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BUILDINGS and equipment are a part of the farmer's investment just as is his land. No good farmer will consider it a profitable policy to deplete his farm or to get along without building it up so it will respond in the fullest measure to his labor; likewise no good farmer should neglect to provide himself with suitable buildings and equipment to enable him to carry on the operations of his farm in the best and most economical manner, or to allow these buildings and equipment to run down and suffer for lack of paint or repair any more than he would allow the farm to suffer from injudicious cropping or want of manure.

A farm may be compared to the capital stock of a bank; its buildings and equipment to the furniture and fixtures of the bank. Both are a necessity to the proper conduct of the bank or farm. It would not be good policy for the bank to get along without a safe to insure the secure keeping of its funds against thieves or fire; neither would it be considered good policy for the farmer to get along without sufficient barn or shed room and chance the loss which he might suffer from the exposure of stock, tools, or grain.

Neither can the farmer afford to get along without the tools necessary to the economical conduct of his business. Some tools he must have, others he could do without. The question is, "would the use that would be given them pay for their cost, interest on the money invested, and storage?" The bank must have its safe, counter, and books, but might get along without a typewriter or adding machine; the farm must have its plow, harrow, and binder, but might get along without a roller or manure spreader. In either case the equipment absolutely necessary must be provided, taking care to get up-to-date and substantial equipment that is essential, and to use good business judgment in purchasing non-essentials.

It is probable that more energy and money is wasted in getting along without equipment that is needed than in investing in equipment or buildings that are not needed, yet some farmers go as far to one extreme as others do to the other extreme. For example, there are some localities where pride or jealousy seem to be the standard by which farm equipment is

FARM BUILDINGS and EQUIPMENT.

procured. One farmer may build a very large or expensive barn. He may or may not have use for all of it. Not to be outdone, his neighbor builds one a little larger though he may not need such a large one and perhaps could not afford it as well as his neighbor, and so it goes, in some cases entire neighborhoods investing in buildings which are not needed by all, simply from pride or jealousy. More often, however, it is the house upon which unnecessary expense is lavished. Extrava-

buildings as near the center of the farm as possible. It is desirable, but not necessary to have them on a highway. Much travel to and from fields could often be saved and a better location secured by setting the buildings back from the highway and nearer the center of the farm. At any rate, if the farm extends for a considerable distance along the highway it is best to have the buildings near the center of the highway side. If any preference is given it should generally be to

have regard to convenience, appearance, and danger from fire. Buildings should be close enough together so that too much time and energy is not wasted in going from one to another and far enough apart so that odors from the barn will not be disagreeable at the house, and so a fire in one buildings would not endanger the entire farm plant. I think, as a rule, the house and barn are too far apart on the average farm, and are arranged so there is too much difference in elevation if on hilly ground, requiring a long walk and a climb many times a day in passing from one to another. Many farmers have expended enough time in this way to pay for a good barn. If skeptical, figure it up and see.

Another rule which should be followed if possible is to place the barns so the barnyard at the back of the barn will not be toward the road or the house. In general, the house should be somewhat in front and to one side of the barns, and the latter should face the road. Barns, sheds, and pens, should be grouped close together for convenience in doing chores and other work, unless there are several barns, in which case they may be separated for fire protection. A possible exception to this rule is the poultry house, which should be far enough from the barns so the hens will not get it confused with the mangers or tool shed, and if the housewife is to have charge it should not be too far from the house. We expect to move a barn in the spring which now sits directly at the side of the road and are debating whether to place it close to the other barn for convenience or at some distance from it as a protection from fire. Insurance is desirable anyway, and perhaps it is cheaper than extra steps.

Fences, Lanes, Tanks, Gates, Orchard, Garden, Etc., Should Be Conveniently Located.

Buildings are not the only more or less permanent things on the farm whose location needs some study and planning. Lanes and fences should be laid out so as to save fencing, economize distance to and from fields, and make fields of an economical size and shape to work, and proportioned to the size of the farm. On most farms it will be desirable to have the farm so fenced that the stock can be turned from the lane into any field on the farm. If the farm is narrow the lane can



Farm Home of Geo. B. Fisher, of Calhoun Co., with Lower Story of Concrete Blocks.

gant furnishings or too many conveniences are seldom found among farmers, but often a family of two or three is found occupying a residence large enough for a dozen. The house may present a large, imposing exterior, but be barnlike and cold inside, and a perpetual care for the housewife, which she is hardly able to stand. I am glad to note that most of the farmhouses now being built are more suited to their use than those built a few decades ago.

Buildings Should be Conveniently Located.

If the farm is purchased without buildings the proper location for them can well be studied. It is economical to have the

ward the portion of the farm nearest the market.

Some attention should be paid to the lay of the land. I prefer a rather elevated and rolling building site rather than one either too high or too low. Both of these have disadvantages. The high site is usually exposed and windy, the low one unsightly and damp. Both require unnecessary energy in pulling crops to the barns or manure from them. A rather rolling site of average elevation for the farm, with some protection and good drainage makes a good site for farm buildings.

In locating new buildings we should



An Attractive Farmstead, Home of F. C. Hacker, of Macomb County, Mich. The Barns are Arranged and Equipped for Dairying, which is Made a Specialty.

extend along its side and thus save fencing. If wide it may extend through the center with fields on each side. The fields should, in general, be rectangular for ease in working, and not more than twice as long as wide, for economy in fencing, and should have an end rather than a side face the farm lane for the latter reason also.

Gates should be substantial, securely fastened, and easy to open. Life is too short to spend a great part of it in tugging at heavy slide gates that are used frequently. The gates which are used often should be of the swing pattern and securely fastened to substantial posts so they will keep their position for many years. The fastenings should be adjustable to take up the sag, and the latch should be simple, durable, and difficult for stock to open but easily opened by a person. Gates to fields that are used only when the field is cropped may be of a slide pattern, with substantial hangings. When building a fence gates should be placed where there is likely to be need of them, for we will put ourselves to much inconvenience for many years rather than cut one through a wire fence after it is built. They should, of course, be near the corner of the field nearest the barn.

The location of windmill, tanks, garden and orchard should be decided from the standpoint of convenience.

Buildings, Fences and Other Equipment Should be Kept Neat and in Good Repair.

Appearance and durability are two factors to have in mind in the construction or repair of farm equipment. The painting of buildings pleases the eye if simple harmonizing colors are used and also adds to the durability. This is true to a less degree with fences and gates about the yards. A cheap paint or government whitewash can be used on these which will add much to their tidy appearance. If outbuildings, fences and gates are neatly constructed it will add much to the appearance, and indirectly to the real value of the farm, to say nothing of the satisfaction experienced and the valuable training secured by being careful and neat in doing this work. It is but little more work to set a fence post straight and with the tops even, and to nail on boards or stretch wire so they will look well than it is to do it in an untidy manner.

The farmer will do well to use cement as much as possible in his building operations. By using cement wherever possible it will make much of his work more durable and give more of an incentive to do it well. Walls, floors, tanks, cisterns, abutments, fence post foundations, or entire posts can be made reasonably permanent with cement.

The same tidiness should extend to the tools used. These should, of course, be housed, kept in repair, and when necessary given a coat of paint.

In conclusion, I wish to impress the thought that if we, as farmers, will give our best thought to the adequateness, adaptability, convenience, permanence and neatness of our farm buildings and equipment, just as we have given our best thought to improving and maintaining the fertility of our soil, we will have a farm plant capable of producing a maximum product at a minimum expense, while at the same time the value of the plant will increase.

Calhoun Co. S. B. HARTMAN.

FARM NOTES.

Mixing Alfalfa with Clover Seed.

I have 12 acres of land that was cleared 10 years ago. In the fall I sowed rye, and seeded in the spring. Pastured the rye ever since, until last spring, when I broke it up and sowed to short vined peas. In the fall I disked and sowed to fall wheat. The wheat was a good stand, and looked good when winter set in. The field is a high hill, and light soil. I want to seed in the spring and am afraid to risk so large a field with alfalfa. What is my best course to pursue? Sow a portion of the field to alfalfa and the balance to clover, or mix clover and alfalfa and sow the whole field to the mixture? Should I sow the seed on the frozen ground or sow later and go over with a weeder or harrow?

Charlevoix Co. I. M.

It is always better to experiment on a small scale with any crop with which we have had no previous experience. This land may grow alfalfa successfully without any special preparation and it may not. For this reason it would seem to be a better plan to experiment with the alfalfa on a small scale, inoculating the soil or seed on at least a portion of that sown to this crop, and perhaps applying lime to a portion of it as well to determine whether lime is needed as a preparation for this forage plant.

But it would undoubtedly be a good

plan to mix some alfalfa seed with the clover sown on the balance of the field, since in this way a natural inoculation of the land with the bacteria peculiar to the alfalfa plant would be brought about, and the field thus prepared for sowing to alfalfa in the future in case it is desired. More farmers will mix a little alfalfa seed with their clover this year than ever before, and it is a very good plan, as it will not only prove advantageous for the above reason, but will as well indicate whether alfalfa will grow on our land in its present condition and without special preparation for the crop.

The condition of the soil during the early spring months has much to do with the success of early sowing of clover seed, and doubtless would influence the success of sowing alfalfa seed under the same conditions. The writer has had no experience with sowing alfalfa seed early on the frozen ground, and knows of no grower who has sown it this way, except where it was mixed with clover seed. It would appear to be safer to harrow in the seed when conditions were favorable for its germination, but this is another point in the growing of this forage plant upon which experience will be the most valuable guide and with which it is worth while to experiment.

What to do Where the Seeding Failed.

I have 10 acres of land, soil a sandy black loam with clay subsoil, which is in a fair state of fertility. It was to corn in 1909, lightly manured, and made a good crop. In 1910 it was to oats and seeded to clover. As it was too dry the clover didn't make a fair stand. Now I have not the manure to cover this spring and put back to corn. What would be the best way of handling this field to advantage. Would spring plowing be good for reseeding to clover without a nurse crop?

Monroe Co. SUBSCRIBER.

Unquestionably the best thing for the soil of this field would be to plow and seed to clover without a nurse crop, as suggested in this inquiry. Of course, this would involve the loss of a year so far as a revenue from this field is concerned, and if it is in a fair state of fertility this may not be necessary. In case it is desired to substitute some crop which can be used for hay instead of the clover which it was expected to get from this field it might be sown to oats and peas for this purpose, or in case sheep are kept on the farm it might be sown to dwarf Essex rape and seeded to clover in this forage crop, which could be pastured during the midsummer shortage of forage without material injury to the stand of clover. In fact, the local conditions in which the farmer who has lost a seeding of clover finds himself are an important factor in determining what it is best to do with such a field. This is true to such an extent as to make a problem of this kind an individual one regarding which it is difficult to advise intelligently.

Using Fertilizer on Clover.

I have a field on which I raised a fair crop of corn last year. It was a heavy June grass sod, and as it takes more than one year to kill the sod I thought of planting it to corn again. The field has been run badly. I covered about half of it with manure last year and will have enough to cover the other half in the spring. I would like to sow it to clover a year from this spring, sowing it without a nurse crop. Would you advise the use of commercial fertilizer? How much should be used to the acre and how should it be applied? What kind of fertilizer should be used?

Berrien Co. C. B. V.

In a case of this kind it would not seem necessary to use fertilizer in seeding the land to clover without a nurse crop. The fact that there was a heavy June grass sod on the field would indicate that it is in a fairly fertile condition, and the application of stable manure will be of some benefit to the clover following the corn. In the writer's judgment, it would be a far better practice to apply the fertilizer to the corn crop, using say 400 lbs. per acre of a good standard fertilizer. This would be of benefit to the corn crop and in this way would pay out as an investment the first season, and the residue of the mineral elements of fertility which would be left in the soil would benefit the clover following the corn. Generally speaking, it is better practice to use fertilizers on grain crops preceding clover than on the clover itself.

A new method of onion growing is strongly recommended by a French horticulturist. Some of the seedlings in the original bed are left standing at intervals of about two inches, and the spaces between them caused by the removal of the others, are filled in with good garden mould mixed with fertilizer from the poultry house. The beds must be kept well watered unless there is plenty of rain, and it is said the resulting crop will astonish the grower.

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The Potash Question.

February 1, 1911.

EDITOR,
"MICHIGAN FARMER,"
Detroit, Mich.

Dear Sir:—

In your issue of January 28th, there appears an article signed "German Kali Works, By H. A. Huston, Secretary," from which the following statement is quoted:

"Mr. Robert Bradley did not sign the contract July 1, 1909."

That is an unqualified misstatement, as can be easily proven by reference to the original Bradley-Schmidtman contract, bearing my signature, on file in the Department of State at Washington.

In a recent brief of Mr. Vogel, the General Representative of the Potash Syndicate in the United States, the statement is made that this contract was merely a "purely tentative memorandum" and that I had no authority from The American Agricultural Chemical Co. to sign a contract.

On this basic misrepresentation a long argument is elaborated in an attempt to prove that I was officially notified before I made my contracts that the German Government would invalidate any contract I might make for Potash at prices below those fixed by the Syndicate, and that, therefore, I have no claim for redress.

The contract I signed on July 1, 1909, with Mr. Schmidtman was as complete and as legally binding a contract as could be drawn, and I personally guaranteed its specific performance. As to my authority for making it on behalf of The American Agricultural Chemical Co., I had in my possession a special Power of Attorney, dated June 7, 1909, duly authorized by a vote of the Directors of the Company, executed by its President, witnessed by its Counsel, attested and seal affixed by its Secretary, acknowledged before a Notary Public, and vised by the German Consul General of New York. This Power of Attorney is also on file in the Department of State.

Moreover, on the same morning of July 1, 1909, acting under the same Power of Attorney, I made another contract with a group of five of the most important Potash mines in Germany, which contract has been assumed and is now being fulfilled by the Potash Syndicate in strict conformity with its terms and conditions.

Can Mr. Huston explain why one of these contracts is recognized as complete and valid, while the other is pronounced a mere memorandum, even lacking my signature?

It was never intimated to me, directly or indirectly, that the German Government contemplated passing legislation which would invalidate any contracts below Syndicate prices until about ten days after I had secured my contracts, when Geheimrat Kempner (now President of the Kali Syndicate) threatened me with such governmental action unless I consented to surrender or compromise my contracts in some way satisfactory to the Syndicate.

These are the incontestable facts and such an attempt to justify a law which constitutes the substantial repudiation of legally executed contracts by governmental action is an affront to the intelligence of the people of the United States and should receive the rebuke it deserves.

As to Mr. Huston's "belief" that "The German Foreign Minister did not assure Ambassador Hill that 'it (the law) would not invalidate or impair the American contracts.'"

I think it matters little to the American public what Mr. Huston's "belief" may be on this subject when the actual facts are known. It is a matter of record that Dr. Hill, the American Ambassador in Berlin, has made the statement and has reported it to Washington that he was assured by the Foreign Minister of Germany that the law would not invalidate or impair the American contracts, and I believe the American people will accept that statement from its official representative in Berlin rather than the "belief" of the representative of the Potash Trust.

No doubt "the potash business is getting lots of advertising," but of a kind the Syndicate least desires. This controversy has certainly advertised one important fact extensively—that the German Syndicate is resorting to heroic efforts to sustain its Potash monopoly in order to extort an enormous yearly tribute from the American farmers by maintaining

potash prices at 200% above the cost of production, and 100% above the prices obtained from independent mines by 75% of the Potash buyers of the United States.

Trusting that you will give this the same publicity as that granted to Mr. Huston's statement, I am,

Very truly yours,

(Signed) ROBERT S. BRADLEY,
Chairman of American Potash Buyers' Committee.



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BELIEVES IN USING LARGE SEED.

Seeing so much potato talk in the Michigan Farmer lately, constrains me to add my experience. Last summer I planted 2½ acres of potatoes, commencing to plant in April and finished in fore part of May. This gives our crop here none too long a season to grow in, for when I dug the crop in October the tops were still green and fresh looking and the tubers hardly matured. I do not consider this particular field ideal for potatoes as it is clay soil and quite rolling. However, it was a clover sod and I gave it a sprinkling of barnyard manure during the winter and plowed it early in the spring, planted early, gave them good cultivation and kept them free from bugs. In spite of the severe drought which we had during the growing season I harvested 592 bushels of marketable potatoes, 263 bushels per acre. I wish to speak now more particularly about the seed.

Potatoes were cheap here last spring and I had more than I knew what to do with so I concluded to utilize them by planting. I planted about half my crop at the rate of 60 to 80 bushels per acre, using whole seed as large as I could get through the hand planter. For the other half of crops I planted a little lighter. I always did believe in using plenty of seed but never planted so heavy as this before—would not plant so heavy again if seed were high-priced, but I certainly would not want to plant less than 20 to 30 bushels per acre with potatoes at any price.

You may think this excess of seed a useless waste. Let's see: On one side of



Thirty-one Potatoes, Weight 62 lbs. Grown by A. L. Dunlap, of Oceana Co.

the field I planted at the rate of 60 bushels per acre—whole seed, as an experiment, I planted one row with potatoes cut into quarters. That would make this row at the rate of 15 bushels per acre, which would be considered by many as liberal planting. I could easily see a difference in this row all summer. The potatoes came up in this row a little later, a little more uneven, the plants were not quite so thrifty and vigorous looking and the tops were a little behind the row on either side in size and vigor. At digging time I dug and measured this row separately and also the row on either side. The row planted to quarters produced at the rate of 195 bushels per acre and the two rows beside averaged each at the rate of 265 bushels per acre, a gain of 70 bushels per acre in favor of the heavier planting. I duplicated this experiment in a small patch which I planted by the barn with the result that the heavier planting produced at the rate of 89 bushels per acre over and above the lighter planting.

Now, about the kind of seed to plant: I am a firm believer in planting good seed—seed with a prepotency—pedigree seed, if you please. I would advise Mr. Lillie to feed those little seed potatoes to his pedigree pigs—they would be good for the pigs and also help his next summer's potato crop (by not planting them). I raise my seed potatoes in a seed plot especially for seed, planting only nice, sound potatoes for seed. To help matters still further I raise a special seed plot within this seed plot. At digging time I dig this special seed plot by hand myself, and note each hill as I turn it out. I select a few of the very best hills out of this special seed plot. These few hills plant my special seed plot for next year. The balance of this seed plot is used to raise my regular seed plot for next year and the regular seed plot is used to raise my main crop. I have kept up this method for several years and do not see any deterioration of my potatoes.

The part of the field from which the basket of big potatoes shown in the accompanying photo was dug was irrigated. This corner of the field lay along side of

a spring creek. During the severe drought I threw a dam across the stream and turned the water out over the corner of the potato field. My! How the parched ground did drink in the moisture! In a short time I could plainly see just to a row where I irrigated, by a difference in the color of the potato tops.

Ogemaw Co. A. L. DUNLAP.

A LARGE POTATO GROWER PREFERS SMALL SEED.

I have been a reader of your paper for several years and have received much valuable information through its columns. I especially appreciate articles on potato raising as I make that my special cash crop.

I have done considerable experimenting especially in the different kinds of seed to plant, and must say that I stand by Mr. Lillie very firmly in planting small seed about the size of hen's eggs. I have raised on an average of 30 acres each year for several years. At first I used to plant large cut seed, but it did not take me long to change to small seed.

I will try to explain why I prefer the small potatoes. I always plant the potatoes whole, if I can get them, and where so planted have never failed to get a good stand. I do not believe I had 500 missing hills in my potatoes this year. I have never seen so perfect a stand as this from any kind of cut seed. If I were to plant any cut seed I would certainly prefer large potatoes to small ones. My theory is that a small uncut potato has its full vitality, and will sprout, and come up out of the ground three or four days sooner than cut seed. When a potato is cut in two or more pieces it loses considerable of its vitality and consequently does not produce as strong and vigorous stalks. Again, if the ground is very dry, cut seed will shrivel and dry up, leaving a poor and uneven stand, while the whole seed will come along all right. The same is true in a wet season. Cut seed will rot in wet weather, when whole seed will come through in a much better condition. You will not have nearly as large potatoes from whole seed, as you get more stalks to each hill and thus more potatoes of a medium size.

This last season I run short of small seed and had to plant about an acre of large cut seed. The part of this field that was planted to small seed came up so that we cultivated them the tenth day after planting, while I had to wait four days, before the rest was up enough to cultivate, and they never caught up to the rest of the field. There were more missing hills on this acre than on the rest of the field. The seed was of the same variety and kept under same conditions.

I planted 20 acres in May which averaged 185 bushels of sorted potatoes per acre, four acres of this had an application of manure. My 10 acres of late potatoes planted the 16th day of June, did not do very well on account of blighting. This field averaged 125 bushels of sorted potatoes per acre.

I have never seen a field blight as this one did. There would be spots of perhaps six rods square that started to blight when vines commenced to cover the ground and were dead before the rains came. There would be spots about one-third this size which stayed green until killed by frost. The whole field was spotted in just that way, which I cannot account for.

I did not use any Paris green on this field, and cultivated it thoroughly seven times with a two-row cultivator. Had this field not blighted it would have yielded more than 200 bushels per acre.

I plant my potatoes 30x34 inches and never have any very large stock. It takes about eleven bushels to plant an acre with the size seed I use.

Montcalm Co. E. S. CHRISTIANSEN.

QUANTITY AND KIND OF SEED.

It is certainly a very important problem—the amount and kind or size of seed for best results in raising potatoes. I have experimented along this line several times, and I have always had the best results with the smallest amount of seed in a hill, provided always that the eyes are strong and vigorous.

Several years ago I found a hill in the middle of the field which had 27 merchantable potatoes, which weighed nine pounds. Seven such hills would make a bushel, with three pounds for shrinkage. There was only one vine or stalk in the top, showing that only eye grew. The rest of the field yielded only 150 bushels per acre, while at the rate this one hill yielded would make 445 bushels per acre. Shiawassee Co. B. S. FOSKET.

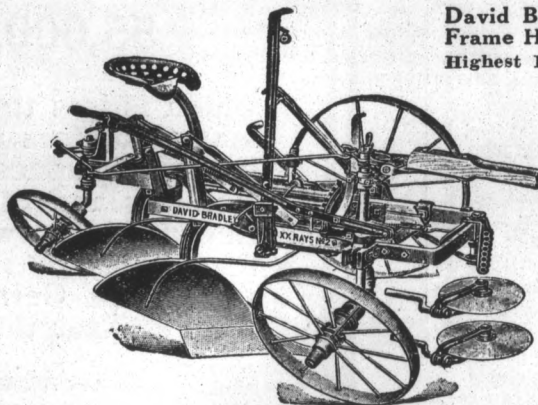


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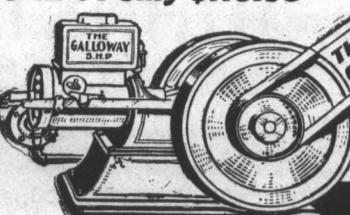
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SOMETHING ABOUT BEANS.

George Beckley, of Midland county, is one of those pioneer farmers who came to the county when lumbering was the main business. The same ideas of mechanical application to accomplish ends in lumbering successfully have been applied to farming, and particularly to the growing of beans. Mr. Beckley does not let his light be hidden under a bushel but imparts it at farmers' institutes in a convincing and instructive manner.

The complete fitting of the ground to conserve moisture and kill weeds, as advocated by bean growers is supplemented by a leveling implement made of four pieces of 2x4 mitred together like a window frame, braced and weighted according to conditions, and hitched to one corner. The leveler may be from 10 to 16 feet square. The object is to make the field level so that in drilling, cultivating and harvesting the crop of beans all machinery will work on one plane.

Beans put at difficult depths germinate unevenly, and perfect work of the knives in harvesting demands even ground.

The amount of seed is not to exceed 18 quarts per acre in drills and Mr. Beckley is of the opinion that 16 quarts would probably be sufficient. Somewhat of an innovation follows when the crop is gone over with the hoe and all imperfect plants are carefully cut out. Mr. Beckley says the bean raisers should do the hand-picking largely at this time and pay for the work by employing the girls who pick beans in the elevators to do it with a hoe in the green fields and pure air and at a wage 50 per cent more than they can earn in the dusty elevators. The stubs of beans that have lost their heads or leaves in getting out of the ground are fertile fields for the various bean diseases to find lodgement in and these are, along with all other undesirable plants, carefully cut out, with the result that nearly all the beans are perfect. The small and partially matured beans that make up the "pick" are well nigh eliminated.

When it comes to harvesting Mr. Beckley insists on well sharpened knives. A supply of 10 or 12-inch files are provided and it is economical to use 15 minutes in filing, if necessary, every two hours. A considerable of the loss not only of shelled beans, but time in handling, comes from dull knives and uneven ground.

The success of using the side delivery rake depends on two things, viz., the adjustment of the bars carrying the forks and a slow movement of the team. The forks should be adjusted to lift the vines, not to strike or drag. Small piles are forked when sufficiently dried in the windrow. The advantage of small piles is seen when rain comes, as they are easily turned, but not torn to pieces, and when loaded on the wagon make one forkful easily handled.

The actual "pick" of beans this year was a half pound to the bushel and the crop goes as hand-picked beans, so near the desired grade does it come. Whether it will be possible for all bean growers to handle the crop so successfully may be questioned, but when Mr. Beckley makes one acre of beans yield in money value the equal of two average acres, it is worth while to study his methods. There is also good reason to think that the bean diseases that are always threatening might be well nigh prevented if seed was used from fields where seed selection was made a feature by the removal of imperfect plants.

Shiawassee Co. JAS. N. McBRIDE.

INOCULATING FOR ALFALFA.

The writers on alfalfa say, use soil from a field thoroughly inoculated or from an old alfalfa field. I have five acres sowed in June, 1909. Last year I cut three crops. When the first two crops were cut much of the field was of a light yellowish color. When the last crop was cut it was dark colored and perfect in every way. After each cutting I dragged the field with a light smoothing harrow. Will the soil from this field answer to inoculate 25 acres I wish to sow this summer?

Wexford Co. D. E. W.

From the description of this alfalfa it would appear that the soil from the field would be suitable for inoculating a new area to be sown to the crop. The essential thing is that the bacteria which forms the nodules on the roots of the plants be present in the soil. The presence of this bacteria is usually indicated by a dark green color of the plants and their thrifty growth, but if there is any doubt about their presence it can be determined in a few moments next spring by taking a spade and digging out a few roots, when the nodules can be plainly seen.

United States Department

of Agriculture Bulletin No. 365, among other things, says that the potato growers in Maine apply on the average 1,500 pounds of high grade fertilizer to the acre, and the average yield per acre for the last ten years is more than double that in any other state where potatoes are grown.

Eugene H. Grubb, the leading specialist and grower of potatoes in this country, made a tour of inspection of potato districts in Europe, and says that Great Britain with about

55,000,000 acres of farming land,

which is less than the area of Colorado, produces about as many potatoes as the entire United States. Notwithstanding the cheapness of labor, the farmers in England expend for fertilizer and other charges from \$75.00 to \$100.00 per acre in order to grow potatoes successfully. Compare this investment with that of our farmers in their potato fields. The farmers in Germany spend on the average \$20.00 per acre for Fertilizer they use on their sugar beets.

These reports illustrate modern methods of farming. Our soils in the Middle States can be made to produce better crops if the farmer goes at it in the right way. It is not theory, but a well known established fact. Nine times out of ten the farmer himself is to blame for a short crop. He pockets the loss and struggles away behind his wide-awake competitor, constantly complaining about poor crops and hard times. It should be the aim of every farmer to get out of the soil all that it can bear. This can be accomplished only with a sufficient application of

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THE SILVER CUP

at the recent Spokane Fair was awarded to the Alberta Government for its exhibit of grains, grasses and vegetables. Reports of excellent yields for 1910 come also from Saskatchewan and Manitoba in Western Canada.

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LIVE STOCK

MUTTON SHEEP FOR FARM FLOCKS.

The profits from a well-managed flock of mutton sheep are relatively greater than those from any other kind of farm stock. The numerous failures in the keeping of sheep on farms almost always come from having too large a flock to begin with. Any farmer with sound judgment can keep a small flock at a good profit, but few farmers can keep a thousand sheep with an equal degree of success. This is especially true where one is a beginner with sheep. Of all arts allied to agriculture, there is no branch so difficult to become proficient in as the shepherd's art. Not that there is anything mysterious in the science of breeding, feeding and handling sheep; what it requires is close attention and study. It is not wise for a man to plunge into keeping large numbers until he has made himself familiar with the business and conducted a number of experiments on a small scale.

