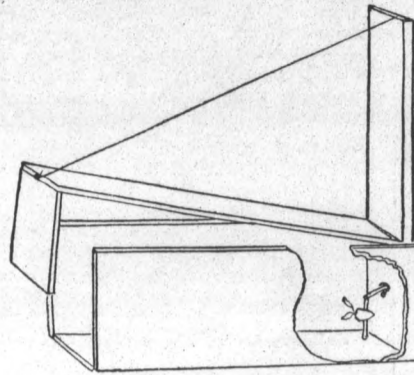
Allen laughed heartily. "Fiddle away Mr. Cricket," he cried, "but what will you do when your bed is turned up and the snow is all over the ground. He must be another winter sleeper, isn't he papa?"

"Yes," replied Mr. Thoreau, "the cricket, like many other insects, makes his bed under the bark of trees and beneath logs and fences that will afford him some shelter. You remember how tame the birds seemed down in the woods, and how they flew around the freshly cut timber? You see we had uncovered the winter bed of some of the insects, and they were hunting them and their eggs for a meal."

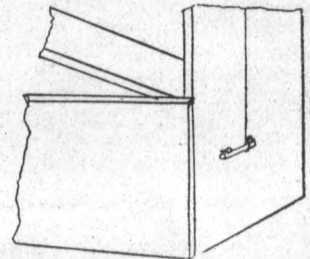
"Oh I know, papa, I saw some birds running up and down the fir trees in the front yard. They were tapping so loud on the trees I could hear them in the house, and mamma said they were woodpeckers and nuthatches hunting grubs and insects to eat. It seems pretty bad for the birds to haul them out of bed to eat them."

"It does seem cruel, yet if the birds did not eat the insects there would soon be so many that they would destroy all the farmers' crops. That is one of nature's

ways of balancing things up and at the same time furnishing food for the birds. Besides, all insects do not spend their winter like these. A great many, like the grasshopper, the beetle, the caterpillars of some moths, either as eggs or in some stage of their lives, hibernate in the



Simple Rabbit Trap, with Inside and Outside View of the Trigger.



bed with the frogs and other small water animals," added Mr. Thoreau.

"Oh, papa, auntie, look quick," cried Allen, excitedly pointing at the log which

ground during the cold winter months."

"You must not forget the swing beds," said mamma, "where the little moth babies swing in their silken hammocks, snugly hid from the winter storms."

"How interesting," murmured Allen, thoughtfully; "what a queer lot of beds there are in the world."

"Wonderful beds, wonderful animals, and a wonderful world," added his father.

TRAPS AND SNARES FOR RABBITS.

BY L. C. WHEELER.

Boys, now is the time to get out those box traps and snares for rabbits. I prefer the snares to the traps, as it is easier to get the rabbits into them. Nearly every boy knows how to make a box trap like the one shown in the illustration. The trigger is the important part. The one shown is simple, but if preferred the well-known figure 4 trigger may be substituted for it.

To make a snare get some good broom wire, or other wire about that size, something as nearly invisible as possible. Make a slip noose in one end with an opening about 4 1/2 to 5 inches across. Fasten this over the runway or at the entrance to a hole. If a hole, place it in a central position, unless the hole is large, when it should be placed up about two inches from the bottom. In runways set it so the bottom of the noose is two or three inches above the ground. Fasten the other end to something solid or, better still, to a spring pole made by bending down a sapling two or three inches in diameter and fastening it in such a manner as to be easily broken loose at the first spring the rabbit makes after getting into the snare.

STRAW PICTURE FRAMES.

BY I. G. BAYLEY.

Very neat frames for small pictures or photographs, can be made of ordinary lemonade straws, such as are used at the soda water fountains.

A bundle of straws can be purchased for about twenty cents, and in a bundle there are enough straws to make many frames.

The four long straws should be cut about four inches longer than the length

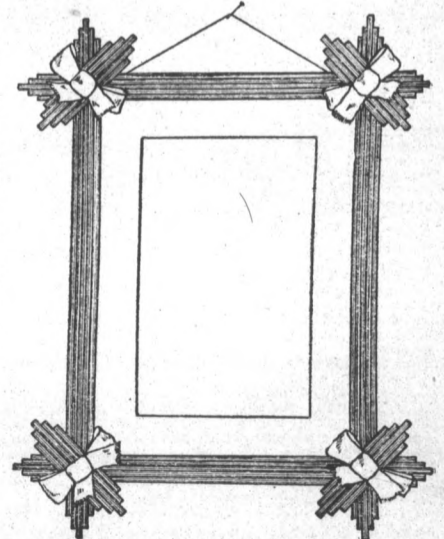
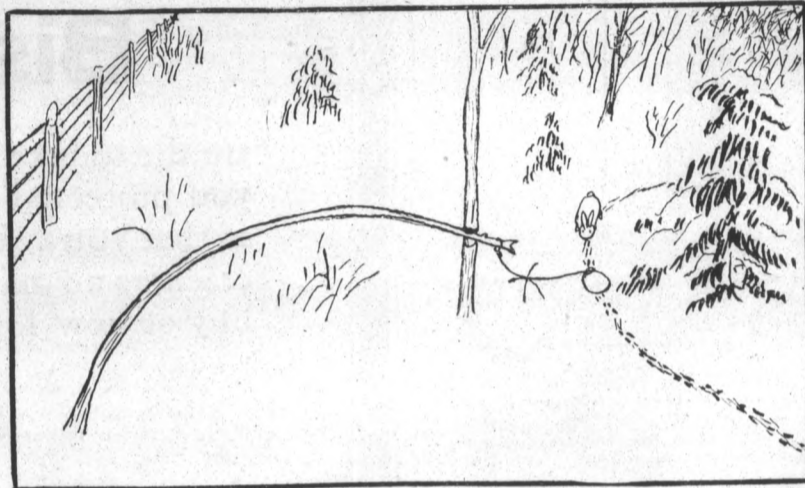


Fig. 1.

and width of the picture to be framed, and the others should be cut half an inch shorter, as shown in Fig. 1 and 2. The longest straw for the corner ornaments is three inches long, and the others half an inch shorter, or one-quarter of an inch at each end, as clearly seen in Fig. 2.

When all the straws are cut to the



Snare for Catching Rabbits—Set in Runway, and After Being Sprung.



had burrowed its way into the ground. It was almost as stiff as a stick."

"I don't see how they come alive again," said Allen.

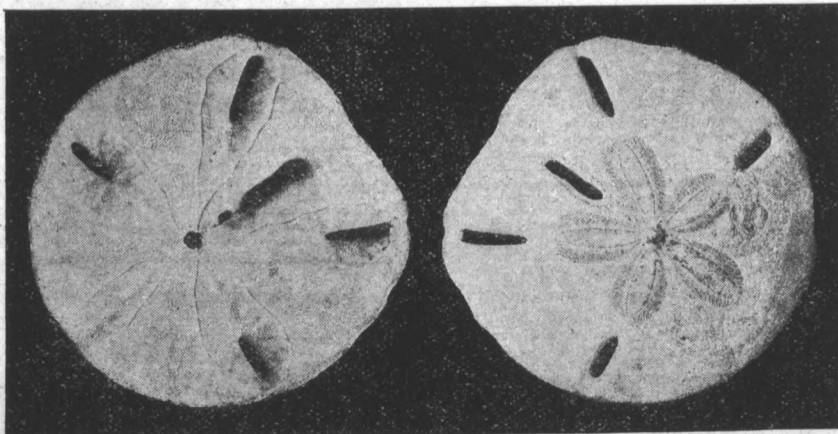
"Neither do I, my son, but we know they do, and so do the toads that also crawl into the earth and stay there until spring."

"What becomes of the frogs?" he asked.

"They burrow in the mud in the pond,

THE SAND DOLLAR, OR SEA-URCHIN.

BY I. G. B.



The illustrations show both sides of a Sea-urchin, or Sand Cake, or Sand Dollar, as by either of these names it is known. When living, it is covered with a hairy moss, but when dried and bleached in the sun, as shown in the illustrations, it loses all these, and is whitish or yellow in appearance. It is made of carbonate of lime, and is found on sandy shores.



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The U. S. Government has bought 25 Gross (3,600 boxes) of Rough on Rats to send to the Panama Canal Zone. Bought by Cities, Institutions, Governments and States to stamp out the Bubonic Plague; because it does the work. Never disappoints the buyer. Recognized all around the world as the standard Rat and Vermin exterminator. The "old reliable," the "unbeatable exterminator." The secret is, you (not the maker) do the mixing. Not poisonous to handle, only so when eaten. Beware of imitations, substitutes and the ready-for-use devices. When you buy Rough on Rats you know what you are paying for. Better less convenience and more exterminator. Don't Die in the House.

**TAKE A HINT.**

Pay for poison only, do your own mixing, then you get results. One 15c. box of Rough on Rats, our smallest size, is equal in killing power to five or six dozen of the 25c. ready-for-use things; tasteless and odorless, when mixed with anything vermin or insects will eat, it completely outwits them. Being powerful, is better not mixed too strong, about 1 to 20. Not poisonous to handle, only so when eaten. Can be mixed and disguised in many different ways to meet conditions. Equally effective for Roaches, Ants, Beetles and Bed Bugs. Try it for Roaches and Beetles, mixed 1 to 30 of mashed potatoes. 15c., 25c., 75c., at Druggists. The 25c. contains double the 15c. The 75c. is four times the 25c.

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 UNBEATABLE EXTERMINATOR

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You will also get a big book, showing over 2500 Premiums which we give with orders of our Soaps, Tea, Coffee, Baking Powder, Flavorings, Breakfast Food, Rice, Salt, etc. We ship direct from our factory and thus save you all middlemen's profits. This saving you get in premiums. Take advantage of it. Send for samples now.

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**WANTED—500 (Five Hundred) Young Men** Painters, Machinists, Woodworkers, Upholsterers and Trimmers.—not necessarily experts, but young men who are honest, with a clean reputation,—who desire to learn good trades with a reliable concern in one of the healthiest cities in the world, where every man has a chance to make a home. Men who gamble and drink need not apply. If you already have experience, so much the better. Write out full detail, giving your age, and experience if any; also references and the trade you prefer; whether single or married and how many in family. Address—W. B. POND, General Supt., "STUDEBAKERS" South Bend, Ind.

proper lengths, they are to be stitched together with white or straw colored silk, in flat bundles of five. They should be held flat to the table with one hand, while being stitched together or they will not lie flat when sown.

The picture should be cut perfectly square as a guide for the squaring up of the frame. The four sides can be held together with a few stitches at each corner, until the ornaments are put on, when the stitches can be run thru the three bundles at once, and also a few thru the corner of the picture at the same time.

Bows of ribbon in the corners, and either a ribbon or string to hang the pic-

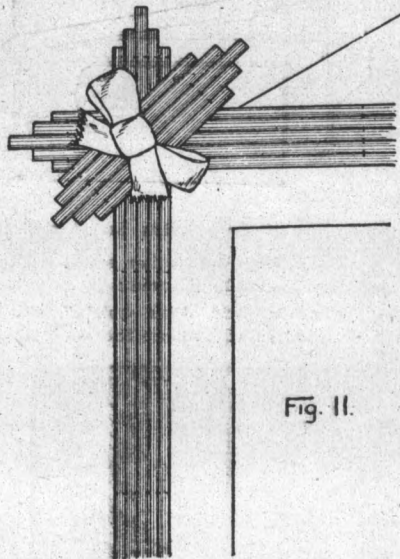


Fig. 11.

ture by, will improve the appearance. Colored straws can be purchased, or, with ordinary water dyes, the straws can be made any color desired, enabling anyone to make very pretty frames for pictures, suitable for gifts or souvenirs.

**AS NEEDED.**

By EUGENE C. DOLSON.

Dark times, with strife and portent dire, Have been by loftiest souls endowed, As lightning gleams of brightest fire Flash from the blackest cloud.

**SMILE PROVOKERS.**

She—This dress cost twenty-five pounds, and the tailor promised to make any alteration in it that I required.  
 He—Well, then, you had better ask him to alter the price.

A kind old gentleman, seeing a little boy carrying a lot of newspapers under his arm, said:  
 "Don't all those papers make you tired, my boy?"  
 "No, I don't read 'em," replied the boy.

Her Father—Why don't you marry Mr. Koyné? He has looks, wealth, and position.  
 His Daughter—But one thing holds me back, papa.  
 Her Father—What's that.  
 His Daughter—He hasn't asked me yet.

"How do society papers derive their revenues?" asked the inquiring pupil.  
 "Some of them," answered the professor, "derive it from people who want to get into print, and some from people who want to keep out."—Washington Star.

The honeymoon was waning.  
 "I can't help thinking," she remarked, "that the clergyman looked very solemn when he was marrying us."  
 "Well," he answered, "he's a married man himself."

Mrs. Nuwed—I gave a tramp some of those French rolls which you refused to eat, and he seemed real glad to get them.  
 Mr. Nuwed—No doubt, my dear; tramps often carry missiles of self-defense.

**BOOK NOTICES.**

Lamb's Selected Essays of Elia. Edited by John F. Genung, Professor in Amherst College. This, the most recent addition to the Gateway Series of English Texts for College Entrance Requirements, contains fifteen of Lamb's best essays including those on Poor Relations, Old China, Grace before Meat, and the celebrated Dissertation upon Roast Pig. Cloth, 16mo, 264 pages. Price, 40 cents. American Book Company, New York, Cincinnati, and Chicago.

Part Songs for Mixed Voices. Edited by John B. Shirley, Supervisor of Music, Upper Troy, New York. The songs in this volume are intended for mixed voices, and are notable for their great variety, and their musical arrangement of parts, and their adaptability to all school occasions. Cloth, 8vo., 272 pp. Price, 75 cents. American Company, Chicago.

Nature Study for Lower Grammar Grades. By Horace H. Cummings, B. S., formerly Supervisor of Nature Study, State Normal School, University of Utah. This pupil's text-book chooses for study such subjects as naturally fall within the school environment. Cloth, 12mo, 216 pp, with illustrations. Price, 60 cents. American Book Company, New York, Cincinnati, and Chicago.

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Next time you go to the store buy enough Uneeda Biscuit to last till next market day. "But," you say, "will they keep that long?" Yes—

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**5¢** (Never Sold in Bulk)

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It works two rows at once—16, 18 or 20 inches apart, and goes close to plants, leaving the ground smooth and level. Extensions can also be used to work 22, 24, 26, 28 inches apart. Cultivating parts are of high-carbon steel. Made by an actual farmer and experienced manufacturer expressly to cut down work and save time and money. And the Planet Jr does it every time. A full guarantee covers every implement.

Write for illustrated 1910 Catalogue of Planet Jr Beet and Orchard Cultivators, One and two-horse riding cultivators, Harrows, Seeders, Wheel-Hoes—55 different tools for farm and garden use. Free and postpaid.

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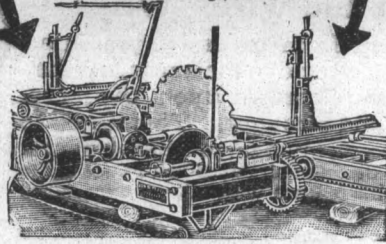
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## OUR YOUNG MEN'S COLUMN.

### The Selection of Furnishings.

The judicious selections of furnishings is quite as important to the young man's toilet as is the wise choice of clothing, upon which we have touched in previous issues. Just now the prevailing style in dress shirts includes the pleated bosom, made up in a variety of materials and colors. Plain bosom shirts are also worn a great deal for all ordinary wear, as much because of the greater comfort to be derived from a soft shirt as because of the reduction of the laundry bill, which is an argument for their use. But fortunately for the comfort as well as the temper of mankind, the "boiled" shirt of former days is rarely seen, and the white shirt is worn little except for strictly dress occasions. But whatever style of make or color of material may be selected, it pays to buy shirts of good quality. This is even more true of shirts than of some other kinds of clothing, not alone because of the more satisfactory wear, and better appearance when fresh, but as well because the good materials do not soil as easily as the poorer goods. Then, only in shirts of good quality will "fast" colors be found, and materials that fade are never satisfactory to the wearer. Attention should also be given in the selection of shirts to the length of the sleeves, as in all standard makes different lengths of sleeves are manufactured in shirts of the same kind, the sleeve length generally being stamped plainly upon the fabric as well as the size of the collar. Standard makes are also manufactured with or without cuffs attached, to suit the preference of the purchaser, those with attached cuffs being most popular for general wear on account of their greater simplicity and convenience.

In collars styles differ to an even greater extent than in shirts, altho the same general cut is followed in most of the different designs. The medium or high turn-over collars being mostly worn, the "stand-up" collars with corners turned down being used only for dress occasions. In the selection of collars, some young men seem to disregard the factor of comfort in their preference for extreme styles. For most people it is far better to wear a collar of medium height than an extreme style in this direction, both from the standpoint of comfort and appearance. In the purchase of collars, a medium grade is probably more satisfactory than either an extra heavy or very light weight, since they afford as good an appearance and are less refractory in adjustment than the extra heavy collars, and give a satisfactory degree of service. But whatever the style or kind, every young man should remember that clean linen is a distinguishing mark of the well dressed man.

In the selection of ties some attention should be paid to the color of the shirts with which they are to be worn. Generally the predominating colors should be selected to correspond. But the appearance of the tie does not depend entirely upon its judicious selection. It must be worn properly to appear at its best and make the wearer appear at his best. It is quite a knack to tie a four-in-hand so that it will look well and retain its position properly. To insure this desirable result, the tie should be so placed in the collar that the long end will be on the left side after the collar is buttoned on. The tie should then be drawn back and forth till it can be pulled easily thru the collar. Then the long end should be taken in the right hand and passed clear around the shorter rather tightly, and again more loosely before it is tucked under and drawn down, the second fold taken appearing on the outside, the end held in the right hand being drawn under this fold and above the first fold or wrap of the tie about the short end. It can then be drawn tightly into place, will have the desirable smooth appearance, and will stay where it is put. With an occasional pressing, ordinarily good ties will look well for a long time, and it costs no more in the end to have a suitable variety of them on hand. Of course, there are many men who prefer other styles of ties, which are more easily tied and adjusted. These are to be found in the made-up ties and in the string ties to which some will ever adhere, regardless of the mandates of fashion. But the young man will want to wear the four-in-hand, the very latest style in which is the narrow silk or knit silk tie, worn with a closed front collar. The broad scarf silk ties are, however, much worn, as are also the four-in-hands made up with a light lining inside the material.



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### THE DESERT SIREN.

(Continued from page 146).

jerking impatiently on the straps. "You're not any more anxious than I to get to those mountains. Take it easy or I'll play out before you get there."

He had been traveling toward the mountains for many hours. They had disappeared with the coming of the darkness, but he had located a star in the north and had kept this before him thru-out the journey.

In spite of his admonishments the burros became more and more restless and impatient, until he had to take their bridles and hold them, one on either side of him, in order to restrain them.

In this manner they proceeded for a short distance, and then, suddenly, there came a warning "whirr" and the animal at his right plunged sideways and against Bruce with such violence as to throw him heavily to the ground. In falling he lost his grip on the bridles and instantly the burros stampeded and vanished in the darkness.

Bruce scrambled to his feet with the intention of following them, but another loud "whirr," just in front, checked him. Looking down he could distinguish, by the dim light of the stars, a crawling, writhing shape forming itself into a coil. With a cry of fear he sprang back just in time to escape the fangs of the deadly desert rattlesnake. Before it could recoil he had crushed its head under the heel of his heavy boot.

And then he made a terrible discovery. When he fell, the canteen had been beneath him, and he found, to his utter dismay, that it had struck the point of a jagged rock, piercing a hole near the bottom, thru which all but a few drops of his precious water had escaped.

Horror-stricken at this awful calamity, Bruce stood dazed for some minutes. Then he suddenly remembered the burros and his outfit and started frantically off in search of them.

In his bewilderment he rushed wildly about in the darkness, stumbling over rocks and sage brush and calling huskily to the animals. Whatever had caused them to break away had taken them far from his limited range of vision, and when he at last paused to listen, nothing but the death-like quiet of the desert rewarded his ears.

### Chapter IV.

Daylight found him still wandering about in frantic search of his lost grub-stake and his bearers. To the south the same monotonous scenery stretched away to the horizon, and before him were the foothills of the mountains; but the burros and all traces of them had vanished.

The heat from the rising sun descended upon him like a blast from a furnace, and within an hour after its appearance above the horizon he was obliged to seek shelter in the shadow of a tall, sentinel-like rock.

At the best it afforded but slight protection from the heat, and he knew that when the sun had reached its zenith he would be directly exposed to its scorching rays.

Bruce's lips were already cracked and bleeding, and his tongue was a black, swollen husk that filled his mouth so that he could not close it. His head ached fearfully and his brain vibrated dizzily. He realized vaguely that he must escape to better shelter and find water quickly if he hoped to keep his grip on life.

He stood up and swept the foothills in an eager search for some retreat. Several miles to the west rose a mass of towering rocks, and in the center of this he thought he could distinguish a dark opening. If he could only reach that place, he thought. But did he still have the strength? Suddenly as he watched, a huge volume of water gushed forth from the cleft in the rocks and spread rapidly out over the sand, forming a shimmering, sparkling lake in the morning sun.

With a hoarse cry of joy the now demented man dashed forth from his shelter and tore madly across the desert. As he advanced the spreading lake seemed to reach out to meet him. He could see little white-capped waves tossing, and could hear them ripple and splash as they broke on the sand.

At last, after what seemed to him an interminable time, he reached the shore of this shimmering lake, and without pausing, he flung himself recklessly head-long into the tumbling water.

The shock of his fall brot him to his senses for a second. He reached out madly for the water, but, instead, found nothing but the dry hot sand of the desert beneath him. The water had miraculously disappeared!

(Concluded next week).

## When He Courted You



He didn't complain if you were a little despondent or irritable at times. Now he does. He's the same man. He didn't understand then. He doesn't now. Then he thought it was caprice and liked it. Now he thinks it is caprice and doesn't like it. But now he's busy getting money.

If he realized the full truth he would be more than anxious to have the wife he loves take the right remedy to restore her to true womanly health. Most men don't know that when a woman is weak, nervous, irritable and despondent, there is invariably something radically wrong with the delicate feminine organs with which her entire physique is in sensitive sympathy.

There is one, and just one remedy, tried and proven, that will put things right when the feminine organism is weak or diseased. It is

### Dr. Pierce's Favorite Prescription.

This medicine restores perfect health to the weakened organs, and makes them strong.

It makes wifehood happy, and motherhood easy. It makes child-birth short and almost painless. It helps to make real "new women." An honest druggist won't urge upon you a substitute.

This "Favorite Prescription" is a pure glyceric extract of native medicinal roots and contains no alcohol, injurious or habit-forming drugs. A full list of its ingredients printed on its outside wrapper and attested as full and correct under oath.

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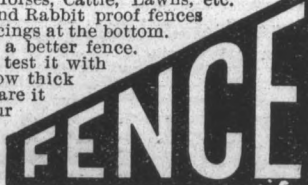
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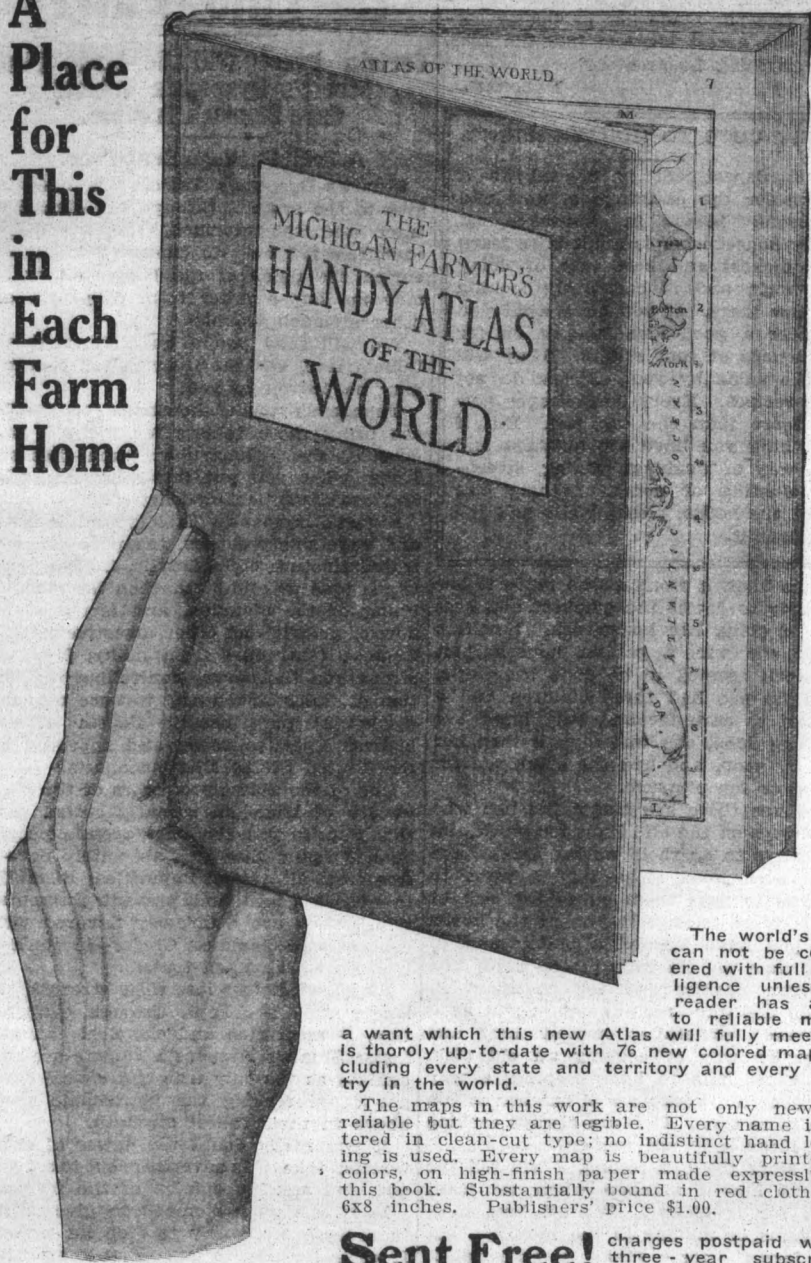
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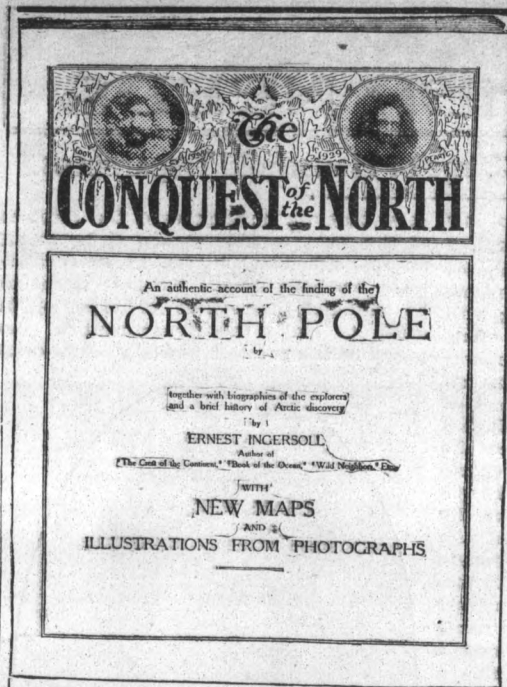
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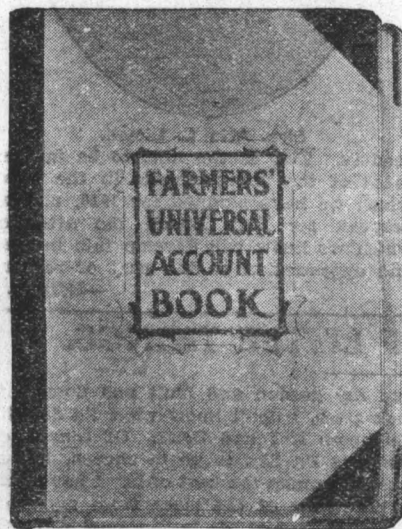
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Reliance Plate is made by the Oneida Community and every piece is guaranteed for 10 years' wear. It is for sale by all leading jewelers (6 teaspoons for 90 cents) and in offering it to our readers we can guarantee its quality. Made on an 18 per cent Nickel Silver Base—5 oz. Silver Plate—25 per cent Heavier than Standard A1. This set of 6 teaspoons can not be sold by any one for less than 90 cents, but we will send

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The extra amount merely covers cost of packing, postage and insured delivery.

If you prefer we will send you this Handsome **Berry Spoon**



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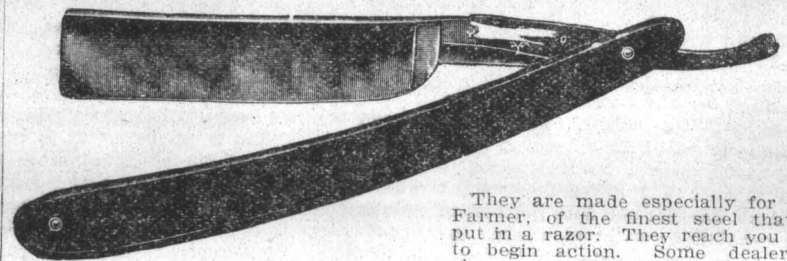
Instead of the six Teaspoons

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EVERYBODY SPEAKS HIGHLY OF OUR RAZOR.

The razor received all O. K. I am very much pleased with it. I think it is equal to one my brother-in-law paid \$1.50 for.—Wm. A. Bevins.

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This Scarf is almost an exact reproduction of the genuine lace and is more durable. Can be used as a cover for bureaus, dressers, tables, drophead sewing machines, back of lounges, pianos, as a curtain for small windows and in many other ways.

They are imported from St. Gaul, Switzerland. After the lot we have is exhausted we doubt if we will be able to get another importation, so order at once if you want one.

One of these scarfs will be sent free, postage paid, with a one-year subscription at 75 cents, a three-year subscription at \$1.50 or a five-year subscription for \$2.00. Cash price 50 cents. It is a Class A premium.

The following are samples of many letters we have received:

"Your handsome lace scarf received. Will say it is all you claim for it. It is a beauty. Accept thanks. From your friend and well wisher."—John C. Cady, Mt. Clemens, Mich.

"The lace scarf came today and is very nice. Many thanks."—Wilson Bros., Tecumseh, Mich.

This cut shows one end of the scarf. Exact size of Scarf is 15 1/2 inches by 46 inches.

THE MICHIGAN FARMER, Detroit, Mich.



## WOMAN AND HER NEEDS

### "Deborah" Assumes Charge of Household Department.

We are pleased to announce to our readers that we have engaged the services of Mrs. Alta L. Littell, as special household editor and that she will assume charge of this department beginning with this issue. Mrs. Littell is a writer of no little note in this department of newspaper work, having for some years had charge of the Woman's Page on one of the Detroit dailies, and having contributed leading articles to that paper since she retired from active charge of the Department, the readers of which have known her as "Deborah." For some weeks she has contributed to the columns of the Michigan Farmer over the pseudonym "Dorothy Hudspeth." Beginning with this issue, Mrs. Littell will write exclusively for the Michigan Farmer, and the name "Deborah," which she has made almost a household word in thousands of Michigan homes by her able and common sense writings, will be seen only in the Michigan Farmer. Mrs. Littell is exceptionally well fitted, both by natural ability and training to make the woman's department of the Michigan Farmer of the greatest practical benefit to every farm housekeeper. A country girl herself, she has had the advantage of training in domestic science at the Michigan Agricultural College, which, coupled with her ten years of newspaper experience as well as practical experience as a housekeeper and a mother, makes her peculiarly well fitted for this work, besides her rare faculty as a writer enables her to treat the most prosaic subjects in an entertaining as well as instructive manner. We predict that her writings will be read and appreciated by the men as well as the women in a great number of Michigan farm homes during the coming year. In engaging Mrs. Littell for this work we be-

lieve that we have secured the services of the most capable person to be found for this difficult place, and in her engagement we have sought the best talent to be obtained, regardless of expense, in order to make this department of the paper of the greatest possible value to its



Mrs. Alta L. Littell.

readers. This is the first to be inaugurated of the improvements in the paper which we have planned for 1910, and we bespeak for Mrs. Littell the attention which we know will develop into interest and appreciation on the part of readers. —Editors.

### THE GREATNESS OF LITTLE THINGS.

Shakespeare has it that those who spend their time communing with nature will find "tongues in trees, books in the running brooks, sermons in stones, and good in everything." To my everlasting shame I must confess that I am not nature lover enough to appreciate the lines. Human nature is the only sort that interests me, and I try to make it teach me enough lessons to cover my deficiencies in the other line. Every new person is an unexplored mine to me, and rarely do I fail to learn a lesson of value from every acquaintance.

It remained for one I met this summer, exempt from public haunts, to teach me one of the greatest of life's lessons; teach it quite unconsciously, so unconsciously that the teacher will never know what she has done, because she does not realize her own capabilities and real worth. Indeed, at the first glance she would never reveal that she possessed any desirable traits. She lives in the center of the most desolate part of Michigan, a country which has been robbed of all its best timber and where a few struggling settlers are trying to start productive farms in the midst of the second growth timber and underbrush.

To my mind it was the most lonely, forbidding, heartbreaking spot I had ever seen, and I was just wondering how women could live there and keep their reason, when I met my heroine. I must call her that, altho she wouldn't answer to a novelist's description of such a creature, and I know the woman and her family would consider the name a joke.

She was not young nor handsome nor stylish, but a middle-aged woman, made old before her time by hard work and lack of attention to her person. Her gown was of faded calico, made after a style of a decade ago. Her hair was innocent of rat or puffs or coronet braids, and was combed tightly back into a little wad at her neck. Altogether her personal appearance fitted into the landscape. But when she talked, somehow her soul seemed to be living some place else.

"Don't you find it dreadfully lonely up here, so far from neighbors and from town?" I queried, expecting an outbreak of discontented complaints about her surroundings.

"Why, no," she replied, "I hadn't noticed it was lonely. You see, week days I am pretty busy and haven't time to think about it. What with my housework

and my garden and fruit and flowers to look after, I don't know what I'd do with neighbors if I had them. Of course, on Sundays I'd like to go to church, but as I can't I make the best of it. I have such a fine view of the river from my front windows, I just sit in the parlor or out of doors peaceful-like and watch the water flowing by, and rest. And then my flowers are so beautiful, they make me feel good and kind of religious. Why, I have panises and red and yellow and pink and white roses, and peonies, and golden glow, and clematis and lilacs, two kinds, and snowballs, and ever so many more I couldn't begin to tell you all about them. No, I like it up here. It is my home and I can have all the flowers I want and the river to look at, and I don't ask anything more. I wish you could see my flowers, they would make anyone feel happy."

I saw them. There was every flower indigenous to Michigan, put together after a fashion that would have given a landscape gardener a fit of hysteria. But they were all there and they all grew and were hardy, because their owner loved them. She knew the scientific name of every one, and altho some of her pronunciations were lame and halt, the names meant as much to her as the correct pronunciation would have meant. It was the flowers she cared for; not their names.

And here in this lonely, desolate spot, where I could see nothing desirable, where I should have sat me down to mope and complain and bewail the unkind fate which cast me there, this woman was happy, because she had learned life's greatest lesson, that happiness comes from within, and depends upon contentment and love for its existence; love for one's family and for God's outdoors.

I have met and talked with many women whom the world calls great. But to my mind they are not so great as this unlearned woman on a settler's farm. Their greatness consists in having done something to command the attention of the world, and they are great only because of an unbounded ambition and a desire for the world's praise. They worked and schemed to achieve their greatness, and in gaining that, lost much of the happiness which might have been theirs in the quiet pursuit of home duties. This woman was not actuated by ambition nor famed by the world's praise.

In a most unobtrusive way she did the duty nearest, and found happiness in so doing. She has made her particular corner of the desert blossom like the rose. Could anything be greater?

DEBORAH.

### SHORT CUTS TO HOUSEKEEPING.

This department is opened as a means for the exchange of new and successful ideas in housekeeping. Every housekeeper is anxious to learn the quickest and best way of doing her work, and is constantly looking for new ideas. If you have what you consider a good idea send it on for the benefit of your sisters. They will do the same by you. Please do not send recipes. Every housekeeper now has more than she can use. But if you think you have the quickest and best way of washing, ironing, sweeping, dusting or doing anything else about the house, please write and tell us about it.

I once knew a woman who made it her life study to devise the quickest and best ways of doing her housework. Needless to say she was a perfect housekeeper. Her work seemed to be done by magic, and altho she had three children and a husband to care for and only hired her washings done, she was always thru her work by noon, and had the afternoon for sewing or for pleasure.

I believe there are many like her who are always on the still hunt for quick and easy ways to do their work. Many have found such good ideas that I want to ask you to pass them on to the rest of us. If there is anything about the house that you have learned a better way of doing than the old way, please write The Michigan Farmer and tell us about it. We do not want recipes unless you have discovered something entirely new and an easier way of cooking an old dish. Just short cuts to housekeeping, a way that does the work as well but leaves you with more time. Men are always seeking such ideas, why not women?

To start the ball rolling, I will tell the readers how I manage when we want gems for breakfast. We all love nice, hot gems or muffins in the morning, but as I love the forty winks, so essential to health and beauty, much better than I do gems, we rarely had the hot dainties until I learned that I could half make the gems the night before. Now, when we are to have them, I sift my flour, baking powder and sugar together in the mixing bowl, the night before, put the shortening in the gem tin to be melted in the morning, lay an egg beside the bowl and measure the cup of milk. Then I cover all carefully to keep out the ever-busy microbe and in the morning take my forty winks with the happy consciousness that within five minutes after I get into the kitchen the gems will be ready for the oven.

For the benefit of these cooks who would like to try the scheme, but who use soda and sour milk, let me say, you may proceed exactly in the same way. Demonstrations have proved that you can sift your soda with the flour and add the sour milk just as you sift baking powder and flour and add sweet milk. The result will be the same as tho you mixed the soda and sour milk in the usual way, and you need not use quite so much soda.

Mrs. A. L. L.

### A GOOD MOTTO.

"For every evil under the sun  
There is a remedy, or there is none;  
If there is one try and find it,  
If there is none, never mind it."

It seems to me this would be a good motto to hang up beside these discussions on the farmer. He certainly does exist in all the types mentioned—but the same types are found in the cities as well.

It has impressed me that the man who might be benefited by these papers in all probability doesn't read them, and the only remedy that is apparent to me, is that the mothers be more careful in training the boy to better manners.

If you and I, dear mothers, teach our boys to bathe regularly, keep the teeth and finger nails in order, if clean hands and faces and well brushed hair are a part of table manners, the "other man" will gradually disappear.

N. M. K.

"I write to inform you that the machine we purchased of you in April is entirely satisfactory. We have done a little of nearly all classes of work, a considerable amount of very fine work, all of which we are well pleased with."—Mrs. James A. Hart, Bellevue, Mich.

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Liquid medicines lose their strength the longer they are kept, through evaporation, fermentation and chemical changes, hence Stuart's Dyspepsia Tablets are recognized as the only true and logical manner of preserving the ingredients given above in their fullest strength.

If you really doubt the power of these tablets, take this advertisement to a druggist and ask his opinion of the formula.

It is due your stomach to give it the ingredients necessary to stop its trouble. It costs nothing to try. You know what you are taking, and the fame of these tablets prove their value. All druggists sell them. Price 50 cents. Send us your name and address and we will send you a trial package by mail free. Address F. A. Stuart Co., 150 Stuart Building, Marshall, Mich.

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MOTHERHOOD.

BY MAY HOWELL BEECHER.

You ask me when I was happiest, dear, The red-letter day of my life? Was it the day that I made my debut? Or the day that made me a wife?

Was it the day that he told me he loved me? Sweet words in tenderest tone— Or the day that he asked me to wed— With my hand fondly clasped in his own?

Many days of sorrow and sadness, Are buried away in the past, But there lives in my heart a gladness, A joy that always shall last.

The day? It was early in autumn, The leaves were all turning to gold, When they told me I was blessed among women, As one in Bethlehem old.

And then a glad rapture, a radiance, Motherhood joys are so sweet, And wifehood's crown lacks the true lustre. 'Till her babe has made it complete.

The tiny hands strayed o'er my bosom, I clasped the dear form to my heart, And I know that forever and ever, That day is the one set apart.

IN SEASON.

BY EUGENE C. DOLSON.

That February days have come 'Tis easy to divine: Now Cupid's here in town again We know by many a sign; And, all amiss in other things, One fault must not be mine— I'll not forget my little Love, My Sweetheart Valentine.

THE POPULAR PRINCESS—IS IT DOOMED?

BY A. L. L.

If you are thinking of buying a Princess dress, don't do it without thinking twice. That is, if you belong to that large class of women who must make a gown do for two seasons and possibly three or four. If you belong to the other class who can buy a new dress whenever you feel like it, do not read this.

I say do not buy a Princess because its continued popularity seems to be questioned. Some authorities come out boldly and say that the popular one-piece gown is doomed, and must give place to two-piece dresses with the polonaise of revered memory which has been threatening us with a return for some time back. Other dressmakers stoutly hold to the Princess and advise their customers to choose this style. Still others, who never dare to be positive about anything, but always stand on neutral ground, make the Princess and save their conscience by adding a belt to make it appear like a separate waist and skirt.

Those who cater to the very exclusive are actually showing the polonaise and draped skirt effects, but as the very exclusive usually try a style for a season before it becomes popular that fact need not have much weight.

As a matter of fact, it is doubtful if the Princess dies easily. It is too popular, not only because it is becoming to the average woman, but because it is comfortable to wear and easy to don. Once into it, and with the surety that every button is securely fastened, you have nothing to worry you. There is no collar to pin on neatly and stoutly, and no harrowing fear that your belt will slip out of place and reveal where your skirt and waist are fastened together, or should be. Of course, it is hard to fasten if you have no one to perform that service, but then, it isn't impossible, and the stretching your arms get in the effort is good for them.

On the whole, there isn't a gown more suited to woman, both for comfort and becomingness. And that may be why fashion authorities are so anxious to get rid of it. Whatever the reason, there are whispers against it, so if you are planning on a new gown, think it over well before deciding.

REMOVE GLOSS FROM CLOTHES.

Use two tablespoons of ammonia, two tablespoons of rum, one and one-third teaspoons of saltpeter, one quart of water. This is an inexpensive mixture and removes the gloss entirely from dresses or men's clothing. Moisten a cloth with the liquid and rub garment as you would to clean it.

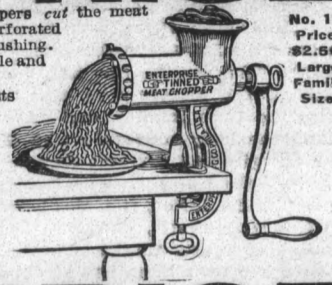
A little flour sprinkled in the pan when eggs are frying will prevent the sputtering hot fat that is so disagreeable.

The sewing machine we received some time ago is first-class in every way. It is fine.—Mrs. G. E. Havens, Shultz, Mich.

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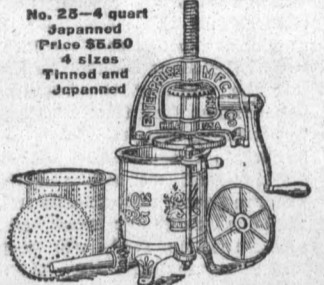
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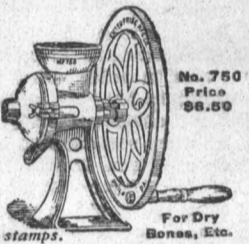
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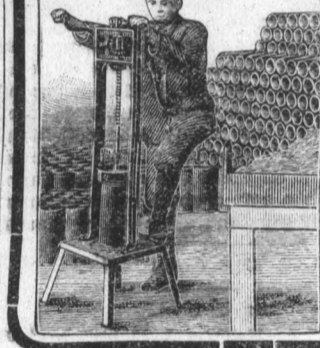
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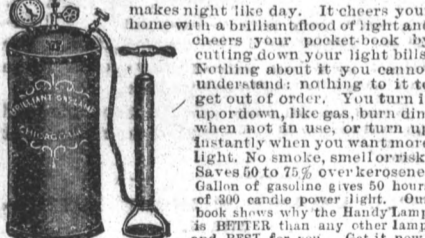
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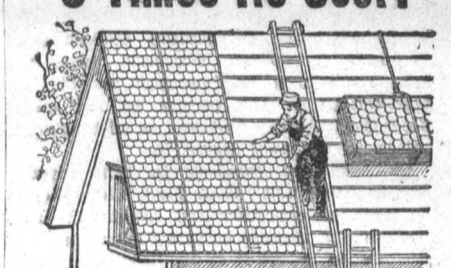
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GOOD MAN to take charge of dairy farm, within mile of Agricultural College. Fine house, registered herd, splendid chance for one who has children to educate. Address Box 189, East Lansing, Mich.



THE IMPORTANCE OF DOMESTIC SCIENCE.—I.

BY MRS. ALTA L. LITTELL.

Housekeepers are accused of being narrow-minded by those women who claim to have a mind above the common things of life. The women who hate housework, with all the pleasures as well as drudgeries the term implies, can never understand the busy housewife who directs all her energies and her best thot to directing her household aright. The former woman sneers at the latter, ridicules her attention to things domestic, declares that all the housekeeper ever thinks of is recipes, and avows her own intention of devoting her mind to higher and to more important things.

But is there anything higher than home-making or more important than cooking? We are all familiar with the verse which assures us that we may live without music, art, books and the like but we can not live without cooks. And as we all admit the truth of the saying, it seems a self-evident fact that cooking is the most important vocation known to woman. It is certain that life and health depend upon the food we eat, and that as badly prepared food will give us indigestion and make us unfit for work, so well-cooked and nutritious foods will keep us healthy and ready for anything. So that the wise wife who would see her husband a success, will best help him if she sees that he is properly fed. All of which seems to prove that a woman isn't so very narrow-minded if she devotes her time to mastering the art of cooking, instead of learning to play bridge whist, or to drum "The Maiden's Prayer" on the piano.

And in order to know that her family is properly fed, the cook should understand her profession thoroly. The day has gone by when she can feel that she is doing her duty if she knows how to make three kinds of layer cake, has mastered the art of making pie crust, and can fry pork sausage so it is eatable. The cook of today must know the underlying principles which govern perfect digestion; she must have a knowledge of food values; she must know what foods are best adapted to keep that living machine, the body, in order, and must know the best ways of cooking the foods we eat.

In order to understand the matter thoroly, I am going to ask the housekeepers who read this article to go over with me first, the lessons we learned on digestion in our bygone schooldays. We all remember that the food must be dissolved before it can be taken up by the blood. This process of dissolving, which we term digestion or assimilation, takes place in the alimentary canal. The alimentary canal is simply a long canal leading from the mouth and including the stomach and the intestines.

The process of digestion begins in the mouth and including the stomach and the mouth and continues throuout the entire length of the canal, the food being softened by the digestive juices which are secreted by the glands along the alimentary canal. We often forget this fact, that digestion begins in the mouth, and when we have indigestion complain of "stomach trouble." Whereas, what we may have may be "mouth" trouble, as nine-tenths of the people do not chew their food thoroly and mix it with enough saliva to properly digest it.

Children are careless in this respect and usually "bolt" their food. They should be watched carefully and taught the importance of thoroly chewing every mouthful of food before it is swallowed.

In the stomach the digestion is continued by the action of the gastric juice, and it is completed in the intestines by the intestinal juices, the pancreatic juice and the bile, or "gall." This last juice is secreted by the liver and conveyed to the intestine, while the pancreatic juice is secreted by the pancreas, or sweetbread, as it is termed in calves. This gland lies just back of the stomach.

Food and its classes, and the effect of the digestive fluids upon it will be continued in further articles.

PRUNE POSSIBILITIES.

BY E. J. LYNCH.

For a long time I made a practice of avoiding prunes. I looked on them with contempt, a kind of last resort for some despairing housewife who had no choice between prunes and nothing at all. That was before I knew Aunt Emma's way of cooking prunes or had had a chance to test the delectable prune dainties which were produced in her kitchen. Even stewed prunes, which I had despised, became an article of food which I learned to regard with special favor.

"The first thing about cooking prunes is to understand them," Aunt Emma said. "You must remember that the moisture or juice of the fruit has been lost in evaporation and if you are going to have prunes fit to eat, you must allow time for the fruit to absorb as much water as it possibly can. Prunes ought always to be soaked at least ten hours before they are cooked. I always soak mine over night."

This, then, was the secret of the plumpness and juiciness of Aunt Emma's prunes.

"Then, when you go to cook them," she continued, "don't set them on the front of the stove and boil them as fast as you can for a half hour or so, throw in a handful of sugar and then call that 'stewed prunes.' Put them in the water they have been soaking in, and the sugar, in a kettle on the back of the stove and let them simmer slowly for three hours. Never boil prunes. If the juice is not syrupy enough to suit you take the prunes out and boil the syrup down till you have it as thick as you want it. Put a bit of lemon peel in if you like the flavor. Then you have stewed prunes that are 'fit to set before a king.'"

Aunt Emma used to make a prune pie by taking the stones out, washing the skin and pulp soft and smooth and then adding enough corn starch and the yolk of an egg to the juice to make it about right for a pie filling.

Prune Whip.

Her prune whip was a rare treat which we had occasionally for Sunday dinner. She first stewed the prunes, then put them thru the colander. To a cup of this rather dry pulp add the stiffly beaten whites of two eggs, sugar and a little lemon juice, as you like. Put in a moderate oven for about five minutes, or long enough to set the mixture. Serve this cold with a soft custard or whipped cream.

Prune Dumpling.

To make this prepare first a rich pie crust. Spread on it about two cups of stewed prunes from which the stones have been removed. Roll this up. Pinch the ends securely together. Tie it up in a floured pudding cloth and boil it steadily for two hours. This pudding will need a sauce.