Sheep possess great ability to renovate the soil, keep down all kinds of weeds and consume the odds and ends of feed that would otherwise be wasted, but the man who undertakes to develop a really profitable flock of mutton sheep must cut away as far as possible from the idea that sheep should be kept because they possess ability as scavengers. He must give them the most painstaking care and the best food that his farm affords.

In starting a flock of mutton sheep there are certain fundamental principles to be considered: First, we must start with a breed that is capable of producing good quality mutton when properly fed and cared for. Second, we must have a variety of feeds of the right kind to develop their possibilities. Third, we must have a knowledge of how to feed to secure the desired results.

Some farmers have a mistaken idea that feed is everything and that high-class mutton can be produced by any breed of sheep. Feed is a great point, but breed capabilities is a greater. Some breeds are capable of producing a high quality of wool at a profit, but cannot be considered profitable mutton producers. The American Merino is one of these breeds; but with all their many excellencies we would no more think of keeping them to produce mutton at a profit than we would of keeping a Jersey cow to raise a beef steer.

Many farmers argue that by selection and the use of an improved ram, from the best mutton producing breeds, we could in a short time improve the quality of any flock so that they might be made to answer our purpose. To such men I would suggest that life is too short to spend our time experimenting with cross-breeding when we can buy good mutton-bred ewes from some old established flock for from \$15 to \$20 a head, or a few choice grade ewes at from \$6 to \$10 a head. With sheep, it pays to buy the type you want at the very beginning.

In selecting breeding ewes for the mutton flock attention should be directed toward selecting ones that are able to suckle their young best. Sometimes a ewe that possesses this quality is not a finely rounded one with the most desirable form; but if she is a good milker she deserves a place in the flock. My experience has convinced me that the thinnest ewes at weaning time are often the best mothers.

With the present high prices of all grain foods sheep can be fed more economically than any other kind of farm stock and many farmers are beginning to appreciate this fact. The small flock, well-bred, well fed and intelligently handled, will prove a money-maker for the men who are willing to learn the business and stay with their sheep.

It will pay any flock-owner to keep a record of the lambs from each ewe and be guided more by this record than by the condition of the ewes at the time he is making his selections for next year's lamb crop. It should be an axiom with every flock-owner never to sell or dispose of a ewe that proves a valuable breeder until she becomes too old to produce superior lambs. There seems to be a general tendency among flock-owners to place too light a value on the breeding qualities of the ewes and let them go, frequently in the prime of life.

In selecting breeding stock those with good fleeces ought to have first choice. Mutton form is the main consideration, but the wool crop should not be neglected.

The care and food of the flock depends

upon a variety of conditions and it would be pure quackery for me to lay down hard and fast rules. They must be varied to meet the conditions of soil, climate and breed. In general, however, the most suitable pasture crops are fine succulent grasses, rye, Dwarf Essex rape, and turnips. The most suitable soiling crops are oats and peas, vetches and the various legumes. The best fodder and grain crops are fine, well-cured clover and alfalfa hay, peas and pea straw, field roots, corn ensilage, oats, wheat bran and oil meal fed in suitable combinations.

New York. W. MILTON KELLY.

SILAGE FOR THE SHEEP.

Sheep are expected, on most every farm, to consume a large per cent of the roughest hays, straws and coarse weeds. Because sheep will eat these coarse fodders, they are often forced to eat more of such rough feed than is good for them. I believe the sheep, and particularly the breeding ewes, should consume much of the coarse fodders, but with this should be given plenty of salt, clean water, bran and silage, or molasses meal to act as a mild laxative. Clover hay, besides its richness in protein (muscle building food) has something about it which helps to keep the sheep's internal organs in splendid working shape. However, the coarser, drier corn stover, straws, or rougher prairie or timothy, need some laxative supplemented. To fill this need I find common corn silage, made from well matured field corn, the cheapest and most satisfactory.

When this silage is of poor quality, the results are very unsatisfactory, but when the silage is of good quality the results are entirely satisfactory. Poor silage would be silage which contained quite a fair per cent of moldy corn, frozen corn, or corn which was very sour and acid. Of these three evils I believe the presence of moldy silage is the worst. If you feed moldy silage there is danger of scours, indigestion, and abortion; if you feed frozen silage there is about the same dangers, and if the silage is too sour scours and fatal indigestion result. It is difficult and really unnecessary to say which form of spoiled silage is more fatal; but remember never to feed frozen or moldy, or over-sour silage for any continued period.

This fall I started in to feed both the breeding ewes and the fattening lambs some silage each day. The results were not satisfactory, because much moldy and sour silage came out of the silo mixed with the good, and therefore I could not feed it without feeding also moldy and sour silage. Moreover, when the cold weather came some was also frozen and, as in other winters, I found such silage to scour my sheep.

Due to these troubles I was obliged to stop the use of silage for the feeding lambs and cut down the quantity for the breeding ewes. I would have stopped feeding silage to the breeding flock also but they needed some succulent feed to supplement the coarse corn-stover and dry pasture grasses, so I still fed some silage. By using extreme pains I could pick out enough good silage for one feed each day; and, by adding some oats and bran, I obtained a very desirable ration with the roughage on the farm. Each day the ewes would have received a double handful of silage morning and evening but because it was of inferior quality I fed only once a day.

As an additional feed for a bunch of fattening lambs, silage is a very helpful feed. Of course, some poor results will be gotten sometimes, but as farmers gain experience silage will be used more frequently. When starting to feed silage to the feeders start easily. After gradually increasing the quantity, from the first days till the middle of the feeding period, the feeders will be eating about 1½ lbs. a day. With silage of good quality then, the sheep or lambs will profitably eat considerable quantities. Care should be exercised so that silage is uniform (in richness as to corn grains), from day to day. Some feeders do not realize that, when on heavy grain feed, careless feeding of "rich" silage one day and "lean" silage next day, will cause undesirable scouring. Practical tests on farms and at experiment station feed yards prove that, when fed carefully good corn silage is a very beneficial feed.

Some farmers have not a silo on their farm because they consider it wasteful to build a silo for only a few head of cattle. Where the farmer also has a flock of sheep he can safely plan to use a moderate feed of good silage once a day from the first of the winter season till the coming of spring grass. A small bushel bas-

ket full well fed will suffice for from eight to 12 average ewes. A ration consisting mostly of silage tends to leave weak, sickly lambs, but when ewes receive a fair quantity of other roughage, and oats and bran, give them a good feed of silage each day.

J. C. C.

BUYING HORSES.

Hints to Amateurs.

If you have decided to start out upon a horse-buying expedition on your own responsibility, remember, first, the old maxim that a good horse is never a bad color. It is as difficult to find two horses alike as it is two men; in all my rather wide experience I have seldom seen a matched pair. There is a better chance to get good cross matches, and it is better to have them crossed than to have a pair that do not mate. You cannot buy a horse as you would a bit of silk, and the matcher of these goods who has haunted a bargain counter would find about a hundred chances to one against success in this line. Therefore, don't ask the opinion of your wife, your aunt, or your grandmother and their immediate relations, nor your own friends; if you will select a horse, the soundest and of the best conformation, and show him to a dozen of your friends, each and every one would give a different opinion, though they are probably as ignorant as yourself. Perhaps one happens to own a good horse which he picked up by chance, and thinks wisdom on this question will die with him. Now, if you are not conversant with the anatomy of a horse, you had better not try to buy him on your own judgment, unless you are purchasing from a responsible breeder or a well-known dealer who has a reputation to uphold.

But if you are an enthusiastic buyer on your own account, perhaps the writer can give you some hints. After you select the horse which you think has captured your fancy it is best to have him brought out for a careful examination. If free from defects he is most likely to retain your good opinion, if you are anything like the writer, who always bought or left on first impression, but, as this might not suit an amateur, some more explicit directions will be in order. To begin, be sure that he is cool, and not in a heated condition; remember that the horse is subject to every disease and ailment that flesh is heir to; that he has temperament, disposition, individuality, and needs to be very carefully bought. The first thing, you look at is his foot—no foot, no horse; it should be on the concave order, with a deep sole and not too narrow; this denotes breeding. Run your hand down his fore legs, examine for splints; if on the bone they will never hurt him, but if on the tendons, drop him like a hot potato, no matter how small the splint. To save time and trouble have him jogged quietly down on the floor, and look for lameness; and see if his style of going suits you. Now examine his coronets for side-bones; take a look at his eyes, and that very closely. Stand in front of him to see that he has a full chest; glance between his fore legs at his spavin joints; run your hand over his kidneys and press hard as you do so; pass behind him and see that he stands square; examine for curbs (a curb will never hurt a horse after he is six years old); feel his hocks for incipient spavins, or bruises on the top of his hocks, which require a satisfactory explanation from the owner; don't forget to look for thoroughpins and bog-spavins; look carefully at his hips that they are both alike; personally I would never buy an interfering horse, or a horse that shows symptoms of it.

In the matter of age, four years old is not preferable. I had rather buy a horse at eight than five, as he is then in his prime, and his habits are all developed; if the horse has arrived at that age and maintained his soundness, you can rely upon his being a good one. See that your intended purchase is well ribbed up; long backed, narrow-gutted horses are bad feeders and doers, and cannot stand their work. See, also, that he has plenty of neck, good, high shoulders and sloping back. Then, proceeding, ask the holder of the horse to walk quickly into his flank both ways, turning him quickly; then back him while you look carefully for symptoms of spring halt or cramps. If, up to this, the horse has borne inspection favorably, put a man on his back and gallop him as fast as he will go to test his wind for a whistling sound. If all right, have him put in harness to see if he has any vice. Stable habits, such as weaving, wind-sucking, cribbing and halter-pulling, must be left to the veracity of the seller's word, as they are only to be de-



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ready for the fight. Hereafter my price is the same to all.
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bring you my offer on any kind of a scale that you may
want, big or little. Money talks and if you have the
money I have the scales and the inclination to fight the
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tected when the horse is standing quietly
in the stable. If he fills the bill, buy him,
good horses are scarce.

After you get him home use him kindly
for a few weeks. Don't use the whip,
make a friend of him. Horses should be
treated as intelligent beings; they are like
men in the amount of courage they can
muster up; some are the veriest cowards
and others are possessed of a dare-devil
spirit.

Horse-science has proven that a clipped
horse properly cared for is, even in the
coldest weather, if in constant use, far
more comfortable than those which are
allowed to retain their full coat of hair.
Man requires such work of the horse as
to sweat him severely if his coat be long,
and indeed, it has been found so burden-
some to a horse that when driven for any
distance he would blow quite seriously,
whereas after being clipped he could go
without discomfort. If the long coat
could be kept dry it would not be so ob-
jectionable, but as soon as it becomes
saturated with sweat it is a menace to
health. It is necessary, of course, after
the removal of the long coat, to provide a
double allowance of clothing, and avoid
standing still out of doors without blank-
ets after using for any length of time.
Properly cared for, however, the danger
of a clipped horse taking cold is much
less than when the hair is long and wet
with perspiration.

A man who loves his horse, looking
carefully to feeding and watering him,
seldom has a sick one; it is the careless
feeder whose horses often have colic and
like disorders from improper and irregular
feeding, which in other stock would give
no bad results. Musty hay, oats and corn
are not fit for food. Bedding should be
supplied in abundance and not allowed to
lie in lumps or in an uneven manner, but
kept constantly shaken up. The bed
should be raised along the side of the
stall, wet parts and droppings removed
and replaced with clean straw. This
treatment, with disinfectants, will make
the stable wholesome.

Don't send your horse to the black-
smith to have his feet cut down to make
them look small. In the writer's experi-
ence, many horses have been ruined by
the smith cutting the foot to fit the shoe,
rather than making the shoe to fit the
foot. Leave in plenty of sole; never let
the knife be put into it, the rasp being
far preferable.

St. Joseph Co.

W. J. GRAND.

FEEDING AND FATTENING CALVES.

I have never attempted to write an
article for your valuable paper, although
I have been a reader of it for more than
30 years. I have wanted to many times,
but lacked the courage, but in The Farm-
er of January 14, I saw an article by our
friend, Lillie, on a balanced ration for
feeding calves.

I know but little as to protein and all
those terms, but I have had considerable
experience in a small way in feeding and
fattening calves. We all know that whole
milk is the natural and balanced ration
for calves but one can raise good calves,
and fatten them, too, on skim-milk. I
give fresh or whole milk till the calf
is one week old. It is then given one-half
new and one-half skim-milk. I have no
separator, so of course the skimming is
done by hand. Then, after the calves are
two weeks old give one quart of whole
milk to each feed, the rest skim-milk,
feeding all they will eat and act as though
a little more would taste good.

After the calves are a week or ten days
old I commence to feed a prepared calf
meal advertised in the Michigan Farmer,
using at first about a tablespoonful, and
increasing the amount as they get older.
When about two weeks old I add a little
corn meal and if a little oats is ground
with it, all the better, but it should be
ground fine. The proportion I mix the
meal is one of calf meal to five of the
corn meal, and never feed more than two
teacupful of the mixed meal when fat-
tening, until old enough for veal, which
will be in from five to eight weeks, to be
profitable.

I want to say right here that no one
will be troubled with scours in calves if
fed in this way, and the calf can drink all
the skim-milk it can, at that. Will say
again that I give the calf all it will eat,
and smile for just one more taste, but the
calves should be fed regularly and the
same amount each time and the milk
should always be warm.

For something for the calves to pick at
I give them a little hay each day, clover
if I have it, and I always get good results
from calves fed in this way.

Osceola Co.

F. C. B.

NATIONAL BREED MEETINGS

The American Chester White Record As-
sociation Meeting.

The Chester White breeders met at the
Star Hotel at Columbus, O., on Jan. 11.
The past year has been a most prosperous
one. Over 1,700 animals have been regis-
tered and the treasury shows a credit of
over \$1,200. Arrangements have been
made to send out application pedigree
blanks free. This was a very good ses-
sion, more than forty members being
present. The officers elected for the com-
ing year are: Pres., John Berringer, Mar-
ion, O.; vice-pres., J. W. L. Motherspaw,
Newark, O.; sec., F. P. Hardin, Marion,
O.; treas., J. C. Haynes, Morrow, O.;
executive committee, J. T. Cummings, of
Kenia, O.; W. T. Devers, Lucasville, and
J. W. L. Motherspaw, of Newark,
The O., N. Y. and V. Merino Sheep
Breeders' Meeting.

This association met in the Northern
Hotel at Columbus, Jan. 11. There was
a fair attendance on hand. The principal
speakers were: Geo. B. Quinn, Roxbury,
O.; W. W. Burch, of the American Sheep
Breeder, and L. A. Webster, of Whiting,
Vermont. The association seems to be in
favor of the proposed American Sheep
Show and Wool Exposition. They went
on record as being against any lowering
of the wool tariff. The following officers
were elected: Pres., E. M. Bissell, East
Shoreham, Vt.; first vice-pres., Geo. B.
Quinn, Roxbury, O.; second vice-pres.,
Uriah Cook, West Mansfield, O.; sec-
treas., Wesley Bishop, Delaware.

The American Delaine and Merino Record
Breeders' Meeting.

This meeting was the best attended of
the series of sheep meetings that have
been held in Columbus during the past
week. The entire morning was devoted
to a business session. During the after-
noon addresses were delivered by W. W.
Burch, S. M. Cleaver, and Prof. C. S.
Plumb. The past year has been a most
successful one, some 87 flocks being re-
corded and over 11,000 animals recorded.
The following officers were elected: Pres.,
R. D. Williamson, Kenia, O.; sec., S. M.
Cleaver, Delaware, O.; treas., C. S. Chap-
man, Marysville, O.—C. A. W.

STATE BREEDERS' MEETINGS.

Southwest Michigan Pedigreed Stock
Association.

The recent annual meeting of the
Southwest Michigan Pedigreed Stock As-
sociation was more than usually interest-
ing, those appearing on the program be-
ing all present and holding the interest
of the large audience to the close of the
program. The association gratefully ac-
knowledge the help of Secretary A. M.
Brown, of East Lansing, and Mr. R. C.
Reed, of Howell. Plans for an active
year were made, many members express-
ing kind words for the help the associa-
tion had been to them in the sale of
stock and in the exchange of stock for
which the members had no further use.

The new officers are: Pres., Geo. S.
Bigelow, Bangor; vice-pres., Harry Bal-
lard, Niles; sec., R. E. Jennings, Paw
Paw; Allegan Co. vice-pres., F. H. Wil-
liams, Allegan; Kalamazoo Co. vice-pres.,
J. H. Bartlett, Kalamazoo; Cass Co. vice-
pres., Geo. H. Redfield, Edwardsburg;
Berrien Co. vice-pres., R. H. Sherwood,
Watervliet.—R. E. Jennings, Sec.

Ohio Association for the Promotion of
Pure-Bred Sheep.

This newly formed association for the
purpose of boosting the pure-bred sheep
interests of the state, and in so doing
making the sheep show at the Ohio State
Fair for next year, the greatest thing of
its kind in the history of the country,
held a meeting at Columbus, O., on Jan.
11. This association, though founded but
a few months back, had an attendance of
over 50 at this first meeting since its
organization, which speaks well for the
way in which its members are going af-
ter what they want. They say that there
are more pure-bred flocks in Ohio than
any other state in the union and for that
reason and many others, Ohio is the logi-
cal place for a national sheep show. At
this meeting the matter of a revised pre-
mium list was brought up. A new classi-
fication was approved. It was discussed
as to whether they should advertise this
projected sheep show or not. It was
decided that the judges be chosen by the
respective breeding associations. Then
the meeting wound up by the appoint-
ment of a committee to get before the
Board of Agriculture to get what the as-
sociation wants, along the line of in-
creased appropriations for the sheep show
at the next fair.—C. A. W.



A SIMPLE HAY LOADER BOOKLET FREE.

Here's a hay loader without a complicated
or troublesome part. Not a gear, chain,
sprocket or spring. Nothing to break or
cause delays during the busy haying season.

It is always ready for a hard day's work.
It delivers the hay on the wagon in perfect
condition. No "chewing" or shattering of
clover and alfalfa leaves, no threshing out of
the seed.

It adjusts itself automatically at the top
and bottom to light or heavy hay or wind-
rows. It has a lighter draft than other load-
ers, loads a higher load and requires but
one man.

Our free booklet is full of interesting facts.
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gate my 1911 Dan Patch Spreader—low factory
prices—exclusive features and longest free trial
proposition on time or for cash. Write the others,
too, if you wish. I'll take all risks. First a



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graph color illustrations all the actual practical
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on my free trial on your place). Send me no money
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Austin Manufacturing Co., Chicago

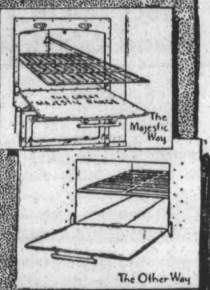
HEAVES CURE GUARANTEED.
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Mich., will tell you how FREE.
Write postal today.

Some Good Reasons Why The Great Majestic Range Should Be In Your Kitchen



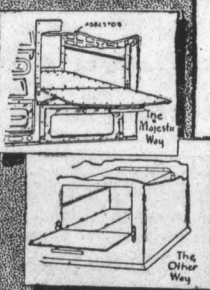
Charcoal Iron Bodies

The life of the body of a range marks the limit of its usefulness. Steel rusts and soon wears out. Charcoal iron, by actual tests, resists rust, heat and crystallization 300% greater than steel. The Majestic is the only range, the body of which is made entirely of charcoal iron—that's why a Majestic outwears three ordinary ranges.



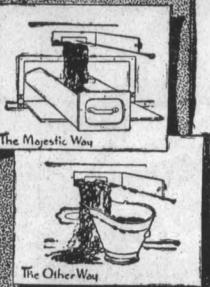
Non-Breakable Oven Rack

The Majestic oven rack is made of malleable iron, non-breakable, so constructed as to slide out easily, holding any weight it may contain—very handy for basting a roast.



Riveted Air Tight

Any one knows that a perfectly air-tight oven will have a more uniform baking heat with half the fuel required by a loosely constructed oven. The Majestic oven is made of heavier material than any other and is riveted (not bolted) like an engine boiler, making it absolutely air tight. No heat can escape, no cold air can get in, makes a perfect baker—saves half the fuel—saves repair bills and greatly lengthens the life of the range.



Lower Warming Closet

The lower warming closet is very handy for drying wood, shoes, etc. When you want to clean out the range just place the ash pan partly in the closet directly under flue door and save all muss.

Perfect Baker
Fuel Saver

Body Made of Malleable Iron and Charcoal Iron



Ask Your Dealer To Show You The Greatest Improvement Ever Put In A Range

If you are the average farmer's wife, you have your own ideas on the subject of ranges—and they are very apt to be rather good ones, too.

To you the perfect range is the one which meets your every requirement—many years of constant service—a perfect baker always—and a fuel saver.

Read About the Exclusive Majestic Features Described On This Page—Then See Them

You just can't afford to spend your husband's hard earned money, or your own, for a range, of any kind, until you have asked the Majestic Dealer in your locality to show you the Great Majestic Range and fully explain its every point of superior merit.

It is the range with a reputation—built on honor—of the best materials—containing the greatest improvement ever put into a range.

Can't Break—Outwears Three Ordinary Ranges

The Great Majestic is the only range made entirely of charcoal iron and malleable iron. Charcoal iron will not rust, like steel; malleable iron will not break and is absolutely essential for permanently air-tight joints, because it can be cold-riveted. No bolts or stove putty are needed, or used, in building the

The Great and Grand MAJESTIC Malleable and Charcoal Iron RANGE

Not the Cheapest, But Least Expensive

—and while the cost may be more than some others, it outwears three ordinary ranges.

Its special, exclusive features, material of which it is made, the way it is built—the malleable, charcoal iron body, cold-riveted, air-tight joints, etc., etc., make the Great Majestic the very best range money can buy—it should be in your kitchen for life long service.

Write for New Free Range Book

The Great Majestic is sold by leading dealers in nearly every county in nearly every state in the Union. If you are unacquainted with the name of a dealer who sells them in your locality, write us and we will tell you his name and send you a copy of our new illustrated range book, "Range Comparison." Every farmer's wife should read it.

The Great Majestic is built in four models: with high movable copper reservoir as shown; with water front for pressure boiler; flush copper reservoir at left; flush copper reservoir at right and Pouch Feed.

See them at dealers or write
Majestic Manufacturing Co.
Dept. 21 St. Louis, Mo.

Greatest Improvement Ever Put In a Range

You know the first place a range gives out is above and below the oven at front of range. There is nothing there but a thin piece of steel on other ranges. The Majestic has Malleable Iron over the front of flue at both top and bottom of oven, thus insuring practically life long wear at a point where other ranges are weakest.

Remember, this is an exclusive Majestic feature and a point not to be overlooked.

All Copper Movable Reservoir

The 15 gallon movable reservoir on a Majestic, the heating pocket of which is stamped of one piece of copper making leaks impossible, comes in direct contact with the lining of fire box—has largest heating surface—boils water in a jiffy—the only reservoir that can be instantly moved away from the fire with its frame by merely turning a lever. No pipes to get out of order or freeze and drip water on your floor. A Majestic feature so far ahead of all other makes as to be beyond comparison.

Open End Ash Pan

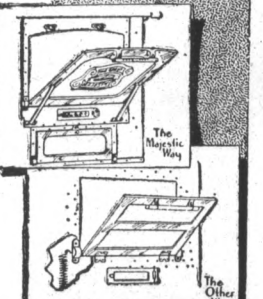
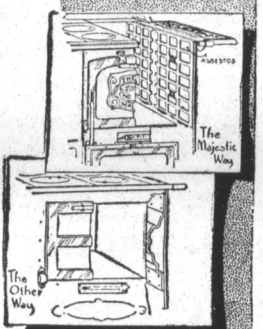
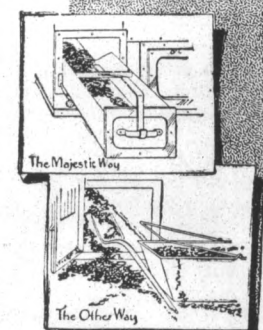
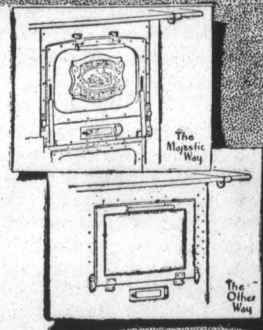
When you place it back in position, it automatically shovels all the ashes that have fallen into the pit—you don't have to get down on your knees and shovel ashes.

Heavy Asbestos Lining

Asbestos is placed in a range to reflect the heat against the oven and not allow it to be absorbed by the metal on right hand side of flue. In most ranges a piece of sheet steel covers the asbestos, killing its effectiveness. The Majestic is lined with extra heavy pure asbestos board behind an open grating—you can see it—gives you a hotter oven more quickly and with less fuel than any other way.

Non-Breakable Oven Door

The Majestic oven door is made of malleable iron—riveted air tight—very strong—supported by two malleable iron stakes working in a slot on either side of the door. Cannot break no matter how hard you drop it down—and there are no springs to weaken.



The Range With a Reputation

PREPARE FOR THE SPRING LITTERS.

Assuming that the sows have been properly fed and given the needed opportunity and incentive for exercise during the early portion of the winter, it is now time that preparations should be made for the litters which may be expected during the early spring months. Too often it is the case upon the average farm that such preparation is neglected until the farrowing season is right at hand, and the sows which may have been run together during the winter are housed separately in cold and draughty sheds just before they are expected to farrow and are required to nest on the cold or damp ground after they have been accustomed to a sleeping floor during the winter. It should not be a cause of wonder that the results with the early pigs are poor, if adequate preparation for them has not been made.

The farrowing quarters for the sows should be provided some weeks before they are expected to farrow, that they may become wonted to their new quarters before the critical period arrives. But it is quite as bad to shut the sows up closely in a small pen where they will be deprived of adequate exercise during the weeks preceding the farrowing time. Each sow should have a yard in which to exercise, and should receive at least a portion of her feed at some distance from the sleeping pen or house, in order that sufficient exercise may be insured.

Generally the permanent hog house upon the farm will not provide such quarters for all the brood sows, if several are kept, in which case it is a wise practice to provide portable houses which can be placed in the barn lots or fields adjacent to the buildings and made to serve a good purpose as farrowing pens. These are made in many forms to suit the ideas of those who build and use them. But the shape or plan of these portable houses is of less consequence than that they be constructed as to provide the essential hog comfort which makes for success with the spring litters, and at the same time make them useful as colony houses for the pigs after they are weaned.

The prime essentials in a portable house are first, sufficient size to comfortably accommodate the sow and her litter. This will, of course, depend upon the age and size of the sow, but in any case the floor should not be less than 6x8 ft., and for large sows 8x8 ft. is small enough. In building them a ledge should be constructed about the outside of the nest about eight inches from the floor, preferably by using a 2x6 plank, to reduce the chance of the pigs being crowded against the side of the nest by the sow. Some means should also be provided for the ventilation of the nests in warm weather, and an automatic door should be made as a protection against winds in cold weather. If this is made so that it will swing a few inches from the floor to prevent injury to the pigs when they are small, sufficient ventilation will be provided for cold weather, and the additional protection will be found advantageous. These portable houses should, of course, be built upon skids to facilitate moving them as convenience dictates. But one important essential is a good tight floor. Many times these houses are built without a floor, as it is argued that they will be used most in summer, when a floor will not be needed. But a floor is just as necessary in summer as in winter, since where there is no floor the hogs are constantly breathing in the dust from the ground, which is irritating to the lungs and air passages and may in addition contain injurious germs.

A few portable houses of the form which suits the fancy of the builder, so long as they combine the essential points above mentioned, will be found a profitable investment on any farm. They can be built with little expense except for material, at this season of the year, and will then be ready whenever needed, and it is far better to have them ready in advance of their actual need than to have to provide them at the time, as the latter plan will often mean that they will not be built at all, with the possible result of a considerable loss in the spring pig crop which might have been avoided by this simple preparation.

WARMING A CHILLED PIG.