Prune Sponge.

After stewing one pint of prunes as directed add a heaping teaspoon of gelatine which has been dissolved in a cup of cold water, and the juice of a lemon. Let this mixture come slowly to a boil, then stir in the well-beaten whites of three eggs. Put it on the ice to chill and serve it cold with a soft custard made of milk, the yolks of eggs and a little corn starch.

BAKE THE PIE RIGHT.

BY E. E. R.

Baking is as important as any part in the making of a pie. The oven should be just the right heat, and experience only can determine this point since ovens are not generally provided with thermometers. It should begin to bake at once, yet not so quickly as to brown the crust immediately. Better a rather slow oven than that. The bottom heat must be good and pies should usually be put on the lower grate. When the moistened finger hisses when applied quickly to the bottom of the tin it may be considered done. By that time the top ought to be lightly browned. Half an hour will usually be required in the operation, at least. If an apple pie, test with a fork. A half-baked apple pie is an abomination. For mince pies the baking may cease when the crust is sufficiently done.

Nearly everybody likes a good pie and no pains should be spared to make that kind.

GOOD RECIPES WITHOUT BUTTER-MILK.

Those who have cream separators and sell the cream often have difficulty in getting a good buttermilk for cooking. Some churn only often enough to supply the family with butter while others do not churn, but buy the butter of some neighbor. Some buy buttermilk of the creamery but it is of a very poor quality and is not very satisfactory for cooking purposes.

Cream of tartar, combined with sweet milk, makes a splendid substitute for buttermilk and can be used with a certainty of results as there is no guesswork about it. For every cup of sweet milk take one rounding teaspoon of soda and one and one-half teaspoons of cream of tartar. The inexperienced cook will find this way much more satisfactory than using buttermilk, as it requires the skill of an experienced cook to obtain satisfactory results, because of its varying qualities. Even the experienced cook turns out a tin of yellow biscuit occasionally when buttermilk is used.

The most delicious wheat flour pancakes I ever ate were made with sweet milk, with cream for shortening and cream of tartar and soda. These instructions will apply to any recipe calling for buttermilk or sour milk.

Graham gems, short-cake, biscuit and pancakes are equally successful made in this way.

When making cookies with sweet milk use equal parts of cream of tartar and soda. Here are my cake and cooky recipes which are very good for plain cooking, and might be undertaken by a young or inexperienced cook with fair chance of success. The cake is good for either layer or loaf cake and is as follows:

Plain Cake.

Half cup sweet milk, half cup sweet cream, one cup sugar, two eggs, from two to two and one-half cups of flour, one rounding teaspoon of soda, one and one-half rounding teaspoon of cream of tartar. Sift the cream of tartar with the flour, and add soda in a little milk after all the other ingredients have been well stirred together. After putting in the soda stir up thoroly once and do not disturb again, except to empty in the tins.

Cookies.

One cup sweet milk, one cup butter, two cups sugar, four eggs, two heaping teaspoons soda, two heaping teaspoons of cream of tartar, one teaspoon of vanilla. Stir in flour as for a thin cooky dough and if convenient let stand a while as it improves the cookies and requires less flour to make light cookies. Standing over night improves the dough. When ready to bake add flour to make the dough of the right consistency and bake a light brown in a quick oven.—T.

TIMELY RECIPES.

Mincemeat.

Cook two and one-half pounds of beef (this should make two quarts when chopped), four quarts chopped apples, one pint of currants which have been thoroly cleansed, one quart of raisins stoned just before using, one cup of chopped citron, four cups of brown sugar, one cup of chopped suet, one nutmeg grated, one tablespoonful of salt, two tablespoonfuls of cinnamon, one-half tablespoonful of cloves, four cups of sweet cider or three cups of cider that has been boiled down. Place in an earthen vessel and keep in a cool place. This quantity will make 12 pies.

Baked Macaroni.

Cook a cup of macaroni, broken in inch-length pieces, in rapidly boiling water until tender; drain and rinse in cold water. Turn into a buttered baking dish. Beat two eggs and a few grains of cayenne until a full spoonful of the mixture can be taken up; then add one cup and a half of milk and pour over the macaroni in the dish. Bake in a moderate oven until the custard is set. Half a cup or less of grated cheese may be mixed thru the macaroni before the liquid is poured over. Serve hot.

Walnut Cookies.

Cream one cupful of butter with one and one-half cupfuls of sugar; add three beaten eggs; put two cupfuls of chopped walnut meats into one cupful of flour and add this to the batter. Sift one teaspoonful of baking powder and one and one-half cupfuls of flour together and add the last thing. Drop by spoonfuls on buttered tins; dust with granulated sugar and put a whole walnut meat on each one. Bake in a moderate oven.

Grandmother's Float.

Let one quart of new milk come to the boiling point; have ready the yolks of two eggs, well beaten, and one and a half teaspoonfuls cornstarch. Beat together with cold milk; when the boiling milk is ready pour in this mixture. Sweeten and flavor to taste. Beat the whites of the eggs, put in a deep dish and pour the custard over it. The whites should be flavored a little.

Date Loaf Cake.

Cream one cup of butter with one cup of light brown sugar; add two beaten eggs, half a cup of molasses, three-quarters of a cup of slightly sour milk, a level teaspoon soda, spices to taste, one cup of chopped dates, floured, a teaspoon of vanilla, and flour to make a rather stiff batter; a level teaspoon of baking powder is to be sifted with a part of the flour. Put the dates in last.

English Tea Cake.

Take two cupfuls of flour, two table-spoonfuls of baking powder, sifted with the flour, one heaping table-spoonful of butter, two of fine sugar, a little candied orange peel chopped fine, a few currants and chopped raisins, and mix all together. Beat two eggs with two table-spoonfuls of milk; add this to the dough and bake in rings.

Sally Lunn.

Cut into warmed milk a large spoonful of good butter; when quite cool add one quart of sifted flour, three eggs well beaten, one teaspoonful of soda, dissolved in a little milk; beat this all together and add a little salt. When quite light pour into pans and bake in a quick oven.

Lemon Sauce.

A simple lemon sauce is made from one cup of water, one cup of sugar and two level table-spoonfuls of corn starch. Cook eight minutes, then add two level table-spoonfuls of butter and juice of one lemon.

Hard To Drop

But Many Drop It.

A young Calif. wife talks about coffee: "It was hard to drop Mocha and Java and give Postum a trial, but my nerves were so shattered that I was a nervous wreck and of course that means all kinds of ails.

"At first I thought bicycle riding caused it and I gave it up, but my condition remained unchanged. I did not want to acknowledge coffee caused the trouble for I was very fond of it. At that time a friend came to live with us, and I noticed that after he had been with us a week he would not drink his coffee any more. I asked him the reason. He replied, 'I have not had a headache since I left off drinking coffee, some months ago, till last week, when I began again, here at your table. I don't see how anyone can like coffee, anyway, after drinking Postum!'

"I said nothing, but at once ordered a package of Postum. That was five months ago, and we have drank no coffee since, except on two occasions when we had company, and the result each time was that my husband could not sleep, but lay awake and tossed and talked half the night. We were convinced that coffee caused his suffering, so he returned to Postum, convinced that coffee was an enemy, instead of a friend, and he is troubled no more by insomnia.

"I, myself, have gained 8 pounds in weight, and my nerves have ceased to quiver. It seems so easy now to quit coffee that caused our aches and ails and take up Postum."

Read the little book, "The Road to Wellville," in pkgs. "There's a Reason."

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



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You need never carry another pail of water or even go out of the house on stormy days. Put running water in your home—in the kitchen—bathroom—toilet—and have an adequate supply in the barn for watering stock—washing carriages, harness—for the lawn, garden—or for protection against fire—besides. A

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WESTERN CANADA

Senator Dolliver, of Iowa, says:

"The stream of emigrants from the United States to Canada will continue." Senator Dolliver recently paid a visit to Western Canada, and says: "There is a land hunger in the hearts of English speaking people; this will account for the removal of so many Iowa farmers to Canada. Our people are pleased with its government and the excellent administration of law, and they are coming to you in tens of thousands, and they are still coming."

Iowa contributed largely to the 70,000 American farmers who made Canada their home during 1909. Field crop returns alone during year added to the wealth of the country close to \$170,000,000.

Grain raising, mixed farming, cattle growing and dairying are all profitable. Free Homesteads of 160 acres are to be had in the very best districts; 160 acres pre-emption at \$3.00 per acre within certain areas. Schools and churches in every settlement, climate unexcelled, soil the richest, wood, water and building lumber plentiful. For particulars as to location, low settlers' railway rates and descriptive illustrated pamphlet, "Last Best West," and other information, write to Sup't of Immigration, Ottawa, Can., or to Canadian Gov't Art. (7)

M. V. McInnes, 176 Jefferson Ave., Detroit, Mich.; C. A. Laurier, Marquette, Mich.



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We believe the use of GOLD MEDAL FLOUR would prove a satisfaction and saving to every reader of this paper.

Therefore, we ask you to note carefully the above advertisement, study the wording of the brand, and when you next buy flour insist that your dealer give you Washburn-Crosby's GOLD MEDAL FLOUR.

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M. F.

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Town \_\_\_\_\_ State \_\_\_\_\_



## THE NEW GUEST TOWEL.

BY E. E. R.

The guest towel newly introduced and already proving itself eminently popular has been a favorite among gift makers the present season. Indeed, these little articles are so sensible in contrast to the cumbersome towels usually found in guest rooms that they cannot fail of finding favor wherever they go. These towels are small but of very fine material. The linen huck from which they are made is but 14 inches in width and 24 inches of it makes a towel, or to be quite exact, the towel should measure 24 inches when completed. The ends may be finished with hemstitching or embroidery, whichever is preferred, exactly the same as in a larger one.

Some of these towels recently seen had the linen scalloped at the ends and heavily worked in buttonhole stitch with old blue in fadeless cotton. Just above the scallops in the center was an initial similarly embroidered. The folds, when laundered, the center and in plain sight when hung are in thirds, which brings the letter in on the rack. One should choose a color in harmony with the furnishings of each particular room, as blue for a blue room, white would be appropriately employed anywhere. A row of crocheted inserting just above the hem may be introduced with excellent effect. The hairpin trimming familiar to all workers with the crochet hook looks especially well when so employed. This makes a fine bit of ornamental needlework for any towel and is also used with equal effect in pillow slips.

These little towels may be purchased ready-made at the shops in fine, soft, all linen huck, at 50 to 60 cents each. By the yard the huck costs about 35 cents. These are so much smaller than the regular size towels that they at once recommend themselves for the guest room where a fresh one may be used with no feeling of compunction, such as sometimes accompanies the soiling of one a yard or more in length, which means considerable labor involved in the laundering. Possibly other women than the present writer has felt hesitation at some time or other when spending a night under the roof of a friend or acquaintance, to find on the rack a row of large sized towels all very grand and immaculately ironed, the use of one for a single morning's ablution requiring that it go into the wash. But no one would hesitate on the score of labor involved to use these scraps of towels which answer every purpose of the others.

## KINKS.

## Kink I.—Beheadable Word.

This word has nine letters and means preference or the act of setting one above another. Remove the first letter and get a word meaning kinship; decapitate again and get one meaning excited pleasure; again and get one meaning transportation; again and get a suffix; again and get another suffix; again and get one of the products of electrical decomposition; again and get a proposition; finally and get a letter.

## Kink II.—Conundrum.

Luke had it before, Paul had it behind, Matthew never had it. All girls have it once, boys cannot have it. Old Mrs. Mulligan had it twice in succession. Doctor Lowell had it before and behind and he had it twice as bad behind as before.

## Kink III.—Four Word Square.

No. 1 is to jump; No. 2 is a titled nobleman; No. 3 a broad piece of level ground; No. 4, what we all enjoy.

**Prizes for Straightening Kinks.**—To the sender of each of the ten nearest correct answers to the above Kinks, we will give choice of a package of 50 post-cards of general interest, an Atlas of the World, or a book, "A Trip to the North Pole." Where contestant or some member of his family is not a regular subscriber a year's subscription (75c) must accompany answers. Answers must not reach us later than Feb. 26, as correct solutions will be published in issue of March 5. Address answers to Puzzle Dept., Michigan Farmer.

## Answers to December 18 Kinks.

**Kink 1.—Transposition.**—There were three correct answers, one word given was Live—evil, vile, veil, Levi.

**Kink II.—Triangles.**—Place three tooth picks to form the first triangle, then place the other three in the form of a tripod above this triangle with their bases at the angles of the horizontal triangle.

**Kink III.—Addition Sums.**—1. Bassinet ("bass" and "tine"). 2. Pikestaff ("pike" and "staff"). 3. Pickler ("pick," "er," and "l").

Prize winners:—Mrs. Howard C. North, Mrs. Clio Colby, Fred Amidon.

Hastings, Mich., Jan. 5, 1910.

Dear Sirs:—I received your premiums today and was well pleased with it. It is a good razor strop. I was surprised with it. I also got the Michigan map a year ago that you sent me, and it is very nice.

Yours truly,  
E. L. TOWNSEND.

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Description is necessarily brief on account of limited space. We will gladly send on request a premium booklet with illustrations and full description. While these premiums are given free, they are not shoddy or worn, but are practical and good. We buy thousands of them and thereby get them at the lowest possible price.

A Class A Premium is given with a one year's subscription at 75 cents; a Class B Premium, or two Class A Premiums are given with a three year's subscription at \$1.50, or a five year's subscription at \$2.00. We pay all postage, making the premiums absolutely free. We believe all premiums will carry safely thru regular mails. Those who desire premiums insured must send 10 cents extra.

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Premiums must be ordered at the same time the paper is. No attention will be paid to requests such as "send me premium —, my subscription has already been sent in," or anything similar.

It might take a day or two to look the subscriber's order up and it would be impossible to send the premium merely on a request. While we give them away, they cost money and we must follow good business principles. On the other hand, should a premium have been ordered and not sent we will immediately investigate and learn if it has been mailed, or if a premium is not as represented we will make it right. All the premiums are not mailed from our office but from the factory. We have no way of knowing if such are always as we describe them, but we will make it right. We take every precaution in packing and mailing premiums, and will not be responsible if they are miscarried or broken.

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No. 171—Silver Bread Tray.—Best quality quadruple silver plate. Guaranteed for 10 years. Heavy diwork design. Sent for seven subscriptions. By express. If nine subscriptions are sent, we will prepay charges.

No. 172—Farmers' Knife.—Three razor steel blades, special castrating blade, stag handle, brass lined, German Silver tips and shield. Sent for five subscriptions. By mail.

No. 173—Wall Hat Rack.—The frame is made of pressed steel. Ormola gold finish baked on. Mirror in center, with six removable hooks. Sent for seven subscriptions. By express. If 11 subscriptions are sent we will prepay charges.

No. 174—Imported German Razor.—Best quality English razor steel. Ground by German grinders and imported by us. Sent for five subscriptions. By mail.

No. 175—Boy's Watch.—This is a good dependable watch and will last a long time, if not abused. Sent for only six subscriptions. By mail.

No. 176—Silver Berry Set.—These three pieces are quadruple silver plate, full gold lined and crimped sides. Sent for seven subscriptions. By express. If nine subscriptions are sent we will prepay charges.

No. 178—Kitchen Outfit.—A utensil for every purpose, and everything in its place. With good quality utensils. Sent for six subscriptions. By express. If nine subscriptions are sent we will prepay charges.

No. 179—Moving Picture and Magic Lantern.—Machine stands 10½ inches high on a base 7x3½ inches. The body is made of polished blue steel, fitted with oil lamp and glass chimney. Sent for seven subscriptions. By express.

No. 181—Toilet Clippers.—Best quality, ½-inch cut, concealed spring. Sent for five subscriptions. By mail.

No. 182—Fancy Gilt Clock.—Reliable one-day movement, with alarm attachment. Given for eight subscriptions. By express. If 11 subscriptions are sent we will prepay charges.

No. 183—Post Card Album, 300 Cards.—Handsome black alligator grain paper cover. Title embossed in gold, reinforced binding. Stitched and stubbed to prevent bulging. Sent for five subscriptions. By express. If six subscriptions are sent, we prepay charges.

No. 194—Six Wildwood Teaspoons.—Reliance plate is made by the Oneida Community and every piece is guaranteed for ten years. It is for sale by all leading jewelers. Sent for \$2.18 with the Michigan Farmer for five years. By mail.

No. 195—Berry Spoon.—The same design and quality as the Wildwood teaspoons. Sent for \$2.18 with the Michigan Farmer for five years. By mail.

No. 200—Gasoline Blow Torch.—For any purpose where cheap, clean and intense heat is desired, either in hand work or bench. Free with four subscriptions to the Michigan Farmer. By mail.

No. 201—Combination Tool.—Can be used for ten different things. Very convenient, light and strong. Contains set of ten oil tempered, well finished, forged steel tools. Sent free for a club of three subscriptions. By mail.

For added premiums watch closely our paper each week.

## PREMIUMS FOR CLUBS.

For each club of two subscriptions we will send you any one Class A premium.

For each club of three subscriptions we will send you any one Class B or any two Class A premiums.

For each club of four subscriptions we will send you one Class A and one Class B premium.

For each club of five subscriptions we will send you any two Class B or any three Class A premiums.

The subscribers will also get their choice of premiums with their subscriptions as given above.

Your own subscription may be included in the club in which case you get premium with the subscription and also for the club.

Always mention Premium Number.

## THE MICHIGAN FARMER.

Detroit, Michigan.

"We received the scissors and are delighted with them. Thanking you very much, I remain, Yours truly, Jos. Johnson, Richmond, Mich.

"Having used a Michigan Farmer machine for 12 or 14 years, No. 39278 does good work yet, and lots of it, having never paid out anything for repairs, only needles. Wishing a drop-head, that I would try a new one."—Mrs. J. J. Howrigan, Plainwell, Mich.

Alto, Mich., Jan. 7, 1910.

Editor Michigan Farmer:

Dear Sir:—Am very much pleased with the fountain pen which I received as a premium from you yesterday. It is way ahead of writing the old-fashioned way. Please accept my thanks for same.

Gratefully yours,  
F. L. WALTON, R. F. D. 55.

Richmond, Mich., April 7, 1909.

The Michigan Farmer, Detroit, Mich.:

Dear Sir:—We received the scissors and are delighted with them. Thanking you very much, I remain,

Yours truly,

J. Q. JOHNSON,

Carleton, Mich., April 13, 1909.

Michigan Farmer, Detroit, Mich.:

Dear Sirs:—I received the self-sharpening shears and the bureau scarf all right and thank you very much for it. They are both very nice. Excuse me for not thanking you sooner. I did not get around to write sooner so I thank you very much.

Yours truly,

MISS MARTHA BRANDES.



(Continued from page 142).

greatly increased cost of living is the modern tendency toward extravagance. If the residents of our cities and towns, whose means are comparable with those of the farmers who grow the products which they consume, were to exercise the strict economy and attention to details which is so universally practiced in our farm homes, we believe that there would be far less cause for complaint regarding the high cost of living. But the demand for the luxuries as well as the comforts of life, to enable the keeping up of appearances, is no little strain upon the resources of the average city or town resident, when city or town residents are considered as a class. Other factors which have been mentioned, and some which have not, such as the trusts, the tariff, transportation problems, etc., undoubtedly have something to do with the situation. But all of the factors mentioned, in the writer's opinion, have less to do with it than the one factor of extravagant living which is the price of keeping up appearances in so many urban homes. If this be true, then the remedy lies with the consumer to an even greater degree than with the producer, since the practicing of a wise economy will increase the purchasing power of their dollars not a little without any material reduction in the comforts of life which have become essential to their enjoyment. The same attention which is given to the keeping up of appearances in the average city home, would undoubtedly materially reduce the cost of living in that home, if it were devoted to the line of endeavor just mentioned. The retailer who demands exorbitant profits needs his lesson and under these conditions would receive it, but there are many people who would not be seen purchasing goods at a "cheap" store, or have the "cheap" wagon seen delivering goods at their door, even if the goods were known to be of the same quality.

With the incentive to improve methods of production which is furnished by prevailing high prices of farm products, there will be such an increase of products as the conditions surrounding agriculture will permit, but such increased production can not be secured by any system of reducing prices thru boycotts or strikes, since such methods are bound to be reactionary in effect.

Notwithstanding the general complaint against the increased cost of living, the savings bank deposits of the country have increased apace during the last decade. Much of this increase may be charged to the natural increase of such deposits thru the compounding of interest, but, on the whole, it is, nevertheless, an evidence that the increased prosperity of the farmer has not stopped accumulation among the other classes of workers who depend upon him for the products which they must consume, and who are so generally complaining about the high cost of living.

**BINDER TWINE.**

The invention of the self-binder was one of the greatest steps in the agricultural progress of the world. But the work of this great invention did not reach its present perfection until a material was discovered from which a practical twine could be made. The use of wire, grass, paper and other materials has been tried, but all have had their serious faults; so that today the two materials that make the most popular binder twine are Manila hemp and sisal. The former is the fiber of *Musa textilis*, grown exclusively in the Philippine Islands, the eastern possessions of the United States since the Spanish-American war. It has long been used in the manufacture of rope.

Manila hemp plants require abundant rain, a moist atmosphere and a well-drained soil, such as are peculiar to that country. The plants are propagated either from suckers or seeds and are set in hills five to eight feet apart. As they grow very rapidly and soon shade the ground they require no cultivation. The plantations last for generations. The crop is harvested as soon as the flower bud appears, which is three to five years from planting. At this time the plant is eight to twenty feet high and the leaves yield a fiber five to twelve feet in length, the average yield per acre being from 250 to 500 pounds. The production of Manila fiber is the most important industry in the Philippine Islands, and it constitutes more than half the exports.

As the demand for Manila fiber increased other materials were sought from which binder twine could be manufactured, and sisal was taken up more than any other. The plant that yields the sisal

is known as *Agave rigida*, and is called henequin in Spanish. It is produced most extensively in Yucatan, a province of Mexico, but is also grown in the West Indies and in Hawaii. The latter two localities, however, are not important from a commercial standpoint. The plants are propagated from suckers, which are set in rows, four to eight feet apart, during the rainy season. The plants are set in holes dug in the rocky ground with crow-bars and pickaxes, and on account of the extreme rockiness of the ground the plantations cannot be cultivated. The outer leaves of the plants are harvested about three years from planting, and from ten to twenty leaves are harvested annually for a period of twelve to twenty-five years. It is estimated that a thousand leaves will yield fifty pounds of fiber and under favorable conditions a crop of 600 to 1,200 pounds of fiber per acre may be obtained.

Both of these materials have their strong advocates and there is a strong competition between the tradesmen handling the two kinds of twine. Owing to conditions under which the raw material has been produced during the past several years each has had its advantage at times, and the farmers, who are the largest consumers of these fibers in the form of twine, have come to be pretty good judges of which is best for them to use. Price considerations are always of first importance when taken together with the purpose for which the twine is to be used, but the consumer must also consider which will be best for the machine that is to use it. The smoothness of finish is important, from the standpoint of working in the knottor of the binder. Also, in figuring the price, it is well to investigate the amount of twine that comes per pound—that is, how many feet—and see that the difference in price compares with the difference in length of the twine. Also, the dealer should be required to guarantee the twine as being up to the quality represented.

**WHICH IS THE CHEAPEST?**

When you are told that you can subscribe for monthly farm papers for 20 cents a year, it seems very cheap to you. You may think that they are cheaper than the Michigan Farmer. But are they? With the monthly paper, you get twelve papers for 20 cents, which is 1 2/3 cents each, and 52 papers would cost you 90 cents. With the semi-monthly paper, you get 24 papers for 40 cents, which is over 1 2/3 cents each, and 52 papers would cost you 90 cents. By subscribing for the Michigan Farmer for one year, it costs you only 75 cents for 52 numbers, or less than 1 1/2 cents each. Fifty-two copies of the monthly, or semi-monthly, costs you 90 cents, and of the Michigan Farmer only 75 cents at the yearly rate, 50 cents at the 3-year rate, or 40 cents at the 5-year rate. But the cost of the paper is the least important consideration, as all of them are cheap enough. The important consideration is, does a monthly or semi-monthly agricultural paper give you all of the information that you ought to have, and give it to you when you want it? Of course not. No progressive farmer would think of depending upon them for the information and help that he requires in his work. They contain no market reports, no news items, nor many other departments to be found in weekly papers. No one wants market reports or news items that are a month old, and a farmer having a sick animal cannot wait a month to find out, thru the Veterinary column, what will cure it. Monthly and semi-monthly farm papers are not intended to take the place of farm weeklies, they only supplement them.

**A LEGAL DEPARTMENT.**

**Open to Our Subscribers Only.**

In reply to a number of requests for answers to legal questions, we have arranged for a method which we think will fulfill every requirement of our readers, and yet not trench upon space devoted to matters more directly in line with the objects of The Farmer. We have arranged with Mr. Standish Backus, 80 Griswold St., Detroit, to answer by mail all legal inquiries sent him by our readers for the nominal charge of 25 cents for each question. The charge is made so that only questions of interest to the sender will be sent in. Our readers will thus get their queries answered more promptly and fully than could be done through The Farmer, and a very light cost. Those wishing to avail themselves of the privilege should address Mr. Backus as above.