Those who are expecting early farrowed litters may have occasion to use the method of reviving chilled pigs described by F. D. Coburn in "Swine in America." Mr. Coburn says: "Of all the means of successfully warming a chilled pig and restoring his interest in things earthly,

probably there is nothing better than a pail, or other vessel, of water, heated to about 95 to 98 degrees F., in which his body and limbs can be submerged for 10 to 20 minutes. In many instances it will well-nigh revive the dead. If after this hot bath Mr. Pig is dried and placed where he can suck a well-filled teat his outlook on the future will be much improved."

LIVE STOCK NOTES.

There are reactions frequently in the Chicago market for stocker and feeder cattle, buyers refusing to pay such dangerously high prices, but values soon go up again, as other stockmen come in and carry off the offerings. The fact is, there are farmers all over the corn belt states who become nervous over their empty feed lots, with a superabundance of cheap corn and lots of cornstalks and roughage, and after waiting for the market to weaken, they get restless and buy up cattle, regardless of prices. Of course, they figure that the cheapness of feed is largely an offset to the dearthness of feeders and stockers, but conservative old-time stockmen, who have had lots of experience in such matters, find it difficult to see it in just that way, and after watching the trend of events, they cannot feel convinced that buying feeders at \$5.50@6 per 100 lbs. and stockers nearly as high is quite a safe procedure. They notice that finished beef steers are selling at \$6@7, with a better inquiry from buyers for cattle around \$6@6.50 than for the higher-priced heaves, and also a better market for cows and heifers than for good steers most of the time. On the whole, it would be a time when caution should be observed and as little speculation in buying as possible. The packers are all the time active bidders for the better class of feeders, which is the very kind that farmers are especially desirous of securing for placing in their feed lots, and some farmers are trying their luck with feeding heifers.

Farmers generally have profited materially by the open winter, and there has been a remarkable saving in the corn fed to stock. Very little hay has been fed, and there is plenty of hay now held by farmers. Cattle have been running in cornstalks, with the silos and barns full of fodder, and those with hay for marketing are able to get unusually high prices. Within a short time timothy hay of the best grade has sold in the Chicago market for \$20.50 per ton, but since then it has fallen to \$19.50, while choice Kansas and Oklahoma prairie hay sells in that market for \$15. Straw wholesalers there at \$8@8.50 a ton for rye, \$7@7.50 for oat and \$6@6.50 for wheat.

P. L. Clay, of Oklahoma, says that breeders of Poland-China hogs are selling a great many hogs to beginners in that important industry and that interest in breeding pure-bred swine in that new state is growing rapidly.

Fremont Walker, of northwestern Iowa, says that not many feeder cattle are being shipped to that region, as farmers look upon prices as decidedly too high, but plenty of feeding steers were received there last autumn, when prices were much lower than now, and these cattle are doing well and will be ready to be marketed in the coming spring. Corn is the largest crop by far ever raised up there and is selling at 33@33½ cents a bushel when any is for sale, but most of the farmers prefer to feed it to stock when it is so low in value. Mr. Walker thinks that cattle that are fed for 100 days should return \$1 per 100 lbs. advance in prices to owners to compensate for expenses and care. Poland-China hogs are popular in northwestern Iowa and are fattening rapidly for the market, owners seeing no reason why their holdings should be shipped before attaining good weights. Last fall numerous droves sickened, and some farmers lost all their hogs at that time. The sickness was unlike the disease commonly known as "hog cholera," and inoculating the pigs with serum did no good apparently.

There has been recent marked improvement in the demand for cattle in the Chicago market for export, and this is naturally a matter of great encouragement to owners of cattle of this class. In a recent week 3,470 cattle were taken by exporters, buyers wanting steers of heavy weight that did not come too high in price, sales being mainly at \$5.75@6.55.

Stockmen who send their matured cattle to the Chicago market have been complaining of late that 1,250 to 1,400-lb. steers which they had fed from 100 to 120 days brought only \$6.35@6.75 per 100 lbs., prices which scarcely made good the cost of the corn eaten, after the first cost of the steers as feeders, ruling from \$5.75@5.90 per 100 lbs. During the same time lots of short-fed and "warmed-up" steers that weighed only 1,150 to 1,350 lbs. were sold at the Chicago stock yards for \$5.75@6.25.

It is time for farmers to greatly increase their operations in breeding hogs for the market. The United States census shows that the population of the country has increased 75,000,000 since 1840, while the increase in the number of hogs during the same period has been only about 21,500,000 head. Whereas in 1840 there were in this country 1½ hogs to every person, the human population in 1910 was double the number of hogs.

Geo. R. Collins, of Clay county, northwestern Iowa, states that quite a number of farmers in that part of the country who need some ready money are parting with their healthy stock hogs, and recent sales have been made of pigs weighing around 165 lbs. at \$7.75 per 100 lbs. These farmers could borrow money from the nearest country banks to tide them over a few months, but they belong to the class of farmers who are not willing to take any chances.



IS THE NIGHT—TO WRITE THAT POSTAL TO ME! YES, SIR; MAIL IT IN THE MORNING—BY FIRST POST

I WILL SEND YOU 4 Things—All "Corkers" ON THE MANURE SPREADER SUBJECT

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- 4—My Sizzling 1911 Announcement

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FIRST—The actual cost of material bought in tremendous quantities.
SECOND—The actual cost of our pay roll every Saturday night.
THIRD—One very small profit, based on this tremendous quantity and sold direct to you.
That simply is the secret of our low price. I don't need to make much on each one, do I? Figure it out for yourself. I make them all alike on automatic machinery with dies and jigs turning out thousands of perfect pieces all alike with the same operation on huge, expensive machinery, and that's the whole story. When you consider how I make these machines, then the quantity, then the system on which I sell them, there is no wonder that nobody can compete with me, and they never can compete with me unless they make them in the same way and sell them in the same manner. I can sell them to you for less money than some factories can make them at first shop cost.
The quality is there, too, and don't you forget it. Our trial to you will prove that.
Just write me that postal card now—tonight—for full information and particulars.
You'll be pleased with what I have to tell you on this spreader subject.
My 1911 offer surpasses all previous offers. I don't care what spreader you are figuring on buying, you can't afford not to get my proposition first.

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GALLOWAY STATION 649 Waterloo, Iowa

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The harder you work the Louden Hay Carrier and the heavier you load it, the better it shows up. You can't break it down—years of hard service won't send the LOUDEN HAY CARRIER

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The Louden Balance Grapple Fork is the best fork ever built. Will handle dry clover, alfalfa or thrashed straw where all others fail. The Louden Hay Carrier and Louden Grapple Fork will work in any barn and handle all kinds of hay with more satisfaction than any others. See them at your dealer's—if he does not have them, write us.

Send for catalog of complete barn and cow stable fixtures—Hay Carriers, Door Hangers, Litter and Feed Carriers, Cow Stalls, Cow Stanchions etc.—also our FREE BOOK on the value of manure and how to care for it.

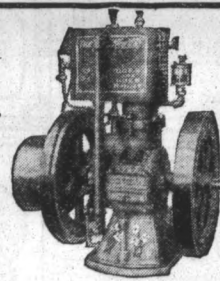
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3. Only one oiler to oil.
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6. All working parts enclosed.
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YOU CAN SAVE ON

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2. Engine oil.
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VETERINARY

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

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

Lump Jaw—Enlarged Gland.—Last summer my six-year-old cow had a bunch on jaw which I thought was lump jaw, but my neighbor thought it caused by a bruise; lately another one of my cows has a hard, movable bunch between the jaw bones. What do you advise? C. E. S., Caro, Mich.—Apply tincture of iodine to both bunches once a day. I am inclined to believe that your neighbor is right as the first cow may have met with an accident, causing an enlargement on bone and the other swelling is no doubt an enlarged gland. Give 1 dr. iodide potassium at a dose to each cow in feed night and morning for 15 days.

Muscular Spasm.—I have a ten-year-old Jersey cow that is troubled with cramps in both hind legs; she is fed corn, middlings and mangel wurzels; besides, has corn fodder and hay. I have a heater in my barn and she is fed warm food and chilled water. G. W. F., Lakeview, Mich. Your cow may have a weakness of the ligaments of stiffl joints or may have occasional spasms of the muscles of hind quarters. Rub her with equal parts turpentine, aqua ammonia and sweet oil every day or two. Better apply first to stifles and if she does not recover then treat the muscles of hips.

Abortion.—Cow bred in April lost her calf in October; she is very thin and is giving only two quarts at each milking. This cow is a very hearty eater, but appears to be little benefited by the food she eats. J. V. D. Bros., Bryan Center, Mich.—I am inclined to believe that your cow will prove unprofitable for dairy purposes; besides, she is liable to prove barren or perhaps have another miscarriage. All things considered, she had better be dried and fattened; if not, treat her to prevent abortion.

Piles.—Pigs seven weeks old are troubled with protruding piles and I would like to know the cause and also ascertain how they can be cured. W. B., Otia, Mich.

Constipation is the most common cause of piles of all kinds, therefore you should feed them food of a laxative nature. Apply the following lotion once or twice a day: Dissolve 1/4 lb. sugar of lead and 3 ozs. tannic acid in a gallon of water and apply once a day. Also dissolve 1/2 lb. powdered alum in a gallon of water and apply this lotion once a day.

Bone Spavin Lameness.—I have a mare that travels lame on account of having a bone spavin; therefore I would like to have you prescribe a remedy that would take out soreness. R. Z., St. Joseph, Mich.—Clip the hair off bunch and apply one part red iodide mercury and eight parts cerate of cantharides every week or ten days and give the mare absolute rest.

Distemper—Cough.—My horses had distemper a year ago and I thought they had recovered. C. F. McC., Spring Grove, Mich.—Mix together equal parts powdered licorice, ginger, gentian, fenugreek and bicarbonate soda and give each horse a tablespoonful at a dose in feed two or three times a day.

Ringbone.—I have a horse with ringbone, which causes lameness. This horse was fired once and blistered several times and is still lame. Would you advise me to have him fired once more? F. M. C., Ivondale, Mich.—Firing is considered by veterinarians to be the most heroic treatment that can be prescribed for this ailment. All things considered, you had better have him fired again and give him six or eight weeks absolute rest.

Grease Heel.—I have a valuable horse that has been troubled with grease heel for some time and his legs are quite badly stocked. A. J. P., South Boardman, Mich.—Dissolve 4 ozs. of acetate of lead, 3 ozs. sulphate of zinc and 3 ozs. of carbolic acid in a gallon of water and apply to sore heels two or three times a day. Also give him 1/2 oz. doses Fowler's solution in feed two or three times a day. Also give 1/2 oz. nitrate of potash in feed once a day for 15 days.

Exostosis.—My horse has a hard bunch on lower part of pastern which my horse-shoer calls sidebone. I have applied liquid blisters without any improvement. J. S., Scottville, Mich.—Apply one part red iodide mercury and six parts cerate of cantharides to sidebone once a week.

Nasal Catarrh—Indigestion.—I have a five-year-old horse that has been troubled with a discharge from both nostrils for the past 90 days. He also coughs some and is in an unthrifty condition and his heels are sore. A. B., Ortonville, Mich.—Mix together equal parts powdered sulphate iron, ginger, gentian, fenugreek, alkali lime, licorice and bicarbonate soda and give a tablespoonful at a dose in feed three times a day. Increase his grain allowance and feed some roots.

Bog Spavin—Thoroughpin.—Percheron colt, eight months old, has a large bog spavin and thoroughpin which causes some lameness; therefore, I should like to know what can be done for him. J. L., Montague, Mich.—Apply equal parts spirits camphor and tincture of iodine every day or two. He should be kept quiet.

Azoturia.—I have a mare that is sick with what our local Vet. calls lumbago. She went down after going a short distance and has been unable to get up for three weeks. She seemed to be in perfect health the morning she took sick.

Her water was dark as coffee. J. T., Munith, Mich.—She took azoturia, following high feeding on grain and no exercise. Give her 1 dr. ground nux vomica and 1/4 oz. buchu leaves at a dose in feed three times a day.

Dropsy.—My horse stands in the barn in bad weather and runs in the yard in good weather. I have given him sweet spirits of nitre for water farcy, with no results. What can be done for him? A. S., Essexville, Mich.—Give him a teaspoonful of powdered sulphate iron and a tablespoonful powdered rosin at a dose in feed until he is well. He should have some exercise every day.

Indigestion—Worms.—I have a horse that is out of condition and passes some worms. C. H. V., Star City, Mich.—Give your horse two tablespoonfuls of the following compound powder at a dose in feed three times a day: Powdered sulphate iron, gentian, quassia, cinchona and fenugreek, equal parts by weight and mixed thoroughly.

Open Joint.—Have a horse that stepped on his hind foot some three weeks ago and must have opened the joint, for it seems impossible to heal the wound. Our local Vet. prescribed remedies which fail to stop the discharge from joint. This horse holds foot up off the ground continually. F. N., Harbor Beach, Mich.—An open pastern joint is regarded as a serious ailment. I have obtained good results by keeping the animal as quiet as possible and apply cloths saturated with a lotion, made by dissolving one part bi-chloride mercury in 1,000 parts tepid water; these applications should be repeated every few hours. Also apply equal parts boric acid and iodoform lightly and cover sore with oakum.

Garget.—I have a heifer due to come fresh in three weeks that seems to be troubled with an inflamed bag. I have thought she might have bruised her udder, causing all this trouble. T. W. K., Fennville, Mich.—Perhaps it will relieve her if a portion of the milk is milked out of udder. Give her a tablespoonful of nitrate of potash at a dose in feed twice a day and apply equal parts alcohol, extract of witch hazel and tepid water. Her bowels should be kept open and this is best done by feeding roots or giving 1/2 lb. doses epsom salts daily until the desired effect is produced.

Barren Heifer.—My two-year-old heifer had a calf last spring; has come in heat regularly since, been mated several times but fails to get with calf. I have attempted to open neck of womb and failed. E. W. D., Woodville, Mich.—Either open with finger, or use a sound, which is made of steel highly polished and tapering to a dull point, or smear on solid extract of belladonna and this will relax the parts. Force is always necessary in such cases or you will fail to open the stricture.

Barren Twin Heifer.—Will it pay to keep for breeding purposes a twin heifer calf? The other calf was a male. A. B. U., Maple Rapids, Mich.—Heifers that are twins seldom breed, therefore you had better fatten her.

Ringworm.—I have a heifer that has dry, scaly sores on different parts of body. Would like to know what will cure her. J. H., Sand Lake, Mich.—Apply one part iodine and eight parts lard three times a week.

Bitter Milk.—The milk from my ten-year-old cow is bitter, the cream taken from it appears to be all right, but it is almost impossible to churn it into butter and I would like to know what is wrong. M. B., Howell, Mich.—Keep cow clean, disinfect stable, clean and air milking utensils and change her feed. The cream is kept in too cool a place. Give cow 1 oz. hypo-sulphite of soda at a dose in feed two or three times a day.

Subscriber, Clarksville, Mich.—Your cow died as the result of liver disease and could not have been saved.

Indigestion—Weakness.—I have a cow that has a poor appetite. She will freshen next May and is very thin and weak. W. F. M., South Haven, Mich.—She should be dried, well fed and kept warm. Give her two tablespoonfuls of the following compound powder at a dose in feed three times a day: Equal parts by weight of powdered sulphate of iron, gentian, ginger, quassia, cinchona and bicarbonate of soda. She should be fed plenty of grain and a good quality of fodder.

Thrush—Barren Cow.—My six-year-old horse has diseased frogs and I applied peroxide of hydrogen and coal tar disinfectant without effecting a cure. I also have a cow that calved last spring which was treated by our local Vet. and on account of her not cleaning properly. She has failed to get with calf. J. C., Bedford, Mich.—Keep the feet of your horse as dry and clean as possible and apply calomel to frogs twice a day and protect sores by wedging in some oakum after each application of medicine. Dissolve 1 dr. permanganate of potash in a gallon of clean tepid water and wash out vagina daily for 15 days or more. This treatment should be kept up until the discharge ceases. If this fails try the yeast treatment.

Accidental Abortion.—I have kept 15 or 20 cows for many years and none of them ever lost their calves before time. This cow dropped her calf at the end of six months and I would like to know what is best for me to do. L. J. D., Clayton, Mich.—One of your other cows may have hooked her, causing her to miscarry. If she cleaned properly, has no vaginal discharge and is thriving she will need no drugs but should have good care, plenty of good food and kept warm. If she has any discharge, dissolve 1 dr. permanganate of potash in one gallon of clean water and inject her daily.

Ophthalmia.—My sheep have been troubled with sore eyes for the past three months and some of their eyes are covered with a scum. E. E. T., Flint, Mich.—Blow calomel into eyes once every two days.

A. V. M., Nashville, Mich.—Your sow died of spinal paralysis and could not have been saved.

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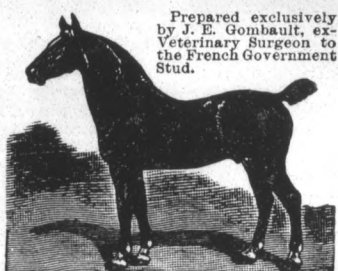
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Spasm of Larynx.—I have some three-months-old pigs that seem to have trouble every time they start to eat or drink. After taking a mouthful they stagger back, fall over and act as if having a fit. This sick spell does not last long, they soon recover and commence eating all right. R. G. W. Lucas, Mich.—Your pigs suffer from choking or have a spasm of larynx. Feed them warm food and they will be all right.

Grub in the Head.—One of my sheep turns to the left continually and seems to be near-sighted. I also had a lamb which acted much the same way, that died. J. M. Ortonville, Mich.—Blow some Scotch snuff up her nostrils once a day. Your lamb died of brain hemorrhage.

Pigs Cough.—I have some pigs that have been coughing for some time and I would like to know what to give them. W. G. Y. Oak Grove, Mich.—Give them a teaspoonful of equal parts ginger and licorice at a dose in feed three times a day.

Indigestion—Old Age.—I have two old horses that are lower in flesh this winter than they have ever been since I owned them. They are well fed and groomed daily, but are quite thin and all the medicine they have had is some stock tonic. J. W. H., Byron, Mich.—Their teeth may need a little attention; also give each one a tablespoonful of the following compound powder at a dose in feed three times a day: Equal parts by weight of powdered sulphate iron, ground gentian, cinchona, fenugreek, rosin and nux vomica, mix thoroughly. It is needless for me to say that they should be supplied with a little salt and some roots every day.

Knee Sprung—Knuckling.—I have a fine mare that is knee sprung and is also weak in ankle joints. C. J. Yale, Mich.—Many horses are of faulty conformation and inclined to have crooked knees and cocked ankles. If your mare is one of this kind treatment will not help her much. Fairly good results follow clipping off the hair and apply cantharides, which will blister lightly.

Laminitis.—I have a three-year-old colt that took sick after a 20 mile drive; he scoured badly and our local Vet. treated him for pneumonia. The second Vet. treated him for inflammation of the bowels and bladder and the third Vet. treated him for founder. His feet are in bad condition and both fore hoofs are coming off. J. V., Hilliard, Mich.—If your horse had been stood in hot water constantly for 24 or 48 hours after he took sick and then stood in cold water until his soreness and stiffness left the fore quarters no effusion would have formed in his feet and loosened the hoofs. The very best you can do now is to give him good care and trim away a portion of the dead hoof as rapidly as it pushes off. If there is any suppurating apply equal parts boric acid, powdered alum and iodoform daily.

Wart.—One of my colts has a wart situated on lower part of abdomen; it partly sloughed off, is now suppurating and refuses to heal. L. B. B., Delton, Mich.—Apply Monsel's solution of iron once a day; if this fails, apply acetic acid or vinegar daily. In my practice I usually cut off warts; they are skin deep.

Luxation of Stifle.—I have a colt coming two years old that has had weak stifle joints ever since birth and if there is a remedy for such an ailment I would like to try it. When traveling his stifle joints snap. D. W. W., Shabbona, Mich.—Apply equal parts turpentine, aqua ammonia and olive oil to stifles every two or three days. A recovery in such cases is doubtful.

Enlarged Knees—Indigestion—Worms.—I have a two-year-old colt that has a short neck and he found it difficult to reach the grass; straining seems to have brought on this knee trouble. I also have two mares that are hide-bound and out of condition. Have fed them stock food, also worm medicine prepared by this food company, but it failed to help them. D. S., Muskegon, Mich.—Apply one part iodine of mercury, and eight parts lard to bunches two or three times a week, or as often as you think it necessary to lightly blister. Feed your mares a small teacupful of molasses with their morning and evening meal daily; also give them some roots and perhaps you had better increase their grain ration.

Open Joint—Inflamed Hock.—Some five weeks ago one of my colts was kicked, injuring inside of hock joint and a few days later it opened. I succeeded in healing wound, but the colt must suffer great pain, for he holds foot off ground almost constantly. A. G. Y., Gladwin, Mich.—You had a case of open joint, which is always a very painful ailment. Apply one part iodine and eight parts lard to entire joint daily for a few days, then occasional applications as you think best. Keep the colt perfectly quiet and avoid exercising him until the lameness leaves.

Indigestion—Scratches—Stocking.—For the past six months my eight-year-old horse has not thrived as well as formerly, had wolf teeth extracted and he picked up a little in flesh but soon had scratches affecting hind legs. I treated them with home remedies and healed the sores, but his legs have stocked ever since his heels got well. W. A., Flushing, Mich.—His grinder teeth may need floating; if so file off sharp points of outside of upper rows and inside of under rows. Give him a tablespoonful of the following compound powder at a dose in feed three times a day: Equal parts by weight of powdered sulphate iron, gentian, ginger, fenugreek, and rosin, mixed thoroughly. Bandage hind legs in cotton, part of day.

Sprained Pastern.—Have a colt that has been lame for some time and the only swelling I find is under fetlock. G. H. D., Zeeland, Mich.—Apply one part turpentine, one part aqua ammonia and four parts olive oil to heel once daily.

Impaction of Bowels.—Have a horse that seems to be troubled with colic and one attack lasted 82 hours. I gave him linseed oil, but it failed to move his bowels or help him much. I would like to know how to prevent these attacks. R. L., Grant, Mich.—Avoid feeding food that

has a tendency to ferment or cause constipation, keep his bowels open, exercise him daily, give two tablespoonfuls of ginger and the same quantity of cooking soda at a dose in feed two or three times a day.

Bone Spavin—Indigestion—Slavering.—A bone spavin came on my 18-year-old mare three years ago and she has been very lame ever since. Would like to know how to cure her of lameness. Another old mare has stomach trouble, slobbers some and is not thriving. E. M., Clinton, Mich.—Her teeth may be irritating the cheeks and tongue, causing salivation. Float off sharp points. Give a teaspoonful of powdered sulphate of iron at a dose in feed three times a day. Chronic bone spavin lameness such as your old mare has, and when much of the joint is involved, they usually remain stiff and lame; however, you might have her fired, but I am inclined to believe she will not recover.

Diseased Molar Tooth.—For the past 12 months my nine-year-old mare has had a discharge from left nostril and a few weeks ago another horse shows similar symptoms. This discharge has an offensive odor. H. H., Bradley, Mich.—The root of a grinder tooth in each case is perhaps decayed and the discharge from it drops into nostril. Have the teeth extracted. It is possible but not very probable, that it is glanders, but if so the membrane in nostril will be ulcerated. If your veterinarian suspects glanders have him apply the Mallein test.

Lymphangitis.—I would like to know some of the symptoms of lymphangitis and a remedy for same. O. A. G., Boyne City, Mich.—This ailment usually follows over-feeding on concentrated food and want of proper exercise, exposure to wet, and cold drafts; also follows attacks of indigestion and digestive disturbance. Give a laxative to unload the stomach and bowels, foment leg with hot water often and feed no grain. Hand-rub leg and give 2 drs. iodine of potassium at a dose three times a day. Remove the causes and you will generally prevent it.

Heifer Fails to Come in Heat—Kernels in Teats.—One of my heifers has not been in heat since last spring, and she also has a few kernels in teats, which do not interfere with milk flow. A. W. O., Novi, Mich.—Give her 15 grs. powdered cantharides at a dose in feed twice a day for 20 days and apply iodine ointment to kernels daily.

Exostosis on Face.—My cow has a hard bony bunch on face, situated between the mouth and eye, which I should like to remove. F. E. D., Climax, Mich.—Apply one part red iodine mercury and four parts lard twice a week.

Acidity of Stomach.—My cows seem to crave rubbish and old bones and I would like to know what to give them as a remedy. F. L. B., Carleton, Mich.—Give each cow two tablespoonfuls of cooking soda and four tablespoonfuls powdered charcoal in feed three times a day. Salt them well and feed some roots.

Chronic Garget.—My cow has had udder trouble for a few weeks and she is falling in milk flow; her bag was caked some when she calved. G. P., Delton, Mich.—Apply iodine ointment once a day and give her 1 dr. iodine of potassium at a dose in feed twice daily.

Indigestion—Worms.—My ten-months-old colt is not thriving and he may have some worms. R. D., Henderson, Mich.—Give him a tablespoonful of ground gentian and the same quantity of ginger at a dose in feed three times a day and be sure to increase his grain ration, for you are not feeding him enough.

Cow Pox.—My cow has small sores on udder which discharge a watery substance, then dry and soon heal. What shall I put on bag? H. T. B., Pittsford, Mich.—Apply one part oxide zinc and five parts vaseline once a day and give her a tablespoonful of nitrate of potash once a day for a few days. Keep her bowels open.

Wart.—I had a yearling bull that had a wart on eyelid which was not treated, for I fattened him, and lately I notice one of three calves that have been running in the same stable has a wart. I would like to know if warts are infectious or contagious and are my other cattle in any danger? E. A. V., Morenci, Mich.—Warts are not contagious. They are best treated when cut off.

Blocked Teat.—Two-year-old heifer came fresh a few days ago and fails to give milk from one of her teats. J. G. H., Lowell, Mich.—If you do not own a milking tube, measure teat and order one of The Lawrence Publishing Co. The 3 1/2 inch costs 35c, 3-inch 30c, delivered by mail, prepaid.

W. H. P., Hillsdale, Mich.—Give your pigs equal parts ground gentian, ginger and bicarbonate of soda in feed twice or three times a day; half of a teaspoonful is a dose for each pig.

Assafoetida and its Action.—I wish you would tell the readers of the Michigan Farmer what effect tincture of assafoetida will have if given to pregnant cows. What is the dose and is it a remedy to prevent abortion? I. N. B., Pittsford, Mich.—Assafoetida was formerly much used in the treatment of spasmodic and flatulent colic, but it is now seldom prescribed by veterinarians. It is sometimes used in convulsions, chronic catarrh and bronchial affections and it should be combined with chloride of ammonia. The tincture is 20 per cent the strength of the gum resin, the dose of tincture is one to four ounces for horses or cattle. Physiological Actions.—Antispasmodic, nerve and cerebral tonic and stimulant. It also has many other actions and stimulates the secretions in general. It deranges the stomach, if given any great length of time. It seldom prevents abortion and should not be given to pregnant cows. The gum is often placed on the bit of bridle, and it is a traditional belief that it wards off infectious and contagious ailments, but you must not believe that it possesses any such merit.

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Herd, consisting of Trojan Erions, Blackbirds and Prides, only, is headed by Egerton W. Trojan Erion, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910. He is assisted by Undulata Blackbird Itc.
WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—High type of Dairy animal. Young bulls and bull calves for sale. Prices low. Inquiries solicited.
BERKSHIRE SWINE.
FINE POULTRY—White and Barred Rocks, White & Buff Orpingtons, White Wyandottes and Leghorns. Eggs in season 30c each.
MICHIGAN SCHOOL FOR THE DEAF, Flint, Mich.

THE double standard Polled Durham, Wild eyed Abotts born. Milk stain, Grand Champion silver cup winner at 1910 Michigan State Fair. JAS. H. HALL, Port Austin, Michigan

FOR SALE—Registered Guernsey Bull two years old. Tuberculin tested. Sired by Glenwood of Waddington. J. T. Weeks, Napoleon, Mich.

For Sale—A Choice Guernsey Bull Calf
born Aug. 22nd, 1910, grand dam Imp. Jane of the House 23561; dam, Paxtang's Hermosa of Lewiston No. 16453. Have no use for him. For quick sale. Price, \$40.00.
M. L. RAYMOND, Grass Lake, Michigan.

HOLSTEINS—Bull 9 months old, some younger. Best blood of the breed. HOBART W. FAY, Eden, Ingham Co., Mich.

FOR SALE—Four choice Holstein bull calves at forty dollars each. F. O. B. Allegan. Pedigrees and records furnished on application. Williams & Whitacre, Allegan, Mich.

FOR SALE—One of the best bred, registered Holstein bulls in Michigan, with six near dams with a record of over twenty-six pounds of butter per week. Can be purchased at a right price. Individually as fine as pedigree. About fourteen months old. Write R. R. McFall, Adrian, Mich.

Holsteins—Young bulls of high quality and low prices, considering breeding. Get our descriptions. LONG BEACH FARM, Augusta, Mich.

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.

25 Holstein Cows For Sale—10 good young cows, bred to Count De Kol, due to freshen in Feb. & Mar. 15 others bred to equally as good bulls. 10 bull calves, mostly from A. R. O. Dams. 1 yearling bull sired, Admiral Prilly Walker, Dam, a daughter of Manor De Kol. This is good stuff. If you want some of it, write me just what you want. L. E. Connell, Fayette, Ohio.

Holstein Friesian Cattle also a fine bunch of Cockerels. W. B. JONES, Oak Grove, Michigan.

Holstein Bull Calves—Choicest A. R. O. breed. \$30. Prices, \$50 and up. COLEBROTHERS, Ypsilanti Farms, Ypsilanti, Mich.

FOR SALE—Holstein Bull 2 years old \$125. Bull Calves 6 months to 1 year \$50 to \$100. Bred heifers \$50 to \$200. Oldest herd in Ind. Send for Photos and Pedigrees. W. C. Jackson, 715 Rex St. South Bend, Ind.

HEREFORDS—Both sexes and all ages for sale. Also Poland-China hogs. ALLEN BROS., Paw Paw, Mich.

Register of Merit Jerseys. Official yearly list of young bulls from dams with official records of 400 pounds and upwards of butter.
T. F. MARSTON, Bay City, Michigan.

LILLIE FARMSTEAD JERSEYS.
HERD BULLS { Vidas Signal St. L. No. 58197. Jubilee's Foxhall, No. 82299. Bull calves sired by these great bulls, and out of splendid dairy cows, many of them in test for register of merit. Also a few heifers and heifer calves for sale. Write for description and prices. Satisfaction guaranteed, or money refunded.
COLON C. LILLIE, Coopersville, Michigan.

Jersey Bull Calf born April 10, 1910. Dam will go in Registry of Merit this year, gave 8224 lbs. milk as 2-yr-old. Sires Dam's record 1960 lbs. milk in 10 1/2 months. THE MURRAY-WATERMAN CO., R. 6, Ann Arbor, Mich. Bell Phone.

Jersey Cows for sale, large, rich milk producers, also 4 heifers and 2 yearling bulls, registered stock. W. J. BROWNE, Muliken, Mich.

For Sale—Registered Jersey Cattle, either also Reg. O. I. C. hogs. C. A. BRISTOL, Fenton, Mich.

Dairy Bred Shorthorns—A few good bulls good as cash. J. B. HUMMEL, Mason, Mich.

SHORTHORNS and POLLED DURHAMS. For sale. A. D. DeGARMO, Highland, Michigan.

3 Scotch Topped Shorthorn yearling Bulls and a few Cows for sale. W. C. OSTUS, Hillsdale, Michigan.

Scotch Shorthorns—3 young Bulls and a few Cows and a few sows and gilts for sale. JOHN LESSITER'S SONS, R. No. 1, Clarkston, Mich.

SHEEP.

DISPERSION SALE Will sell my entire flock of registered Hampshire 65 ewes, bred to lamb in March and April, 15 ewe lambs, 6 ram lambs, 2 yearling rams. Write for what you want.
C. D. WOODBURY, Lansing, Michigan.

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

Oxford Down Sheep—Good Yearling Field Rams and ewes of all ages for sale. I. R. WATERBURY, Highland, Michigan.

Reg. Rambouillets—I have 100 ewes, among them all of my young ones and best. Also 85 ewe and ram lambs. Live 2 1/2 miles east of Morrice on G. T. Road. Address J. Q. A. COOK.

INGLESIDE SHROPSHIRE—Rams of all ages. Bred ewes, singly or in lots. H. E. Powell, Robt. Groves, Shepherd, Ionia, Mich.

SHROPSHIRE HALL STOCK FARM
Has for sale, twenty-five choice bred yearling ewes, at a low price, also a few good three and four year-old, bred ewes.
L. S. DUNHAM & Sons, Concord, Michigan.

HOGS.

Durocs & Victorias—Growthy Spring Boars & Gilts of choicest breeding from Prize Winners. M. T. STORY, R. 248, Lowell, Michigan.

HUPP FARM BERKSHIRES!
WON 189 PRIZES IN 1909.
Stock of both sexes and all ages for sale. Breeders of Guernsey Cattle, M. B. Turkeys, Barred Rock Chickens, Pekin Ducks. GEORGE C. HUPP, Manager, Drawer A, Birmingham, Michigan.

Berkshires—Two yearling sows bred for spring farrowing. A few choice July gilts & boar pigs for sale. A. A. Pattullo, Deckerville, Mich.

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

DAMS BROS. Litchfield, Mich., breeders of Imp. Chester White and Tamworth swine, service boars, sows bred or open, of either-breed. Shorthorn Cattle, Buff Rock, Buff Wyandotte, W. Orpington, Chks. all breeding stock leading winners.

DUROC-JERSEY SWINE and HOLSTEIN FRIES-IAN CATTLE One boar and one sow yet for sale. E. R. CORNELL, Howell, Michigan.

DUROC BRED GILTS for sale, extra good ones also one Reg. Holstein Cow 4 yrs. old and 1 heifer calf 4 mos. old. M. A. BRAY, Okemos, (Ingham Co.) Mich.

Capitol Herd 1888. One last Spring Boar and Spt. 1910 Gilts for sale. J. H. Banghart, R. 6, Lansing, Mich.

DUROCS—25 Bred Sows, of high quality. 10 Excellent Boars ready for service. 75 Fall Pigs both sex. Write or come and see. J. C. BARNEY, COLDWATER, MICHIGAN.

IMPROVED CHESTERS—Young boars ready for service, orders taken for sows bred for spring farrow. Also Holstein Bull Calves of the best of breeding. W. O. WILSON, Okemos, Mich. Both Phones.

O. I. C's—Hogs all ages for sale, sows bred or open, boars any age or size. Shipped on approval. HARRY T. CRANDELL, Rolling View Stock Farm, CASS CITY, MICHIGAN.

O. I. C. Hogs all ages. Sows bred, and more. H. H. JUMP, Munith, Michigan.

O. I. C. Swine—Spring, summer & fall farrowed, both sexes, breeding and type right. Geo. P. Andrews, Dansville, Ingham Co., Mich.

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

O. I. C. Early Fall Pigs Low prices. Only 4 bred gilts for sale. C. J. THOMPSON, Rockford, Michigan.

O. I. C. SWINE—For sale now fall pigs got by Grand Son of Jackson Chief, the World's Champion and Grand Champion O. I. C. Boar. Write for live prices on pairs not akin. A. J. GORDEN, R. No. 2, Dorrr, Michigan.

FOR SALE—Fall Pigs and Bred Gilts B. M. WING & SON, Sheridan, Michigan.

GREAT POLAND-CHINA HOG SALE.
JANUARY 20th.
60 sows bred for spring farrow. If you want the best, attend my sale as I have the best in the state.

WM. WAFFLE, Coldwater, Michigan.

Butler's Famous Wonders—the Big Poland-Chinas that make good. They grow big, because they have been bred big for 20 years. Some great Aug., Sept., Oct., pigs, good enough for any breeder, cheap enough for any farmer. J. C. BUTLER, Portland, Mich. Bell Phone.

RECORDED MULE FOOTED HOGS are said to be immune from hog cholera. Stock of all ages for sale. John H. Dunlap, Box M, Williamsport, O.

O. I. C. SWINE—Boars all sold. 20 young sows bred for spring farrow, for sale. E. E. BEACH & SON, R. No. 3, Brighton, Michigan.

O. I. C.—Choice Bred Sows. Boars ready for service and fall pigs. From World's Fair Winners. Glenwood Stock Farm, Zeeland, Michigan. Phone 94.

O. I. C.—Bred sows all sold. 1 June boar left. A few fall pigs either sex. Satisfaction guaranteed. A. NEWMAN, R. 1, Marlette, Michigan.

12 P. C. Boars ready for service, sired by a Son of the World's Champion Meddler; dam, undefeated Lady Louise. Z. Kinn, Three Oaks, Mich.

POLAND-CHINAS—Large styled Gilts and older sows bred. Boars ready for use, also fall pigs. Prices low. ROBERT NEVE, Pierson, Michigan.

POLAND-CHINAS—Fall pigs either sex. Young sows, spring farrow. Write L. W. Barnes & Son, Byron, Shiawassee Co., Mich.

P. C. SOWS bred to Expansion, Big values. Send for price list. WOOD & SONS, Saline, Michigan.

POLAND CHINAS—Sows of big type. Gilts bred for spring farrow. A few choice boars and fall pigs. E. D. BISHOP, Route 38, Lake Odessa, Michigan.

LARGE TYPE P. C.—Largest in Michigan. Sept. pigs weigh from 175 to 185 lbs., the herd without an equal combining size and quality. W. E. LIVINGSTON, Parma, Mich.

P. C. SOWS—Sired by the largest boar ever in this part of Michigan. Bred to a son of a World's Fair Champion. Satisfaction guaranteed. R. W. Mills, Saline, Mich.

LILLIE FARMSTEAD YORKSHIRES.
The great medium bacon type. The hog that wins on sheer merit. Large, vigorous, prolific. Gilts bred for March or April farrow. Fall pigs, either sex. Pairs not akin. I guarantee satisfaction, or money refunded. COLON C. LILLIE, Coopersville, Mich.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

IN WHAT FORM SHALL WE SELL DAIRY PRODUCTS?

Many milk producers are so situated as to make it possible for them to sell either milk, cream, butter, cheese or ice cream. To those so situated the question naturally arises, what method of disposal will yield the largest returns? This, of course, will depend to a great extent upon the relative market prices of these products.

To show how dairymen may determine for themselves in what form they may realize most for their milk, a simple method of calculation is here presented in which, for purposes of illustration, the following prices have been adopted: Milk, seven cents per quart; 30 per cent cream, one dollar per gallon; butter, twenty-seven cents per pound; cheese, thirteen cents per pound, and ice cream made from 20 per cent cream, one dollar per gallon. Using these as average prices for a given locality, let us determine the relative returns from 100 pounds of milk containing four per cent (4 lbs.) butter-fat, (1) when retailed as milk, (2) when sold as cream, (3) when sold as butter, (3) when sold as cheese, and (5) when sold as ice cream.

(1) value of milk. Since milk weighs 2.15 lbs. per quart, 100 lbs. of four per cent milk are equal to 46.5 quarts which, at 7 cents per quart, are worth \$3.25.

(2) value of cream. One hundred lbs. of four per cent milk will make 13.33 lbs. of 30 per cent cream as determined by the following rule: To find the number of pounds of cream that can be obtained

100 lbs. of four per cent milk will make 2.38 gallons of 20 per cent cream. (see preceding rule for calculating cream). Allowing an overrun of 50 per cent, we get 3.57 gallons of ice cream which, at \$1 per gallon, are worth \$3.57. Adding to this the value of 80 lbs. of skim-milk which, at one-third cent per pound, are worth 27 cents, we get a total of \$3.84 as the value of 100 lbs. of four per cent milk sold as ice cream.

To sum up, the preceding calculation shows that 100 lbs. of milk testing four per cent butter-fat are worth:

\$1.50 when sold as cheese.

\$1.58 when sold as butter.

\$1.89 when sold as cream.

\$3.25 when retailed as milk.

\$3.84 when sold as ice cream.

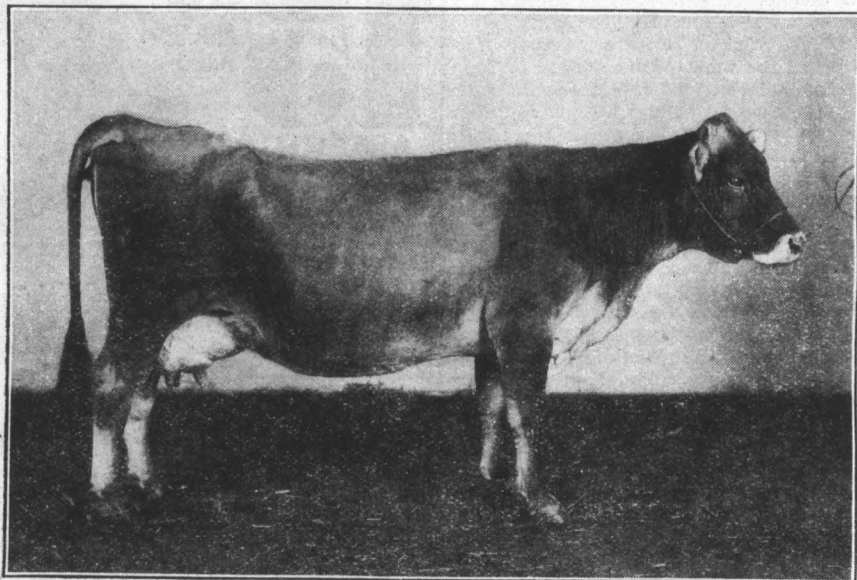
It is to be remembered that the above figures show the relative gross returns at the prices assumed in the calculation. The net returns will vary according to the expense involved in handling the milk and the products therefrom and also according to the use made of the skim-milk. If made into cottage cheese or skim-milk buttermilk the value of skim-milk will be considerably greater than that given it in the above calculation.

WISCONSIN.

JOHN MICHELS.

INCREASING THE AMOUNT OF BUTTER-FAT.

A great many farmers and dairymen seem to entertain the erroneous idea that they can, by feeding certain rations, cause their cows to produce milk with an increased amount of butter-fat. The power of producing a certain amount of fat is born in the cow and no ration fed will in any way effect that per cent. Any change in the per cent of butter-fat is due to a change of condition in the cow. An ab-



"Folie," Champion Brown Swiss Cow at National Dairy Show.

from a given amount of milk, multiply the milk by its test and divide the product by the test of the cream. Thus the amount of 30 per cent cream from 100 lbs. of milk testing four per cent equals $(100 \times 4) \div 30 = 13.33$ lbs.

Since a gallon of 30 per cent cream weighs practically the same as a gallon of water (8.35 lbs.) the 13.33 lbs. of cream are equal to 1.6 gallons which, at \$1 per gallon, are worth \$1.60. Allowing one-third cent per pound for skim-milk, we have 29 cents as the value of 86 lbs. of skim-milk, which gives a total value of \$1.89 for the 100 lbs. of four per cent milk sold as cream.

(3) value of butter. One hundred pounds of four per cent milk will yield four and two-thirds pounds of butter because, where up-to-date methods of creaming and churning are followed every pound of butter-fat will make one and one-sixth pounds of butter. Four and two-thirds pounds of butter at 27 cents a pound are worth \$1.26. Valuing buttermilk at the same price as skim-milk (one-third cent per pound), 32 cents should be added to \$1.26 as the value of the skim-milk and buttermilk, making a total of \$1.58 for the 100 lbs. of four per cent milk made into butter.

(4) value of cheese. Since one pound of butter-fat yields approximately 2.7 lbs. of cheddar cheese, 100 lbs. of four per cent milk will yield 4×2.7 , or 10.8 lbs. of cheese which, at 13 cents per pound, are worth \$1.40. Allowing ten cents as the value of the whey from the 100 lbs. of four per cent milk, we get a total of \$1.50 as the value of 100 lbs. of four per cent milk sold as cheese.

(5) value of ice cream. Since a gallon of 20 per cent cream weighs 8.41 pounds,

rupt change of kind of feed given will sometimes throw a cow out of normal condition and cause her milk to show an increase or decrease in the per cent of fat, for a few days but as soon as she regains her normal condition she will again show the old per cent.

The way to get more butter-fat is to feed rations that will cause the cow to give an increased flow of milk. Good care and kind treatment should be given in liberal doses, also. By a careful system of selecting and breeding one may increase the per cent of fat for that is the way in which the great breeds of dairy cows have been brought to their present standard. By following this plan we will have still better cows in years to come.

OHIO.

S. CONNELL.

INCREASE IN CONDENSED MILK.

There is now one important factor which has considerable bearing on the milk, butter and cheese markets of the country and one which is of considerable interest and, incidentally, profit to the dairyman, and that is the condensed milk industry. In 1905 the government figures showed that 712,000,000 pounds of fresh milk were received by the condensing factories in the United States. The industry has grown to such an extent during the last five years that it is believed safe to say that the figures for 1910 will show receipts by the condenseries in operation aggregating 1,500,000,000 pounds of fresh milk. The condensory prices average from 20 to 40 cents more per 100 pounds of fresh milk than creamery and cheese factory prices. As yet, however, condenseries are not established extensively enough to create a general demand for milk.

(No. 5)

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Victor Lawson, publisher of the Chicago Daily News

T. T. Bacheller, publisher of the Northwest'n Dairyman

L. E. Holden, publisher of the Cleveland Plain Dealer

W. A. Shaw, publisher of the Texas Farmer

H. G. McMillan, publisher of the Farmer's Tribune

Geo. Booth, publisher of the Detroit News

Geo. Brumder, pres't of the Germania Publishing Co.,

and many others like them, good dairy farmers as well as leading editors and publishers, each of whom is possessed of much personal experience and a thousand authoritative sources of separator information, are among the 1,250,000 satisfied users of DE LAVAL Cream Separators?

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We know that our roofing which was put up 25 years ago is still in excellent condition—and should last 25 years longer. We do not simply tell you or promise you our roofing will last for 15 years—we guarantee it. Ask your dealer about DICKELMAN EXTRA. If he doesn't sell it, write us at once for sample and our valuable roofing book—sent prepaid. Know why we can guarantee our roofing for 15 years while others make vague promises that mean nothing.

The secret of the durability of Dickelman Extra lies in the wonderful system of galvanizing—and the high quality of the materials used. The metal sheet we use for a base is made by a special process which leaves it tough—yet pliable and open-grained. So the galvanizing material fills up the "pores"—and actually becomes a part of the finished sheet. This prevents it from cracking—scaling—wearing or rusting off.



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HOLSTEIN BREEDERS MEET.

About 90 Holstein breeders, with their wives, gathered for the annual banquet at Hotel Wentworth on the evening of Jan. 10. It is needless to say that the hotel management has made itself solid with the Michigan breeders, and after the banqueters had done their best, but failed to clear the tables of their load, President Crandall, of Howell, called them to order and introduced R. C. Reed, of Howell, as toastmaster. The following gentlemen responded in a happy vein, underlying their remarks solid argument, and congratulated the breeders on their friendly feeling: Fred R. McDonel, Lansing; F. W. Munson, Howell; L. M. Hatch, Big Bay; Geo. H. Gelispie, Mason; A. B. Niles, Grand Ledge; President Snyder and Prof. Anderson, Agricultural College; Geo. H. Brownell, Detroit.

The regular meeting was called to order at 10 o'clock on the 11th. President Crandall congratulated the breeders of Michigan on the bright outlook for the breed in 1911, the world's record had again been broken by the Holstein-Friesian cow, with over 37 lbs. of butter to her credit, and Michigan was proud of the fact that the sire, Pontiac Korndyke, and Grand Sire, Hengerveld De Kol, had both been owned in Michigan. The secretary-treasurer reported many new members and the finances in good shape. The \$1 membership fee was cut out but the dues remain at \$2.

A committee was appointed to look after legislation, consisting of J. H. Brown, Byron; D. D. Aitken, Flint, and R. C. Reed, Howell. It is the purpose to urge stringent laws in regard to importing cows suffering with tuberculosis, and to see that stringent laws relating to imitation butter are passed and those in force lived up to. Recognizing the efforts put forth in behalf of dairying, Prof. A. C. Anderson, of M. A. C., and Geo. H. Brownell, of Detroit, were made honorary members of this association. Resolutions were offered sympathizing with W. K. Sexton, Michigan's oldest breeder and importer, in his severe illness, and hoping for his speedy and ultimate recovery. Also petitioned the National Holstein-Friesian Association of America to have the secretary of the advanced registration issue free to the members asking for it, every six months, the record of all cows tested. Papers were read by F. W. Munson and S. H. Munsell, of Howell. Much important business was attended to and thus ended one of the most successful years for the breeders of Michigan.

Officers for the ensuing year: Fred R. McDonel, Lansing, president; John B. Strange, Grand Ledge, vice-president; Chas. R. Reed, Howell, secretary-treasurer; directors, Frank R. Crandall, Howell; L. M. Hatch, Big Bay; J. Fred Smith, Byron; H. W. Norton.—J. Fred Smith, Secretary.

A NEW FROZEN DAIRY PRODUCT.

A new frozen dairy product has just been brought out by the dairy section of the experiment station at Ames, Iowa. This product, which has been named lacto, is made of loppered whole or skim-milk, with the addition of eggs, sugar, lemons and flavoring materials. Lacto has a more pleasing flavor than sherbets and ices, and contains considerably more nutriment. It contains as much protein as ice cream, less fat, and more acid.

In an experiment in which 179 persons sampled lacto, 128 pronounced it very good, 37 good, six fair, and eight poor. Comparing it with common vanilla ice cream, 111 reported that they preferred lacto, nine considered it equal to ice cream, and 59 preferred the ice cream. Comparing lacto to sherbet, 123 preferred lacto, 30 preferred sherbet, and 26 considered lacto equal to sherbet.

Scientists have found that there are large numbers of putrefactive bacteria in the intestines, which are very injurious and may even shorten life. Metchnikoff, the famous Russian scientist, claims that old age is the result of slow poisoning caused by these bacteria. He recommends the drinking of sour milk, so as to replace the harmful putrefactive bacteria by lactic acid bacteria, which are harmless. The trouble with this remedy is that few people like sour milk. To provide these lactic acid bacteria in a more palatable form was one of the reasons for introducing lacto. The lactic acid bacteria are not killed by freezing, and if lacto is eaten frequently enough there is every reason to believe that these bacteria will replace the more harmful ones in the intestines. This will result in improving the health and prolonging life.

The milk to be used in the manufacture of lacto is prepared in a similar manner to the starter which is used for cream ripening. A commercial lactic acid culture is used. This is added to a pint of skim milk which has been pasteurized at a temperature of 85 degrees C. (185 F.) for 20 minutes, and after pasteurization cooled to from 20 to 22 degrees C. (68-71 F.) The lactic acid culture is thoroughly mixed with the milk and left at 20 degrees C. (68 F.) until the milk has coagulated. Then another bottle of skim-milk is pasteurized and cooled in the same manner, but instead of the commercial culture, a part of the coagulated milk is added to insure the souring of the milk inside of 18 hours. This operation is repeated until the final batch of soured milk obtained has lost the undesirable flavor due to the substance in which the commercial culture was preserved. After this point has been reached, which requires from four to six days, the last sample of soured milk obtained is added to a larger amount of pasteurized skim-milk. This is then treated the same as the former lots. In this way an amount of milk sufficient to work with is obtained.

Lacto can be made in the household on a small scale without buying a commercial starter. Take a bottle of good, clean, fresh milk which has not been heated, and set it away at a temperature of from 68 to 70 degrees F. until it coagulates. If it coagulates as a smooth solid curd without pinholes, if the aroma is clean and pleasant, and the flavor nice and creamy, it can be used as a starter for a larger amount of whole or skim-milk.

The milk, when ready to be used for lacto has a mild, clean, acid flavor. The curd must be thoroughly broken up. This is accomplished by pouring it from one pail to another until it is as smooth and velvety as rich cream. From this "lacto milk" the various lactos are prepared.

One of the most popular kinds of lacto is cherry lacto. This is prepared from the following formula, which is sufficient for five gallons of the finished product: Three gallons lacto milk, 9 lbs. sugar, 12 eggs, 1 quart of cherry juice or concentrated cherry syrup, 1½ pints lemon juice.

The sugar is first dissolved in the lacto milk. The eggs are then prepared. The whites and yolks are kept in separate containers and each lot is beaten with an egg-beater. Both the yolks and whites are then added to the milk. The mixture is thoroughly stirred and strained through a fine wire gauze. The fruit juices are added last. If there is any indication of the juices precipitating the casein, they should be left out until the mixture has begun to freeze. The freezer is run until it turns with difficulty, when the paddle is removed. The brine is removed and the freezer repacked with ice and salt and left for an hour before the contents are served.

THE SILO FOR DAIRYMEN.

At this season of year dairymen or dairy farmers who own silos, like to talk about silage. Good silage comes as near being June pasture in January, as any feed with which the dairyman is familiar. Its succulent or juicy nature especially fit it for stimulating the milk flow, and keeping the cow in vigorous health.

Probably the most important rule in the profitable dairy is to keep the cow's milk flowing as freely as possible after the flow has once been started by parturition or calf-birth. To do this demands right feeding and good care. Silage is almost necessary to right feeding. Silage is a cheap feed to put up, and valuable to use. It is grown on the farm. This fact is of importance in this day of high-priced mill feeds.

Read what a few Missouri dairymen have recently said about silos and silage. Messrs. J. R. White & Son say: "We consider silage one of the best feeds we ever used to keep up the milk flow in winter. Since we began feeding silage we have never had a cow off feed and we are feeding a cow all she will eat."

Mr. John Hosmer, proprietor of the well-known Hosmer farm has this to say: "Have a silo by all means. If intending to get into the dairy business and don't plan a silo, stay out. If dairying and are not figuring on a silo, get out. For in either case, the modern dairy methods of the fellow who has and uses the silo will put you out."

Shepard Brothers say this: "A silo is one of the very best things a man can invest his money in if he is in the dairy business. You can get more feed for less money out of a silo than an, other way we know of."

H. E. McNATT.

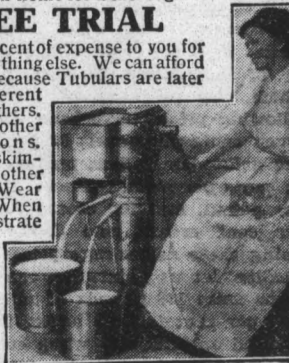
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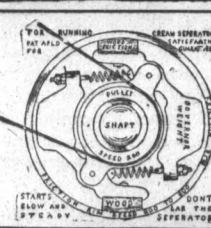
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THE LATH AND PLASTERED SILO.

I am thinking of building a silo and I would like to know what you think of a lath and plastered silo. Will they stand all right? Do they ever crack or bother? I do not have money to experiment with on a lath and plastered silo and have it go to pieces. Now I have in mind the silo erected by W. G. Boyd and shown in Nov. 5 issue of Michigan Farmer. Are there any improvements you would add to this? Would it need anchoring, that is, any more than its being bolted to the foundation as it is? How long have you used your silo?

Hillsdale Co.

G. B. W.

I have expressed my opinion of the practicability of the lath and plastered silo so many times in the Michigan Farmer, that it would seem that all the readers would understand exactly how I feel about it. Now, this lath and plastered silo, or as some call them, cement lined silos, are not a new thing. Mr. H. P. Guerler, of Illinois, has had them in use for years and years. In fact, they are sometimes spoken of as the Guerler Silo. Not only this, but people in Minnesota and in northern Wisconsin, have used the lath and plastered silo almost as long as any silos have been in use. If you will read the chapter in King's Agricultural Physics, on silos, you will find a description of this silo and its history. It is not some new thing, it is something that has been tried out. Hence, I would say that it is all right. I could certainly say that in my opinion G. W. Boyd's silo, as described in The Farmer recently, would be a splendid one. But I do not believe that it is necessary even, to go to all the precautions that he took in making this silo.

Two-by-four studding placed 16 inches apart, or if you are at all afraid, 2x6 studding, lather on the inside with 3/4-in. lath, (I would not use common house lath because I think they would spring between the studding perhaps, but would use board lath), nailed to the studding, and then boarded on the outside with 3/4-in. stuff sprung around and nailed to the studding, makes a silo for all ordinary heights that is perfectly solid and substantial. And again, you need not be afraid of its blowing over, you don't have to anchor it. It is well enough to put some bolts into the cement wall, and have them come up through the sills, but there is no use of any guy wires, as it is a very substantial building. You need not be at all afraid of it.

Now, nothing will ever give out about this silo, with perhaps the exception of the cement on the inside. You may bang holes in this, or the acid in the ensilage may corrode it some, but all you have to do to have a brand new silo is to give it another coat of plaster. You will not have to do this inside of 12 or 15 years.