**HAPPENINGS OF THE WEEK.**

**Foreign.**

While general conditions over France and Southern Europe were stormy during the past two weeks have flooded large portions of the lower land, especially along the streams, have generally improved, there is great apprehension lest further damage be caused by the rivers and streams again overflowing their banks, inasmuch as in certain sections heavy rains have fallen early this week. In Paris, however, the inhabitants are joyous over the fact that the River Seine is again within her confines, and the people can pass the streets and cross the bridges as during ordinary times of business. The damage to the public works and streets of the city, can be measured only in a general way as it is impossible now to make estimates of cost for repairing the damage to sewers, streets and other property. Reports reached here on Monday that in Italy rivers were rapidly rising from severe storms and also the streams of Spain were greatly swollen by downpours of rain.

During the past week the results from the English elections have shown a gain for the Liberals. They now lack but one member of having an equal number with the Unionists.

A peculiar situation occurred in the general election in Ireland in which Wm. O'Brien was elected to parliament from two separate districts; the northeast district of Cork county as well as the city of Cork, both gave him majorities in the election. He must now choose the district he will represent.

The total number of scholarships deriving their support from the trustees of the Rhodes scholarship funds during the past year was 179. Of this number, 90 scholars were from the United States, 78 from the British Colonies, and 11 from Germany.

**National.**

One of the worst disasters in the history of western mining occurred at Primero, Colorado, Monday, when an explosion in one of the shafts there killed at least 100 men. The last report states that 79 bodies have been removed. The concussion was so great that none of the bodies are recognizable. It will be some time before the exact number of casualties will be known as the entrances to the mines have been blocked by displaced rocks and timbers.

The lid to the mines at Cherry, Ill., where it is believed that a hundred or more bodies are entombed, will be lifted this week, it being the opinion of the operators and officials that the fires have gone out. The mines have been closed since last November, following the disaster in which so many lives were lost.

A grand jury has been called in Chicago for investigating the beef trust.

The inquiry into the controversy between Secretary Ballinger and former Secretary Pinchot is being conducted in Washington before a committee from the House of Representatives and the Senate.

President Taft has directed the Attorney General to immediately take up the suit against the so-called Union Pacific-Southern Pacific merger, which suit was expected by many to be dropped.

Frederick Marx, who discovered the processes of making paper from wood pulp, died near Utica, N. Y., Friday, at the age of 80.

The Eastern Michigan press club held a very successful annual convention in Detroit last week.

A conspiracy thru which life insurance companies claim they have been defrauded out of over \$100,000, is the charge in a series of suits conducted at Louisville, Ky., New Albany, Ind., and other places. The fraud was worked thru the insuring of dying men.

At a meeting of mine operators at Pittsburgh, it was decided that the demands of the miners for an increase in wages would be refused. It is believed that no effort will be made on the part of the miners to strike, because of this refusal.

The federal corporation tax law, the constitutionality of which was in question before the United States Circuit Court, was declared a good law by Judge Taylor in a decision published last Wednesday. The case will be carried to the United States Supreme Court.

The constitutionality of the Virginia statute prohibiting the employment of children under 13 years of age, was established in a test case last week.

A committee appointed to place before Congress, the advantages of a scheme of defenses for the cities of Washington, Baltimore, Norfolk, Newport News, Annapolis, and the great railroad bridges crossing the Susquehanna River, will meet in Washington soon to present the matter to Congress.

A new system of subways has been planned for New York City. The cost is estimated at \$240,000,000.

Leslie Combs, of Kentucky, is the choice of President Taft as minister to Peru.

It is generally understood in financial circles, that a movement is on to form a gigantic merger of copper interests. It is held that Morgan is behind the scheme.

**CHANGES IN FARMERS' INSTITUTE DATES.**

Sperintendent Taft announces that after the list of institutes for February were published it became necessary to change the dates of several of the meetings and several additional institutes have been arranged.

In Hillsdale Co. the meeting on Feb. 4 is at Cambria instead of Reading, and on Feb. 7 it will be at Ransom in place of So. Jefferson.

There will be an additional meeting in Washtenaw Co., at Salem on Feb. 14. Also one at Gaines, Genesee Co., Feb. 15, and in Eaton Co. at Muliiken, Feb. 14.

The county institute at Howell has been changed from Feb. 15-16 to Feb. 18-19, and that for Ingham Co., at Mason, will be on Feb. 15-16 instead of Feb. 18-19.

**Why does Great Britain buy its oatmeal of us?**

Certainly it seems like carrying coals to Newcastle to speak of exporting oatmeal to Scotland and yet, every year the Quaker Oats Company sends hundreds of thousands of cases of Quaker Oats to Great Britain and Europe.

The reason is simple; while the English and Scotch have for centuries eaten oatmeal in quantities and with a regularity that has made them the most rugged physically, and active mentally of all people, the American has been eating oatmeal and trying all the time to improve the methods of manufacture so that he might get that desirable foreign trade.

How well he has succeeded would be seen at a glance at the export reports on Quaker Oats. This brand is without a rival; is packed in regular 10c packages, and in large size family packages at 25c.

**Our Farmer's Account Book FREE**

With instructions how to keep accounts. Seventy-two pages, ruled, with printed headings, handy for the pocket, 6 1/2 x 3 1/2. Every farmer should have one and keep his accounts. He will be money in pocket. Separate ruling and heading for cash received, cash paid out, bills receivable and bills payable, labor, daily egg record, personal ledger accounts, various crop accounts and others as well as much valuable reference information needed almost daily. All nicely bound in convenient pocket shape.

The Michigan Farmer four months and the account book for only 25 cents, postage paid.

**Regular Subscribers Can Get It.**

PRESENT SUBSCRIBERS who wish one of these account books may send 25 cents for one, and we will add four months to their present time. We have gotten out a very large edition of our account book to meet all demands. Ordinarily the book alone would sell at retail for 50 cents. We offer one and the paper four months for only 25 cents, postage paid.

See article about them on page Send all orders to

The Michigan Farmer, Detroit, Mich.

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Nitrate Sold in Original Bags  
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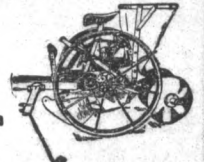
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Make them pay by using the machines that really do the work—

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Write for copy of our free book telling how to make money, growing potatoes.

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**NOTICE To R. F. D. Patrons.**

We have a new device to benefit both Patron and Mail carrier for purchasing supplies, such as Stamps, Envelopes, P. Cards, Money orders, Etc., without your personal attention to the carrier. A Bonus for Agents. Send 25 cents for sample device and terms. F. H. COLE & Co., Perry, Mich.

ALWAYS mention the MICHIGAN FARMER when you are writing to advertisers.



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INFORMATION ABOUT CORN PLANTERS.

Recently there appeared an article in this paper under the heading, "Improvements in Corn Planters." Since then it has been thought advisable to give a clearer description of the Superior Corn Planter. This machine is both edge drop and round-hole drop, both kinds of plates being furnished without extra cost. The user can put an edge drop plate in one hopper and a round-hole plate in the other, and thus demonstrate to his entire satisfaction which does the best work. Right here let us say that seed corn should be graded, and then plates of the size holes best adapted to the work selected. The more uniform the size of kernel the more accurate the work. This Superior Corn Planter has what is termed a "start and stop" motion, which gives the cells in the plates ample time to "fill" properly. The planter stands high enough from the axle to the ground to enable it to pass over stumps or stones. The runner heels can be adjusted one independent of the other, thus insuring the corn being kept in perfect check. The seed spout is of solid, smooth steel, insuring an immediate drop of the seed without scattering the kernels unduly. When the furrow openers are lifted out of the ground the marker is automatically lifted up to enable the user to turn around. The planter is short-coupled and so arranged that it can be "backed up" at will without danger of springing the frame. The corn hoppers, as well as the fertilizer hoppers tip over completely, thus providing a means of instant examination or change of plates without emptying the hoppers. Our readers should write the manufacturers, The American Seeding-Machine Co., Incorporated, Springfield, Ohio, for their Superior Corn Planter booklet, because we cannot tell about it here. After getting the information wanted, go to your local dealer and insist on seeing the Superior Corn Planter.

**ONE MAN DOES WORK OF TWO**  
With Iron Age Riding Cultivators. You can do it easier and better, because they are built on lines that make this possible. Hoes are under perfect control. Can regulate depth and keep hoes desired distance from growing plants. More advantages in our IRON AGE Booklet FREE.

**SAVE HIRED HELP**  
Pivot or fixed wheel, wheels high or low

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**MODERN SILAGE METHODS**

Send for this new 224-page book on Silos and Silage. 1908 edition—size 5 1/2 x 7 1/2 in.—indexed—over 40 illus. Used as a text book in many Agricultural Colleges. Contents by chapters follow: "Advantages of Silo," 25 pages; "Silos: How to Build," 76 pp.; "Concrete or Cement Silos," 10 pp.; "Silage Crops," 16 pp.; "How to Make Silage," 19 pp.; "How to Feed Silage," 22 pp.; "Feeder's Guide," etc., 56 pp. A vast amount of knowledge boiled down—nothing so complete ever published—answers every silage question. Mailed for 10c, coin or stamps, if you mention this paper.

**SILVER MFG. CO.,**  
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**BOWSER**

(Sold with or without elevator)  
**CRUSH** ear corn (with or without shucks) and **GRIND** all kinds of small grain. Use Conical Shape Grinders. Different from all others.

**LIGHTEST RUNNING.**  
(Our Circular Tells Why.)  
Handy to Operate. 8 Sizes—2 to 25 h. p. One size for wind-wheel use.

Also Make Sweep Grinders; both Geared and Plain.

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**FEED MILLS**

**15000 Bu. EAR CORN**

Ground very fine with one set of Rollers and Concaves used in the

**"BULL DOG"**

Grinds all grain perfectly fine and is very light running, because all work is done only 1 1/2 inches from center of shafts sizes 2 to 50 h. p.

Get our Catalog.

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**THE DAIRY**

CONDUCTED BY COLON C. LILLIE.

**EFFECT OF THE OLEO LAW.**

I was greatly interested in the comments in the Michigan Farmer under date of January 8, entitled "The Coming Fight on Oleo," and the situation as outlined there is undoubtedly entirely correct. The consumer has been educated to think the dairyman an extortioner and a robber, "caught with the goods," and that the provisions of the Grout bill has enabled him to become so.

While undoubtedly the legislation of 1902 largely increased the number of farmers engaged in the dairy industry, only those so situated as to manufacture their own products and place them on the market, without the aid of middlemen, were able to reap, but in a small degree, the enlarged and higher prices thereby secured for dairy products. Still the consumer of small income who is confronted with the problem of supplying his family with 40c butter arrives at the conclusion that he is being "buncoed."

The greater part of butter has come to be manufactured in creameries and that has entailed a host of expenses that the consumer knows little about, but the producer knows to his sorrow. One creamery in this immediate vicinity recently closed its doors literally swamped in expense. It does not require a very astute mind to see, for instance, that a creamery doing a gross business, \$42,400 at an expense of \$5,100, cannot in the nature of the case, be a paying proposition greater than other lines of agriculture.

This, and similar conditions, the producer is up against, in many dairy regions of this state, so while the creamery envelope may show a fair price for butter-fat a host of other conditions arise to determine what one's net return per pound for commercial butter shall be. And while I have been a patron of a creamery for a number of years I think perhaps this year's prices are as good as any. 26c the best, and 20c the poorest month's income. Conditions and expenses of management vary in different creameries, but the fact remains that whatever the consumer has to pay, the producer has not been getting a fair proportion of the price. So that if the Bureson bill becomes a law, the farmer can turn his attention to some line which he can in a greater measure control for himself. The dairy craze is responsible for the disappearance of many a fine flock of sheep, which undoubtedly paid the farmer as much clear profit over expense as the cows ever did which came after, so whatever the outcome of legislation may be, it probably will not be an unmixed evil.

Washtenaw Co. C. L. Ross.

**A SILO EXPERIMENT.**

At this time of the year there are a great many farmers debating in their minds the question of building a silo next season. In this connection a few points learned from some experiments conducted a few years ago will probably be of interest.

A number of calves intended for beef were secured and divided into two lots. They were given the run of two feed lots where they had access to good shelter. An equal number of hogs, averaging the same weight were placed with each bunch of calves. Corn from a certain amount of ground was cut and put into a silo and an equal amount was cut and shocked in the field. One bunch of calves was fed silage and the other bunch shock corn. Each bunch was fed an equal amount of oats and hay. The calves and hogs were weighed each day and in the spring it was found that the calves fed on silage made an average daily gain of nearly one and three-fourth's pounds while those fed on shock corn made a gain of only one and two-fifths pounds per day. The hogs following the silage fed calves made small gain in weight as compared with those following the shock-fed calves. The total gain by weight by the shock-fed calves and hogs failed to equal that of the other bunch by a considerable amount.

Besides the above argument, the following points in favor of the silo as a factor in the wintering of calves may be mentioned: The corn can be cut and hauled to the silo while the ground is dry thus avoiding injury to the fields. It can also be cut early while other work is slack. The feeding value of silage is not affected

by the weather and the manure and litter made is more easily handled.

Probably the greatest obstruction that can be advanced against the silo is the first cost of construction, but the farmer who is successful does not often hesitate when he sees an opportunity for increased profits, therefore you usually find a silo on the farm of the man who is making the farm pay.

Ohio. S. C.

**COMPARATIVE FOOD VALUE OF ROOTS.**

I wish to ask for information in the line of roots. What are the analysis of turnips, rutabagas, mangels and carrots? About how much of each would it be advisable to feed to milch cows daily? Which can be grown the cheapest, according to digestible nutrients?

Midland Co. J. McC.  
Turnips, rutabagas, mangels, and carrots have but very little different feeding values. The chemical analysis is practically the same. All contain about one per cent of digestible protein, seven or eight per cent of digestible carbohydrates and one-tenth to two-tenths of one per cent of fat. Carrots are a little bit deficient in protein compared with the other roots, so we can say that practically they are all of the same value as to food stuffs. And the succulency of one does not differ materially from the succulency of the other. Consequently, we would be governed in raising these crops for cows by the variety which we can raise the easiest and at the least expense. I think there is no question but what you can raise with the least expense a larger crop of mangels per acre, that is more tons per acre, than any of the other roots, consequently, we would prefer them. After the cow gets used to them, you can feed them quite liberally with good results. If you have plenty of them you can feed as high as a half bushel to each cow twice a day after they get used to eating them. They will get along very nicely on a peck night and morning. Or you can feed a half bushel once a day. This will furnish a succulent food in the ration and will aid in the digestion of the other dry foods. All of these roots have a higher feeding value than their chemical analysis would indicate because they are very palatable and help make the other foods in the ration more palatable than otherwise.

**MORE PROTEIN NEEDED.**

I am milking three Durham cows which give about 30 lbs. of milk each a day. I feed timothy hay and cornstalks, oats and corn and cob-meal. What more can I buy to add to this to make a more economical feed?

Livingston Co. F. L.

The ration given, both the roughage and the grain ration, contains no food that is particularly rich in protein. Timothy hay and cornstalks are deficient, and corn-and-cob meal is also deficient in protein as feed for milch cows. Oats have a fair amount of protein but not enough to balance up the other carbonaceous foods in the ration. Consequently, we ought to add some concentrates rich in protein, and I would recommend cottonseed meal, oil meal, or gluten feed, and in the order named for economy of production. I think if you will mix your corn-and-cob meal, oats and cottonseed meal in equal parts by weight, you will get the most economical ration. However, you have no succulent food in the ration and oil meal would be a little bit better for the cows than cottonseed meal, because the cottonseed meal tends to be a little constipating. If you will feed the same amount of this ration with the oil meal added, I am sure you will get better results than you are getting now.

**TESTING CREAM.**

Please tell me if it is right to use the same pipette for testing cream as is used for testing milk in a Babcock tester. I have always understood that for cream an 18 cc pipette is required and for milk a 17.6 cc.

Wayne Co. P. E. P.

It is necessary to use an 18 cc pipette to take a sample of cream. The reason is this: 17.6 cc of milk weighs 18 grams, but cream is not as heavy as milk, and consequently you have to take 18 cc of cream in order to get 18 grams. 18 grams by weight is what you want. It is therefore, necessary to use a larger pipette. It is extremely difficult to get a fair sample of cream, however, with a pipette. Cream is so thick that it does not run as freely as milk. Consequently it is not easy to get a correct sample. Again, the cream is liable to stick to the sides of the pipette so that you do not get the whole of it. Nearly everybody has discarded

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HOW? KALAMAZOO TANK & SILO CO. MICHIGAN



the pipette in taking samples of cream and instead of measuring it with a pipette, 18 grams of cream are weighed directly into the test bottle. For this purpose one has to have a delicate pair of balances, but otherwise the sample is more readily taken and it is much more accurate to weigh the sample of 18 grams than to measure it. Of course, you understand with the cream that it is necessary to have a special test bottle to do the work accurately because the cream contains so much butter-fat that the graduated milk bottle will not hold the butter-fat in a sample of cream. If you have only ordinary test bottles, you have to use two or three of them and then add the readings on the neck to get the full per cent of cream. We have special test bottles now where the neck is larger and longer and graduated so that you can read to 50 per cent butter-fat.

**BEAN MEAL FOR COWS.**

Would bean meal fed with oats, corn and bran, make a good balanced feed for milch cows? The beans are not damaged, but are mostly split beans. Would the beans take the place of cottonseed meal? The cows have shredded corn stover twice a day and clover hay once a day.

Saginaw Co.

C. C. SPEER.

Theoretically, bean meal would make a splendid feed fed in connection with oats, corn and bran, and would largely take the place of cottonseed meal. Of course, beans are not quite as rich in protein as cottonseed meal and consequently it would take a little heavier feed of the beans to make as much digestible protein in the ration. There are, however, other things to consider somewhat. Cows do not like bean meal as well as they do cottonseed meal and consequently I do not think they would do quite as well upon it. Again, bean meal if fed very liberally tends to make the butter hard and tallowy. This same criticism, of course, can be made with cottonseed meal, so I don't know as it would be against the bean meal on this score. I think that a grain ration of bean meal, oats, corn and bran in equal parts by weight would make a very desirable and economical ration for the cows and there would not be enough bean meal to make the butter hard and tallowy and it would not be objectionable to the cows. This grain ration could be fed a pound per day for each pound of butter-fat produced by a cow in a week and with the shredded corn stover twice a day and clover hay once a day, would make a splendid ration.

**CREAM FROTHS AND BUTTER WILL NOT COME.**

Have a cow that is due to come fresh the 25th of March. Am feeding her cornstalks and sweet corn. The last two churnings of cream would not come. The cream would just turn to froth. Why is it?

Gratiot Co.

W. R. L.

Complaints of cream frothing in the churn and failing to produce butter are very common at this season of the year because the cows usually have been in milk several months and are fed mostly on dry feed. Some succulent food like roots or silage should always be provided for late fall and winter use and this condition would be greatly improved. Cream will froth more in a dash churn than it will in a barrel churn, and it will froth more when churned at low temperature than when churned at medium temperature. Sometimes the frothing is caused by improper ripening of the cream. Cream should never be more than two or three days old when churned and should be kept at 50 degrees or below until twelve to eighteen hours before churning when it should be heated up to about 70 degrees. I would advise churning the cream at a little higher temperature than you now do, and after you have churned until the cream becomes frothy add a little water to your cream, 80 to 85 or 90 degrees, and if this does not remedy the difficulty, throw in a few handfuls of dry salt and your butter should come in about 40 minutes.

**RYE FOR COWS.**

I have several "strippers" and one fresh cow, more to follow soon. My feed consists of corn fodder, mixed hay and plenty of various kinds of straw. What I want to know is whether I can profitably grind rye to feed these cows, or had I better sell it and buy other grain? If so, what kinds and proportions? Can I buy some other grain and mix with rye profitably? I have no corn to grind and would have to buy that. Have some speltz. This herd contains two grade Jerseys, two grade Shorthorns and two thoroughbred Shorthorns. I do not know how much grain to feed. Does a silo pay?

Oscoda Co.

R. S. M.

Rye is not considered as good for milch

cows as corn meal, but since you have the rye I hardly think it would pay you to sell the rye and buy corn meal, and by mixing oil meal with the rye, you could get a very good ration for your cows. I would recommend mixing 200 lbs. of rye to 100 lbs. of corn meal and give the cows this ration with your roughage. I think it would be a little better to buy some bran and oil meal also, then mix 100 lbs. of bran, 100 lbs. of ground rye, 100 lbs. of oil meal together and feed the cows about a pound of this mixture per day for every pound of butter-fat which they produce in a week. I would feed all the hay they would eat up clean once a day, and then once a day you can feed cornstalks or your straw, or you could feed your straw in the morning, the cornstalks at night and a good liberal feed of hay at noon. The silo certainly pays, especially where one has good corn soil. As has been stated many times in these columns by ensiling the corn much of the starch of the stalk which turns into fiber when dried, is retained in a digestible state, and the succulency of ensilage is a great aid to the digestive system of animals. A corn crop is, therefore, enhanced in value by being made into ensilage.

**RETAINING THE MILK.**

I read the question and answer in regard to this matter in a late issue of the Michigan Farmer, and, having some experience along this line, would like to give your readers the result. In the first place, it is a thing to be prevented and not one to be cured. Nature bestowed upon the genus bos, the power to withhold the milk, (except the little that might be in the teats), for the benefit of their own offspring. In a wild state, calves were apt to steal milk from cows, not their own mothers, and the power to withhold it from all except their own was intended to protect their offspring. So when a man sits down to a young heifer and tries to draw her milk, what more natural thing than that she should withhold it. He is not her calf. It is for this reason that the heifer's first calf should not be allowed to fatten by sucking its dam. She is not apt to take kindly to the change, when the veal is ready for market, and will be apt to form a lifelong habit of holding up the milk. One of our heifers not only formed this habit from the above cause, but was very hard to break, and always disagreeable to milk.

In the story of the "Pioneer Lad," mention is made of the "blood bellow," which is only another cow trait handed down from the wild state. I have known several horses that would become unmanageable and dangerous at butchering time or whenever there was a smell of blood around. A neighbor of mine has to call on some one else to care for one of his horses, whenever he has been butchering. I came near spoiling a young mare by trying to draw a stuck hog on a stone-boat over to a neighbor's to scald and dress. When the odor of blood becomes sensible to a horse, the natural fear that was in its ancestors, takes possession, and it seems to it that great danger is lurking near. I mention this as a kindred matter to that of holding up the milk in cows.

New York.

CLARKE M. DRAKE.

**CARING FOR NEW MILCH COW AND CALF.**

The old saying, "never too old to learn," is what one man recently said to me, when advised to not milk his cows the first day after calving. I confess I was quite well along in life before I had learned better. I used to think I must get all the milk I could out of the udder to keep it from becoming caked. And yet it would cake after all my pains. Since I have adopted the plan to leave the milk in the udder what the calf takes, I have had absolutely no trouble with caked udder. There are too many who take the calf away before it has sucked at all, thus depriving it of its natural source of nourishment, under the impression that it will learn to do sooner, while as a matter of fact, it will not learn as easily. I have one calf now that after being left with its mother three days, drank the first time I offered it a pail of milk, without looking for anything to suck. It is seldom necessary to give them the finger in the mouth, only in the milk, under the mouth, and they will push while they drink. I purchased a calf last winter that had never been allowed to suck and it was more trouble to get it to learn to drink than I was accustomed to. It has never done well since, and, tho having good hay and meal, is still poor.

Shiawassee Co.

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**CONTROLLING CONTAGIOUS ABORTION IN CATTLE.**

I have a dairy of twenty cows; seven of them have already aborted. The first one slunk her calf about four months ago; six weeks later two more lost theirs and four weeks later another one, and a few days after that two more aborted. The first one that lost her calf did not cause me any alarm for she had been chased by a dog, but the last three set me to thinking. These cows act natural, have a good appetite, are fed a bushel of ensilage night and morning; besides, they have corn fodder and oat straw at noon. Our local Vet. that feeding silage caused it. Considerable corn passes thru these cows whole, but they do not appear sick. Four brood sows follow my cows when they are out doors. I am using a thoroughbred bull and I am told that thoroughbreds are more apt to be diseased than grades. Is this true? My cows are never pounded or clubbed; besides, I keep no dog to chase them. My premises are kept fairly clean and I have been careful to clean up after each cow that aborted and have buried what I thought should be. These calves that have come from the cows are about the size of a cat and one of them was in a diseased condition. When the fourth and fifth cow aborted I called our local Vet., who examined the two cows. He thought they must have infectious abortion.