DAIRY NOTES.

Chicago Health Commissioner Evans ascribes tuberculosis to overworked cows, the forcing process used to cause an enormous flow of milk rendering them subject to disease. The dairy cows are fairly stuffed with bran, oats, clover and other feed, while they are made to stand in barns for months making them easy marks for tuberculosis. Dairy cows work too hard and rest too little, says this authority, who has made the subject a long study, manufacturing milk being hard work. The ox has plenty of fresh air, working in the open, while the dairy cow is imprisoned month after month at her stallion in a poorly ventilated barn, full of bad odors and disease-breeding germs. The commissioner adds that the dairy cows in the Chicago district go to pieces in five years, but they are kept at the grind of producing milk much longer than that. A good Holstein cow produces 30 quarts of milk a day under the artificial conditions of the dairy districts, or enough to feed nearly four calves.

Dairy interests are deeply affected by the frequent declines that have taken place in butter prices. Many farmers have become interested in this industry in recent years, and they now find that excessive stocks of butter placed in cold storage last summer are now being withdrawn and sold at much reduced prices, thereby carrying down prices for new-made creamery and dairy lines of butter in sympathy. The singularly mild and open winter has greatly increased the production of butter, and this also tends to depress prices. At the present time fancy table butter is comparatively scarce, the drop in prices having greatly increased its consumption, but there are heavy accumulations of the lower grades pressing on the market and weakening values. With extra creamery wholesaling for 25c per pound in the Chicago market, sales of butter are made all the way down to 14c for packing stock, placing prices eight cents under the time last summer when butter was bought to place in storage. The bottom has also dropped out of the egg market, and recent sales have been made in Chicago at a decline of seven cents within a single week, a fall of three cents a dozen occurring in one day. Extra eggs were sold at wholesale at 24c, while firsts and prime firsts, the most popular grades with consumers sold at 20c and 21c, with checks bringing 7c to 11c, the lowest prices quoted in January in years.

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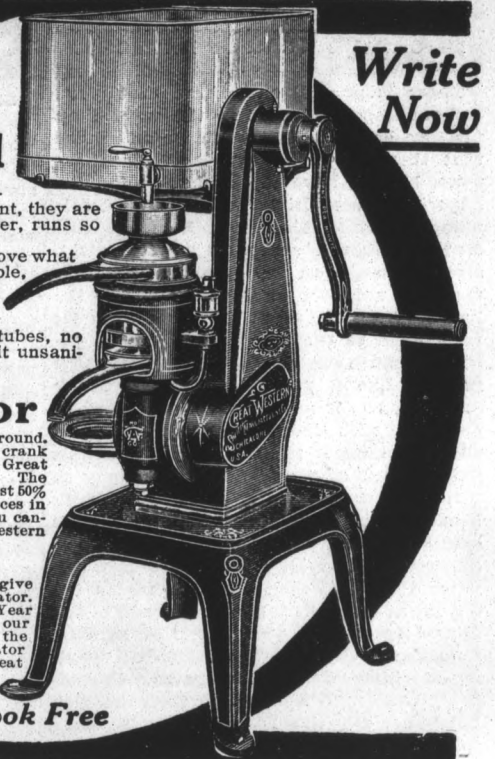
other heavy parts are low down—close to the ground. Yet the base is sanitary, the tank is low and the crank is at the proper height for easy turning. The Great Western Separator is ball-bearing throughout. The balls we use are absolutely uniform in size and test 50% to 100% harder than balls others use. The ball races in the Great Western are tempered so hard that you cannot cut them with a file. That is why the Great Western beats them all for easy running and long service.

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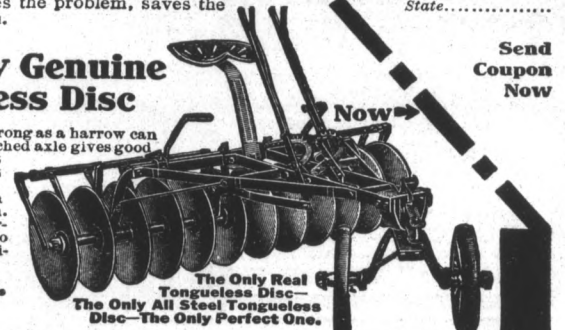
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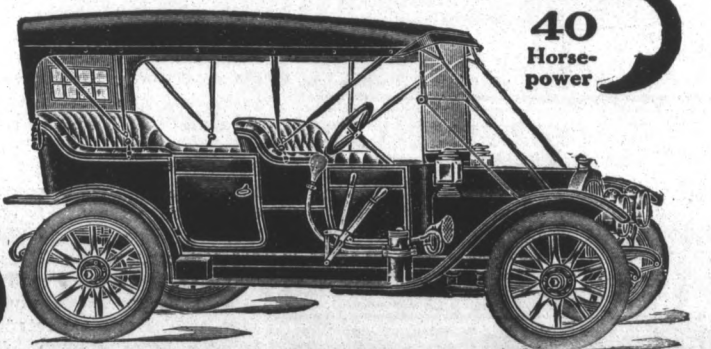
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POULTRY AND BEES

BROODERS ESSENTIAL TO EARLY CHICK RAISING.

Getting the chicks hatched is only a start in the battle of profitable poultry keeping. The next step is to raise them and keep them growing. One object of using artificial means in poultry keeping is to get the chicks hatched early in the season, before the hens think of becoming broody.

To brood chicks early in the season we must have brooders. There are indoor and outdoor brooders on the market. Personally, I haven't much time for the latter, as sometimes we have a week of rainy weather at a stretch, with fifty or more chicks shut up in a brooder out in the yard. The result will be fewer chicks, and those remaining will be stunted, will stop growing and go backward instead of developing as they should. It looks good on paper to see a brooder in a snow bank, with icicles hanging on the roof, and the chicks looking out the window, but in my experience they do better inside where the chicks may have more room. My ideal is a small colony house about 3x6 feet, with a brooder in it. When the chicks have outgrown the brooder remove it, and you still have a place for them until sold or put into winter quarters.

A brooder to be a success must be capable of warming the hover chamber to 95 degrees, regardless of the outside temperature, and pure, warm air must circulate through the brooder. The idea of heating a portion of the brooder warm enough to keep the chicks contented without a hover is wrong, in my opinion. A chick will endure considerable cold if it has something to put its back against. You have all seen a hen brood her chicks in cool weather; the chick's body is against the warm feathers, but its head is out in the cool, fresh air; this is the model brooder—a warm hover and fresh air for the chicks to breathe. There seem to be sleepy nerves on the chick's back, for a chick may be peeping its loudest but if you just put your hand over its back it will quiet down at once. Last year, being crowded for brooder room, shoe boxes were obtained. The bottoms were covered with chaff, and in one end a jug of hot water was set; 25 chicks were put in each box, and every chick survived. These were used for a week, then more room was supplied.

The first few days is the critical time in a chick's life. It is a great disappointment to turn out a big hatch and lose more than half of them the first week. The first few days of his life he needs heat. Just before hatching he absorbs the yolk of the egg, which is nature's food designed to sustain him for a period of 36 to 48 hours. Then let the first meal be sand and grit. This is not theory but good practice which I have followed for the last ten years. For the next meal I have fed cracked crumbs, bread crumbs moistened with milk, steel cut oats, rolled oats and commercial chick food, and I believe the last named is the cheapest. The first feed is given on papers; after a day or two small troughs made of yardsticks are used, and gradually larger troughs are furnished. Feed only what will be eaten up clean; after troughs are removed scatter a handful in the chaff; they will go after it with a will. As wife says, they must be all pullets, the way they scratch. Water should be supplied from the first. I use tin cans inverted in small pie tins for water fountains.

The brooder should be cleaned at least twice a week; rake the droppings from the chaff, or, better, remove chaff and all and supply fresh litter.

Bowel trouble is the bane of brooder chicks, and why? Simply because we do not follow nature. We will put a hen with a brood of chicks in a coop outdoors on the ground in cool weather; the chicks will run out, exercise and feed; as they get cold they return to the warm feathers of biddy. The brooder chicks are shut up in a tight, hot brooder; they cannot get on the ground or away from the heat. Overheating and keeping chicks on hot floors causes more bowel trouble than anything else, unless it is chilling and overfeeding. Use a little chicken sense and don't crowd a small brooder. Brooder manufacturers are inclined to overrate their brooders. We must bear in mind that chicks are expected to grow, and a brooder large enough for fifty newly hatched chicks will be crowded in two weeks. The first three days the chicks should be penned close to the hover; after

they learn to go to it for heat, give them more room and cut sods for them, for it is surprising how much grass they will eat.

Kalamazoo Co.

R. C. CROSS.

KEEPING THE HENS HAPPY.

One great secret of successful poultry raising lies in one's ability to keep the fowls satisfied. A belated meal, a frozen drinking fountain, a stranger waving his arms about the coop, a hurried trip to the nests, a stray dog running through the yards or an abrupt change of food are each and all to be avoided if possible. Like the Jersey cow, the Leghorn hen—and all others in a measure—thrive best if not surprised or hurried. Little boys and girls with flaming pinafores and loud voices have no business in the dairy barn or poultry yard and can do about as much harm there as a bull in a china shop. An extra helping of chopped bone, or a fresh basket of clover chaff to scratch in, given to them quietly so as not to create a flutter, will help to pass the dreary days satisfactorily.

If hurry and worry is harmful to the laying hen, what can we say of the hen with chicks. Not even the approach of a thunder storm will excuse one for hurrying with the brood. Once fluster the mother and your chance of getting the chicks under shelter is reduced to the minimum, for they will scatter in forty directions. Quietly and tactfully coax the mother hen into her coop with food and she will call each wandering chick home. But once she is flurried, you can do but little until her nerves are quiet. I have seen a big boy and a man shoo, and shout, and wave arms and chase to and fro in vain while a tactful little woman with a handful of bread crumbs, and a few sensible turns of her sunbonnet, would bring a brood into shelter that "all the king's horses and all the king's men" could not control.

Turkeys are still more sensitive to hurry but can be controlled by quiet and gentleness and are very sensible fowls after all. In their care, after the poults are partly grown, it is better if they are with the turkey hen to feed them well. If you see a shower coming let them stay under their mother's broad wings for shelter in the day time, rather than try to rush them into coops. Has anyone who kept their turkeys well dusted with insect powder and free from head lice had a case of blackhead? There are no fowls so harmed by the different kinds of lice as the turkey.

PRISCILLA PLUM.

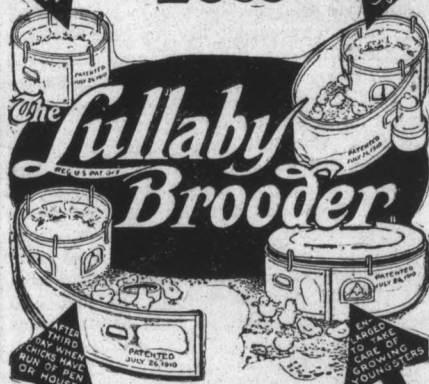
SELECTION AND CARE OF THE BREEDERS.

This is a matter that is too often neglected by farmers although one that should be attended to most carefully, for the future value of the poultry flock depends largely upon the stock from which the eggs come. Of course, proper care and feeding of the chicks has much to do with their development, but if they are the offspring of hens low in vitality and constitutional vigor, all the care they may be given will not develop them into first-class fowls. To insure strong, healthy chicks that will grow without check and develop into good layers it is necessary to select eggs only from those hens that are hardy, vigorous and prolific. The practice of taking the eggs as they come, with no knowledge of which hens laid them, is almost certain to cause poor hatches, weak chicks and a general lowering of the flock's standard. Few, if any, farm flocks are of such high quality that all of the hens may be safely used for breeders. There are sure to be some with defects, some that are not as healthy or vigorous as they should be. Hence it is important that the breeders be separated from the remainder of the flock during the hatching season.

Select as many of the best hens as will be necessary to furnish the required number of eggs, remembering that not all of their eggs can be used for hatching, as some may be mis-shapen and will have to be discarded. This selection should be made as early as possible in order that the hens may become accustomed to their changed quarters and be separated from miscellaneous male birds for several weeks before eggs are wanted for hatching. It is unwise to make the breeding flocks large. I never place more than 25 in one pen, and it is better to limit the number to 10 or 12, as one vigorous cock to each pen, then, is sufficient to insure fertile eggs and there is no fighting. If desired, the cocks may be changed frequently with good results. If the hens have been accustomed to unrestricted range do not

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confine them in too small a yard, but give them plenty of room—if possible a yard where there is a grass or clover sod. See that their quarters are kept clean. Lice or mites will quickly sap the hens' vitality and unfit them for breeders, so it is necessary to keep a close watch on roosts and nests.

The matter of feed must also be given close attention. While the hens must have an abundance, it must not be of a highly fattening nature, for over-fat hens will not lay well and their eggs are apt to be infertile or mis-shapen. Their food at this time should be rich in protein and relatively low in carbohydrates. Corn may form one-third to one-half of the grain ration of the smaller, more active breeds, while for the Asiatics not more than one-fourth of the grain should be corn. The remainder should be wheat and oats. Feed generously of beef scraps. They contain more than 50 per cent of protein and are one of the best egg makers. Bran also is a valuable part of the laying hen's ration and should be fed freely. My plan is to keep the dried meat scraps and bran in hoppers where the hens can help themselves. When the weather is cold a warm mash of one part by weight of bran and two parts beef scrap is fed once a day, but moist feed should be fed sparingly to breeders. Give them plenty of charcoal, shell, grit, and clean, fresh water.

Many chick troubles may be avoided by giving more thought to the care and selection of the breeding stock. Chicks from vigorous hens will be stronger and better able to withstand adverse conditions, will grow more rapidly and give better results in every way than chicks from poor stock.

Ohio.

NAT S. GREEN.

HIVE-BUILDING SUGGESTIONS FOR THE BEGINNER.

The beginner in bee culture should select a substantial hive, to which access may be easily obtained. The Langstroth hive is the most generally advised for the amateur. There is no patent on this device and it can be made by any apiarist. The chief excellence of the modern hive is in the movable frames. When the hive is opened the frames containing the combs can easily be removed, the combs examined, changed in any way the bee-keeper pleases, and returned.

To get the most out of a hive, of whatever construction, it is necessary to select for it good material, and the chief factors are durability, saving in strength and handling, and time in manipulation. In the portion of the country where the writer lives, pine is the best lumber for the purpose, but it seems to me that cedar would be an excellent lumber on account of its lightness. Whatever lumber is used, that which is light, free from knots, easily worked, and not easy to split or warp, should be selected.

If it is the intention to make hives of eight-frame capacity get some thoroughly dried boards, planed on one or both sides, 9½ inches in width. Usually I get boards about 10 inches wide, and plane them down to the right width after they have been sawed into pieces of the proper length. The lengths are 20 inches for the sides and 12½ inches for the ends of the hive. I rabbet these five ends without the use of any machinery or power except a common hand-saw. Having the rabbet sawed out, the work of making a hive body is almost done.

The nailing should be started upon a perfectly flat surface. It is best to have a kind of platform a little larger than the hive, with a cleat strongly nailed at one edge for a bumper to nail against, and another cleat nailed on another edge at right angles to the first one. The nailing can be finished by turning the hive on its side, and the hive corners can be kept at right angles by using a square. You need not gouge out any hand holes by which to lift the hives. It is easier to make cleats six or eight inches long, planed on their upper edges and slanting outward and downward, with the ends whittled round so that they will shed water. One of these nailed on each end of the hive will make lifting the hive easy.

In making hives one cannot afford to be careless in the driving of the nails. Nails should be driven more or less "toeing," for a nail driven in with the grain of the wood will draw out more easily than if put in a little across the grain. Then a careless driving of the nail will result sometimes in its breaking out at the point, splitting a piece off the board and weakening that portion of the hive.

For covers and bottom-boards I get lumber 14 inches in width, using the best

for covers and the poorest for bottom-boards. Sometimes I make the bottom of two pieces. All covers and bottoms are sawed exactly two feet long and have cleats two inches square nailed under each end. The cleat at the back end of the bottom-board is nailed about one-half inch from the end for convenience in lifting, and the cleat in front is nailed flush with the end for the convenience of the bees. Lath can generally be found of the right thickness to make the three-eighth-inch bee space for the bottom-board. If too thick it is not much work to reduce them with a plane.

To get the most out of a hive it should have a well-made telescoping cover, sitting over at least six inches. It makes but little difference whether the top is gable or flat, provided the roof is not too steep. This cover should telescope not only over the super, but over any portion of the hive. I have never adopted the cheaper way of making a hive cap of the same size as the body. My caps are all made larger than the bodies, and telescope on them in the old way. The hive is a little bit more expensive, but we have a better fit, and a much better protection against robbers, moths, cold, etc. An open joint will do in summer, but in other seasons, especially in spring, we want a well-closed cover.

A slight variation in the width and depth of the hives is immaterial, provided, of course, that the frames do not come too close to the bottom of the hive. The important point is the inside length from front to back. This must be accurate or the frames will not fit. The two end pieces should come between the sides, and, if necessary, be placed a little in or out to secure exact length. The supers are constructed in a similar way. The lumber for the frames should be bought in long strips, simply ripped out of some boards. This is much cheaper and is just as useful.

New Jersey.

F. G. HERMAN.

MISTAKES IN SHIPPING COMB HONEY.

In disposing of my honey crop the past season I had occasion to visit different stores where honey was handled and I was amazed at the shape in which some of the honey had been shipped. One instance I remember in particular. I was sitting in the store of a prominent merchant in Detroit. A bee-keeper came in and asked for a price on comb honey. The price named was so low that I was very much surprised to hear it accepted at once. Having occasion to go into another of the large stores shortly after I was shown a sample of some of the honey they received. The specimen they showed me was one they had just refused, and on inquiry I found it to be that of my friend of the other store. It had been shipped in cases without carriers and was in a badly broken condition. The man who had refused it asked me if I thought it any wonder they could not pay a very big price for honey when so much of it came to them in that condition. "Why," said he, "that man never heard of a carrier for comb honey. Moreover, he is not the only one, for there are lots of them who do the same thing year after year and never seem to learn anything by it."

If it should so happen that someone who reads this does not know what a carrier is, and has been in the habit of shipping without them, you had better look into it before you make another shipment, for if you have not yet lost by this manner of shipping you surely will if you keep it up. You can easily make a carrier yourself. All you need is a crate that will hold the cases, with three or four inches of straw in the bottom to take off the jar. They are usually made to hold from eight to twelve or sixteen cases. You will have better satisfied customers, besides greatly reducing danger of loss to yourself.

Report on Wintering—Bees Have Good Flight in January.

The bees had their first good flight yesterday, (Jan. 27), and will fly again today. They seem to be doing fairly well so far. A great many of the hives had scarcely any bees on the bottom-board although a few colonies had quite a few for this time of year. There were perhaps six or eight of these colonies and I scraped perhaps a cupful of bees from each of them. Of the others, some of them had scarcely a dozen bees on the bottom-board. There seems to be some dysentery among a few of them, probably owing to some late fall honey. This early flight will be a boon to such colonies.

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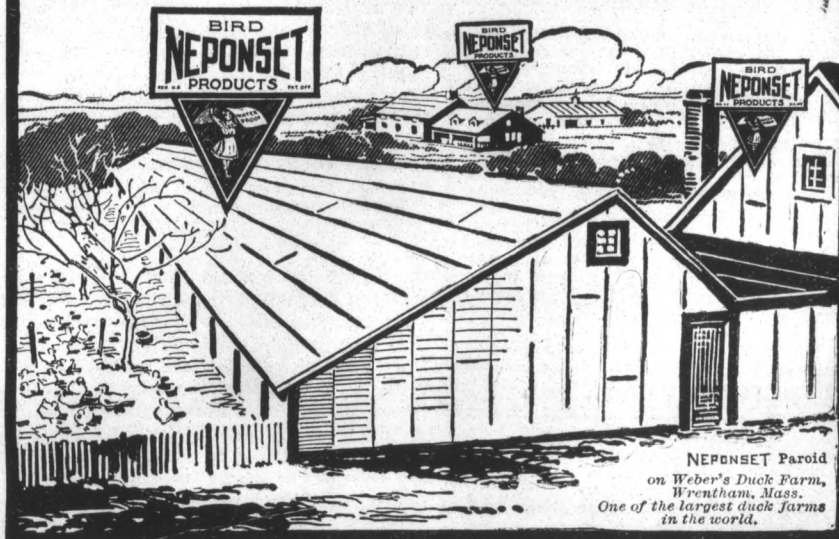
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CURRENT COMMENT.

Echoes From the Reciprocity Pact. Since the announcement last week of the terms of the reciprocity agreement reached between the representatives of the Canadian government and the administration at Washington, many opinions, both of disapproval and assent, have been voiced in the press and by individuals and organizations on both sides of the boundary. The first official protest from Michigan was filed by the Michigan Bean Jobbers' Association, which was in session when the agreement was made public and which passed a resolution placing that organization on record as opposing the abolition of the present duty of 45 cents per bushel on beans as provided by the agreement. An official protest was made by the officers of the National Grange during the closing days of last week, whose views were purported to represent the interests of 1,000,000 members of that organization throughout the country, and who asked for the removal of the duty on raw materials used in the manufactures which are largely purchased by farmers, such as iron and steel, if all duties are to be removed from the commodities which they produce on their farms. But the official act in which the interest of our readers is centered at the present time was the introduction of a resolution in the upper house of the Michigan legislature protesting against the enactment of legislation by congress which would put the reciprocity agreement into effect. Such a resolution was introduced in the state senate on Friday of last week by Senator Watkins and tabled on his motion in order to give the farmers of the state an opportunity to communicate their views to their senators and representatives in the state legislature before the proposition is taken up for consideration in that body.

In the meantime it would appear from the echoes which are heard from across the border that the pending agreement does not satisfy all interests in Canada, not even all the agricultural interests. The fruit growers of Ontario fear that their industry in the growing of fruit which now finds a ready market in the provinces of the northwest will be ruined by competition with fruits from the United States, which can be distributed to the same markets with a shorter haul. It is also reported that the farmers of the

western provinces of Canada are dissatisfied with the agreement, inasmuch as they desired free agricultural implements, whereas the proposed reduction on most of these commodities leaves the duty at 15 per cent ad valorem, instead of 17½ to 20 per cent as formerly.

But notwithstanding these dissenting opinions it is generally conceded that the agreement will be put in effect by the Canadian parliament in the event of favorable action by congress, as any other course would result in the dissolution of parliament. What the present congress does it must do quickly, since its session will expire on March 4th. It is perhaps fortunate that this is true, even though it makes quick action imperative on all who would be heard on the subject by the officials among whose constituency they are numbered, since uncertainty regarding future trade conditions is ever a menace to business stability and prosperity.

Farm Assessments and Taxation.

Some weeks ago mention was made in these columns of an interview given out by Representative Lord, of Detroit, then secretary of the State Tax Commission, in which that official stated that the railroads of the state were likely to bring successful suit against the state to avoid the payment of the taxes assessed against them, on the ground that the farm and other properties of the state were assessed far below their cash value and that for this reason the rate applied to the taxation of the railroads and other similar corporations was not the same as that applied to other properties at their true cash value. The same gentleman recently introduced a resolution in the lower house of the legislature providing for the calling of a tax conference to study the taxation problem, the preamble of which contained a practical admission of the undervaluation of the general properties of the state which, if passed by the legislature, would have proven of great value to the railroads in any subsequent litigation bearing on this proposition. The resolution was not, and probably will not, be passed. But the contention that the railroads will bring suit to avoid the payment of the taxes assessed to them continues to be agitated by the publication of interviews and otherwise, and in order to secure the support of members representing rural districts it is pointed out that any litigation which would tie up the taxes of the railroads would deprive the schools of their primary school money and perhaps necessitate the closing of many schools until funds could be raised by local taxation.

In support of their contention the railroads have had representatives looking up the valuation of farms sold in different counties and claim that the assessed valuation is from 50 to 75 per cent of the sale price. Just what the outcome of this agitation will be is difficult to predict. But we do not believe that the farmers of the state will welcome any legislation looking toward the raising of the assessed valuation of their property upon the evidence adduced. In fact, we believe that a study of available statistics will show that the farm properties of the state are now assessed on as nearly a cash value basis as any other property in the state, including the railroads. But, however this may be, the threat of litigation should not be accepted by any Michigan Farmer reader as a valid reason why his representative in the legislature should favor any plan of readjusting the assessing machinery of the state for the avowed purpose of increasing the valuation of the general properties of the state until it is conclusively shown that such an increase is needed by some more disinterested authority than the tax experts employed by the railroads of the state. Should the threatened litigation materialize it would not be the first of its kind in Michigan, but it will be remembered that past attempts of the railroads to escape the payment of their taxes through litigation have not been successful.

Of course, if the railroads can show that they have a grievance, as a matter of justice they are entitled to relief, but we believe that any proposal to supplant the present method of general property assessments by another system should be viewed with conservatism. A conference for the purpose of studying taxation problems could do no harm, however, so long as it were fairly representative in character. All that can be desired in the adjustment of public problems of this kind is equity to all, but there are many citizens of Michigan who believe we are nearer to getting it in taxation at the present time than ever before.

THE NATIONAL CORN EXPOSITION.

This event, which was held at the state fair grounds, Columbus, O., from Jan. 30 to Feb. 11, inclusive, was more than its name implies. It was a great agricultural and industrial exposition. Aside from the competitive exhibits in corn, the classes for which were confined to exhibits at state corn shows, and those in the classes for small grains, educational exhibits were made by the National Department of Agriculture and the experiment stations of 25 states, in some of which allied agricultural organizations co-operated, showing the principal lines of work each have developed during recent years looking toward the advancement of the agriculture of the various sections of the country in which they are located. There were also extensive exhibits of agricultural machinery and other manufactures relating to agriculture, while the cereal food products and other similar manufactures were well represented in the home economy department. In addition to these, the exhibit of dairy equipment made under the auspices of the Ohio Dairymen's Association, which held a meeting in connection with the corn exposition, was second only to that seen at the National Dairy Show.

From the standpoint of exhibits this is easily the greatest corn show ever held in the country, competitive exhibits for national trophies coming from 35 states. The exhibits were all in place at 9:30 a. m., on Jan. 30, but the official opening of the show was deferred until the evening of that day, when President E. D. Funk, of the corn show association, opened the program given in the exposition auditorium by explaining the purpose of the show and making a stirring appeal for soil conservation and better farming. He declared the purpose of the show to be to teach the farmers of the country "how to save the soil and better the product." The address of welcome was given by Gov. Harmon, of Ohio, while Mayor Marshall, of Columbus, welcomed the exposition on behalf of the city, and C. C. Hatfield, state county worker of the Y. M. C. A., welcomed the farm boys in behalf of the organization which he represented, declaring that "if corn is king, then the farm boy is the power behind the throne." Not the least important of the educational features of the exposition were the daily programs, at which speakers of national reputation along agricultural lines delivered addresses, while meetings of organizations representing some branch of agriculture and conferences looking toward agricultural improvement were of frequent occurrence. There was a live stock day, a meeting of the American Breeders' Association, a National Dairy Day, a National Corn Day, a Conservation Day and a National Rural Life Conference lasting four days, to which space will not permit further reference in this issue, but the mention of which will give the reader a better idea of the educational scope of this exposition.

The comfort of those in attendance was well provided for by the adequate heating of buildings and the covering and enclosure of the walks connecting them, an important item in the success of a winter exposition. It is to be regretted that a majority of progressive Michigan farmers could not have attended this show, a loss which we shall, however, undertake to minimize by the mention of its more prominent educational features, as gleaned by representatives in attendance, in this report, which will be continued in the next issue.

Experiment Station Exhibits.

As above noted, these exhibits were made with a view of demonstrating the recent progress of experiment station work in the solution of agricultural problems relating to the leading lines and needs of production in each state. These exhibits were all grouped together in one building, and their study not only demonstrated to the visitor the possibilities in the scientific improvement of staple products, but as well provided the basis for a broad, general knowledge of the agricultural products and problems of the states represented.