Saginaw Co. G. EASLICK.  
I am inclined to agree with your veterinarian that you have infectious abortion in your herd, rather than to suppose it accidental. There are, of course; two common causes for miscarriage in cows, accidental and contagious. If accidental and the cow cleans properly, no more future trouble need be feared; however, if a miscarriage is the result of either acute or chronic contagious abortion it should be regarded seriously, for I assure you it has puzzled me many times in my practice to stamp it out of a herd, even when my client gave me free rein to spend his money for the latest and most up to date remedies; besides, I employ assistants to carry out my instructions. So you can understand with this information before you, it will be no easy task for you to clean up your herd and premises. This may sound like scare talk but it is nothing short of cold facts. The first time a cow aborts it is generally early, the second time somewhat later and the third calf may be carried full time or nearly so. The germs appear to produce less irritation after a year or two and become less active; besides, are not so apt to infect other pregnant animals or infect the male at time of service.

Cows affected with accidental abortion usually show some effects of the accident, but no well marked symptoms of abortion, such as red patches on the lining membrane of the vagina and vulva. If the herd bull suffers from this disease he will show some mucus discharge and if so should not be allowed to serve cows until cured. When cows have abortive germs in their genital tract they can be readily discovered by means of a magnifying glass of sufficient strength, therefore you should proceed intelligently to ascertain whether your cattle have accidental or infectious abortion. The history you give indicates it to be contagious abortion. Therefore, you had better treat for it.

When a cow aborts she should be immediately removed from balance of herd, the calf and afterbirth removed and burned, the bedding or manure that was under or about her also burned, the stall walls and floor thoroly disinfected, with germ killing remedies such as is made by mixing one part carbolic and thirty parts water, or one part bichloride mercury and one thousand parts water, or or one part chloride of zinc and one thousand parts of water, also whitewash the stall she stood in, and the adjoining stalls. If the room is needed, fill with cows that are not pregnant. This I suggest for safety, for contagious abortion is usually passed to the cow which stands next to the sick one. The cow should be washed out with carbolic lotion made by mixing two drams in one quart of water or the same quantity of lysol in a quart of water, or dissolve the same quantity of permanganate of potash in three quarts of water. Whichever one you use, use it freely and keep up the treatment for three weeks or as long as the discharge lasts. The herd bull should be treated much the same way, especially if he shows the slightest discharge. I have obtained good results by dissolving one dram of protargol in a quart of water and injecting cows once daily with this. These applications should be made thru a rubber tube and funnel. The hind parts of cow should not be neglected. Wash her with any of the lotions recommended, twice a day or apply one part coal-tar disinfectant and thirty of water; but be sure and use a good article or you will fail in killing the abortive germs. A cow that has been treated should not be brot

back to herd too soon. I like to keep them away from well cows for three weeks. Giving cows one ounce doses of hypo-sulphite of soda two or three times a week is supposed to help them and I have thot giving cows one-half dram doses carbolic, or even smaller doses, helped to prevent infected cows from aborting.

Just a word to dairymen. Knowing how difficult it is to eradicate contagious abortion from a herd after it gains a foothold you will act wisely in doing all in your power to keep it out of your herd. Don't breed any of your cows to a bull unless you know him to be free from infection; don't purchase cows for breeding purposes that have not carried their calves full time; don't buy cows that have any vaginal discharge unless the discharge is examined microscopically by a person qualified to tell if it is free from abortive germs; also examine lining membrane of vulva for red spots for if the cow suffers from this ailment she is likely to show this condition. Much more can be said on this subject and I shall endeavor to give more extended instructions and treatment in the near future regarding the stamping out of infectious abortion in cows. I suggest that you save this for future reference for you may soon have a case to treat.  
Ohio. DR. W. C. FAIR.

**BALANCING A RATION.**

I would like to have you balance me a ration for my dairy cows. I have the following feed on hand: Corn at 60c per bu; oil meal at \$1.85 per cwt.; cottonseed meal at \$1.85 per cwt.; bran at \$26 per ton; well-eared ensilage, corn stover, clover hay or bean pods once a day. Also how old should a Holstein bull be before he is allowed to serve a cow. The bull weighed 450 lbs. at six months of age. Cows are grade Durhams giving about 35 lbs. of milk a day; test about 4 per cent.  
Kent Co. SUBSCRIBER.

I think the best ration you could possibly feed your cows, and the most economical with the feeds given, would be to feed all the corn silage twice a day that they would eat up clean and once a day feed all the corn stover that they will eat. I don't mean by this that they should be compelled to eat up all the butts of the cornstalks. I would feed them liberally of the corn stover, allowing them to eat the tops, leaves, etc. Then once a day the clover hay, or the bean pods, as you suggest. This would make two feeds a day of the dry roughage and two feeds a day of the succulent roughage, corn silage. For a grain ration, with the prices given of the feeds, I would feed two pounds of oil meal a day on the corn silage and two pounds a day of the cottonseed meal on the corn silage, per 1,000 pounds live weight. If the cows are large, you can increase this amount, or you can add a little wheat bran, or corn meal if you prefer to get a larger grain ration. But you can get digestible protein cheaper in the cottonseed meal and the oil meal than in either one of the other foods, and with good, well eared corn silage, I would not think it would be profitable to feed very much corn meal.

The age suitable for a bull for service depends largely upon the individual. It should not be until he is fairly well matured. It is a great mistake to use him too young. Ordinarily any bull is old enough for service at one year of age, if you do not use him in excess, but most bulls if used to excess when a year old are practically ruined.

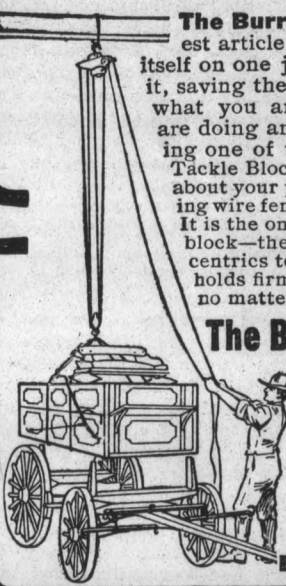
**TROUBLE WITH CHURNING.**

Will you please advise me in regard to my cream? I have not been able to obtain butter for about three weeks. I warm the cream and churn it the way I always have but the butter-fat will not separate from the milk. It just foams up and looks as if it is ready to "break," but will not make butter. The cow will not freshen until July and the milk raises a good cream. We feed her good mixed hay, with oat straw and potatoes, turnips, beets and winter radish.  
Otsego Co. R. B.

I would advise heating the milk, if you set it in pans, to 180 degs. Then let the cream rise as before and ripen and churn in the ordinary way. If you use a separator, heat the cream to 180 degs., stir it while heating, and then cool as quickly as possible and churn in the ordinary manner.

It would seem that figures often given, placing the cost of milk at four cents or thereabouts, per quart, are excessive. If milk cost four cents a quart, dairymen would soon be bankrupt, for very few receive that price for their milk, still they go on, improving their farms and buildings, driving good turnouts and wear good clothes, and a good many have a nest egg laid away in the bank.

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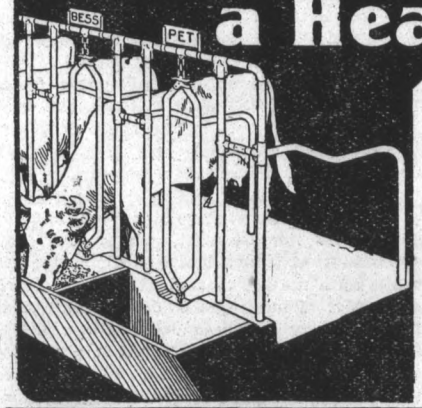
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THE ANNUAL DAIRY MEETING.

The 26th annual meeting of the Michigan Dairyman's Association was called to order a short time before the pages of this issue were closed. A goodly number of dairymen from nearly every section of Michigan and also from other states were present. There is not space enough left in this issue for reviewing the excellent papers that have already been presented and the valuable discussions given; suffice it to say that this gathering of the organization promises to maintain the high standard of the past in interest and value of its program. The excellent exhibit of dairy machinery, dairy products and the educational show of the State Dairy and Food Department, promises now to surpass any like exhibit ever brot together by the Michigan Association. Nearly all the machinery people had their exhibits in place at the opening session and the dairymen and dairy products manufacturers were already studying the merits of the different articles which interested them. In our next issue we shall endeavor to give a review of the addresses and discussions of the splendid program arranged by the officers of the organization.

WHY MILK IS DIRTY.

In an experiment at the Illinois Experiment Station, some figures were obtained as to the amount of dirt falling from udders apparently clean, soiled and muddy. A dish of the same diameter as and ordinary milk pail was held under an udder for 4 1/2 minutes, while the milker went thru motions similar to those made in milking, but not drawing any milk. The dirt thus collected was thoroly dried and weighed. As an average of 75 trials made at different seasons of the year it was found that the weight in grams of dirt which fell from udders apparently clean, was 0.0152, from udders slightly soiled, 0.1316, and from muddy udders, 0.8831. From these data it was calculated that from muddy udders one ounce of dirt would fall into the milk in 32 milkings, or that every 275 pounds of milk would contain one ounce of filth. After each of the above tests the udder was washed and the dirt collected as before. It was found that with udders apparently clean, 3 1/2 times as much dirt fell from the unwashed udders as from the same udders after they were washed. With soiled udders the ratio was 18, and with muddy udders it reached 90.

G. E. M.

FALL FRESHENED COWS AND GROWING FEED.

A good dairy cow that freshens in the fall and is well cared for, should give her owner a profit every day thru the winter and should go onto grass in the spring 'a good shape and do nearly as well thru the summer as a cow that is fresh in the spring, provided she takes her yearly vacation in the early fall when the pastures are dry. Then a man has more time to take care of his calves during the winter than in the summer and with good, light comfortable quarters they will do better at that period of the year than in summer. By spring they will be ready to go onto grass and can stand the hot sun and flies better than a little young spring calf, and you can have the skim-milk during the summer to feed the pigs instead.

But whenever the cows are fresh, feed them so as to keep them doing their best. Do not think you can let them shrink in their milk flow for a week or a month and then have them make up for lost time, for they will not do it. They must do their work every day or they will run their owner in debt.

In my dairying I have made special effort for several years to grow crops best adapted for dairy feed crops, rating high in protein, such as peas, soy beans, clovers, etc., and those that do best in my locality, and buy in the market such feeds as I must have, to compound balanced rations. I have often heard farmers say: "We feed field corn because it is the cheapest feed we have." But it is not the cheapest under all circumstances. I will admit that in finishing an animal for the block corn is our best feed; but corn alone for the growing calves, the milk cows, the colts, pigs or hens, is too expensive for any farmer unless he has a good bank account which is supplied from other sources than the farm.

The best lesson I ever learned was from early experience in feeding dairy cows. I had been feeding on the "feed only-what-you-raise" theory, and at the end of the year found but small profit, and was,

therefore, forced to change my methods of work. I discarded this method and began to raise such feeds as was best adapted to my soil, no matter what they were, and then buy the elements lacking in my home-grown feeds. It enhanced the feeding value of the farm-grown feeds and at the same time was far healthier for the animals.

While this system of feeding in the start was confined to cows alone, it was soon learned that what made a good ration for a cow was good feed for other stock, and for years much of the other feeding has been from the same feed bin. And when I give feed to animals I always feel like saying to them, "you pay your board bill or you will go to the butcher."

Illinois. R. B. RUSHING.

A GOOD DAIRY RECORD.

I am sending a statement of my herd of ten grade Durham cows showing the amount of milk, test, and price received for each month for the year 1909. The \$1,146.18 is the net amount which I received for this milk, and besides this, I have had what milk I needed for my family use. It has cost me \$450.65 to produce the feed, proportioned as follows: \$50 for pasture, 60 tons of silage at \$1.50, \$196.65 for grain, and \$114.00 for hay, making a total of \$450.65.

I have fed also out of this amount of feed, three yearling heifers for one year, and two horses, but have made no deduction for this. I sell my milk to a cheese company and get whey to feed my hogs.

Month, 1909.	Lbs. Milk.	Butter-fat Test.	per lb.	Amt.
January	5,768	4.24	.38	\$ 92.92
February	8,395	4.12	.36	124.51
March	9,350	4.22	.34	134.15
April	8,017	4.24	.32	108.77
May	8,947	4.11	.31	113.99
June	7,919	4.14	.30 1/2	99.99
July	7,203	4.20	.30 1/2	92.26
August	4,925	4.22	.32 1/2	67.54
September	3,147	4.24	.35 1/2	47.36
October	4,814	4.11	.36	71.19
November	5,137	4.04	.37	76.74
December	6,584	4.11	.40	108.24
	80,206			\$1,137.66
Milk sold to neighbors				8.52
Total				\$1,146.18

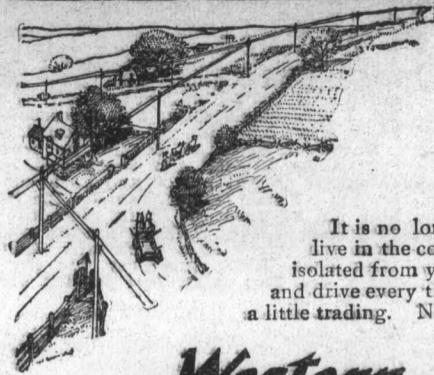
(This is certainly a good record for ten cows. To have ten cows yield on the average, 8,020 lbs. of milk per cow is a splendid showing and then to have a market that will pay an average of 34 1/2 c per lb. for butter-fat for the year, is quite remarkable. But few of us have this kind of a market. The ordinary creamery cannot afford to pay such prices for butter-fat. Of course, the creamery returns the skim-milk, which is worth considerable at present prices for feed and should be added to the creamery price. Nevertheless, this is a very satisfactory price indeed. It would seem that the cost of feed is low when we consider that a team of horses and three heifers were also fed on the \$450.00 worth of feed. In our cow testing associations we figure 50 cents per week for pasture and this would make for five months, \$50 for the cows alone, and nothing for the horses and heifers. Cow testing associations also figure ensilage at \$2.50 per ton instead of \$1.50, which would make the cost of feed considerably higher. But even figuring at these prices, it is an exceptionally good showing and Mr. Elenbaas can well be proud of the showing. It would be interesting to know if the same ten cows were kept the entire year, or if some were disposed of and fresh ones bot and the ten was the average number, rather than a real number.—Editor).

A PERSISTENT MILKER.

Please tell me thru Michigan Farmer the best way to manage a cow that is due to freshen soon and is still giving milk. Will her milk be all right to use up to the time that she calves? Can't dry her up. Will be in within a week.

Van Buren Co. F. H. HARTER.

I would not use the milk for two or three weeks before the cow freshens. Feed it to the pigs. The fact that the cow has been milked right along would probably make the milk all right, but I would not risk it. The only way you can handle this cow is to continue to milk her now, even to the time of freshening. It would not do to dry her off. You will be liable to injure her udder. It would have been better, all things considered, to have dried her off four to six weeks before freshening, but neglecting to do that, you must milk her now. You can increase her ration of grain and keep her in good condition. She will not give a very large flow of milk, probably, at once after freshening, but she will gradually increase until she yields nearly or quite her normal flow.



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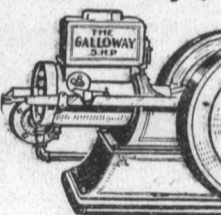
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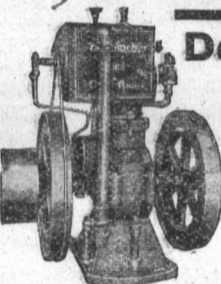
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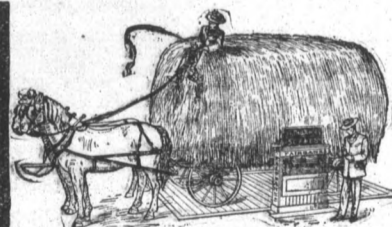
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MARKETS

DETROIT WHOLESALE MARKETS.

February 2, 1910. Grains and Seeds.

Wheat.—The news of the past week has been of such a character as to make the probable trend of the wheat market uncertain. At times there would appear to be sufficient support to the trade to warrant heavy buying, while perhaps on the following day selling would appear the wise thing. However, it seems that the bulls have scored well during the week, in that Russia, which has been a bearish factor all thru the past season because of her large exports, now comes out with information of great damage to her coming crop, thereby giving the bulls her support. Largely for this reason the average quotations for the past week are above those for the former. All along the demand from flour manufacturers has been active and these men have not quit their practice of paying premiums when necessary to get hold of cash grain. This has been the backbone to the market thru the season, and the present condition of the flour makers should continue for some time to come. The receipts have been fairly heavy the past week, but a small proportion of them have gotten beyond the millers. One year ago the price for No. 2, red wheat was \$1.07 1/2 per bu. Quotations for the week are as follows:

Table with columns: No. 2, No. 1, Red, White, May, July. Rows: Thursday, Friday, Saturday, Monday, Tuesday, Wednesday.

Corn.—Ever since last Thursday there has been a gradual decline in corn prices. The sagging appears to be due partially to the situation of the market brokers, those holding heavy stocks seemingly desiring to let a portion of them go. The decline in live stock prices is held by some to be having influence upon this trade. The arrivals have generally been quite liberal, and this has challenged the courage of the bulls. One year ago the quotation for No. 3 corn was 62c per bu. Quotations are as follows:

Table with columns: No. 3, Yellow. Rows: Thursday, Friday, Saturday, Monday, Tuesday, Wednesday.

Oats.—While the feeling in this trade has followed that in the corn and wheat markets, yet the variation in price is along a much lower channel. Primary receipts in some sections of the country have been much larger than expected and this has prevented prices from advancing during the week. The local market is steady with practically nothing doing, owing to the small stocks on hand. One year ago the price for No. 3 white oats was 53 1/4c per bu. Quotations are as follows:

Table with columns: Standard, Yellow. Rows: Thursday, Friday, Saturday, Monday, Tuesday, Wednesday.

Beans.—The bean market is firm, according to the local dealers, but no transactions are taking place, due largely to the fact that holders do not appear to be attracted by present quotations, which are only nominal. They are as follows:

Table with columns: Cash, March. Rows: Thursday, Friday, Saturday, Monday, Tuesday, Wednesday.

Cloverseed.—A great deal of interest is coming to this trade just now, with deals frequent and about as large as the limited stocks will allow. Prices have fluctuated during the week, with an average below that of a week ago. It is generally believed, however, that prices will not get much below the present basis during the trading season that has now just begun. Following are the quotations for the week:

Table with columns: Prime Spot, Mar, Alsike. Rows: Thursday, Friday, Saturday, Monday, Tuesday, Wednesday.

Rye.—Market is steady and easy. No. 1 is quoted at 84 1/2c per bu.

Visible Supply of Grain.

Table with columns: This week, Last week. Rows: Wheat, Corn, Oats, Rye, Barley.

Flour, Feed, Provisions, Etc.

Flour.—Demand is active at unchanged prices. Quotations as follows:

Table with columns: Clear, Straight, Patent Michigan, Ordinary Patent. Rows: Clear, Straight, Patent Michigan, Ordinary Patent.

Hay and Straw.—Market advanced. Quotations are: No. 1 timothy, new, \$17 @17.50; No. 2 timothy, \$16@16.50; clover, mixed, \$16@16.50; rye straw, \$8; wheat and oat straw, \$6.50@7 per ton.

Feed.—Steady at last week's values. Demand good. Carlot prices on track: Bran, \$26 per ton; coarse middlings, \$28; fine middlings, \$30; cracked corn, \$28; coarse corn meal, \$28; corn and oat chop, \$25 per ton.

Potatoes.—This trade continues steady with the past several weeks. Demand is fair and prices unchanged. Michigan grown are selling in car lots at 33@36c per bu. in bulk, and in sacks at 30@40c. Provisions.—Family pork, \$24.75@25; mess pork, \$24; medium clear, \$25@26; pure lard, 13 1/2c; bacon, 16 1/2@17c; shoul-

ders, 12 1/2c; smoked hams, 15 1/2c; picnic hams, 12 1/2c. Hides.—No. 1 green, 10c; No. 2 green, 9c; No. 1 cured, 12c; No. 2 cured, 11c; No. 1 bulls, 11c; No. 2 bulls, 10c; No. 1 green calf, 17c; No. 2 green calf, 15 1/2c; No. 1 cured calf, 17c; No. 2 cured calf, 15 1/2c; No. 1 horsehides, \$3.50; No. 2 horsehides, \$2.50; sheepskins, as to wool, 50c@1.50.

Butter.—The large decline in creamery values a week ago encouraged consumption of real butter and as a consequence a firmer feeling pervades the trade and an advance of 1c is recorded for creamery products. Dairy grades are off from the prices of a week ago. Quotations are: Extra creamery, 31c per lb; firsts, do., 29c; dairy, 23c; packing stock, 22c per lb.

Eggs.—Prices this week show a further decline of 4c, placing quotations slightly below those of other big markets. Despite this fact the demand is rather inactive. Current offerings, cases included, are quoted at 28c per doz.

Poultry.—This market is dull with quotations slightly lower on nearly all grades. Quotations for the week are: Live.—Spring chickens, 15@15 1/2c; hens, 14@14 1/2c; ducks, 15@16c; geese, 13@14c; turkeys, 17@18c. Dressed.—Chickens, 14@16 1/2c; hens, 15@15 1/2c; ducks, 18@19c; geese, 14@16c; turkeys, 20@24c.

Cheese.—Prices advanced sharply at this week's opening and the market is firm at the higher range. Michigan full cream, 18c; York state, 19c; limburger, 18c; schweitzer, 21c; brick cream, 19c per lb.

Calves.—Choice to fancy, 11@11 1/2c; ordinary, 9@10c per lb. Dressed Hogs.—Light, \$10@11 per cwt.; heavy, \$9@9.50.

Fruits and Vegetables.

Cabbage.—Steady. Home-grown, \$1.75 @2 per bbl.

Onions.—Domestic offerings 70@75c per bu. Spanish, \$1.35 per crate.

Apples.—Spy, \$3@3.50; Baldwin, \$2.50@3; common, \$1.50@2.50 per bbl.

Cranberries.—Cape Cod berries selling at \$2@2.25 per bu.

Nuts.—Butternuts, 50c per bu; walnuts, 50c; shell bark hickory, \$1.

OTHER MARKETS.

Grand Rapids.

The local butter market is in a see-saw condition again this week, with dairy off 1c; old creamery up 1c. The egg market has weakened a little, jobbers paying the country shippers 29c. Dressed hogs are bringing 9 1/2@10c. Live poultry is weak at quotations. Clover seed, medium and mammoth, is worth \$9.50, alsike, \$9, timothy seed \$2.25. Clover seed will probably be \$1 higher when spring opens. The potato market continues dull, with prices up the state scarcely reaching 25c.

Quotations follow: Grain.—Wheat, \$1.22; oats, 49c; corn, 67c; buckwheat, 60c per bu; rye, 70c.

Beans.—White machine screened, \$1.85 @1.95; red kidneys, \$2.65 basis.

Butter.—Buying prices, Dairy, No. 1, 26c; creamery in tubs or prints, 30c per lb.

Eggs.—Fresh, 29c. Apples.—50@75c.

Vegetables.—Potatoes, 40@50c; onions, 60c per bu; cabbage, 60c doz; parsnips, 50@60c; beets, 50c per bu; carrots, 40c; turnips, 40c; Hubbard squash, 2c lb; celery, 12 1/2c; parsley, 20c doz; vegetable oysters, 25c doz.

Hogs.—Dressed, 9 1/2@10c.

Live Poultry.—Fowls, 12@13c; roosters, 9@10c; spring chickens, 13@14c; spring ducks, 15@16c; young geese, 12@13c; young turkeys, 18@20c.

New York.

Butter.—Market unsettled, with prices fractionally lower. Western factory firsts, 23 1/2@24 1/2c; creamery specials, 30 1/2c.

Eggs.—Market fairly steady at a lower range of values induced by steadily increasing receipts. Western firsts, 32c; seconds, 30@31c; fancy refrigerator stock, 27 1/2c per doz.

Poultry.—Dressed, firm. Western chickens, broilers, 15@23c; fowls, 14@17 1/2c; turkeys, 22@25c.

Chicago.

Wheat.—No. 2 red, \$1.26@1.28; May, \$1.11 1/2; July, \$1.01 1/2.

Corn.—No. 3, 62 1/2c; May, 66 1/2c; July, 66 1/2c per bu.

Oats.—No. 3 white, 47@47 1/2c; May, 47 1/2c; July, 43 1/2c.

Butter.—Market slow with prices unchanged from last week. Creameries, 25 @30c; dairies, 24@29c.

Eggs.—Market continues slow, prices showing a further decline. Prime firsts, 30c; firsts, 29c; at mark, cases included, 20 1/2@26 1/2c per doz.

Hay and Straw.—Market quiet; nearly all grades of hay and straw are lower. Quotations: Timothy, choice, \$18.50@19; No. 1, \$17.50@18; No. 2 and No. 1 mixed, \$16@17; No. 3 and No. 2 mixed, \$13@15.50; rye straw, \$10@11; oat straw, \$9@9.50; wheat straw, \$8@9.

Potatoes.—Receipts continue heavy and the market is easy after a 5c decline. Choice to fancy quoted at 43@45c per bu; fair to good, 40@42c.

Beans.—Higher. Choice hand-picked \$2.25 per bu; fair to good, \$2.20; red kidneys, \$2.25@2.90.

St. Louis.

Grain.—Wheat No. 2 red, \$1.27; corn, No. 2, white, 67 1/2c; oats, No. 2, 48c.

Hay.—Steady. Timothy No. 1 to choice is selling at \$17@18.50 per ton; No. 2, \$15.50@16; No. 3, \$13; clover, No. 1, \$18; No. 2, \$16; clover mixed, \$13.50@16; alfalfa quotable at \$19@19.50 for No. 1 and \$16@18 for No. 2.

Potatoes.—Receipts moderate but the local trade is dull and the market rather weak. Michigan Rurals are quoted at 53 @56c per bu.

Boston.

Wool.—With old stocks well cleaned up, as noted last week, the market has become a waiting one. Trading is confined to small lots, principally odd lots of choice wools. Bids for the new clip were mostly for Utah fleeces, the ruling quotation being 22c. The leading domestic quotations are: Ohio and Pennsylvania fleeces—No.

1 washed, 40@41c; delaine washed, 39@40c; XX, 37@38c; fine unmerchanted, 31c; half blood combed, 36@37c; three-eighths blood combed, 36@37c; quarter blood combed, 35c; delaine unwashed, 32c; fine unwashed, 27@28c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 25@26c; delaine unwashed, 31 @32c; half blood unwashed, 35@36c. Kentucky, Indiana and Missouri—Three-eighths blood, 34c; quarter blood, 32@33c.

Elgin.

Butter.—Market firm at 31c per lb., which is 1c above the quotation of a week ago. The sales for the week amounted to 498,600 lbs.

THE LIVE STOCK MARKETS.

Buffalo.

January 31, 1910. (Special report by Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of sale stock here to-day as follows: Cattle, 90 loads; hogs, 12,000; sheep and lambs, 9,000; calves, 1,200.

The run of cattle today consisted of 53 cars of fresh arrivals and 35 cars of hold overs. The market opened dull and draggy and all kinds of butcher cattle sold from 10@20c lower than last Monday. Heavy cattle suffered the worst and in order to get them sold they had to be sacrificed. At the close about everything is sold. Good fresh cows and springers were active today and some higher.

We quote: Best export steers, \$6@6.25; best 1,200 to 1,300-lb. shipping steers, \$5.50@5.75; best 1,100 to 1,200-lb. do., \$5.35 @5.60; medium 1,050 to 1,100-lb. butcher steers, \$5@5.25; light butcher steers, \$4.75 @5; best fat cows, \$4.60@5; fair to good do., \$4@4.25; trimmers, \$2.50@2.75; best fat heifers, \$5@5.25; fair to good do., \$4.25 @4.50; common do., \$3.75@4; best feeding steers, 950 to 1000 lbs., \$4.40@4.50; best feeding steers, 800 to 900 lbs., \$4@4.25; 700 to 750-lb. dehorned stockers, \$3.75@4; 600 to 650-lb. do., \$3.25@3.50; best bulls, \$5@5.25; bologna bulls, \$3.75@4; stock bulls, \$3.25@3.50; best fresh cows and springers, \$55@60; fair to good do., \$40@45; common do., \$25@35.

The hog market opened about steady with Saturday's close. About everything is sold and the prospects look fair for the near future.

We quote: Mixed, medium and heavy, \$8.65@8.70; best yorkers, \$8.50@8.60; light yorkers and pigs, \$8.25@8.35; roughs, \$8 @8.10; stags, \$7@7.25.

The lamb market opened active, most of the best lambs selling early at \$8.75. Market closed strong. We look for some lower prices the last of the week unless the runs should be light.

We quote: Best lambs, \$8.70@8.75; fair to good, \$8@8.65; culls, \$7.50@7.75; skin culls, \$6@6.75; yearlings, \$7.50@8; wethers, \$6@6.50; ewes, \$5.50@6; cull sheep, \$3.50@5; best calves, \$10@10 1/2; fair to good do., \$8@9 1/2; heavy do., \$4@5.

Chicago.

January 31, 1910. Cattle, Hogs, Sheep. Received today ..... 18,000 34,000 18,000 Same day last year .. 9,309 11,584 7,401

Received last week .. 64,462 116,764 72,901 Same week last year, 44,519 151,279 54,277

Cattle sold last week largely 50@75c lower than the recent high time, cows and heifers sharing with steers in the downward movement, which was due mainly to the wide-spread agitation regarding high prices. The boycott against beef and other meats has had a very perceptible influence in lessening consumption, and the cattle receipts have been larger than required at such a time, altho the retail meat markets of Chicago and other cities advertised beef at decided cuts in prices. To a very large extent such reductions in prices meant a lowering of the grade, and packers and butchers generally are calling for a cheap grade of cattle in order to meet the popular clamor for cheap beef. The inquiry is largely for steers that can be bot around \$5@6, with not many sales above \$6.25, altho the best heavy shipping beeves have bot \$6.50@7.70. The lower grade of light-weight steers sold at \$4@4.75, but steers below \$5 were largely taken by feeders. Cows and heifers went at \$3.20@5.50, a few heifers selling up to \$6, with sales above \$5 not very large. Cannors and cutters bot \$2@3.15, while bulls were lower, selling at \$3@5. Calves were as much as \$1 per 100 lbs. lower than the recent high time, recovering part of the decline later, when sales were made at \$3@9 for inferior heavy to prime light weights. Stockers and feeders were fairly active and failed to share in the sensational decline in beef cattle, and actually sold higher for the choicer lots. Stockers sold freely at \$3@4.60, while feeders sold at \$4.45@5.50, with a few cars of fancy 1,214 to 1,271-lb. feeders taken at \$5.70@5.80. Milch cows were in moderate supply and demand at \$25@65 each. Butter and eggs and other staples have declined sharply, as well as meats. Another week opened today, and there was a reaction owing to the unusually small Monday offerings rather than to any increase in the general demand, prices ruling largely 10@15c higher for steers, cows and heifers.

Hogs took a header last week, and the market reached a \$7.75 country basis, with an \$8.35 top at one time, and the market practically 75c lower than two weeks earlier. It was not a case of large supplies, but rather of a poor eastern shipping demand and Chicago packers taking advantage of the general conditions to pound prices. Hog receipts at the western markets continued to fall a good deal short of recent years, but for all that, great numbers were carried over at night in the stock yards, thereby swelling the offerings on following days. After the big break in prices there was a rally in consequence of a falling off in the receipts, but the undertone was by no means healthy. Weight is still greatly lacking, and for this reason heavy hogs, which are greatly needed for converting into lard, sell at a substantial premium over lighter weights. The agitation against high prices of meats has been disastrous to stock feeders, as it has put

prices much lower and thereby enabled packers to replenish their stocks of meats for placing in storage at greatly lowered first cost. Hogs were active today and sold largely 5c higher, sales ranging at \$8.05@8.55, while pigs sold at \$6.50@8. The best light hogs brot \$8.40. The hogs received last week averaged 211 lbs.

Sheep and lambs were affected unfavorably last week by the meat boycott and experienced serious shrinkage in values for several days in succession, with a later rally of much smaller receipts, sheepmen deciding in many instances to hold back their stock until the demand improved. Medium grade lambs were hit the hardest, and fluctuations were usually more marked in lambs than in sheep and yearlings, as lambs made up the big share of the daily supplies. Still the prices paid looked good when compared with much lower quotations in recent years at this season. Yearlings as a rule have ceased to command their recent big premium over fat heavy wethers, with less demand, and it must be admitted that yearlings generally are not being made as choice as was the rule some weeks ago. Yearlings to sell especially high have to be made fat and light in weight, since they take the place of fat lambs in the retail meat markets. Sheep and lambs were firmer today under small Monday receipts and a good demand. Lambs were salable at \$5.50@8.25, wethers at \$5@6.25, ewes at \$3@6, rams at \$3.50@5 and yearlings at \$6@7.50.

Horses have been marketed freely most of the past month, and general conditions were very much better than in December, the demand being up to normal proportions once more. Heavy drafters were especially active at \$175@275 per head, with a few recent sales of extra choice animals at \$280@302.50, while a pair of prime 1,800-lb. horses brot \$820. Expressers have been selling at \$165@225, and feeders were taken in good numbers for eastern shipment at \$170@225, while farm mares were active at \$125@175 for fair to choice grades. Small southern chunks were in good demand at \$75@150, and drivers had a moderate outlet at \$160@300 for fair to prime grades, with a limited call for carriage pairs at \$400@650.

LIVE STOCK NOTES.

The beef and mutton packers seldom get left, and once more this is demonstrated by recent developments of the boycott aimed against the packers and high prices for meats of all kinds. It is a curious fact that in some respects the agitation is working to the advantage of the packers, since it has enabled them to place cattle, hogs and sheep on a lower basis and furnished them with an opportunity to stock up with beef, mutton and hog products at considerably reduced prices. Lower prices have been recorded for all kinds of meats in the retail markets, it is true, but stockmen have been getting less for their cattle, hogs and sheep. The packers have seized the rare opportunity offered them to load up with meats at reduced prices, and they expect to unload at figures that will allow them substantial profits. Cattle prices have fallen to lower levels than those of a year ago, and several grades of beef are wholesaling at lower prices than at that time.

A marked deficit in the supply of live stock available for food in this country, is brot to light in the annual report of the Department of Agriculture that was given out a few days ago. Beef cattle of which there were 47,279,000 head in January 1, 1910, valued at \$19.41 per head, make a total of \$917,685,390, as compared with \$863,638,710 a year ago, when farmers held 49,379,000 head. The average price of \$19.41 is the highest on record and \$1.92 higher than a year ago. There were also 21,801,000 milk cows, valued at \$35.79 per head, which brot the total number of cattle to 69,080,000, compared with 71,090,000 a year ago. Hogs also were valued higher than ever before, their average value being placed at \$9.41 per head, or \$2.59 higher than a year ago. The hog population on the first day of this year saood at 47,782,000 head, compared to 54,147,000 a year ago. The 56,084,000 sheep, (excluding lambs on the farms and ranges), were valued at \$6.55 per head, or a total of \$367,350,200, compared with \$192,367,120 a year ago, when the number on the farms was 1,132,000 head smaller and the average value 65c lower. The total value of meat animals was \$1,721,763,070 on January 1, compared with \$1,416,713,120 a year ago.

People in Iowa towns are complaining of the great difficulty experienced in buying enough hay and fodder for their horses, farmers being unwilling to part with their hay even at the present extremely high prices, not knowing but what severe weather before spring opens may necessitate the use of remaining holdings. Hay sells at \$15 per ton, and in sections where corn cannot be gathered from the fields, hay is greatly needed. The winter has been the most severe known in many years, and one good thing is the bountiful ice crop that has been secured.

At the national capital a blow was struck at the high price of meat by Representative Garner, of Pennsylvania, who several days ago, introduced a bill removing the tariff from cattle imported into this country for food. Under such a law it is believed large number of cattle would be imported from South America and Canada, thus materially reducing the cost of meats.

THE ENVELOPE BLANK

To make it convenient as possible for those who wish to take advantage of the offer on the front page of this issue we have enclosed one envelope with blank lines on which to write the name and address, length of time subscribed for, and amount enclosed. It will not be necessary to write a letter when but one subscription is sent as the money can be put right in the envelope, then seal, stamp with two-cent stamp and mail. It is already addressed. When the envelope is not enclosed a subscription blank will be found in its place.



THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Markets. January 27, 1910.

**Cattle.**  
Receipts, 1,061. Common cow stuff steady; good grades 25@40c lower than last week.

We quote: Best steers and heifers, \$5.25@5.45; steers and heifers, 1,000 to 1,200, \$4.75@5; steers and heifers, 800 to 1,000, \$4.25@4.75; steers and heifers that are fat, 500 to 700, \$3.75@4.25; choice fat cows, \$4@4.50; good fat cows, \$3.50@3.75; common cows, \$3@3.25; canners, \$1.75@2.25; choice heavy bulls, \$4.50; fair to good bolognas, bulls, \$4@4.25; stock bulls, \$3.25@3.50; choice feeding steers, 800 to 1,000, \$4@4.60; fair feeding steers, 800 to 1,000, \$3.50@3.75; choice stockers, 500 to 700, \$2.75@4; fair stockers, 500 to 700, \$3@3.75; stock heifers, \$3.50; milkers, large, young, medium age, \$4@5; common milkers, \$2.50@3.50.

Bishop, B. & H. sold Mich. B. Co. 12 butchers av 690 at \$4.40, 4 do av 907 at \$3.25, 1 bull weighing 1,550 at \$4.50, 3 cows av 1,016 at \$3.75, 2 do av 935 at \$3.10, 1 do weighing 1,000 at \$3.60, 6 butchers av 671 at \$4.25, 1 cow weighing 930 at \$3.25; to Hammond, S. & Co. 1 bull weighing 1,470 at \$4.40; to Goose 2 cows av 895 at \$3.40; to Hammond, S. & Co. 2 do av 1,025 at \$3.25, 2 do av 845 at \$2.85; to Gerish 21 steers av 1,080 at \$5.45; to Sullivan P. Co. 2 cows av 1,035 at \$3.50, 5 steers av 830 at \$4.50, 5 do av 1,080 at \$5.35; to Rattkowsky 4 do av 872 at \$4.40; to Goose 3 cows av 940 at \$3.50; to Jonghlin 3 steers av 843 at \$4.75, 7 cows av 925 at \$3.20, 3 do av 880 at \$3; to Fitzpatrick Bros. 5 heifers av 586 at \$3.75, 3 steers av 933 at \$4.75.

Spicer & R. sold Sullivan P. Co. 6 cows av 930 at \$3.40, 2 heifers av 825 at \$5.49, 1 steer weighing 1,030 at \$5.40; to Berger 4 stockers av 750 at \$4.35, 2 do av 820 at \$4; to Regan 12 butchers av 661 at \$4.25; to Mich. B. Co. 27 do av 820 at \$4.65, 29 do av 921 at \$4.40; to Kamman B. Co. 1 cow weighing 1,230 at \$4.50, 2 do av 895 at \$4; to Bresnahan, Jr. 24 stockers av 586 at \$4.15, 1 cow weighing 780 at \$2.50, 1 do weighing 830 at \$2.50; to Kull 1 do weighing 1,070 at \$3.50, 26 steers av 871 at \$4.75, 3 butchers av 753 at \$4.29, 2 do av 870 at \$4.75; to Breitenback Bros. 27 do av 904 at \$4.50; to Goose 1 bull weighing 930 at \$4.50; to Hunt 5 cows av 850 at \$3.35; to Hammond, S. & Co. 1 bull weighing 1,050 at \$4.25, 1 cow weighing 1,200 at \$4.25.

Haley & M. sold Hupp 31 butchers av 712 at \$4.30; to Lingeman 4 do av 575 at \$3.75, 14 do av 714 at \$4.55, 2 cows av 983 at \$3; to Sullivan P. Co. 6 cows av 856 at \$3.75, 3 cows and bulls av 1,033 at \$4.50, 1 cow weighing 850 at \$2.50, 1 do weighing 750 at \$3.11, butchers av 880 at \$4.85.

Sharp sold Kamman 3 cows av 1,120 at \$5, 9 steers av 996 at \$5.40, 5 do av 764 at \$4.20.

Bohm sold Sullivan 4 butchers av 992 at \$4.85.

Veal Calves.

Receipts, 554. Common 25c lower than Wednesday; good, steady or 50@75c below last week; best, \$3.75@9.50; others, \$4@7.50; milk cows and springers steady.

Bishop, B. & H. sold Hammond, S. & Co. 6 av 135 at \$9.25, 8 av 130 at \$9; to Nagle P. Co. 2 av 100 at \$7.10 av 134 at \$9; to Sullivan P. Co. 2 av 150 at \$9, 2 av 145 at \$6, 8 av 130 at \$9, 5 av 115 at \$8.50; to Strauss & A. 11 av 130 at \$9.25, 6 av 135 at \$9, 9 av 140 at \$9, 1 weighing 230 at \$9.50.

Roe Com. Co. sold Newton B. Co. 1 weighing 250 at \$3, 2 av 100 at \$7, 4 av 140 at \$9.50; to Mich. B. Co. 17 av 135 at \$8.50, 13 av 140 at \$9.

Sharp & W. sold Newton B. Co. 12 av 140 at \$9.

Downing sold Hammond, S. & Co. 7 av 135 at \$8.50.

Spicer & R. sold Streets 4 av 180 at \$9.50, 1 weighing 110 at \$6; to Newton B. Co. 3 av 120 at \$9, 1 weighing 120 at \$6; to Mich. B. Co. 17 av 140 at \$8.55, 14 av 135 at \$8.50, 4 av 140 at \$7.25.

Haley & M. sold Breitenback Bros. 9 av 140 at \$8.

Dwelle sold Burnstine 5 av 95 at \$6.50, 15 av 130 at \$9.

Kendall sold Fitzpatrick Bros. 13 av 140 at \$9.

Sheep and Lambs.

Receipts, 5,906. Market steady at Wednesday's prices, or 50c lower than last Thursday.

Best lambs, \$7.50@7.75; fair to good lambs, \$6.75@7; light to common lambs, \$5.50@6.25; yearlings, \$6@6.50; fair to good sheep, \$4@4.75; culls and common, \$3@3.50.

Bishop, B. & H. sold Swift & Co. 9 sheep av 95 at \$5, 27 do av 90 at \$5, 27 do av 110 at \$5, 37 lambs av 75 at \$6.25; to Sullivan P. Co. 14 do av 70 at \$7.50, 26 do av 75 at \$7; to Nagle P. Co. 257 clip lambs av 77 at \$6.50, 23 lambs av 65 at \$7; to Hammond, S. & Co. 26 do av 60 at \$7, 20 do av 65 at \$7.25, 61 do av 77 at \$7.25, 2 sheep av 75 at \$4; to Mich. B. Co. 19 lambs av 60 at \$7.50, 3 do av 45 at \$6; to Swift & Co. 77 do av 85 at \$7.75, 17 sheep av 115 at \$4.25; to Nagle P. Co. 11 lambs av 95 at \$7.50, 12 sheep av 120 at \$3.75, 198 lambs av 80 at \$7.75; to Fitzpatrick Bros. 27 yearlings av 100 at \$5; to Levy 85 lambs av 88 at \$7.75; to Hammond, S. & Co. 13 do av 70 at \$7.25.

Spicer & R. sold Sullivan P. Co. 41 lambs av 83 at \$7.55; to Mich. B. Co. 69 do av 75 at \$7.35, 24 do av 75 at \$7.40, 1 sheep av 60 at \$3.50; to Newton, B. Co. 15 lambs av 90 at \$7.75, 1 sheep av 130 at \$4; to Fitzpatrick Bros. 8 do av 80 at \$4, 5 do av 85 at \$4.50, 54 lambs av 80 at \$7.60, 42 do av 70 at \$7.40, 5 yearlings av 110 at \$6.50, 8 sheep av 90 at \$5.

Haley & M. sold Nagle P. Co. 9 sheep av 115 at \$4, 16 lambs av 80 at \$7.50; to Sullivan P. Co. 16 do av 80 at \$7.50.

Taggart sold Hammond, S. & Co. 30 mixed av 90 at \$5.75.

Sharp & W. sold Newton B. Co. 34 sheep av 75 at \$4, 80 lambs av 73 at \$7.50.

Mayer sold Stephens 108 lambs av 70 at \$7.25.

Groff sold Thompson 18 lambs av 70 at \$7.

Cheney & H. sold same 41 do av 55 at \$6.40.

Taggart sold Nagle P. Co. 24 sheep av 90 at \$4, 69 lambs av 67 at \$7.

Boyle sold same 100 lambs av 68 at \$7.15.

Robb sold same 49 lambs av 60 at \$7, 30 sheep av 92 at \$3.75.

Taggart sold same 145 lambs av 75 at \$7.60.

Krause sold same 33 do av 80 at \$7.50, 4 sheep av 80 at \$4.

Harger & A. sold same 19 sheep av 80 at \$3, 77 lambs av 75 at \$7.50, 131 do av 68 at \$7.65.

Hogs.

Receipts, 2,094. Market 5@10c higher than Wednesday, 30@35c lower than last weeks close.

Range of prices: Light to good butchers, \$8.25@8.35; pigs, \$7.90@8; light yorkers, \$8.20; stags 1/2 off.

Bishop, B. & H. sold Parker, W. & Co. 701 av 180 at \$8.30, 125 av 210 at \$8.35, 156 av 155 at \$8.25.

Sundry shippers sold same 275 av 180 at \$8.40.

Spicer & R. sold Hammond, S. & Co. 2120 av 200 at \$8.35, 75 av 180 at \$8.30, 40 av 170 at \$8.25.

Haley & M. sold same 87 av 210 at \$8.35, 160 av 175 at \$8.25.

Bishop, B. & H. sold Sullivan P. Co. 103 av 140 at \$8.20, 59 av 130 at \$8.15, 15 pigs av 105 at \$8.

Friday's Market.

Cattle.

January 28, 1910.  
The market opened at the local yards Friday morning with a light run in all departments. The cattle trade was full steady with Thursday and everything was closed out before noon.

Best steers and heifers, \$5.25@5.50; steers and heifers, 1,000 to 1,200, \$4.75@5.15; steers and heifers, 800 to 1,000, \$4.25@4.75; steers and heifers that are fat, 500 to 700, \$3.75@4.25; choice fat cows, \$4@4.50; good fat cows, \$3.50@3.75; common cows, \$3@3.50; canners, \$1.75@2.25; choice heavy bulls, \$4.50@4.75; fair to good bolognas, bulls, \$4@4.25; stock bulls, \$3.25@3.50; choice feeding steers, 800 to 1,000, \$4@4.60; fair feeding steers, 800 to 1,000, \$3.50@3.75; choice stockers, 500 to 700, \$3.75@4; fair stockers, 500 to 700, \$3@3.75; stock heifers, \$3.50; milkers, large, young, medium age, \$4@5; common milkers, \$2@3.

Bishop, B. & H. sold Sullivan P. Co. 3 cows av 930 at \$3, 1 do weighing 870 at \$3, 5 do av 1,000 at \$3.75, 1 do weighing 900 at \$3, 8 do av 900 at \$3.75, 2 bulls av 1,480 at \$4.50, 1 steer weighing 800 at \$4.50, 12 do av 1,153 at \$5.25.

Haley & M. sold Bondine 1 cow weighing 950 at \$3.50, 5 do av 1,000 at \$3.70.

Same sold Lingeman 6 heifers av 745 at \$4.75.

Roe Com. Co. sold Fry 30 heifers av 754 at \$4.20.

Veal Calves.

The run of veal calves was very common, only one small bunch being good enough to bring \$9 a hundred. There was a fair demand for good calves and had they been here prices would have been fully as high as on Thursday. The common thin stuff that did arrive was not wanted and this class was considerably lower. Best grades, \$8.50@9; others, \$4@7.75.

Bishop, B. & H. sold Newton B. Co. 10 av 129 at \$8.50.

Same sold Nagle P. Co. 16 av 130 at \$8.

Terbune sold same 29 av 123 at \$7.50, 4 av 135 at \$8.

Lucke sold Parker, W. & Co. 14 av 130 at \$9.

Buck & W. sold Breitenback Bros. 5 av 110 at \$6.

Bishop, B. & H. sold Rattkowsky 8 av 125 at \$8.

Same sold Hammond, S. & Co. 13 av 125 at \$7, 15 av 130 at \$7.50, 14 av 125 at \$6, 8 av 105 at \$6.50.

Same sold Mich. B. Co. 8 av 105 at \$5.

Sheep and Lambs.

The sheep and lamb trade was steady with Thursday. One extra good bunch brot \$7.80 or 5c higher, but they were the best seen here this week.

Best lambs, \$7.50@7.80; fair to good lambs, \$6.75@7.25; light to common lambs, \$5@6.50; yearlings, \$6@6.50; fair to good sheep, \$4@5; culls and common, \$3@3.50.

Bishop, B. & H. sold Levy & Sons 24 lambs av 85 at \$7.75, 111 do av 87 at \$7.80, 74 do av 75 at \$7.75, 11 do av 95 at \$7.75; to Newton B. Co. 30 do av 65 at \$7.50; to A Street 14 sheep av 110 at \$4.50, 5 do av 105 at \$4.50, 8 do av 120 at \$4, 4 do av 125 at \$3, 5 do av 95 at \$4.50, 16 do av 120 at \$4.25, 16 do av 100 at \$3.50; to Nagle P. Co. 63 lambs av 60 at \$7; to Mich. B. Co. 18 do av 68 at \$7, 23 do av 65 at \$7.25, 19 do av 60 at \$7.50, 27 do av 65 at \$7.50, 41 do av 73 at \$7.65.

Buck & W. sold Breitenback Bros. 12 sheep av 130 at \$4.25, 109 lambs av 70 at \$7.35.

Terbune sold Nagle P. Co. 41 lambs av 75 at \$7.50.

Hogs.

In the hog yards the trade was steady with Thursday, the tops bringing \$8.35. The run was very light.