Michigan.—The Michigan exhibit dealt principally with plant breeding, including work with wheat, timothy, oats and alfalfa. The work with wheat is of particular interest. Starting with single grains in seed plots, varieties and strains of varieties have been evolved showing widely-varying characteristics. Comparisons are shown of the wheat in the straw, grain, flour and in the baked loaf. The importance of the milling quality of wheat is shown from the fact that the best and the poorest bread are made from two varieties of grain so nearly alike in outer ap-

pearance that expert millers would buy the two for one variety. The work with timothy has evolved strains showing varying resistance to rust, varying length and character of stem, few and abundant leaves of varying width, and a range of variation in heads from narrow spikelets to branched and bushy heads. Similar variations are shown in strains of alfalfa the ultimate problem being to develop a variety of the plant that will meet the conditions of the state. The work with this plant promises much for the future of alfalfa culture in Michigan. It has not only been demonstrated that the individual plants grown in the breeding plot have a widely varying capacity for the production of forage, but that they vary even more widely in the production of seed, and it is believed that no one thing will do more to establish a successful future for alfalfa in Michigan than the development of hardy varieties that seed liberally in the climatic conditions which prevail in Michigan. The work along this line promises definite results in the comparatively near future, since strains have been developed which not only seed liberally, but withstand unfavorable winter conditions well, where other strains fail entirely, and when a sufficient stock of seed of these strains has been developed to permit of its distribution for experimental purposes and propagation by the farmers of Michigan, alfalfa growing will receive a new impetus in the state.

Ohio.—The work which the Ohio Experiment Station has devoted to cropping and fertility were reflected in an exhibit that was worthy of careful study. One feature was a series of photographs showing the percentage of plump and shrunken kernels in wheat that had had varying treatment as to fertilizer, applied in a five-year rotation. That which was unfertilized showed about 50 per cent each of plump and shrunken grains. Acid phosphate alone gave but 10 per cent of shrunken kernels. Nitrogen in the form of nitrate of soda showed 60 per cent shrunken. Barnyard manure, both untreated and treated with acid phosphate and floats, gave from 35 to 55 per cent of shrunken grains. The importance of fertilizing and manuring the corn crop was shown graphically, manuring giving the best results. Continuous cropping with corn without fertilizing, for three periods of five years each, showed 26.26, 16.76 and 10.43 bu. respectively; while a five-year rotation without fertilization showed 31.89, 30.82 and 31.04 bu.; with commercial fertilizer the same test showed 44.6, 47.2, and 38.5 bu. respectively; while a five-year rotation for the three periods with commercial fertilizer showed 41.3, 49.9, and 54.1 bu.; with manure, continuous cropping showed 40.73, 40.11 and 34.62 bu.; the five-year rotation with manure was 43.13, 49.52 and 59.75 bu. The three-year rotation with phosphated manure yielded 65.30 bu. The work that the station is doing along the improvement of the clover plant, alfalfa, wheat and oats was shown by a series of photographs. The inoculated soil produced 4.14 tons of alfalfa as against 2.88 for the uninoculated. The importance of using home-grown seed was shown, not only in increased yield, but by greatly decreased shrinkage in the grain by spring.

Wisconsin.—The feature of the Wisconsin exhibit is the demonstration of what may be accomplished by co-operation between station and farmers. The exhibit was made jointly by the Wisconsin Experiment Station and the Wisconsin Agricultural Experimental Association. The latter organization is made up of the graduates of the short agricultural courses in the state university. The organization now has over 2,000 members, representing every section of the state. The feature of the exhibit was a collection of samples of seed grains bred and improved by this organization in co-operation with the state experiment station. No figures are attempted showing gains in production brought about by this selection and improvement, because the work is still in its infancy. But the samples shown were of very superior quality, and the results to be obtained from this united effort in all parts of the state can readily be understood. The crops under improvement are corn, oats, wheat, barley, rye, buckwheat, clover, timothy and alfalfa. Charts were shown, indicating the location of the farms thus co-operating with the experiment station. The next step in the plan is the organization of county clubs for the study of special county crops under local conditions. There are now 15 such clubs organized and 10 more are in the process of organization.

Minnesota.—The Minnesota exhibit was another co-operative show. The exhibit

was made by the state station in co-operation with the State Field Crop Breeders. The most striking feature of the exhibit was a miniature model farm, fully fenced and soddied to represent a typical Minnesota place of 160 acres. Five fields of 26 acres each are laid out for the major rotation of the farm, consisting of corn, oats, wheat, meadow and pasture, in the order named. One corner of the farm, of 30 acres, was laid out to include the farm buildings and smaller plots for the minor rotation to run in connection with cattle feeding. The minor rotation consists of corn, wheat or barley, clover and peas and oats. An experiment in planting and cultivating corn was shown by representative ears from plots receiving different kinds of treatment as to planting and cultivating. A model seed-corn "tree" was shown, as an example of method of storing and curing seed corn. The six-foot "tree" holds 150 ears, calculated to plant about 10 acres. Charts were shown giving the results of tests on 70 representative Minnesota farms of the cost of production of common crops and the maintenance of farm equipment. For example, it has been found that the average annual cost of maintaining a dairy cow in Minnesota is \$59.99; a work horse, \$80; a manure spreader, \$20.03; corn binder, \$16.34; mower, \$6.67. The average cost of production per acre shows, \$8.50 for wheat, \$8.80 for barley, \$9.66 for hay, etc.

Pennsylvania.—The Pennsylvania exhibit covered a wide range of work. Results obtained in the study of soil fertility were shown graphically by bales of fodder and tubes of grain, showing the average yields in a rotation of corn, wheat, oats and grass, for a period of 20 years, resulting from different methods of treatment. The continuous use of a complete fertilizer shows the largest yields, followed closely in point of total production by the use of manure; the latter treatment showing much the cheapest gains. Work in breeding dairy cattle was shown by tubes of milk and cream representing the average yields in 20 years' work in the college herd, resulting from use of pure-bred sires as compared with scrub or grade sires; selection of dams as compared with promiscuous breeding; and comparisons of the college herd under process of improvement with the average herds of the state. Another feature was the selection of feeds and the mixing of rations on the energy basis. A model of the famous respiration calorimeter was shown, in which the energy value of foods is determined.

Iowa.—The Iowa station and college exhibit showed their work on small grains. Most of the small grain work is along the line of the propagation of new varieties by means of hybrids made from older varieties. They have oat varieties that have made as high as 101 bu. per acre in small test plots. A peculiar thing in this connection is that these high yielders as a rule seem to be light in weight. These new crosses are breeding true to type. Several cases of selected and hybrid wheats are shown to good advantage. One of the new varieties yielded at the rate of 56 bu. per acre. A new and rather original feature consisted of three varieties in a case, ribbons leading from these to a chart showing the length of stalk, rust, maturity, yield and weight per bu. They also showed the results of their corn breeding along the line of ear to row work. One thing shown was all the ears that were obtained from one parent ear. The variation as to type and quality was really remarkable.

(Continued next week).

HAPPENINGS OF THE WEEK.

National.

Lightning struck the Missouri capital building at Jefferson City and fire totally destroyed the structure. The records of the governor and other state officers were destroyed. The building was built in 1838 at a cost of \$350,000 and was remodeled in 1887 at a cost of \$25,000.

A proposal has been made to pipe gas from West Virginia to Detroit. Pipes now carry the natural product to Cleveland and lines are being built to supply New York. It is claimed that by adopting the new plan the price of gas can be reduced nearly one-half in Detroit.

Col. Goethals, chief engineer of the Panama canal, who is now in Washington states that he is certain the canal will be ready for service by Jan. 1, 1915, and that he hopes boats will be passing through the canal before that date.

There was a general tie-up of traffic over Michigan Monday, by the blizzard which swept over the whole state. Snow fell to an average of about ten inches. In some places it exceeded a foot while other localities were less favored.

The Michigan senate failed to concur in the junket proposal of the house and thus the hopes of the members who desire to

go on a party tour of the state are crushed for this term of the legislature.

Col. Theodore Roosevelt will speak at the Lincoln club banquet to be given in Grand Rapids next Saturday night. He will address the banqueters on the theme, "Lincoln and Progressive Republicanism."

The democrats in a caucus Monday night pledged their support to the Canadian reciprocity treaty soon to come to the attention of the lower house of congress. The debate before the Canadian parliament began Tuesday of this week. It is expected that the arguments pro and con will take up fully two or three weeks of the time of that body.

Nine persons are dead at Ishpeming as the result of a dynamite explosion at the Pluto Powder Mills. Cause is unknown.

It is alleged that an agreement has been made between the Detroit United Railways and the Michigan United Railways to run the cars of the latter company over the tracks of the former into the city of Detroit. The city of Detroit is making opposition to the plan through its mayor, not that it does not solicit the added business that would come by reason of the arrangement but because the local company, without securing the consent of the common council or any authority, is arranging to "farm out" the city's streets.

James Whitcomb Riley, the poet, is seriously ill at his home in Indianapolis. He suffered a second stroke of paralysis a few weeks ago.

Archbishop Ryan, the popular and famous official of the catholic church, is very low and his physicians hold out little hope for his recovery.

Foreign.

The British parliament opened Monday. This is the first parliament to be opened by George V. It, no doubt, will be one of the most important sessions of the century, in that bills of great importance must be disposed of. Chief among the measures is the bill introduced by the liberal premier, which provides for the abrogation of the power of the house of lords to veto bills passed by the commons by giving the latter body authority to make measures laws which have been three times rejected by the lords in a period of two years and with the consent of the King. Other bills are those providing for home rule for Ireland, the abolition of plural voting, disestablishment of the church of Wales, state insurance of the unemployed and against illness on a wholesale basis. It is also expected that the limit of existence for any parliament will be reduced to five years from seven.

There was fighting between the rebels and the federal troops in Mexico last week. No important changes were made in the position of the forces. However, the rebels are still seeking to open up a free line of communication with El Paso to get supplies, while the federals are maneuvering to bottle up the insurgents in some of the towns of the state of Chihuahua. The principal engagement was the protection of Juarez against a rebel attack in which some skillful handling of a detachment of federal troops by Col. Robago saved the government a defeat.

University students in St. Petersburg are voting to go on strike until the end of the year as a protest against the action of the cabinet in curtailing academic privileges, on the ground that they have been abused for political purposes.

The government of Japan has requested that the Diet appropriate \$500,000 to defray expenses in fighting the plague in Manchuria.

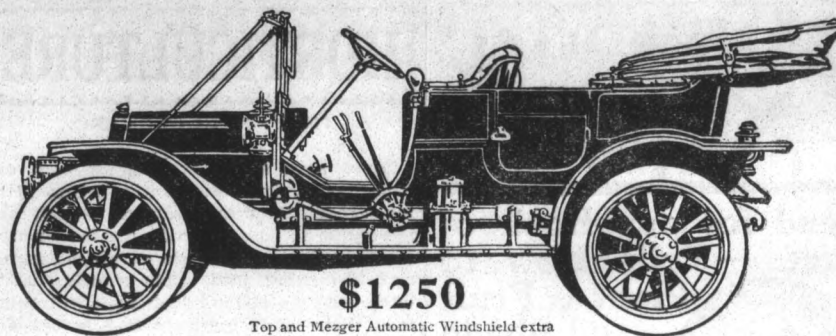
An entire fishing village of 253 men went afloat off the coast of Finland, near Bjorko Sound, on the evening of February 3, and in the morning the floating ice had gone out of sight. Boats were sent to the rescue of the men and after a long hunt discovered the floe and men safely anchored on another shore.

Seven persons were killed as the result of a head-on collision on the Grand Trunk railway at Richwood, Ontario, last Saturday night. The accident was the result of failure to comply with orders on the part of the engineer of a light engine.

CROP AND MARKET NOTES.

Shiawassee Co., Jan. 31.—Weather has changed to colder, with strong southwest winds with a flurry of snow. Roads very rough and badly cut up on account of the recent mild weather. Farmers busy hauling manure and cutting wood. A large tonnage of hay being hauled to market. A few farmers have sugar beets to haul to the factory, but the crop is generally harvested. Farmers are still holding onto their beans and are determined not to market them until the \$2 point has been reached. A large quantity of oats and barley has been marketed the past few weeks. Wheat is looking well despite the water that has resulted from the thawing ice. Lamb feeders are somewhat restless over the condition of the market, although many of the old feeders think that there is plenty of time for a favorable turn in price. Potato growers are still waiting for the market to improve. Many farmers are hiring their season's labor. Very few hogs in the country.

Emmet Co., Jan. 30.—The mild temperature prevailing during the last week or ten days made one think of spring. The fields are now showing much bare surface. The covering of snow at most has been light, for the reason that it has no sooner fallen than sweeping winds have piled it up in the roads, timber lots and hollows. Except for a few days, during which the roads were badly blocked with drifts, sleighing has been excellent and the usual amount of teaming has been done. Eggs have taken a drop, now worth 30c; dressed poultry, 16@17c; pork, 8½@9c; hay and straw remain the same, \$16 and \$8 respectively.



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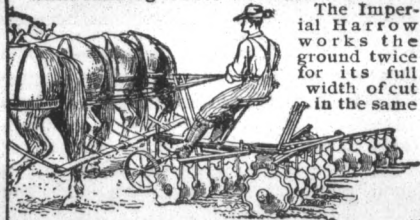


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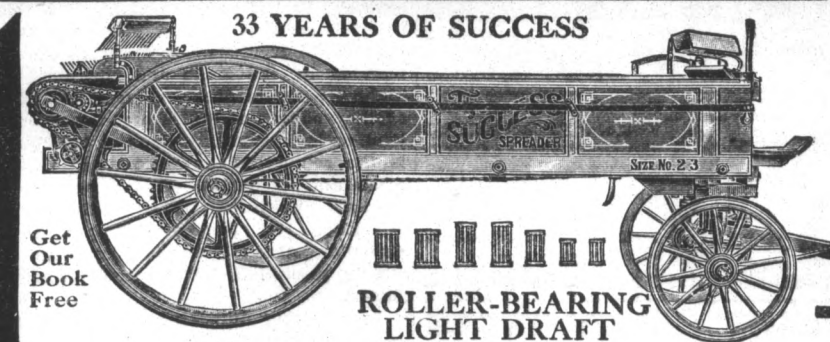
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HORTICULTURE

THE YOUNG ORCHARD.

Now, how about starting a new orchard? Can you mention a better farm investment than to establish a good apple orchard and so provide for the future? Many business men have purchased farms and are going into apple growing as a business proposition. Such men will bring into their work methods and habits acquired during their business career and are sure to be of incalculable benefit in uplifting the conditions in apple growing sections. The outlook for apple growing on a commercial scale was never brighter than today.

In selecting the location for an apple orchard, other conditions being favorable, the best land on the farm that is suited for apple growing should be utilized. Some farmers will not agree with me on this proposition. But I want to say that there is no acre of land that you have on your farm, however good it is, that will afford more profit than an orchard. Select the best soil, and as far as possible the upland soil which is well drained, by natural or artificial drainage.

The choosing of varieties seems like a rather delicate matter for a New York man to write about in a Michigan paper. But I think the majority of you will agree

in many sections where low or medium heading is being practiced, they are easier to train in the desired way.

Trees should be taken up carefully from the nursery rows, but the old idea that we should take up the tiny rootlets and hair roots is generally ignored during recent years. When the trees are being prepared for planting, all broken and bruised roots should be cut off cleanly with a sharp knife for the new fibers will start quicker from the roots when they are properly pruned before the tree is planted.

In preparing the ground for apple trees plow, harrow and apply plenty of manure or fertilizer the same as you would for a hoed crop. The better you prepare the soil the greater will be your measure of success. Trees, like plants, must have the conditions favorable so that they can get hold of the plant food. The only way to get healthy and vigorous trees is to plant them in soil that is well-prepared so that they will grow rapidly from the start and not become stunted.

Now as to crops to grow in the young orchard. You can grow any hoed crop that requires thorough cultivation and that does not take up too great quantities of soil moisture. Potatoes, tomatoes and all market vegetables or small fruits will do well in an orchard. These crops will help pay for the use of the land when fertilized liberally and what is not utilized by these crops from year to year will supply plant food for the young trees. Such



Too Much Injudicious Pruning is as Faulty as Too Little.

with me on one point, and that is that a few well chosen varieties that are adapted to your location will prove more profitable than growing a wide variety of fruit. If you are growing apples for a home market, that is one thing. You will need a succession of varieties that will supply your trade during the apple season. But if you are planting a commercial orchard confine your efforts to three or four kinds. Red apples are demanded by the trade and command the highest price in nearly all markets. Many of the yellow and white apples are beautiful to look at and delicious to eat, but it is the red apple that commands the top price and of which we can sell in the largest quantities. The Baldwins, the Wealthy, the Northern Spy and the Greening are all market favorites and highly profitable for the commercial orchard.

In selecting nursery stock it is best to buy trees that have been grown in your own locality. It is a well known fact that trees and vines adapt themselves to the soil and climate of the section where they were grown, and I believe that it is true in regard to the apple tree. Always get nursery stock, as far as you can, from the same latitude. Above all, do not send south for apple trees, because you will find they are more susceptible to deterioration and disease. Buy your nursery stock of good, reliable nurserymen, specify what you wish, be willing to pay for it, and buy one-year-old trees, when it is possible to obtain them. Many will not agree with me when I say buy one-year-old trees, but I am convinced from my own experience that they will give better results. One uncertainty in buying two year-old trees is the fact that many of them are cull year-old trees that are carried over. There are many advantages in planting younger trees. They are easy to handle. They are fully as vigorous and

crops also serve the functions of a cover crop and prevent the loss of moisture and fertility. The more attention you give to cultivating and fertilizing the crops that are grown in the orchard the better the trees will grow.

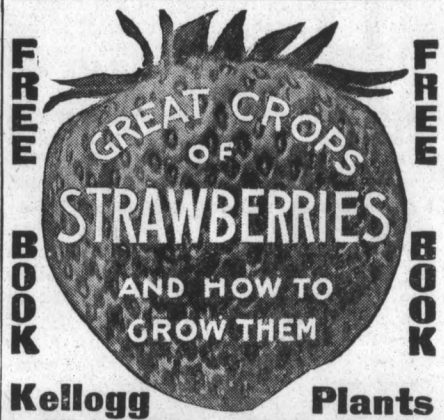
One fundamental error in orchard planting is setting out the trees too close together and putting out too many varieties. We can now see the mistakes made in tree planting years ago and profit by them in our present-day work. Of course, forty feet seems like a long distance apart to plant little trees, but a few years brings great changes and if we succeed in the greatest measure the trees must have ample room to expand and develop. One excellent plan in setting out an orchard is to plant standard varieties, such as a Baldwin, a Spy, a Wealthy or a Greening and interplant with smaller growing varieties or with peach, pear or plum trees, that may be removed when the other trees need the entire area of land. Many apple orchards have been planted with the idea of cutting out some of the trees but this is seldom ever done unless different varieties are used for fillers and a man has a definite idea of which trees should be removed when the right time comes. On a good, fertile soil I would plant the standard varieties 40 feet apart each way.

Trees should be headed back when they are planted. The modern medium-headed type is to be preferred. If we get a tree headed from three to four feet it must be a suitable tree to begin with. Select trees with a stem of moderate height so that when it comes to be the proper size you may have a good bearing capacity on your trees. When the trees are planted prune each little branch back to within a few buds of the parent stem, leaving those buds in a way that will make a good framework in the air. Try and build a frame around an open center.

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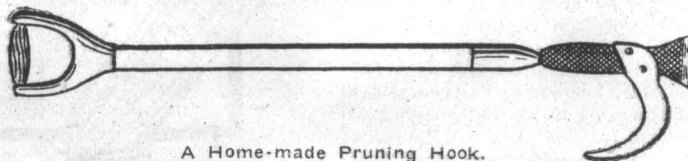
If the tree makes a good growth the first year head it back about one-third of the year's growth and continue the same heading-back methods as long as it is possible to reach the limbs from the ground, so as to secure a solid and compact form of a tree. Winter and spring pruning will give the best results.

One mistake made by many orchardists is that of not spraying the young trees. Dipping the nursery stock in a mixture of sufficient strength to kill every trace of San Jose scale will do no harm and it may do a great amount of good. Commercial or home-made lime-sulphur is the best remedy. Either will do the business. Make a barrel of the mixture and dip the trees down to the roots before planting them and get started right. After that give the trees an annual spraying with one of the mixtures. It not only destroys the San Jose scale, oyster shell scale and all other scales, but it is good for all forms of disfigurement and discoloration on a tree and makes it healthy and vigorous. If we keep ahead of the numerous insect and fungus pests we must get right after them at the very start. Eternal vigilance is the price of success in getting a young apple orchard established and put on a money-making basis. Keep a close lookout for the borers. When you see any signs of their work take your pocket knife and get after them and if you are there early enough it is easy to remove the borers. Get busy with your knife and do not trust in any proprietary remedies that are applied to the trees. If the trees are given clean cultivation the trouble with borers will be minimized.

New York. W. MILTON KELLY.

PRUNING HOOK AND SPUD.

The pain of scratches and picks comes readily to one's imagination as he thinks of pruning the raspberry bushes or other bush fruits, especially where he has not had good tools for performing the job. The work is so miserable that it is generally left undone. The illustrated prun-



A Home-made Pruning Hook.

ing hook will help to overcome many of the undesirable features connected with cleaning out of the hills of these fruits. The hook is used for cutting those canes that can be hooked, and for this purpose the inner edge of the hook is made sharp, while the spud is for amputating such canes as happen to stand close to another that is to be left or is otherwise situated that the hook cannot be used. The spud cuts the cane nearer the ground than can be done with the hook. Both are, however, very necessary for a complete implement. Besides its use in cutting, the hook is convenient in pulling the pruned canes from among the standing ones into the row where they can be gathered and taken from the plantation. The implement is made of the handle of a short-handled fork and two old files. The files are forged to make the hook and spud and riveted together as shown in the illustration. The end opposite the spud is shaped to fit into the handle where it is firmly secured in order to stand the strain necessary in the work to be done. Armed with such a tool and a good pair of gloves one can go about the canes, cut out the undesirable ones, and get them out of the way without suffering the hardships encountered when endeavoring to do the work with a jack knife. The next rainy day go to your own forge, every farmer should have one, or if not provided, to your blacksmith and have such a hook made. Then, when the rainy day is over and you can get into the berry patch, see how well the hook does the dreaded job.

CLOSE CULTIVATION OF OLD FRUIT TREES.

At the last meeting of the Western State Horticultural Society the question was raised as to the utility of cultivating old orchards close about the trees. Are the large roots near the trunk feeding roots, or are they simply developed to support the tree? If the latter purpose and not the former, is the reason, why not leave a small area about the base of these old trees untouched. The cost of cultivation would be almost cut in two by eliminating the effort needed to crowd the implements close to the trunks of the trees. If the function of these roots can be determined a great deal of work

can be saved the busy orchardist. Will some of our speculative Michigan fruit men investigate the matter this coming summer and let us know next fall?

UP-TO-DATE SPRAYING.

Orchards must be sprayed to protect them from the attack of insects and disease. Spraying is preventive and must be given before the injury has been done, and must not only be so thorough as to cover every part of the trees, but must be applied sufficiently often to protect the leaves and fruit at all times.

Number and Dates of Sprayings.

Ordinarily, unless it is necessary to spray for the San Jose scale, the first treatment should be after the flower buds show white or pink, but before the petals have actually opened. A second spraying should be given within eight days after the petals have fallen and the third about 15 to 20 days later. For winter varieties of apples, a fourth application at the time of the emergence of the second brood of codling moth larvae, which is generally about the middle of August, should be made.

This will ordinarily do, but additional treatments will often be desirable in wet seasons to control apple scab; also if the weather is cold so that the first brood of codling moth larvae is late in appearing, and on plum and cherry trees likely to be injured by curculio or leaf-blight. For leaf-curl of the peach, spray thoroughly about 20 days before the blossoms will open.

Materials to Use.

While Bordeaux mixture has in the past been the fungicide most used, it is likely to burn the foliage and russet the skin of such varieties of apples as Wagener, Jonathan, Ben Davis and others, and it is but little, if any, more effectual than dilute lime-sulphur solution, the commercial solutions of which are no more expensive and much easier to use, while a home-made solution can be prepared with but little trouble at about one-half the

cost of Bordeaux mixture. For these reasons it is probable that lime-sulphur solution will very generally be used in place of Bordeaux mixture, except for the grape. The best of the commercial mixtures are guaranteed to contain 25 per cent of sulphur in solution and for the first two applications can be used on apples and pears at the rate of 1 1/2 gallons in 50 gallons. For the later sprayings, 1 to 1 1/4 gallon will be safer. Upon cherries and European plums not more than 1 to 1 1/4 gallons in 50 gallons should be used at any time, and on peaches and Japanese plums some injury is likely to be done even at the rate of two quarts in 50 gallons.

The lime-sulphur solution, used as above, is effectual as a fungicide upon the different orchard fruits and strawberries. While a stronger solution (1 to 10, or even 1 to 8 if badly infested), should be used for the San Jose scale, either in the fall or in the spring just before the buds open, the diluted solutions will destroy many of the larvae if used while they are crawling about in July and August.

For biting worms, such as canker worms, tent caterpillars, codling moths, curculio and slugs, an arsenical should be added to the lime-sulphur solution. For this purpose arsenate of lead is best, as it is adhesive and will not harm the foliage. Use two pounds in 50 gallons of lime-sulphur solution, or a little more if insects are very numerous or about full-grown.

Unsprayed orchards produce but little fruit and that is of practically no value; if properly sprayed, its value will be vastly increased, and, if this is combined with proper care along other lines, it will often bring \$300 to \$500 per acre.

Agri. College.

L. R. TAFT.

In his address at the opening of the last meeting of the Western N. Y. Hort. Society, President Barry touched upon the importance of underdraining in the following words: "A great deal of land is valueless unless drained and all lands are greatly, yes, immensely, benefited by underdraining. The well-drained farm and orchard can be worked advantageously, no matter whether the weather is favorable or unfavorable. On many wet farms work is delayed to such an extent that when it is done it is practically useless."

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BEST SEED POTATOES—Catalogue of 70 varieties free. **A. G. ALDRIDGE, Fisher's, Ontario County, N. Y.**

BIRDS THE GARDNER'S FRIENDS.

Did you ever stop to think that the destruction of one insect egg now means hundreds less insect pests to combat next summer? Every egg left until spring will produce an insect which will lay from a dozen to a hundred or more eggs. These in turn will produce insects, and as they mature in a few weeks—some of them in a few days—multiplication is so rapid that we would soon be overwhelmed by the pests if it were not for the aids nature has provided.

One of the most efficient of these aids is our native birds. Even though provided with the poisonous sprays that science has given us, our fight against insects would be a much more serious problem if it were not for the work of the birds. Too little credit has been given them in the past, and even today when observation and the analysis of hundreds of stomachs has proved conclusively their worth as insect destroyers the birds are not appreciated as they should be. Laws for their protection have been enacted in many states but have never been rigidly enforced owing to the indifference of the general public. The result has been a marked decrease in the numbers of some of the most useful species and the practical extinction of others. The rose-breasted grosbeak is now seldom seen. The blue-bird and the cat-bird, two of the most indefatigable insect destroyers, are not as numerous as formerly, and so it is with many other species.

Some of the most effective service is rendered by the birds during the winter months when it would seem to the casual observer that they would be of little value. Next season's crop of insects depends upon the eggs deposited last fall and the adult insects that live through the winter. Some of these eggs and insects are in the ground, but many more are in brush and rubbish heaps, under the bark of trees and logs, or in the crevices of buildings. They form the chief food of wrens, chickadees, woodpeckers and other winter birds. Even the despised English sparrow devours many eggs. Woodpeckers have always been looked upon with suspicion but there is only one member of the family that deserves condemnation—the yellow-bellied woodpecker or sap-sucker. This bird does considerable damage to fruit trees by drilling them full of holes to get the sap, and his similarity to other members of the woodpecker family has brought all of them into bad repute. The downy, hairy, and red-headed woodpeckers extract countless grubs from tree trunks and limbs, as well as destroying many eggs and hibernating insects. The gold-wing or flicker is more terrestrial in his habits, getting his food from stumps, fences and bushes as well as from trees.

Blue-jays usually are looked upon with disfavor, probably because of their quarrelsome propensities and strident voices. They are charged with destroying the eggs of other birds but I have never yet, through many years, caught one in the act. They are tireless workers among our fruit trees and in the course of a year devour thousands of eggs and grubs. Crows are never given credit for any virtues but they devour many insects as well as numerous small rodents, and so pay for some of the mischief they do in corn fields and poultry yard. All of the birds that we see among the weeds along the fences and in sheltered ravines are doing good work for the gardener and fruit grower, for practically all of their time is occupied in searching for insect eggs, grubs, or weed seeds. The birds of summer, too, are beneficial with few exceptions, and they should be encouraged to nest about the farm buildings and orchard.