Light to good butchers, \$8.30@8.35; pigs, \$7.90@8; light yorkers, \$8.20; stags 1/2 off.

Bishop, B. & H. sold Hammond, S. & Co. 199 av 200 at \$8.35, 76 av 180 at \$8.25.

Haley & M. sold Sullivan P. Co. 35 av 150 at \$8.20, 65 av 180 at \$8.25, 54 av 195 at \$8.35.

The number of cattle now feeding at distilleries for 1910 markets is not as large as usual, being estimated at 75,000 to 85,000 head, and there will be no large marketing of these cattle during the next few months. During a recent slump in prices for feeder cattle in the Chicago market a Kentucky distillery feeder bot about 900 steers that weighed around 850 to 900 lbs., at \$4.25@4.65. Distillery buyers of feeder cattle are usually credited with much sagacity in buying, fattening and marketing cattle, but they do not always come out ahead.

VETERINARY.

(Continued from page 139).

**Mammitis.**—I have a cow which freshened last April and now in calf, due to come fresh in March. About the last of May she had a severe attack of inflamed bag, affecting the hind quarter, which in spite of all I could do stopped the milk flow from that quarter and for a time the whole udder was affected. She finally recovered and now has three good quarters. This cow is an extra heavy milker giving, when all right, thirty quarts a day. The diseased quarter broke open and has never healed; have applied peroxide of hydrogen but it failed. Now I wish you would tell me how to treat her. C. G. P. Birmingham, Mich.—Apply equal parts powdered alum, oxide zinc and boracic acid to sore twice a day.

**Stretches.**—I would like to know what to do for a lamb that is troubled with stretches. This lamb has a poor appetite. M. O'B., Jackson, Mich.—Stretches is the common name for costiveness and constipation in sheep. Give 2 or 3 ozs. epsom salts and one dram ginger daily until the bowels open, or if the first dose of salts fail give a spoonful or two of castor oil daily until the bowels act freely. Injections of soap suds are beneficial.

**Tumors on Jaw.**—I have a cow that has two large bunches on jaw and four smaller bunches on the other side of face and one small bunch under the ear. Our local Vet. calls them malignant tumors. Have applied iodine for the past two weeks which blistered some but the cow is worse. The cow eats and drinks well and does not seem to be sick. M. P. S., Clare, Mich.—Either cut out bunches or apply one part red iodide mercury and four parts lard every five or six days.

**Irritation of Nostrils.**—Have a four-year-old mare that seems to have a tickling or sensitiveness of the nostrils which affects her soon after she travels a mile on the road. She has no discharge from nose but throws and tosses her head and acts quite nervous. Her nostrils are inflamed and I am pretty sure the trouble is there. When driven in a wind she acts badly. F. D. M., Ionia, Mich.—The dust and cold air acts as an irritant to the mucus membrane, but drugs will not help such a case. By covering the muzzle with a veil and wearing it on her when on the road she will be more comfortable.

**Indigestion.**—I have a colt that is now 20 months old. He was in fair flesh when turned to pasture last spring, soon lost flesh, remained thin all summer and was covered with scabs and scales when taken in this fall. His coat is in bad shape. Our local Vet. prescribed for him but his medicine failed to help him. My neighbor tells me that he cured his horses by giving them blood root and sassafras. What do you advise me to do? E. M. W., Allegan, Mich.—If your colt has a good appetite of mixed hay, all the oats, bran and vegetables he will eat. Give 3 tablespoonfuls of Glauber's salts at a dose in feed three times a day. Apply vaseline to scaly parts of skin once a day until the scurf softens then wash with soap and water.

**Orchitis—Swelling of Scrotum.**—I have a bull that met with an accident at which time his testicles were bruised and since then they have been inflamed. A. A. H., Boon, Mich.—Dissolve 1/4 lb. sugar of lead in 1 gallon of water, add 1 pint fluid extract belladonna and apply to scrotum five times a day. Give him 1 dr. iodide potassium and 1/2 oz. nitrate potash at a dose in feed three times a day for a few days and when the swelling commences to recede it will not be necessary to give the medicine very often. His bowels should be kept open by feeding well salted bran mash or vegetables or giving him epsom salts daily.

**Rheumatism.**—I have a pig that is badly crippled and dislikes to wlk. This pig is five months old and fed skimmed milk, corn meal and middlings. Is in good condition and has had plenty of exercise. E. P., Coopersville, Mich.—Give your pig 5 grs. iodide potassium at a dose twice a day, give him 10 grs. salicylate of soda at a dose once a day and if he shows no improvement in two or three weeks, discontinue giving the iodide of potassium and give the salicylate of soda three times a day.

**Paralysis.**—I have a sow that appears to have lost the use of her hind quarters. J. D. P., Omena, Mich.—Feed your sow less corn, more oats and oil meal, also give her some vegetables. Also give 10 drops fluid extract nux vomica and 15 grains citrate of lithia at a dose in feed three times a day. Apply equal parts aqua ammonia, sweet oil and camphorated oil to back once a day. If her bowels are inclined to be costive give 2 ozs. of epsom salts daily until they move freely.

**Pigs Have Fits.**—My pigs are affected with fits or spasms; they appear to be all right, walk to the trough and after taking a mouthful or two will rush backwards, falling over and having a fit. One of them died which we cut open, found no worms and could not tell the cause of death. G. M. S., Somerset, Mich.—Your pigs are perhaps overfed, have some indigestion and a bad circulation. The hog that died may have had a blood clot on the brain, or a great many very small stomach and bowel parasites. As your pigs weigh about 60 lbs. give them a teaspoonful of turpentine in 4 ozs. of raw linseed oil and repeat the dose daily until it purges the pigs. Give 10 grs. powdered sulphate iron at a dose in feed twice a day; salt their food.

**Injured Back and Shoulder.**—I am puzzled to know what is best for a mare that met with an accident; when plowing she fell into a washout and must have injured herself for she was unable to get up without help. Now when she travels she goes crooked; she carries the right shoulder peculiarly, keeps head off to the left and her shoulder is some sore. One local Vet. says nothing is wrong with her; another says the bones of neck are displaced. She is used occasionally for light work and driving. J. A. T., Oshtemo,

Mich.—When your mare fell she perhaps injured her back slightly, also shoulder. The back may have gotten well and the shoulder not. I imagine the sore on shoulder is a bed sore. Apply equal parts powdered alum, oxide of zinc, and boracic acid twice daily. There may be a slight displacement of a vertebra but not enough to produce paralysis. Apply equal parts tincture iodine and camphorated oil once a day; give 1 dr. ground nux vomica and four drs. ground gentian at a dose in feed three times a day; she should be well fed and exercised some every day.

**Bunch on Hock.**—My six-year-old mare has a bunch about the size of a person's head situated on outside of hock. Our Vet. put in seaton without good results. The hide is very much thickened. H. H., Bad Axe, Mich.—Your mare being in foal it is perhaps better not to cut it off until after she has her colt. Apply equal parts spirits camphor and tincture iodine every day or two.

**Chronic Cough—Incipient Heaves.**—My eight-year-old horse had distemper two years ago and never fully recovered from it. She has coughed more or less ever since, breathes short and at times there is a rattling in the throat. H. D. W., Washington, Mich.—Feed no clover or musty, dusty badly cured fodder of any kind; grain vegetables and silage is the best food for them. Give 1/2 dr. fluid extract of stramonium and 3 drs. of fluid extract of lobelia and 2 drs. fluid extract of opium at a dose in feed two or three times a day.

**Teat Cut Off—Scaly Legs.**—I have a four-year-old heifer due to come fresh in March, that met with an accident when lower one-half of teat was cut off. She now leaks milk constantly. Would it be safe to burn it with a hot iron, or acid so as to close the hole and make her three teated? What causes chickens to have scaly legs? E. F. G., Rockford, Mich.—Purchase a teat plug and let her wear it; these work well on cows that leak milk. Chickens have scaly legs, the result of a small parasite that burrows under the skin and it is well for you to know that it is a contagious disease. Dip the chickens' legs up to the feathers in kerosene oil and use kerosene freely about your chicken house. These applications should be made two or three times a week, then the legs should be scrubbed thoroly with soap and water and a little vaseline applied afterwards.

**Pot-bellied Colt.**—We have a yearling colt with an extra large belly and has a swelling underneath. W. B. E., Three Oaks, Mich.—Your colt should be given a pint of raw linseed oil daily with a tablespoonful of turpentine mixed in it, then feed him some well salted bran mash or vegetables to keep his bowels loose. Also feed more grain and less bulky fodder. Give a teaspoonful of powdered buchu leaves and a teaspoonful of powdered rosin at a dose in feed two or three times a day, until the swelling goes down, then give a tablespoonful of ground gentian, a tablespoonful of ginger in his feed night and morning.

THERE are fortunes in farming the right kind of land.

But why farm on land worth \$100 to \$150 an acre, producing but one crop a year, when you can get land of inexhaustible fertility in the San Antonio country at from \$25 to \$50 an acre, producing two or three crops every year. Land that costs a third as much—and crops three times as big.

Why burn up your profits in fuel, in heavy clothing, and winter feed for stock, expensive houses and barns, when you can live here in a land of sunshine and comfort all the year and save that money?

Why farm in a land of snow and ice that forces you to be idle nearly half the year, when you can farm in this ideal climate and have something to sell every week of every month in the year?

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In all parts of the country where potatoes are grown as a farm crop, the Evans Potato Planter, manufactured by The American Seeding-Machine Co., Incorporated, Springfield, Ohio, will be found in the lead. There must be, and are good reasons for it. The Evans does the work right—more accurately than is possible by hand. It has the celebrated Evans Adjustable Pickers, which handle any size seed. One man or boy can operate the planter anywhere. It is simple, light draft and has many exclusive features that go to make up the perfect potato planter. It can be furnished with either disc or runner furrow openers. It has more good time and labor saving devices than any other potato planter on the market and is sold under such a broad and liberal warranty that purchasers run no risk. Send to the manufacturers for an Evans Potato Planter catalogue, read all about it and then go to your implement dealer and insist on seeing the Evans.

You can't sow thistles and reap figs. If you plant FERRY'S SEEDS you grow exactly what you expect and in a profusion and perfection never excelled.

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The secrets of America's successful strawberry growers are all told in the new edition of **FARMER on the Strawberry**. A real book, not a catalogue, by L. J. Farmer, who has worked 27 years among strawberries. "Worth its Weight in Gold" but costs only 25c, postpaid. Your money back if not satisfied.

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**PERFECT POTATO PLANTING**

Every farmer knows the importance of proper potato planting. Here's a machine that does it perfectly. Has none of the faults common with common planters. Opens the furrow perfectly, drops the seed correctly, covers it uniformly, and best of all never bruises or punctures the seed. Send a postal for our free book.

**IRON AGE** (Improved Robbin) Potato Planter

No Misses  
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No Troubles

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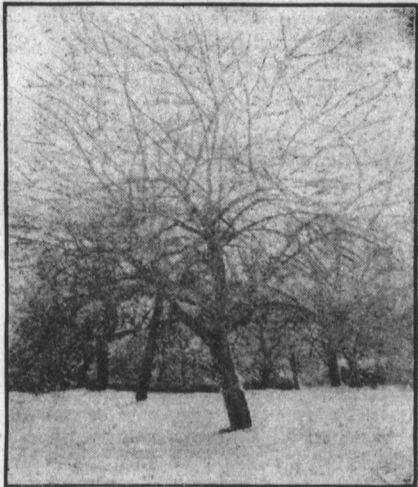
ALFALFA SEED \$16.00 per cwt. on board cars at Dietz, Wyo. Bank ref. given, TOM ROGERS, Pearl, Mont.

HORTICULTURE

AN EXPERIMENT IN THINNING APPLES.

For some time, it has been the custom among the best peach growers to thin the fruit on their overloaded peach trees. Not only does the practice result in larger, better flavored fruit but it also brings a much higher price, when put upon the market. If the peach growers find a profit in the practice why would it not also be profitable for the apple growers especially to the one who raises fancy fruit for a special market.

Reasoning along this line, we determined to find out for ourselves whether it would pay for us to thin. Hence as soon as the 1909 June drop had ceased, we went carefully over our trees of the Duchess and Wealthy varieties and pull-



King Tree Before Pruning.

ed off a half or two-thirds of the young apples, leaving them on the average about six inches apart. Of the Wealthy one tree was left unthinned to compare with the thinned trees. About the middle of July, the apples were again thinned, leaving one tree as before.

As the summer advanced the difference in the size of the fruit on the two trees became more and more noticeable. In the first week of October the apples were carefully hand picked into half bushel baskets and as they were placed in the barrels, were divided into four classes, namely: firsts, seconds, thirds and drops. Each class from each tree was weighed by itself and measured.

The result of the weighing was as follows: Total weight of the fruit from the thinned tree was 591 lbs., of which 402 lbs. graded as No. 1, 95 lbs. as No. 2, 9 lbs. as No. 3 and 85 lbs. as drops. The whole amount of fruit from the unthinned tree weighed 403 lbs., of which 12 lbs. were graded as No. 1, 183 lbs. as No. 2, 172 lbs. as No. 3, and 86 lbs. as drops.

Measured by volume the No. 1 apples filled three barrels, of which 8 3/4 bushels came from the thinned tree and one-fourth bushel from the unthinned tree. The seconds measured up two bushels, of which one-third was from tree No. 1 and two-thirds from tree No. 2. Of the thirds, which were small and fit only for cider, one-twentieth was from the thinned tree and nineteen-twentieths from the unthinned tree. Placing the value of the firsts at \$1.00 per bushel and the seconds at 75 cents per bushel and the thirds and small drops at 32 cents per cwt., we get the following values for the crops of the two trees:

<b>Tree No. 1 Thinned.</b>	
Firsts 8 3/4 bu. at \$1.00 per bu.....	\$ 8.75
Seconds 2 bu. at 75c per bu.....	1.50
Thirds 9 lbs. at 32c cwt.....	.03
Drops 2 bu. at 75c per bu.....	1.50
<b>Total .....</b>	<b>\$11.78</b>
<b>Tree No. 2 Unthinned.</b>	
Firsts 1/4 bu. at \$1.00 per bu.....	.25
Seconds 4 bu. at 75c per bu.....	3.00
Thirds 258 lbs. at 32c cwt.....	.82
<b>Total .....</b>	<b>\$4.07</b>

Subtracting the lower figures from the upper gives us a remainder of \$6.70 as the direct value of not over five hours work spent in thinning. These are the results obtained from Wealthy trees. The effects upon the fruit of the Duchess variety was also very marked, the apples being larger and uniform in size.

While such results might not be obtained under all conditions and with every variety of apple, they still give us an idea of what might be done if thinning was practiced by all fruit growers. Michigan is a great fruit growing state and I believe that, with good cultivation, spray-

ing and thinning, no better apples can be raised in the United States than in Michigan.

Emmet Co. G. W. LINDSLEY.

PRUNING THE OLD APPLE TREES.

While we are beginning to appreciate the value of the old apple trees, we hesitate often to do what we know we ought because the tops have grown too far from the earth. Every operation, with the single exception of cultivation, is made more expensive for this condition. But the situation is not a hopeless one. Even these old trees are amenable to the right kind of treatment. The tops can be brot down, at least, to some extent. The illustrations show a King apple tree that had a tendency to lift its head higher than was convenient and consistent with the commercial aims of its owner. To be sure, it was not as towering as many we have seen but what has been done for it can also be done for the extreme cases. The picture of the tree pruned was taken from a different direction which accounts for the opposite slant to the trunk. But from the second illustration the effect of the work is evident. All those upright branches, which when decorated with foliage shade and discourage growth about the lower portion of the tree, are removed. The sunlight can get to the center of the tree and we know that where the sunlight is conditions are favorable for a healthy growth of foliage and wood.

Heavy pruning also provokes the development of water sprouts. These start from the large limbs usually, near the trunk. Their growth is upright and for that reason are not counted good for bearing wood. This difficulty has been overcome by grafting, and by training the sprouts in a lateral position by tying weights to them as was noted in the recent article of Mr. Hartman.

By cutting down the top and making use of these water sprouts where necessary, it is possible to shape the old trees so they may be cared for at less expense. And the work being more attractive because of the convenience with which it can be done, is not dreaded so much and there is less to discourage the owner from doing it on time, to his own and the tree's advantage.

SPRAYING SUCCESSFUL IN CHEBOYGAN COUNTY.

October 1, 1908, I moved from Calhoun county to Cheboygan county, where I had purchased 40 acres of land. About 19 acres was cleared and the remainder had some beech and maple wood and a good many raspberry and blackberry bushes.



Same Tree Pruned (Photo taken from different direction).

About 450 apple trees and a few plum and pear trees was set out on the cleared land.

The former owner had not done much for the orchard, as I found upon inquiry that the entire orchard had been seeded and for about six years had been a June grass sod.

A part of these trees are old enough to bear, and in the fall of 1908, the entire winter crop of apples was 4 1/2 bushels.

I had never harvested an apple before, having spent almost my entire life in a city, but I determined to read everything I could procure relating to horticulture and learn all I possibly could before the spring of 1909. Before spring had arrived I had determined to spray the trees in a scientific and up-to-date way. I purchased a spray pump and before the buds opened made the first application of Bordeaux. I may as well state here that as I had so little cleared land it was necessary for me to crop the orchard. While I do not believe in double cropping the land, I realize circumstances alter cases. I sprayed the orchard again in about a

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Instant Relief, Permanent Cure—Trial Package Mailed Free to All in Plain Wrapper.

We want every man and woman, suffering from the excruciating torture of piles to just send their name and address to us and get by return mail a free trial package of the most effective and positive cure ever known for this disease, Pyramid Pile Cure.

The way to prove what this great remedy will do in your own case, is to just fill out free coupon and send to us and you will get by return mail a free sample of Pyramid Pile Cure.

Then after you have proven to yourself what it can do, you will go to the druggist and get a 50-cent box.

Don't undergo an operation. Operations are rarely a success and often lead to terrible consequences. Pyramid Pile Cure reduces all inflammation, makes congestion, irritation, itching, sores and ulcers disappear—and the piles simply quit. No knife and its torture. No doctor and his bills.

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FREE PACKAGE COUPON

Fill out the blank lines below with your name and address, cut out coupon and mail to the PYRAMID DRUG COMPANY, 240 Pyramid Bldg., Marshall, Mich. A sample of the great Pyramid Pile Cure will then be sent you at once by mail, FREE, in plain wrapper.

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You can do it if you raise I X L Tomatoes. Great, big ones, selling at 35c to 40c a dozen! One plant yields half bushel. Read about this King of Tomatoes on pages 3 and 4 of the free Bolgiano Seed Book. Plant Bolgiano's I X L Tomato and other seed and get fat crop profits. Bolgiano Select Seeds have been famous for 91 years—pure, tested and guaranteed. Decide now to investigate and get biggest crops for 1910. Postal brings free catalogue of select farm and garden seed. Place no order till you get it. Then you will understand why "Bolgiano's" are best.

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GOOD SEEDS BEST IN THE WORLD

PRICES BELOW ALL OTHERS

I give a lot of new sorts for trial with every order I fill. A Grand Big Catalog FREE illustrated with over 700 engravings of vegetables and flowers. Send yours and your neighbors' addresses.

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FOR ALL KINDS OF Clover and Field Seeds, ALSO A FULL LINE OF Garden Seeds & Implements.

Write this old Reliable House. Catalog Free and Price List of Grass and Field Seeds mailed you on application.

THE HENRY PHILIPPS SEED & IMPLEMENT CO., TOLEDO, OHIO.

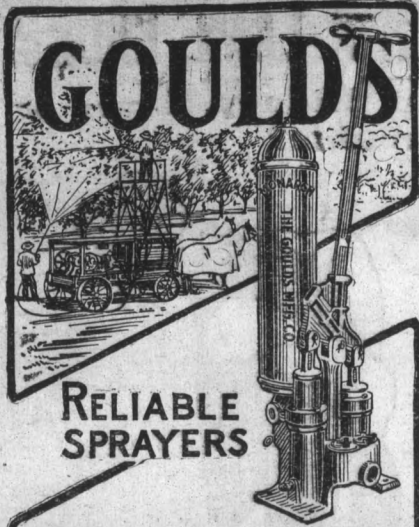
Peach Trees 3c, Cherry 12c and up. Apple, Pear, Plum, Quince, and all kinds of Trees and Berry Plants. Peach Blow Potatoes, B. P. R. Chickens and Eggs. Ct. Free.

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Michigan Grown are the best for Michigan Planters. Healthy, finely rooted. Direct to you at great Money-Saving Prices. Handsome 3910 Catalog and price List FREE. Write to-day. GELERY CITY NURSERIES, Kalamazoo, Mich.





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**THE Experienced Fruit Grower** is the man who realizes the importance of using only high-class Sprayers. He knows that spraying is what you make it—a hard job or an easy proposition, depending on the outfit. Most Growers have learned that it doesn't pay to bother with cheap ones. Gould's Sprayers have a reputation to maintain. They comprise a line of

**Over 25 Styles**

for both Hand and Power—all simple—all working parts brass to withstand wear and the chemical action of the solutions. Don't be caught experimenting with a cheap sprayer—see that the name Gould's is cast on the pump. Its presence is the assurance you are buying the very best Sprayer made. It guarantees satisfaction and reliability. Write for our book—

**"HOW TO SPRAY—WHEN TO SPRAY—WHAT SPRAYER TO USE"**

It is full of interesting information and contains many valuable formulas for spray mixtures. Copy sent free on request.

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86 W. Fall Street  
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We build Pumps for Every Service



**Which Kind do Your Barrels Show?**

You know how easy it is to sell fine, large perfect apples—and how hard it is to get rid of the other kind at any price. Proper spraying makes the difference between one and the other. There's money in sprayed fruit—as owners of **DEMING SPRAY PUMPS** will gladly testify. S. H. Caven, Beaver Falls, Pa., says: "My orchard is a splendid advertisement for your Pumps. Most of my apples are sound." Write for Catalogue. We make Pumps for all uses. At leading hardware dealers. **THE DEMING COMPANY, 754 Depot St., Salem, O.**

**EXCELSIOR**  
Patented LIGHT RUNNING Hand CULTIVATOR

Runs 50 per cent faster and works 100 per cent better than any other hand cultivator. Has new design reversible hoes with patented adjustment for depth and angle. Skims ground or cuts deep, wide, narrow, pointed or round. Does close work, hand weeding required between plants only. Big labor-saver. Special tools for onions. Built of steel and malleable iron. Guaranteed to last indefinitely. Money back if not satisfied. **BIG CATALOG FREE** which describes complete line of single and double-wheel cultivators, Excelsior Seeders, Bone-cutters, etc. Write to-day. **Excelsior Garden Tool Co.** 1209 Cherry St., Erie, Pa. Agents Wanted Everywhere.

**IT PAYS TO SPRAY**

The Iron Age 4-row Sprayer gives perfect satisfaction. Puts solution just where needed and in fog-like mist. Pump delivers spray under high pressure, thus reaching every part of vine, effectually killing bugs and preventing blight. Has Orchard Spraying attachment. Write for free catalog illustrating this and other Iron Age tools.

**SAVE HIRED HELP**

**IRON AGE** Four-Row Sprayer

Nozzle Strainer Prevents Clogging

**BATEMAN MFG. CO., Box 1043 GREENLOCH, N. J.**

PLEASE MENTION THE MICHIGAN FARMER when you are writing to advertisers.

week after the blossoms fell, with Bordeaux mixture to which I added Paris green, in the proportion of one-half lb. of the Paris green to a barrel of Bordeaux. Had intended to spray again about August 1 for the codling moth but found it would be impracticable on account of the injury to the growing crops of corn and potatoes that would necessarily result if I had driven down the rows with a spraying tank.

Last spring I went over the orchard and pruned wherever I thought necessary. This last fall I found I had gathered 150 bushels of first-class apples. I certainly think it pays to spray.

Cheboygan Co. L. M. WHITE.

**CONTROLLING BLACK KNOT.**

My plum trees are covered with black fungus growth, some call it "black knot." How can I get rid of it without destroying the tree?

Gratiot Co. J. B. HALL.

Black knot is a very stubborn disease to fight and because of its persistency requires that the treatment be applied vigilantly. It is a fungous disease. Growers who have had much to do with it find that about the only effectual way in which the trouble can be kept within control is to cut out the affected parts as quickly as they are seen to be affected and burn them. Where a tree has become generally affected and other plum trees are in the vicinity it is usually best then to dig up the whole tree and destroy by fire. Trees kept thoroughly sprayed with Bordeaux mixture during the growing season are not so easily attacked by the trouble as those not sprayed since the chemicals destroy the little spores, which scatter the disease, when they fall upon the bark where the liquid has been distributed by the spray pump. This, however, is only preventive, and is of no account when the trouble is once hold of the tree for then the spray cannot reach it and the only remedy is to get at it with the knife or saw. Wild cherry trees are susceptible to the disease and if any such trees are in the community and are affected it would be wise to get rid of them for they will as effectually spread it as plum trees.

**WALNUT TREES FROM SEEDS.**

Kindly tell me, thru your valuable paper, how to plant walnuts. I have some very large ones and would like to plant some of them to grow young trees. Should they be cracked before planting in the spring or will they burst of their own accord?

Kalamazoo Co. SUBSCRIBER.

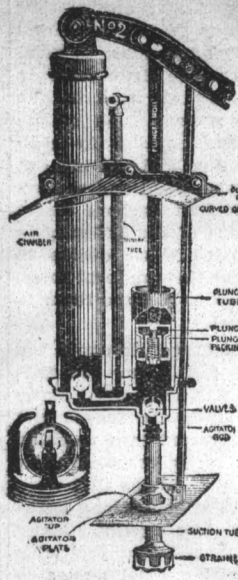
The methods usually followed are to plant the nuts in the fall soon after they are harvested, and to stratify them. The former method is easy and requires less attention. The nursery soil must needs be prepared earlier, however, than where the nuts are first stratified. By stratification is meant the mixing of nuts with loose porous soil and exposing the whole to winter weather. Where few are to be treated they are usually placed in a box. A layer of sand is put in and then a layer of nuts, to be followed by another layer of sand and more nuts until the box is nearly full or the nuts exhausted. Thus prepared the whole is placed out doors to be exposed to winter weather. If the propagation is being done on a large scale then the nuts can be piled up outside. Sand or good garden soil is here sandwiched between layers of nuts, making a pile and the whole covered with sods or litter. The purpose of this treatment is to approximate nature's methods when the nut drops into the forest mulch and there thru the winter is acted upon by moisture and extremes of temperature which soften and crack the shell and permit the embryonic plant to push its way into the outer world. The seeds thus stratified are planted in the nursery row the following spring.

**THE FARM ORCHARD.**

A well managed apple orchard is a most valuable asset to any farm property and affords one of the surest sources of income. In view of the large number of neglected orchards in various sections of the state of Michigan, and taking into consideration the time and expense involved in bringing a young apple orchard into bearing, it will perhaps be best to discuss the best methods of improving the old orchards, rather than to planting more trees.

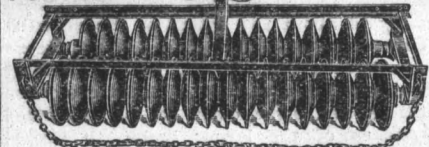
Let us consider in their proper order the things necessary to correct the effects of from ten to thirty years of mismanagement and bring these old orchards out of their dormant condition and get them started to bearing large crops of first-class fruit.

Let us do a little plain reasoning. We



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**APPLE TREES**—50,000 fine, straight, healthy, stocky, well-rooted trees. Standard varieties. Free catalog. Prices reasonable. Freight prepaid. **Salesmen Wanted. Write at once. MITCHELL'S NURSERY, Beverly, Ohio.**

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**COW PEAS, SOJA BEANS WANTED.** Send samples and prices. **ZACK DAVIS COMPANY, Delaware, Ohio.**

**STRAWBERRY PLANTS** 1000 and up. Catalog free. **ALLEN BROS., Paw Paw, Mich.**

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Clover Seed, Soy Beans, Michigan Favorite Cow Peas, Millet, Late Potoskey Potatoes. Growers wanted for Soys and Cow Peas. **EDW. E. EVANS, West Branch, Michigan.**

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Send a postal for Crawford's catalog and see information concerning some new strawberries—Francis and Americus which sold at 40 cents a quart at wholesale last season, King Edward, which is to be offered this spring for the first time, and others. Also a new blackberry, the Watt, which continues in bearing until October.

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If you will write for our big seed catalog at once and send us an order amounting to One Dollar or over within thirty days from the date you receive our catalog, we will send you absolutely free with your order, a large collection of new varieties of seeds, sufficient to grow \$50.00 worth of vegetables and flowers. **Hunkel's Seeds** are known everywhere—sow them in 1910 and grow record crops. Our 1910 catalog of Farm and Garden Seeds is bigger and better than ever. Write for catalog today and take advantage of our big \$50.00 free offer.

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\$840 for the best specimens of vegetables and \$200 for the best specimens of Asters grown from Vick Quality Seeds, shown at New York State Fair, Syracuse, next September. No admission fee: open to all. Write for full particulars, **Vick's Garden and Floral Guide for 1910**—61st edition—bigger, better, and more helpful than ever. **Free. Write for your copy to-day.**

**JAMES VICK'S SONS, 438 MAIN STREET, ROCHESTER, N. Y.**

**New Ruby Nugget Tomato**

This Pack of Seeds Free

A grand novelty which originated on our place and is now offered for the first time. While not large, still it is a handsome fruit, of delicious flavor and wonderfully productive—over 100 fruits have been grown on one plant. A cash prize of \$10.00 will be paid to the person growing the largest number of Ruby Nugget Tomatoes on a single plant this year. Price is 35 cents per packet of 100 seeds, but to induce you to give our Choice Iowa Seeds a trial this year, we will send you a trial packet of about 25 seeds without charge, together with a copy of our large illustrated seed and plant catalog. If you have had our catalog this year, please say so. Mention this paper.

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Apples 6c, Peach 5c, Plum 12c, Cherry 15c. Best quality, good bearers, grafted stock, not seedlings. Concord Grapes \$2.50 per 100. Forest Tree Seedlings \$1.00 per 1,000 up. We pay the freight.

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**NEW SEED OATS**—I have the genuine Regenerated Swedish Select Oats for sale. SHU straw, white berry and big yielder. My seed direct from Garton Seed Co. No better oats grown. Price \$1.00 per bu. Bags free with orders of 10 bu. or more. **F. A. BYWATER, Memphis, Mich.**

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No money in advance—pay as you go out of extra profit. Sprays anything—trees, potatoes, vineyards, truck, etc. Pushes easy—high pressure. Guaranteed 5 years. Pay when you can—at wholesale price. We pay freight. Catalog and Spraying Guide free. Free Sprayer Offer to first in your locality. **H. L. HURST Mfg. Co., 241 NORTH STREET, CANTON, O.**

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**The First Mild Day You'll Want to Spray!**

Get after the scale NOW—just as soon as it's warm enough to work outdoors—but don't waste time dallying with mussy preparations that take half the day to get ready. Ordinary solutions may injure your trees; remember that everything sold under our trade mark is tested—absolutely reliable.

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would not expect to grow a good crop of corn, if we planted it on land that had been planted to corn for thirty years and no fertility applied, except, perhaps, a little stable manure in the hill; the hills being planted two feet apart each way, and a crop of millet sowed in the space between the rows. The man that would practice such methods might well be committed to an insane asylum. Yet how much different is the average farm orchard treated, and then men wonder why their apple orchards fail to produce large crops of choice fruit, and say the season is wrong.

The first condition that claims attention in improving farm orchards is supplying the trees with an abundance of available plant food. The average orchard is fairly well drained, but many orchards would take on a new lease of life if the soil could be thoroughly drained to a depth of from four to five feet. Drain tile will remove the surplus water and enable the trees to develop larger root systems and get at the plant food that has been out of their reach owing to the water-logged condition of the soil.

The next thing to consider in getting available plant food is tillage. There is poor excuse for men to spend money for chemical or artificial plant food until they have made use of that which is abundant under their feet. I believe in the liberal use of fertilizers, but not until after we have made the most of the fertility within the reach of our labor. I look upon the principle function of tillage as the further liberation of plant food which exists very abundantly in nearly all our orchard soils. A wonderful amount of plant food may be developed by tillage. With improved implements and superior skill, we may get plant food more cheaply than by any other method.

Again, many lands are so poor that comparatively little plant food can be developed by skillful tillage and some positive addition of plant food must be made to the soil. How must this best be procured? First, farm manures may be applied, but farm manures are not an evenly balanced plant food, they contain too much nitrogen for the mineral matter they contain, and so should be used in limited quantities, or there will be a marked tendency to stimulate the trees to grow too much wood, that will be tender and liable to be damaged during the winter.

This brings us down to another thing that will aid very largely in the whole matter and also help in controlling the moisture conditions and obtaining a larger amount of plant food: The incorporating of green manure plants with our orchard soils. The soil has lost to a large extent, its humus which is always present in new soils. Very fortunately indeed, it is possible to increase the amount of nitrogen in the soil at the same time we are growing green manure plants, for clovers, peas, vetches and other legumes that have the power of appropriating nitrogen from the atmosphere and depositing it in the soil, are the best adapted of any green manure plants to supply the soil with humus. By depending upon these legume crops for humus and nitrogen, we are not compelled to buy nitrogen (the most expensive element of plant food) in a commercial form. This brings us down to the question of supplying the soil with an abundance of phosphoric acid and potash. Potash will give strong wood, having a tendency to make the tree set fruit, increase the starch in the fruit, and to a degree, at least, heighten the color of both fruit and foliage. The phosphorus will perfect the seed, without which no tree can bear good fruit, and also enhance the quality of the fruit. One part of muriate of potash by weight with two parts of fine ground raw bone, applied at the rate of about 400 pounds an acre every second or third year, will produce excellent results. If stable manure is used as a source of nitrogen it should be broadcasted and never heaped around the trunks of the trees. Frequent early cultivation and sowing a cover crop along in August will check the growth of the trees and harden the wood so that they will go thru the winter in better condition than when late cultivation is practiced.

**Reducing the Amount of Wood.**

The first step in the work of pruning is to take out all of the trees that seriously interfere with the growth of others. Trees cannot produce the best and finest colored specimens of fruit when they are crowded for room and where the air and sunlight can not reach the fruit. The work of pruning an orchard that has been neglected for many years should be done gradually and carefully. It is better to

take about three years and during that time note the tendency of the trees and shape them as nearly as possible to meet our ideals. There can be little done to correct the form of an old tree in one year, more than to remove such of the larger limbs that are parallel to each other and close together and cutting out the water sprouts, dead wood and removing the shaggy bark that harbors insect pests and fungi. Much of the difficulty in pruning will be avoided if we decide to allow the trees to hold their natural form, rather than to attempt to reshape them to some particular model.

While, in general it is well to avoid top grafting, there are few farm orchards where such work is not necessary. Many worthless seedlings along the fences and roadside, may be converted into valuable sources of income. Many orchards contain quite a number of seedlings that were set out thru mistake or bot from unreliable nurserymen or tree agents. Many such trees may be turned into profitable fruit growers by grafting. Old neglected trees that are to be worked over, may with profit, be given a preparatory pruning a year or two before they are grafted. Unnecessary limbs can be removed before the grafting better than afterward. After this the ungrafted limbs may be gradually removed, the cutting out being made annually to about the extent of the growth of the cions, or a little more. If the trees have been given a good, thoro pruning, most of the conspicuous limbs may be grafted and some cions set on the side branches of the larger limbs, to avoid the long, ill-shapen limbs. The experienced grafter will leave enough small branches, or brush, in the center of the tree to protect the trunk and larger limbs. All traces of canker and body blight, borers and other defective wood that can always be found in a neglected apple orchard should be removed.

**Aid the Trees in their Fight Against Pests.**

Spraying is very valuable and enables us to hold insect pests and disease in check, but the man who neglects tillage, fertilizing and pruning and invests in a spraying outfit believing that every torture of nature can be corrected and large crops of fruit secured by spraying is sure to be a very disappointed, but wiser man. Besides spraying one must cultivate and fertilize the soil and prune the trees. It is the weak, poorly nourished tree that is most susceptible to disease and insect attacks. The less vigorous the tree the greater the amount of disease and number of insects and the more difficult and unsatisfactory the results from spraying. After removing all of the old shaggy bark from the trunks and larger limbs, by scraping them with a short handled hoe, follow up the good work before the buds swell, with a thoro spraying of strong copper sulphate, one pound of the copper sulphate to about fifty gallons of water, to destroy moss, lichens and fungi. This should be followed by seasonal spraying as the trees and season demand.

Within the past three years many growers are going very cautiously with their spraying. Many reports come from various sections that the fruit has been russeted by using Bordeaux and a combination of the fungicide and insecticide. For that reason I would advise that the spraying mixtures be made no stronger than is absolutely necessary. There is so much spraying literature in circulation that the only safe course for a man to pursue is to keep in close touch with his nearest experiment station and to study the problem thoroly, in all its phases, before he begins the work in his own orchard. A visit to the farm of some experienced grower, while the actual work of spraying is going on will give a man a better idea of the work than he can obtain by reading a short article, upon a subject with which he is not familiar with the terms the writer is compelled to use. Spraying is a great thing and much of the future success of the fruit grower depends upon the thoroughness of spraying. However, the most skillful fruit growers frankly admit that there is much to be learned concerning spraying and mixing these fungicides and insecticides. Every season brings different weather and different conditions and the effectiveness of the spraying depends largely upon the ability of the individual to take advantage of everything in his favor and to make the best of the adverse conditions. In other words, after he has mastered the scientific phases of the problem, he finds that results depend largely upon the common sense he exercises in performing the work.

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Pain or dull ache in the back is evidence of kidney trouble. It is Nature's timely warning to show you that the track of health is not clear.

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#### Associational Motto.—

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

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

#### FARM MANAGEMENT.

Paper read by A. R. Palmer, of Jackson county, before the State Association of Farmers' Clubs.

The topic suggested is eminently worthy of attention. Bad management causes more failures on the farm than all other causes put together; in fact, success or failure on the farm, as elsewhere, depends entirely on the management.

It has been said that so many of the elements with which the farmer has to deal are beyond his control: the weather, the abundance or the lack of rain, the occurrence of early or late frosts, or bad storms, the visitation of insects, of disease among stock, the circumstances of good or bad markets; that the farmer's calling, unlike others—is the creature of season and circumstance. This may be true, in part, and in part only, for a single season, but for a series of years—the management tells the story.

As to the details of farm management: The general plan of general or special farming and the products to be sought, so much depends upon the circumstances in the case, the conditions of fertility, market, season, size of farm, amount of labor at command, health and strength of family, capital involved and at command, taste and capability of the farmer, that it is difficult to do more than formulate some general principles which may apply to all cases.

In the first place the farmer more than almost any other man must do things in advance of the time when they must be done. He must be forehanded, not in the sense of having capital ahead, but of having his work done ahead. Needs must be seen in advance and met before they come, else he will often find himself so crowded with work needing immediate attention, that it will be impossible to do all properly, or when it should be done. He will be constantly annoyed and his attention diverted by imperative calls to attend to this or that which should have been done long ago. This idea was well expressed in an article written by Judge Biggle more than ten years since.

"Above most work, labor on the farm is subject to being anticipated; and above most work, it has its seasons for crowding, when some part of it is most certain to be neglected. If all work is left until it becomes insistent, then of very necessity much of it will be only half done. And this is the condition of nine farms out of ten."

If we consider a little we can readily see how true the above statement is. How much of farm work can be done before the need of it actually occurs and how important it is that it should be done. The farmer who does nothing until it must be done is bound to fail.

#### Finish What You Have In Hand.

In a little farmer's account book published a long time ago by an eastern farm journal, appeared the motto: "Finish what you have in hand," an excellent motto for the farmer, and for every man. While in a few cases benefit will be derived from a partially completed task, as for instance, a course of study, or a half-roofed building, more often the half finished work better never have been begun, as all the energy and labor and material used is wasted if the work is not completed. Instances of undertakings begun and never finished are not rare and they often remain a long time as reminders of the folly of their projectors. The farmer is not exempt from this danger and should be careful not to undertake more than he can well perform; and not to undertake anything without carefully

counting the cost and the value of the expected results. In this connection let us ask how many sit down and carefully figure out the number of days' work it will probably require to properly produce and care for a proposed crop, and determine whether they have the needed time, before beginning the work. But when once begun, then finish at all hazards, else the labor and effort already expended is partially or wholly lost.

Another occasion to "finish what you have in hand," is found with many who waste time and energy, by flitting from one task to another when there is no real need. This is not to say that one should always remain by a particular task until it is complete, for often this is impossible because of weather or other conditions, and often a specially favorable time appears for the performance of some needed work, and other tasks should be left and the opportunity improved. But always the abandoned work should be returned to as opportunity offers until it is completed.

#### Be On Time.

Another essential to success is being on time; doing all work in its proper season or, when it should be done. It would be difficult to name any one thing that is the cause of so much loss to farmers as a whole, as this, much of our work is done at a time not just the best. It is just as much work—usually more—but the results are not so good. Crops are put in a little late and the yield is lessened, the grass becomes a little too ripe and the hay is not so good, the fence is not repaired and the stock get out. In the case of the potato crop we have seen the entire labor of preparing the ground and planting, together with the cost of the seed and the partial cultivation lost, because the bugs were allowed to have their way a few days too long.

Timeliness is essential in the care of stock. It is generally a safe rule to give attention at once when needed, for all of anything else. On too many farms the stock is neglected during the busy season, much to their detriment. It is not only the most profitable way, but humanity demands that constant attention be given to the comfort and needs of the animals dependent upon us.

The farmer who succeeds in doing all work at the right time gives evidence of possessing a prompt, energetic, decisive character and can but be much better satisfied with himself, than he who is always driven by his work.

#### Be Thoro.

Lack of thoroughness is another foe to good management. While the saying, "Whatever is worth doing at all is worth doing well," needs qualifying, it contains much of truth. Things half done are seldom satisfactory and often, must be done over again. Examples of the benefit of thoro work are occasionally seen when a farm that has been rented until the crops produced scarcely pay for the little labor given them, is taken by a different type of man and the yields obtained merely by a different method of doing the work are a surprise to all. Aside from the financial loss, the effect on the farmer is bad. Slipshod and shiftless habits soon pervade everything he does and there is no soundness in him.

Good management involves a constant effort to stop the leaks. There are wastes of time, of labor, of material, of manure, of minor products that can not be secured when at their best. The loss by each is considerable, but combined, the total amounts to no small item.

Finally, constant attention should be paid to preserving the fertility of the farm. This should be so well maintained that there is a reasonable certainty of profitable returns whenever a crop is put in. This matter of maintaining the fertility of the soil has been termed the secret of success in farming. Another authority says that "Doing Work on Time" is the secret of success.

To restate the various general principles applying to farm management that have been insisted upon:

Forehandedness in the sense of having all work possible done in advance of its need.

Finish what you have in hand.

Work done on time, that is, when it should be done.

Thoroughness.

Leaks stopped.

Fertility maintained.

Flushing, Mich., Aug. 20, 1906.  
Gentlemen:—Nearly six years ago I bot a watch of you and would say it is a perfect timekeeper, never has stopped unless it run down, and that is very seldom. Anyone wishing a good watch would do well to invest with the Michigan Farmer. Also, the sewing machine is first-class.  
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## GRANGE

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#### THE FEBRUARY PROGRAMS.

##### State Lecturer's Suggestions for First Meeting.

Why my neighbor does not join the Grange.

Select reading, "The Credit System." The Farm Business—1, why accounts should be kept.

Three-minute sketches of our martyred presidents.

Paper—Services rendered by Lincoln. Roll call, responded to by sayings of Lincoln or memories of his times.

#### THE ETHICAL VALUE OF MUSIC.

(Paper presented at a late meeting of Kent Co. Pomona by Edythe M. Loomis).

If I understand correctly the subject assigned to me, I am to tell you about the value of music as an intellectual factor. Or, in other words, the effect of music upon us mentally and morally.

Sometimes we see a definition like this: "Music is a succession or repetition of sounds pleasing to the ear." Yes, very true. But is this definition complete? Might as well say: "Eating is taking into the stomach food which is pleasing to the palate." We all know that the prime object in eating is not to tickle the palate but to satisfy a crying need of the physical body. Now, how many will agree with me in saying that the prime object in listening to music should be culture and refinement, instead of amusement and simply pleasing the ears?

We find that music was developed to a high degree way back in ancient Egypt, and it is now recognized everywhere as one of the most potent of civilizing influences. We know that it is inspiring and highly pleasing in its immediate effects and most thinkers and philosophers consider its effects imprinted upon our minds for all time. Physicians have found it to have a soothing, healing power over the minds of the insane, so it has been introduced into many of our asylums with gratifying results. And what a charm music has for our dumb friends! Notice the proud chargers in our cavalry. Their hoofs hardly touch the ground when marching to martial music. We often see very ordinary carriage horses whose whole bodies seem to vibrate with pleasure at the sound of a distant brass band.

We all love music. We can not help it. There is an innate desire within us for things harmonious. In literature we recognize the good, bad, and indifferent, classified as such by virtue of corresponding effects upon the human mind. May we not have a similar classification in music? "Why," someone says, "music can't be bad! How can it be anything but good?" A book that appeals to the best that is in us and inspires us to do greater and nobler things, think better and nobler thoughts, is indeed a good book. And we have many of them within the reach of all. And we have a class of music productive of the same good effects as the best in literature.

Beethoven has been called the Shakespeare of music. To a trained musician one of his immortal compositions, correctly rendered, means exactly as much as Macbeth to a lover of Shakespeare. Words are not always necessary for the conveyance of that between individuals. Let an inspired musician put his heart into the selection he is playing and the instrument will tell a story which will leave a much deeper impression on the mind than a story told in words.

Classical music suffers great injustice at the hands of the ignorant. Some look upon it as a sort of gymnastic exercise in which the performer shows great speed, strong muscle, etc. Others think it is something which ordinary minds can not grasp. That it is only intended for the few. Not so! But good music, like good poetry, or good art of any sort, is something the appreciation of which comes thru culture. You would not expect a person who never reads anything but the cheapest and most frivolous literature to appreciate our beloved Emerson, or even Longfellow, simple as his poems are. Certainly not. For there is a great chasm between them which must be bridged. Then be not surprised that so few enjoy the very best in music. For between it, and the kind we hear in cheap theatres and places of amusement, is a chasm so deep and wide as to be almost inconceivable by the human mind. Not that the music furnished at places of amusement for their mothers to take a personal in is bad. Hardly that. The effects upon the mind are neither very uplifting nor

degrading. They simply please the ear. We all enjoy listening to them occasionally, for they do not cause us to think. We simply rest and let the pleasing jingle, for it is nothing more, charm us. This class of music I call indifferent, and it has a literary parallel in those novels which are good pastime but lacking in educational value.

Now to return to the very choicest in music. Some many think, "Would it be possible for me, having little or no knowledge of music, to ever enjoy the music called classical?" To such I should reply, "Most assuredly." As I stated previously, it takes culture. But we are all joint heirs in the possession of culture. All that is required of us is that we be willing to put forth the effort to obtain it. By reading about the great masters of music and their compositions, and frequenting concert halls where the latter are executed, the person without the mechanical ability to perform will soon be able to understand the exquisite beauty and grandeur of these great works. And the genuine pleasure and educational benefit derived from it can not be told in words or measured in coin.

We all experience some sort of emotion upon hearing music. Let a violinist strike up a dancing tune. His auditors may never have attended a dance in their lives, but notice how unconsciously they mark time with their feet. The very nature of the music creates the desire to mark time, and the composer would have failed in his task had it not created that same desire. We may listen to another piece of music, so sad and lonely are its strains, that it brings the unbidden tears to the eyes and makes us sympathize with all who are lonely and sad. Why such an emotion? Because the composer asks for sympathy. He intended just such an effect. Another piece may cheer us, even make us smile. Why? Because the composer put a part of his own good humor and jollity into his work and we respond to it.

This very briefly illustrates how music may work upon the emotions and create desires. Now, can you not conceive how music might possibly work for evil?

Many books are forbidden the mails, and if I had my way, I should like to invite my friends to a big bonfire composed of about nine-tenths of the so-called "rag-time" compositions. Some may take offense at such a statement, but show me a person who has had good musical advantages and never aspires above "rag-time," and I will show you a person of very low ideals.

Sometimes I am asked the question, "When should a child receive its first training in music?" In the cradle and by the mother. Most mothers can sing and they can not make the mistake of singing too often to the little child. It not only entertains the child but will be remembered with gratitude in after years when grown to manhood or womanhood. And the singing does more good than the mother knows, perhaps, for it accustoms the child to recognize different tones, thereby making the first music lessons much easier for pupil, and instructor as well.

Never sing a song to a child which contains a single sentiment of fear, any more than you would tell it a horrible ghost story before putting it to bed. Some do. I know. Yet they wonder why their children are afraid in the dark. Take, for instance, this line in "Sleep Kentucky Babe": "Sandman am a comin' fo' dis little coon o' mine." Why, that would frighten all the sleep out of the average child, besides laying the foundation for nervousness and fear which is so pitiful to see in children, for it has no natural place in their being. We can not be too careful in our choice of songs for the little folks for they are very easily impressed with the sentiment of them.

The condition of the musical atmosphere of America is 100 per cent better now than it was, even twenty years ago. There was a time when good music was a luxury. Now it is within the reach of all. Great minds have worked to compile the best in simple form so that the beginner may receive the benefit of, and learn to love, the best in existence.

When choosing a teacher, be sure that he or she has high ideals, and appreciates the best, in order to be an inspiration to the pupil. It takes years of patient study, hard work, and considerable cash for a teacher to become proficient. So good instruction can not be obtained for a song. But poor instruction is always dear at any price. Encourage the children to do their best. Work spent on them is not wasted. Nothing will encourage them more than interest in their lessons and to study with them.