Nature study in the common schools is doing much to awaken interest in the birds and it is hoped that the beneficial species will be better protected in the future than they have been heretofore.

Ohio. NAT S. GREEN.

A TREATMENT FOR A YOUNG ORCHARD.

Last year we set about 1,800 trees, half apple and half peach, on about 12½ acres of land recently purchased and considerably exhausted of its humus content by a long period of renting and cropping without attention to a proper rotation or manuring. Before setting the trees we plowed under a good dressing of barnyard manure, but the soil is still hard and irresponsive to treatment that will give good crops on soil well filled with humus. Last year one acre of the orchard was

set to strawberries, another acre to cucumbers, and five each to corn and potatoes. The strawberries made a fair, though not large, growth, but it remains to be seen what they will do. The drought nearly ruined the cucumber crop and shortened the corn and potatoes, neither of which was more than half to two-thirds of a crop. The condition of the soil had something to do with the light yield also, the ground becoming dry and baked more quickly than it ought, making it less retentive of moisture than if the humus content were correct, and making an especially unfavorable condition for potatoes, inasmuch that many were forced upward by the hard soil about them and became sunburned.

The question which now confronts us is, how to improve the condition and fertility of the soil and at the same time give the orchard proper care. We could have improved the soil more easily perhaps, had we not set the trees for a few years, but we did not care to wait and lose this time. One proposition is to grow hoed crops between the rows of trees, fertilizing well and giving good culture. This is the method we have followed where the soil has been fertile and well filled with vegetable matter, but it does not appeal to me as the best method of handling this soil. We need a little more room here for strawberries, and I think we shall use about an acre for this purpose, fertilizing this plot thoroughly. We now have a coat of manure over most of this plot and will again apply fine manure in the spring and disk it thoroughly into the soil.

Another method would be to cultivate the ground until July or August without growing any crops between the trees, and then sow a cover crop, a legume, or a mixture containing a legume being preferred. This would also be a good treatment for soil fairly well supplied with humus, but I question if it is the best treatment that could be given under the circumstances. Cultivation makes the fertilizing material in the soil more available so that it can be used up more rapidly, which is very well if there is plenty of plant food to be made available and plant to take up this material as fast as it becomes available, but under the conditions mentioned it seems to me more desirable to follow some method that will increase the amount of humus and rough plant food in the soil without liberating too much of it until the trees become large enough to use it, unless there is some crop growing on the ground to take it up. Acting upon this theory we have decided to follow the following method:

Just across the road from this orchard is a barn where five to seven teams of horses are kept most of the time to haul logs for a mill. We furnish the straw for bedding these teams, for which we receive the manure. During the winter, shredded corn fodder is fed also, and much of this finds its way into the manure heap, making a large amount of coarse material mixed with the rich fertilizer from the grain-fed horses. We are hauling this coarse manure as fast as made and putting it around the trees, three or four bushels about each tree. The apple trees have protectors on, and we can put it against them, but the peach trees have not, and we keep a place about a foot in diameter about the tree clear to guard against the work of mice. We now have about three-fourths of the trees mulched in this way and will add more later if there is enough material. In the spring we expect to disk the orchard thoroughly, both ways, leaving the mulching about the trees as it is, and sow clover, leaving this until the following spring when we shall spread the mulch which remains and plow under the clover, cultivating and sowing a cover crop the next season. I should like the opinion of Michigan Farmer readers on this plan.

Calhoun Co. S. B. HARTMAN.

MARKET NOTES.

We of the north are surprised to learn that our delightful Snow apple is not appreciated in the south. In Memphis, Kansas City, New Orleans, Norfolk, Louisville and Mobile the variety is not well known and it is unwise to make shipments to those points. It is quite different in northern cities as there inquiry for it is so large that a premium can be added to the price without hampering sales to any considerable extent. The markets of Boston, New York, Buffalo, Chicago and Cincinnati hold this variety in the highest esteem. The excellency of the fruit might be advertised among those of our land where it is not known. Once eaten there will ever be a demand for it.

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Woman and Her Needs

At Home and Elsewhere



Married Women Should Not Become Wage Earners.

SHE could not guess how it pained him to see her try to earn money. This so-called illumination of a man's soul in a story I read recently struck me as one of the most humorous things I had read in a long while. Of course, the "she" referred to was the man's wife. Things had been going wrong financially with the man of the house and the wife had determined to try her ability as a wage earner. According to the author the man was greatly distressed at his wife's decision and suffered real torments to think of her earning money.

As I cast my mind over the women of my acquaintance who are earning money and pictured to myself the distress of their husbands when the wives proudly

flourish a check, I could not help chuckling. Not to do injustice to some good man I will admit that possibly there is one some place who really doesn't want his wife to be a money earner, but I've never met him. All the men of my acquaintance are inwardly delighted over the fact that someone else is bringing in money. And the larger the check the wife can bring in, the higher she rises in the estimate of her husband. That is, if she is wise enough to keep the handling of her money in her own hands.

Every ambitious married woman wants to be able to earn "money of her own," but she makes a big mistake if she starts at it. There are so many ways for money to go these days, and men are so prone to forget that wives need money for other

things than meat and drink, and women hate so to remind their husbands of their necessities, that it is perfectly natural for a woman to sigh for an income of her own. But let her beware of taking up any outside interest in an attempt to secure such an income. That is her first impulse. But it means the beginning of divided ways. Once a wage earner, the wife's first interest is no longer the home but the work for which she is being paid money. Instead of being interested chiefly in her husband's success and the making of a home, she is thinking solely of her own success and her chances for advancement in her own line of work. The house really has two heads instead of one, unless the husband becomes a mere dependent upon his wife's bounty, and such a state of affairs never makes for true happiness.

Unless the man is a little more than human the effect of his wife's money-earning upon him is bad, too. He loses

the feeling that he must protect her, because he sees she is fully able to protect herself. His fine sense of chivalry departs slowly but surely, he grows accustomed to seeing his wife spending her own money upon herself and in time never dreams of inquiring if she needs any of his help. Thus the real spirit of manhood, that which makes him a protector of women, departs.

Instead of allowing such a condition of affairs to arise the wife should consider herself an equal partner with her husband and as such entitled to one-half of all he earns. Certainly in farming communities the wife works as hard as the husband, and if there are children her work is much harder and more confining. By rights, she should have as much to say about how the money should be spent as does the master of the house, and she should have her bankbook and checkbook as well as he. If she is wise she will insist on her rights and not allow a false pride to keep her from claiming her own just because her husband doesn't offer to divide.

Such a course is vastly preferable to the other way of doing something outside to bring in money. It brings with it a feeling of partnership and companionship which can only make for happiness.

DEBORAH.

ADENOIDS IN CHILDREN.

BY CHARLOTTE A. AIKENS.

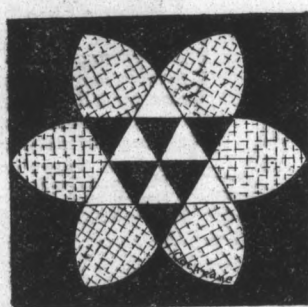
Mouth breathing is a symptom of more importance than most parents realize. It is only within the last ten years that we have learned what a surprisingly long list of troubles the adenoid growths which make mouth breathing necessary may cause.

These soft, spongy growths which are sometimes found at the base of the nose, obstruct the breathing passage through the nose at a time when the bones of the face and chest are growing, are soft and easily influenced. The nostrils grow narrow, the base of the nose broadens, the eyes are far apart and a stupid vacant expression is seen on the face of most mouth-breathing children. There are two tubes leading from the throat to the ears which become blocked by these growths and many of the cases of "running ears" and slowly developing deafness are due to the presence of adenoids.

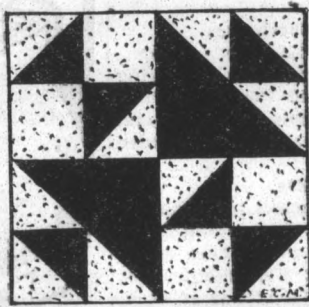
Such children talk and cry out in their sleep. The mouth-breathing children fail to develop mentally as they should. They are among the "backward" children who are a problem to teacher and parent. Investigation has shown that a large proportion of truants and what in cities are known as "juvenile delinquents," have adenoid growths and enlarged tonsils. A noted writer has recently stated that if one per cent of the attention that has been given to teaching mouth breathers the ten commandments had been spent on removing the obstruction to breathing where it exists in wayward or backward children, the records of juvenile offences would have been greatly lessened. In a truant school in New York out of 150 children examined 137 had adenoids or enlarged tonsils.

It is a false theory to expect that such growths will be absorbed, or that the child will grow out of them. Before he reaches adult life if adenoid growths are not removed irreparable harm has been done the child which no attention in after life will make up for. The spongy growths are very easily removed. No anaesthetic is needed and the little operation takes less than two minutes. Once the spongy lumps are removed so that they are easily seen no parent needs any further argument that it was a good thing for the child to have it done.

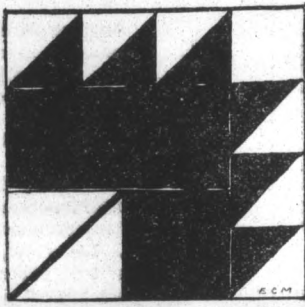
Mend worn pieces of sheet music with passe-partout binding. Cut off a piece of binding the length of sheet music, crease the binding down the middle, dampen, place the music in the crease, press the binding down and your music is bound as good as new.—Mrs. H. G.



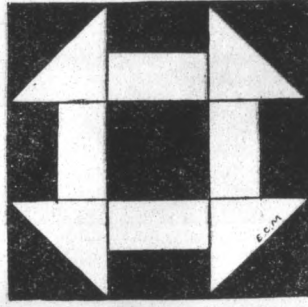
STAR AND SHIELD



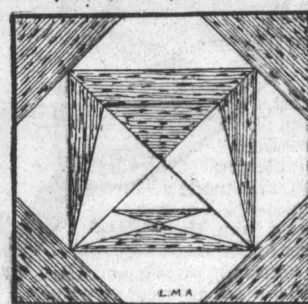
TRIANGLE



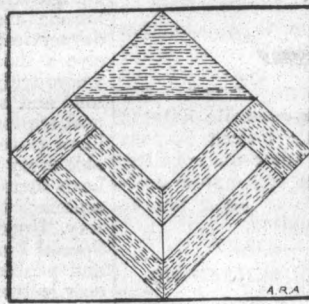
WHITE AND GREEN LEAF



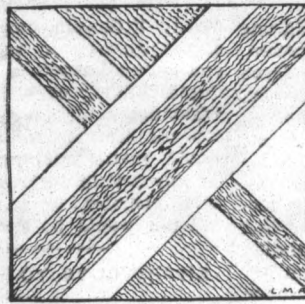
SQUARE TRIANGLE



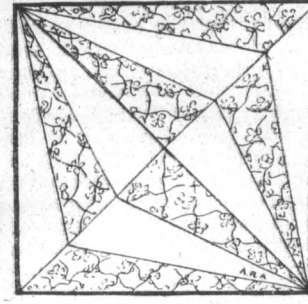
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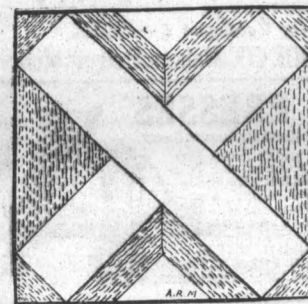
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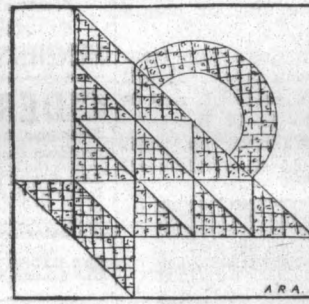
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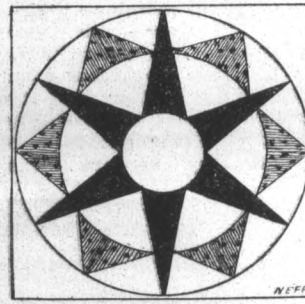
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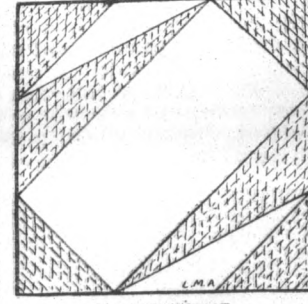
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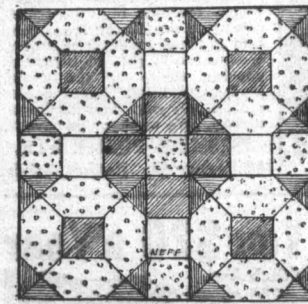
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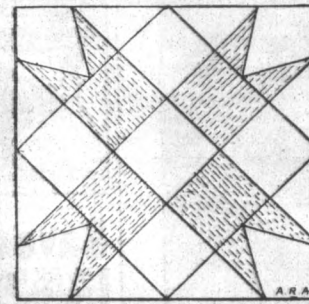
SOUTHERN STAR



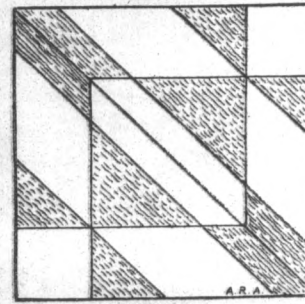
VALENTINE



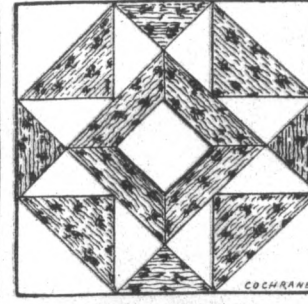
QUEEN OF THE PACIFIC



ROYAL STAR



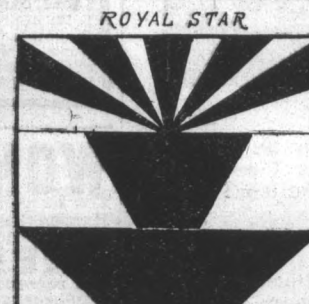
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CARD BASKET



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CACTUS FLOWER



RED CROSS



AIR SHIP

Fifteen Designs for Quilts that can be Copied by Michigan Farmer Readers

Entertaining in February—By Marjorie March.

St. Valentine's Day and Washington's birthday and, for a literary festivity, the birthday of Longfellow, all come in February to inspire a hostess to bid her friends to some pleasant informal gathering where a simple good time may be enjoyed and pretty decorations and favors add grace to the house and table.

Our illustrations show two pretty fancies, one for a centerpiece for a luncheon on St. Valentine's Day and the other a pretty service of one of the courses for a Washington's birthday supper.

In the first picture a round mirror is surrounded by graceful ferns and artificial roses and lilies of the valley. Three little "Cupid" dolls stand in the center holding white ribbon streamers which are attached to heart-shaped boxes of candy which are favors for the guests. The goodies may be served in heart-shaped cases as far as may be possible, the ice cream molded in heart shape and stuck with toy arrows, and cakes, iced

If partners are desired for supper or for any game, cards may be prepared with verses from one of his poems, half of the verses written on one card, half on the other, so that the members of the society must show their knowledge to find their partner.

Cards may be distributed also with quotations from the poet's works and a certain time given for each person to write from what poem they are taken. Selections may be read from his works and if desired some tableaux might be given illustrating some of his best known poems. In the country it is a good thing to start a small literary society, even if its purpose be more social than instructive, for it is a pleasure to meet together, and what one may learn of the great lives which have left their "footprints upon the sands of time" is in itself inspiring and broadening to quiet lives.

I give below some recipes with a February flavor that will be enjoyed by the

butter in a pan and let brown, then stir in a tablespoonful of flour and stir until thoroughly mixed, when add slowly, stirring all the time, a quart of the veal stock, one cup of strained tomato, four hard boiled eggs sliced very thin, and a cupful of veal meat cut into small cubes. A pretty way to serve any soup of this kind, or fish chowder for the first course at luncheon, is in round cups without handles, placing a round cracker on top of each portion.

Chicken Crustade.

Cut some slices of bread an inch thick, cutting rounds from them with a round cutter. Fry these a delicate brown in butter. Scoop out the crumbs on one side and fill with chopped chicken, heated in a thick cream sauce. Oysters may be prepared in the same way, or any shredded meat, as crab meat or fish.

Celery Puff.

Stew some celery until tender. When cold add to it one cup of cream sauce, the beaten yolks of two eggs, and lastly the beaten whites. Mix thoroughly and put into small buttered moulds and bake in a quick oven. Serve at once. Hot toasted muffins are a delicious accompaniment to a dish of this sort.

Rice Hearts.

Boil a cup of rice in boiling water with a little salt, until it is soft and dry. Add a tablespoonful of sugar and a beaten egg and enough flour to make the mixture slightly stiff. Set away to get cold. Mould with the hands into heart-shaped croquettes, dip into cracker crumbs or bread crumbs, then into beaten egg and into crumbs again and fry in deep fat. Hot maple syrup is a delicious accompaniment to this dish.

Apricot Jam Shortcake.

These make a nice dish for any company supper. Make light soda or baking powder biscuits, sweetened slightly. When steaming hot break open each one and butter and spread with apricot jam. Serve with whipped cream.

Flag Cakes.

The square sponge cakes make pretty little flags to serve at a Washington birthday party. Ice white, and put lines of red frosting on top, pasting a little square of blue starred paper in the corner of each.

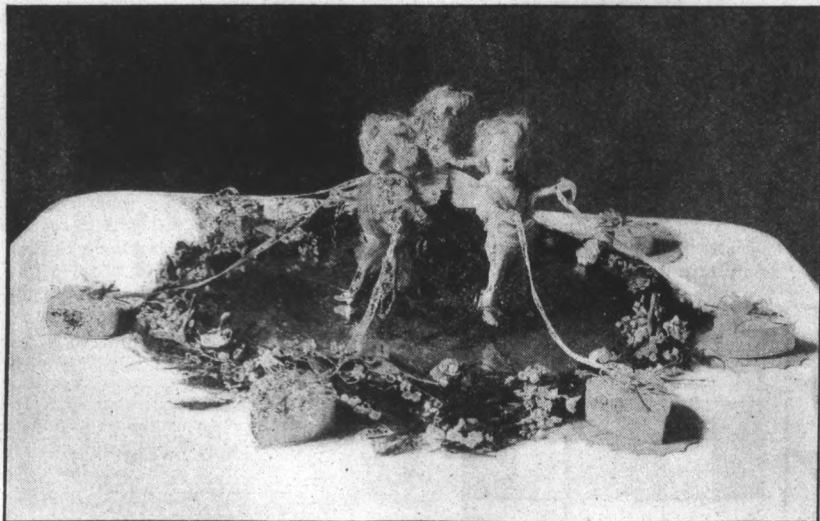
For favors at a Valentine's party anything in heart shape will do, from a dainty little pin cushion to a collection of recipes written on heart-shaped cards and decorated with a little picture of wee Cupid cooking over the fire of love. For Washington birthday favors little hatchet covered booklets for any desired purpose would make cunning home-made gifts. Or any article decorated with a few artificial cherries, or a cherry stick pin or veil pin would be acceptable.

SHORT CUTS TO HOUSEKEEPING.

If you serve flakes for breakfast these cold mornings, warm the milk or cream that goes with them.—M. A. L.

If the cistern pipe, or waste pipe from sink should leak mend with putty. It will last as long as if it was soldered, and is a great deal easier done.—L. L. B.

Never put little folks shoes on until they are warm. The cold shoe takes all



Favors for St. Valentine's Day.

white, also in heart shape, may accompany the ice cream.

The second picture shows the table set with a flag for a cover. A platter is spread with flag doilies, and salad in a drum and flag shield cases offers itself as a tempting morsel in a dainty way.

For a St. Valentine's Day luncheon the guests may be asked in honor of some bride or some girl who is engaged. All may be asked to write an original valentine and these may be read aloud during the luncheon, valentines being exchanged so that no guest reads her own.

Poems suggestive of Cupid and his art may be written on heart-shaped cards, and the guests asked to write below them the names of the authors. Another game to play after luncheon is to have some large paper hearts cut into pieces, each in its envelope, and have all try and put them together after the manner of the popular picture puzzles. Have a time limit and give a prize to the person who can soonest mend their "broken heart." The prize could be a little china vase in pink and white, ornamented with little Cupids. Or any gift in heart shape would be suitable.

For a Washington's Birthday party the invitations could be written on fancy little "hatchets" cut from thin cardboard, or little "cherry trees" may be outlined on square white cards and the bidding to a "cherry supper" may be written below.

A pretty centerpiece for the middle of the table is a big cake iced white with stripes of red frosting laid over. A square of the cake in the upper left hand corner can be left without the stripes and this can be studded with blue candied violets.

The supper may be what one chooses but there can be a fruit salad with cherries. Either ice cream with cherries, or cherry jam meringue pudding may be the dessert, served with little cakes iced white, with an artificial cherry tied on top of each with a cherry colored ribbon.

After supper all can try pinning "cherries" to the outline of the famous "cherry tree" of history, which can be traced on brown paper and hung at one end of the room, all to be blindfolded, of course, while they attempt this feat.

For a Longfellow party on the 27th of February—(his birthday), the near by country neighbors who belong to a literary society can be asked for an "Afternoon with Longfellow." The invitations may be written on postal cards with a picture of the poet, and other cards with pictures of scenes connected with the poet's life or with quotations from his books may be at the covers as place cards.

guests who are bidden to the feast or by the home folks either.

Cherry Cakes.

Cream a half cup of butter and add one cupful of granulated sugar and cream, both together. Beat the yolks of three eggs until thick and add to the creamed sugar and butter with a cupful of milk, then add juice and rind of one lemon, three cupfuls of flour in which two tablespoonfuls of baking powder have been incorporated. Add a pinch of salt, stir batter well and bake in well greased cup tins until done. Ice white and lay a candied cherry on top of each, a raisin stem attached and a "leaf" from the famous cherry tree, cut from majolica.

Cupid Ices.

Whip three egg whites to a stiff froth. Make a syrup of half a cup of sugar and one-fourth cup of water, letting it boil until it will form a soft ball when dropped in cold water, then pour this syrup onto the whites of the eggs, beating constantly until the mixture is cool, then add a few



Salad in Flag Cases for Washington's Birthday.

drops of any desired flavoring, a few drops of pink vegetable coloring and the whip from one pint of cream. Freeze as for ice cream. Serve in little glass cups topping each portion by a candy heart or by a wee Cupid.

Mock Turtle Soup.

This makes a delicious first course for any luncheon. Use stock made from boiling veal, adding a little vinegar to the stock, about one tablespoonful to a quart of the liquid. Place one tablespoonful of

the warmth out of their little feet and they seldom stop to warm them.—H. P.

(Will H. P. kindly send name and address?—Ed.)

Bright's disease has been cured by using the following simple remedy: Cook beans until tender, without parboiling. Give the patients all they can eat of them. Cottage cheese and buttermilk are good for those having diabetes.—Z. I. D.

For croup give melted butter as warm as a child can take it.—H. P.

Household Economy

How to Have the Best Cough Syrup and Save \$2, by Making it at Home.

Cough medicines, as a rule, contain a large quantity of plain syrup. If you take one pint of granulated sugar, add ½ pint of warm water, and stir about 2 minutes, you have as good syrup as money could buy.

If you will then put 2½ ounces of Pinex (fifty cents' worth) in a pint bottle, and fill it up with the Sugar Syrup, you will have as much cough syrup as you could buy ready-made for \$2.50. It keeps perfectly.

And you will find it the best cough syrup you ever used—even in whooping cough. You can feel it take hold—usually stops the most severe cough in 24 hours. It is just laxative enough, has a good tonic effect and taste is pleasant. Take a teaspoonful every one, two or three hours.

It is a splendid remedy, too, for hoarseness, asthma, chest pains, etc.

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RICE—NEW CROP. 100 pounds beautiful, clean, white table rice in double sacks, freight prepaid to your railroad station, \$3.85. J. ED. CABANISS, Rice Farmer, Katy, Texas.

A FEW PLAIN BUT PALATABLE SAUCES.—No. 35.

BY MRS. ALTA L. LITTELL.

WHAT would be the most appetizing way to serve the meat chosen for dinner or luncheon, is a question which puzzles many a housewife. With so many meals to prepare, and the family looking for a change every day, is it any wonder that women grow weary of the task occasionally?

Of course, there are some things we always expect to find together. Roast pork and apple sauce are as closely associated in our minds as the fact that B follows A in the alphabet. Corned beef and cabbage go hand in hand, and we always look for the boat of mint sauce when the roast of lamb appears on the table. These things like the poor, are ever with us, but what other combinations may we carry in our minds?

Any steak, cutlet or chop is improved by the addition of a good sauce. In fact, any sort of meat or fish is eaten with added zest if accompanied by a delicately flavored sauce or gravy. One of the easiest sauces to make is tomato sauce, which is made by boiling a pint of tomatoes with two bay leaves and four slices of onion until soft enough to go through a sieve, and then thickening with flour which has been rubbed into melted butter and boiled and stirred until smooth. Of course, add salt and pepper to taste, and a speck of cayenne is liked by many.

This sauce is good with pork chops, veal cutlets, lamb or mutton chops, or steak. Roundsteak is delicious if cooked for an hour in a slow oven with a pint of tomato sauce. Remember that roundsteak should never be broiled or fried as it is too tough to be served this way. Reserve such methods of cooking for porterhouse and sirloin. If you buy round, either put it through the chopper and serve as hamburger; as stuffed steak wrapped around a bread dressing and baked with a cup of stock to baste; cook it in the way above described, with tomato sauce, or dip in flour and brown on both sides in suet drippings, slice four or five onions over it, add a cup of stock or hot water, and simmer on top of the stove for an hour. Cooked in any of these ways it loses much of its toughness and as it contains a good deal of nourishment it becomes a valuable dish.

Pork chops and veal chops or cutlets are more appetizing if breaded before sauteing. Dip in beaten egg, then in fine bread crumbs, then again in egg, and put at once in the frying pan. In preparing the crumbs, be sure to make them fine. Many a chop is spoiled by being dipped in coarse crumbs.

The ordinary white sauce which all cooks make, two tablespoons of butter, two tablespoons of flour and a cup of milk or white sauce stock, may be varied in many ways. For celery sauce add a cup of celery cut in small pieces and cooked until soft. A cup of soft cooked cauliflower added makes cauliflower sauce. Either of these sauces is good served with stewed chicken and makes a change from the usual chicken gravy. If you have a roast of beef, add a third of a cup of hot cream and the same amount of grated horseradish to a cup of white stock and you have a fine horseradish sauce to serve with the beef. Four slices of onion and a couple of sprigs of parsley, boiled until soft and passed through a sieve, may be added to white sauce and served with lamb or mutton chops. If you have boiled fish, use a cup of the water in which the fish was boiled to make the sauce, and flavor with onion and bay leaf.

For baked fish or chicken, cheese sauce is fine. Melt three-fourths of a cup of cheese and the same amount of cream together in a dish over hot water, stir until smooth and serve at once. Capers sauce goes with boiled lamb as religiously as does mint sauce with roast lamb. This is made by adding a half cup of chopped capers to a pint of sauce.

Pan gravy is the best accompaniment for roast veal, pork or beef, and roast turkey. For roast duck or goose, make a pint of brown gravy, using butter instead of the drippings from the fowl. Cover a dozen olives with boiling water, let stand on the range an hour, pare and remove the stones and simmer in the sauce five minutes.

Suitable vegetables and salads to serve with the meats will be treated in another article.

LETTER ON CHILD TRAINING.

Friend Deborah:—I am always quite interested in your department of the paper but have not had my enthusiasm aroused

as much at any time before as at this time. You know so many people are always ready to give others advice about children, even though they may never have had the care of any, especially their own. I, myself, was the same when a girl. I thought, and often said, that if I had children of my own I would not let them do this or that. But I find now, since I have three to contend with, that they have wills of their own, as well as we older ones. I also have watched other children and I am satisfied that my children are no worse than others. They are very mischievous and lively, often destructive, but I really think that about all we can do, is to be patient, teach them to the very best of our ability and instruct them as to what is right and wrong.

The whip is very essential at times, but good judgment must be exercised at such times. For anyone to become angry and on the impulse of the moment begin whipping with their hand or whatever they happen to get hold of, is most unreasonable. Also, I believe too much whipping will spoil a child just as quickly as not enough.

I believe when they are very small they often destroy things without realizing the value of them. They become wiser as they grow older. The bible says, "Train up a child in the way he should go; and when he is old, he will not depart from it." Also, "When I was a child, I spake as a child, I understood as a child, I thought as a child, but when I became a man, I put away childish things." We can only do our best and hope. I have seen this plan tried and believe it to be the best.

I am sincerely yours,

Mrs. R. A. W.

PATTERNS.

The following patterns can be obtained through the Michigan Farmer office at the prices named. Be sure to give number of pattern and size wanted.

No. 5086—Ladies' Shirt Waist.—This pattern is cut in five sizes, 32 to 40 bust measure. Size 36 requires 2½ yards of 36-inch goods. Price, 15 cents.

No. 5118—Ladies' Shirt Waist with Body and Upper part of Sleeve in One.—Cut in



six sizes, 32 to 42 bust measure. Size 36 requires 2½ yards of 36 inch material. Price, 15 cents.

No. 5090—Ladies' Waist with Yoke Facing.—Cut in six sizes, 32 to 42 bust measure. Size 36 requires two yards of 36-inch goods, with half yard of 18-inch tucking. Price, 15 cents.

No. 5106—Ladies' Shirt Waist with Yoke.—Cut in six sizes, 32 to 42 bust measure. Size 36 requires 2½ yards of 36-inch material; half yard of 18-inch all-over. Price, 15 cents.

No. 3499—Ladies' Tucked Shirt Waist.—Seven sizes, 32 to 44 inches, bust measure. For 36 bust it requires 2½ yards 36 inches wide. Price, 15 cents.

Narrow skirts continue to be seen, though the style is not so pronounced as last summer. Circular skirts have some admirers.

Five inches from the ground is the length decreed for the skirt. Plaited skirts, the plaits either falling free or held in at the knees with a band, are good. Gored skirts with plaits set in the side panels below the knees are also seen.

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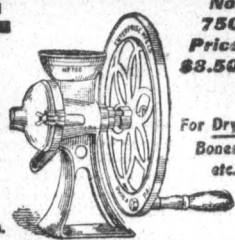
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February 8, 1911.

Grains and Seeds.

Wheat.—The dealers appear to be afraid of the outcome of the reciprocity agreement between this country and Canada, and they are loosening their hold upon the market and selling grain with lower values resulting. The farmers, too, where the storm has not prevented, are sending their holdings to the elevators liberally and these heavy receipts give the bears more courage to pull down quotations. In Europe the visible supply is increasing rapidly and offerings there are large. The condition of the growing crop in the states is improved by the general snow which now protects the plant from further damage and will, when it melts, assist in supplying some of the needed moisture. Argentine is threshing her crop and the returns are not so good as were anticipated. Heavy holders in the Chicago market are selling. One year ago the price for No. 2 red wheat was \$1.23½ per bu. Quotations for the week are:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	95½	94½	94½	93½	93½	95½
Friday	94½	93½	93½	92½	92½	94½
Saturday	94½	93½	93½	92½	92½	94½
Monday	94½	93½	93½	92½	92½	94½
Tuesday	93½	92½	92½	91½	91½	93½
Wednesday	93½	92½	92½	91½	91½	93½

Corn.—While farmers are sending a liberal bulk of their supplies of corn to market, the export selling so evened up the demands upon the market last week that prices have ruled about steady in spite of the fall in wheat. The local trade is dull. A year ago the price for No. 3 corn was 63½¢ per bu. The visible supply shows an increase of over a million bushels. Quotations for the past week are:

	No. 3	No. 3	Yellow.
Thursday	47	48	48
Friday	47	48	48
Saturday	47	48	48
Monday	47	48	48
Tuesday	47	48	48
Wednesday	46½	47½	47½

Oats.—A cent decline is noted in the oat deal for both standard and No. 3 white. Business is quiet at the new figures. The visible supply increase amounted to less than a half million bushels. One year ago the price for standard oats was 50¢ per bu. Quotations are as follows:

	Standard.	No. 3	White.
Thursday	34	33½	33½
Friday	34	33½	33½
Saturday	34	33½	33½
Monday	34	33½	33½
Tuesday	34	33½	33½
Wednesday	34	33½	33½

Beans.—It seems that bean dealers are fearful that the trade agreement with Canada will interfere with prices for that product, and in lieu of taking a much less price later they prefer to sell now and are thus making conditions good for lower prices. Local trading is dead, but out in the state trading is going on. Nominal quotations are as follows:

	Cash.	Jan.
Thursday	\$1.97	\$2.02
Friday	1.97	2.02
Saturday	1.97	2.02
Monday	1.95	2.00
Tuesday	1.95	2.00
Wednesday	1.97	2.00

Clover Seed.—The continuous activity in this deal since the hulling of the crop last fall has slightly subsided for the time being, to take footing for the busy season commencing soon when farmers will be calling for clover to do their spring seeding with. Prices have been steady all the past week and there is a feeling of firmness in the deal. Alsike is steady with other clovers. Quotations are:

	Prime	Spot.	Mar.	Alsike.
Thursday	\$8.80	\$8.80	\$9.10	9.10
Friday	8.80	8.80	9.10	9.10
Saturday	8.80	8.80	9.10	9.10
Monday	8.80	8.80	9.10	9.10
Tuesday	8.80	8.80	9.10	9.10
Wednesday	8.80	8.80	9.10	9.10

Barley.—Prices have a tendency downward. Market is dull and selling is being conducted on a basis of \$1.70@1.80 per cwt.

Rye.—Scarce and steady, with price unchanged, No. 1 quoted at 84½¢ per bu.

Visible Supply of Grains.

	This week.	Last week
Wheat	43,740,000	42,263,000
Corn	9,146,000	8,068,000
Oats	16,415,000	15,997,000
Rye	390,000	381,000
Barley	1,544,000	1,462,000

Flour, Feed, Provisions, Etc.

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

Straight	\$4.45
Patent Michigan	4.85
Ordinary Patent	5.75
Hay and Straw.	Hay values are steady. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$16.50@17; No. 2 timothy, \$15.50@16; clover, mixed, \$15.50@16; rye straw, \$7@7.50; wheat and oat straw, \$6@6.50 per ton.

Feed.—All grades steady except coarse corn feeds which advanced a dollar. Carlot prices on track are: Bran, \$25 per ton; coarse middlings, \$26; fine middlings, \$28; cracked corn, \$23; coarse corn meal, \$23; corn and oat chop, \$20 per ton.

Potatoes.—It was hoped that the firmer feeling last week was but the unfolding of a brighter future in the potato deal but it was not to be so. For the followers of the trade say "dull and easy at former prices." In car lots Michigan potatoes are selling at 37@40¢ per bu.

Provisions.—Family pork, \$21.50@22.50; mess pork, \$21; medium clear, \$19@21; smoked hams, 14½@15¢; briskets, 13¢; shoulders, 11½¢; picnic hams, 11½¢; bacon, 15½@16½¢; pure lard in tierces, 10½¢; kettle rendered lard, 11½¢.

Dairy and Poultry Products.

Butter.—The first advance in butter since the big break in prices, occurred this week when creameries took a jump of one cent in the chief butter centers. The trade is firm at the new figures. Dairy goods are steady. Extra creameries are now quoted at 26½¢; firsts, 24¢; dairy, 17¢; packing stock at 14½¢ per lb.

Eggs.—The remarkable demand for eggs is giving the trade splendid support in spite of the heavy receipts and the efforts of storage men to unload old stock. Values advanced a half cent. Fresh receipts, case count, cases included, are now quoted at 22½¢ per dozen.

Poultry.—The poultry deal is of small proportions, but a slightly improved demand for chickens and fowls, both dressed and alive, has advanced prices for them, while other kinds are steady and dull. Quotations are: Dressed—Turkeys, 20@23¢; chickens, 14½@15¢; fowls, 14½@15¢; ducks, 18@19¢; geese, 14@15¢ per lb. Live—Spring chickens, 13@13½¢; fowls, 13@13½¢; old roosters, 9¢; turkeys, 18@19¢; geese, 12@13¢; ducks, 15@16¢ per lb.

Cheese.—Michigan, 17¢; Michigan late, 15@16¢. York state, September, 17@18¢; do. late made, 15@16¢; Limburger, old, 16@17¢; Swiss domestic block, 20@22¢; cream brick, 16@18¢.

Dressed Pork.—Price is steady at 9½@10¢ per lb.

Veal.—Market steady. Choice, 11½@12¢; ordinary, 9¢ per lb.

Rabbits.—Lower. Per dozen, \$1.25@1.50.

Fruits and Vegetables.

Apples.—Michigan apples are in good demand; values running even at former figures. Fancy greenings quoted at \$5.25@5.50; Kings, \$5.25@5.50; Baldwins, \$4.50; Steel reds, \$6; ordinary grades, \$3@3.50 per bbl. Western apples, \$2.25@2.50 per box.

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

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

Onions.—Higher. 85¢ per bu.

Honey.—Choice to fancy comb, 15@17¢ per lb.

OTHER MARKETS.

Grand Rapids.

The egg market is unchanged this week, dealers paying the trade 20@21¢ for fresh stock and 18¢ for storage. Butter, both dairy and creamery, is up 1¢, dairy bringing 21¢ and creamery 25½¢. In live poultry, chickens, ducks and geese are 1¢ higher, while turkeys are off 1¢. Quotations follow: Fowls and chickens, 12¢; old roosters, 9¢; geese, 12¢; ducks, 14¢; turkeys, 19¢. Veal is worth 6@11¢. Dressed hogs are selling at 9@9½¢. Potatoes are still quoted at 25@30¢, with outside markets weak. The movement of potatoes out of the state has been so heavy since digging time that dealers are estimating that less than 40 per cent of the crop now remains in farmers' hands. Well posted men in the trade seem to feel that now is a good time for farmers to hold their potatoes for better prices. They say that as long as the growers continue to be free sellers, with plenty of cars for moving them, there will be nothing to the market but continued weakness. The wheat market is steady at 90¢ and other grains are unchanged.

New York.

Butter.—Market steady. Creamery specials are quoted at 28¢; extras, 26@26½¢; seconds to firsts, 19@23¢ per lb.

Eggs.—Quiet. Fresh gathered extras, 24@25¢; do. firsts, 22@22½¢; do. seconds 20½@21½¢; refrigerators, firsts, 16¢; do. seconds, 14@15¢.

Poultry.—Dressed stock steadier than for some weeks; Western chickens, 13½@18¢; fowls, 13@16¢; turkeys, 15@23¢.

Chicago.

Wheat.—No. 2 red, 93½@93½¢; May, 94½¢; July, 93¢ per bu.

Corn.—No. 2, 47@47½¢; May, 49½¢; July, 50½¢ per bu.

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

Barley.—Malting grades, 80@87½¢; per bu; feeding, 60@70¢.

Butter.—The 1¢ advance at Elgin on Monday brought a like advance on best grade creamery in this market, but this change was largely nominal, the demand hardly showing enough improvement to warrant it. Quotations now are: Creameries, 17@26¢; dairies, 19@22¢.

Eggs.—While the colder weather is relied upon by the trade to curtail receipts, supplies at present are ample. Current receipts are higher than a week ago, with fancy grades barely steady at former figures. Quotations: Prime firsts, 22½¢; firsts 21½¢; at mark, cases included, 19@20½¢ per dozen.

Potatoes.—Market very firm this week under light receipts due to unfavorable conditions for shipping. However, the dearth of choice stock and the urgent demand have so far failed to pull prices up to the point they occupied one week ago. Choice to fancy quoted at 45@47¢ per bu; fair to good, 40@43¢.

Beans.—Market steady under a moderately active demand. Choice, hand-picked pea beans quoted at \$2.05@2.10 per bu; prime, \$1.95@2; red kidneys, \$3.35@3.45.

Hay and Straw.—Receipts of hay liberal and the market rules easy. Straw steady. Quotations now are: Choice timothy, \$18.50@19; No. 1 timothy, \$17@18; No. 2 do. and No. 1 mixed, \$15.50@16.50; No. 3 do. and No. 2 mixed, \$11@11½; rye straw, \$8@8.50; oat straw, \$7@7.50; wheat straw, \$6@6.50 per ton.

Boston.

Wool.—The first of the London wool auctions for the year closed with prices ruling steady. This assisted transactions on this side of the water where manu-

facturers are watching wool price tendencies as well as the outlook for manufactured goods—cloth dealers showing a disposition to go slow on stocking up with new supplies. However, the buying of wool was ample enough to give the market a firm tone, and the undercurrent of the trade is moving hopefully in the direction of a more active market and better prices. Following are the leading domestic quotations: Ohio and Pennsylvania fleeces—Delaine, washed, 34¢; XX, 31½¢; ½-blood combing, 29@30¢; ¾-blood combing, 29@30¢; ¼-blood combing, 27½@28¢; ¼-blood clothing, 24@26¢; delaine, unwashed, 26½@27¢; fine unwashed, 22¢. Michigan, Wisconsin and New York fleeces—Fine unwashed, 20@21¢; delaine unwashed, 26@27¢; ½-blood unwashed, 28@29¢; ¾-blood unwashed, 27@28¢; ¼-blood, 28½¢; ½, ¾ and ¼-blood clothing, 23@24¢. Kentucky, Indiana and Missouri—¾-blood, 27¢; ¼-blood, 26@27¢; Georgia, 26@27¢.

Elgin.

Butter.—Market firm at 26¢ per lb., which is a one cent advance over the quotation of last week. Output for the week, 499,040 lbs., as compared with 525,200 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

February 6, 1911.

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

Receipts of stock here today as follows: Cattle, 132 cars; hogs, 14,400; sheep and lambs, 23,000; calves, 800 head.

With only 16,000 cattle reported in Chicago, and 132 cars on sale here, with very unpleasant weather, trade was only steady with last week's prices.

We quote prices as follows: Best 1,300 to 1,400-lb. steers, \$6.40@6.65; good prime 1,200 to 1,300-lb. steers, \$5.75@6.35; best 1,100 to 1,200-lb. shipping steers, \$5.50@6.25; medium butcher steers, 1,000 to 1,100 lbs., \$5.35@5.85; light butcher steers, \$4.65@5.25; best fat cows, \$4.75@5.25; fair to good do., \$3.75@4.35; common to medium do., \$3.50@4; trimmers, \$2.75@3.25; best fat heifers, \$5.50@6; good do., \$5@5.50; fair to good do., \$4.25@4.65; stock heifers, \$3.25@3.50; best feeding steers, dehorned, \$4.75@5; medium to good feeding steers, \$4.40@4.60; stockers, all grades, \$4@4.25; best bulls, \$5@5.50; bologna bulls, \$4.25@4.75; stock bulls, fair to good, \$3.75@4.25; best milkers and springers, \$5@6.50; good to best milkers and springers, \$4@5; common to good do., \$2.50@3.50.

Late springers hard to sell at any kind of satisfactory prices; in most cases have to be sold by weight.

Receipts of hogs today 80 cars of fresh arrivals, and 10 cars of hold-overs, making 90 decks on sale. Market opened strong 10@20¢ higher than Saturday, and closing steady at the opening, with a good clearance.

We quote prices as follows: Medium and heavy, \$7.80@8; mixed, \$8@8.15; yorkers, \$8.25@8.35; pigs, \$8.65@8.70; roughs, \$7@7.15; stags, \$6@6.25. All selling that got yarded in time for the market. Prospects look fair.

The lamb market opened slow today; most of the choice handy lambs selling early at 6¢; few choice light at \$6.10. Lambs weighing from 85 to 90 lbs. selling a little better today; selling from \$5.90@6. Heavy lambs, that is, weighing 100 lbs. and over, selling mostly at \$5.25. Look for steady to strong prices balance of the week. Sheep market was active today; most of the choice ewes selling at \$4@4.15; wethers, \$4.25@4.40. Look for about steady prices on sheep balance of week.

We quote: Best handy lambs, \$6@6.10; heavy lambs, \$5.15@5.25; bucks, \$3@3.25; heavy ewes, \$3.75@4; yearlings, \$4.75@5.25; wethers, \$4.25@4.40; cull sheep, \$2.50@3.50; handy ewes, \$4@4.15; northern Michigan lambs, \$5.25@5.75; veals, choice to extra, \$10@10.50; fair to good do., \$7.50@9.50; heavy calves, \$5@6.50.

Chicago.

February 6, 1911.

Cattle. Hogs. Sheep. Received today 16,000 30,000 15,000 Same day last year, 19,122 33,417 13,957 Received last week, 61,195 151,511 80,446 Same week last year, 47,916 158,933 60,754

The new week starts off with trains delayed by the big snow storm and trade delayed for that reason. Cattle are in such meager supply, following the great declines in prices for three consecutive weeks, that sales are anywhere from 10¢ to 25¢ higher, but this is regarded as wholly due to lessened offerings. Hogs advanced fully 10¢, and more in some instances, with a good general demand, the best lots being wanted by shippers. The hogs received last week averaged in weight 229 lbs., comparing with 209 lbs. a year ago, 204 lbs. two years ago, 215 lbs. three years ago and 220 lbs. four years ago. These comparisons show that stockmen are making their hogs unusually heavy, and the percentage of light weight hogs of coarse quality sold at \$7 and upward. Boars brought \$3.75@4.25, and stags sold at \$7.90@8.35, according to weight, stags being subject to 80 lbs. dockage. Hogs declined last week 15@30¢, rough heavy lots declining the most. Sheep and lambs recovered their decline of last week on account of the small supply, prices being 15@25¢ higher, with lambs going at \$5@6.25, wethers at \$4@4.50, ewes at \$2.50@4.25 and yearlings at \$4.50@5.50.

Cattle had a slow demand most of the time last week, and sales were largely made at further reductions of 20@30¢, cows and heifers sharing with steers the decline. It was a case of small consumption of beef resulting from its dearth and abnormally mild weather for February rather than large cattle supplies, the eastern shipping demand being relaxed, while

local killers did not need large numbers of cattle to carry them along. Beef steers sold largely at \$5.50@6.50, with the better class going at \$6@6.80, and the commoner light-weight lots at \$4.75@5.50. Export steers brought \$5.60@6.25, and good to prime yearlings found sales at \$6@6.60. The pickers shows no disposition to stock up with beef much ahead of immediate wants, and the market weakens even under only fairly large receipts. The number of cattle in the country is reported as much smaller than a year ago, but there are enough coming to market to supply all demands. The most striking feature of the market is the relatively better demand for the cheaper and medium-priced cattle than for choice lots, and while the best steers have been selling 65¢ lower than a year ago, the poorest sold 65¢ higher than at that time. Cows and heifers have been selling at \$3.50@6, with cutters selling at \$3@3.45, canners at \$2.40@2.95, and bulls at \$3.40@5.35. Calves have had a big break from recent high prices, selling at \$3@8.25 per 100 lbs., or \$2 lower than a fortnight ago. Stockers and feeders have met with large sales, but prices are 10@25¢ lower, stockers going at \$4@5.60 and feeders at \$5.10@5.90. Milk and springers sold slowly for eastern shipment at \$30@60 per head. The only hope for good cattle markets from now on is to hold down supplies to moderate proportions. It may be added that ordinary business prudence would forbid paying fancy prices for choice feeders at this time.

Hogs suffered some serious breaks in prices last week, with quite a sensational market Wednesday, when the receipts aggregated 44,392 head, a large number that had been contracted for shipment at the close of January showing up. It was the worst day seen in a long time, with slow sales at reductions of 30¢ from prices paid early Tuesday. Hogs are maturing very fast, and the packers are predicting much larger receipts and slumps in prices that will place swine on a much lower level, but much will depend on whether receipts are held down to reasonable proportions. The report compiled by B. W. Snow makes the number of hogs on the farms in the United States Jan. 1, 49,215,000, a supply of 1,433,000 head larger than estimated by the government to be held a year earlier, while the number of beef cattle on farms Jan. 1 is placed at 46,334,000 head, or 945,000 less than a year earlier. High prices are checking the consumption of provisions, and stocks are increasing, the official statement showing 78,126,559 lbs. in Chicago warehouses Feb. 1, compared with 67,181,893 lbs. a month earlier and 75,601,109 lbs. a year ago. Heavy hogs are poor sellers, with light lots extremely scarce.

Sheep and lambs experienced another unsatisfactory week on the whole, although supplies were much smaller than were furnished a few weeks ago. At times exporters made some purchases, but this outlet was not very large, and low prices were paid, heavy lambs being taken at \$5, or \$1 under the price paid by packers for prime light weights. Export wethers sold at \$4.15, and heavy yearlings were taken by the foreign trade at \$5, while light yearlings sold to domestic killers at \$5.25. The consumption of mutton has been on a very small scale, and everything in the live mutton line sells extremely low compared with former years, especially compared with a year ago, when supplies were unusually small. Moderate supplies of feeder lambs were offered and brought \$5.65@5.75 for lots averaging 61 to 65 lbs.

Horses were in much better demand last week on the big days, with slower markets later, as usual, and inferior animals sold as unsatisfactorily as ever, some selling at \$45@90 per head. Fancy pairs of drivers were auctioned off at \$435@485, and farm mares went at \$140@190 each, while small southern chunks were in good request at \$65@125. Wagon horses were active at \$140@200, and drafters sold freely at \$200@225, with the best kinds scarce at \$250@325.

LIVE STOCK NOTES.

Only 21,300,000 hogs were slaughtered by western packers during 1910, compared with 25,385,000 in 1909 and 30,785,000 in 1908. As long ago as 1898 23,510,000 hogs were slaughtered. Only 3,695,000 hogs were packed in 1871, the number increasing to 12,210,000 in 1880 and to 16,980,000 in 1890. The year 1908 was a record-breaker.

John G. Hays, a prominent breeder of Aberdeen-Angus cattle, of Missouri, showed up in the Chicago market recently with 21 head of Angus steers, averaging 1,328 lbs., which brought \$6.75. Included in the consignment was an Angus bull which weighed 2,040 lbs. and brought \$5.50. The steers were the get of this bull and were raised by Mr. Hays, who said that he was well paid for breeding, raising and feeding them. Mr. Hays believes the time is at hand when farmers must raise their own cattle, the day having passed when stockers or feeders can be purchased at prices that will leave a wide margin for stockmen to work on. Cheap young cattle are a thing of the past, and farmers should select a choice bull to head their herd. Calves should be forced from the start and at no time allowed to go back in flesh. In Mr. Hays' opinion, they should be fed out for the yearling age. The cattle raising sections of the southwest and the northwest are being rapidly settled, and this is causing a great shortage of young cattle, so that it is up to the corn belt farmers to make up this shortage.

Western packers have slaughtered 6,555,000 hogs since Nov. 1, compared with 7,005,000 a year ago, a decrease of 450,000 hogs, but the increased average weights partly offset the decline in numbers. Exports of hog products are increasing, and exports of provisions in a recent week were 17,557,000 lbs., compared with 10,361,000 lbs. a year ago.

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 Market.

February 2, 1911.

Cattle.

Receipts, 1,087. Market steady at last week's prices; not quite so active as on Wednesday.

We quote: Best steers and heifers, \$6; steers and heifers, 1,000 to 1,200, \$5.50@5.65; steers and heifers, 800 to 1,000, \$5@5.50; steers and heifers that are fat, 500 to 700, \$4.50@4.75; choice fat cows, \$4.50@4.75; good fat cows, \$4@4.25; common cows, \$3.50@3.75; canners, \$2.75@3.15; choice heavy bulls, \$4.75; fair to good bologna bulls, \$4@4.50; milkers, large, young, medium age, \$4@5.50; common milkers, \$2.50@3.50.

Bishop, B. & H. sold Hammond, S. & Co. 1 heifer weighing 860 at \$4.50, 1 cow weighing 900 at \$3.25, 2 heifers av 710 at \$4.50, 1 cow weighing 980 at \$4.85, 1 steer weighing 890 at \$5.50, 1 cow weighing 860 at \$3.40, 1 do weighing 1,190 at \$4.50, 1 do weighing 1,170 at \$4, 2 do av 1,025 at \$3.90, 2 bulls av 1,460 at \$4.75, 3 steers av 820 at \$5.20, 2 cows av 1,100 at \$4, 2 heifers av 575 at \$4.25, 1 steer weighing 750 at \$5.25, 4 cows av 860 at \$3.30, 1 bull weighing 1,450 at \$4.75; to Bresnahan 1 steer weighing 630 at \$4, 4 do av 700 at \$4.60; to Parker, W. & Co. 31 butchers av 776 at \$4.65, 10 do av 900 at \$5.25, 24 do av 950 at \$5.10, 28 steers av 880 at \$5.30; to Sullivan P. Co. 1 cow weighing 760 at \$3, 3 do av 1,035 at \$3.50, 1 do weighing 840 at \$2; to Mich. B. Co. 13 steers av 710 at \$5, 1 bull weighing 1,230 at \$4.50, 1 cow weighing 1,260 at \$4.25, 1 do weighing 820 at \$3; to Fromm 5 cows av 1,040 at \$4; to Kamman 1 do weighing 810 at \$5.50, 1 do weighing 900 at \$4, 1 heifer weighing 620 at \$4.50.

Spicer & R. sold Goose 1 cow weighing 960 at \$3.50, 1 do weighing 1,270 at \$4; to Hammond, S. & Co. 1 bull weighing 1,040 at \$4.50, 1 do weighing 1,460 at \$4.60, 4 steers av 850 at \$5.50; to Bresnahan 1 bull weighing 520 at \$4, 11 heifers av 715 at \$4.25; to Mich. B. Co. 29 butchers av 780 at \$4.75; to Breitenbeck 27 do av 850 at \$4.85; to Sullivan P. Co. 7 cows av 1,100 at \$3.90, 1 do weighing 740 at \$2; to Rattkowsky 1 do weighing 1,060 at \$3.25.

Roe Com. Co. sold Mich. B. Co. 12 cows av 1,045 at \$4.25, 5 do av 900 at \$4.25; to Newton B. Co. 27 butchers av 764 at \$5, 23 do av 750 at \$5, 9 do av 723 at \$4.50, 23 do av 920 at \$5.35, 2 cows av 1,065 at \$2.50, 8 heifers av 727 at \$4.75, 14 steers av 912 at \$5.25; to Heinrich 20 do av 880 at \$5.25; to Rattkowsky 1 cow weighing 1,140 at \$4.

Bresnahan sold Mich. B. Co. 7 cows av 1,030 at \$4, 2 do av 850 at \$3.50, 1 do weighing 1,050 at \$4, 1 do weighing 950 at \$3.50.

Haley sold Sullivan P. Co. 1 cow weighing 970 at \$2.50.

Sandall & T. sold same 13 butchers av 878 at \$4.35, 3 cows av 1,100 at \$4, 2 do av 805 at \$4, 1 bull weighing 870 at \$4.

Haley sold Rattkowsky 2 cows av 2,110 at \$3.80.

Adams sold Hammond S. & Co. 1 bull weighing 1,620 at \$5, 9 steers av 830 at \$5.25, 1 cow weighing 1,150 at \$4.25, 1 do weighing 1,040 at \$4.25.

Kalaher sold same 1 do weighing 1,000 at \$4, 3 steers av 953 at \$5.75.

Clark Bros. sold Parker, W. & Co. 21 steers av 1,010 at \$6, 22 do av 1,100 at \$6.

Wilson sold Fromm 8 steers av 851 at \$5.30.

Veal Calves.

Receipts, 459. Market opened steady with last week, closing trifle lower. Best, \$9@9.50; others, \$4@8.75; milch cows and springers steady.

Spicer & R. sold Goose 1 weighing 110 at \$7.

Haley & M. sold Goose 5 av 120 at \$7.50, 5 av 125 at \$7.50, 14 av 150 at \$9.50; to Parker, W. & Co. 5 av 165 at \$9.25.

Bergin & W. sold Sullivan P. Co. 2 av 105 at \$7.50, 13 av 125 at \$9.

Bishop, B. & H. sold Goose 2 av 270 at \$4; to Mich. B. Co. 10 av 146 at \$7.75, 2 av 135 at \$8; to Swift & Co. 4 av 125 at \$7.50, 10 av 140 at \$9.50, 8 av 135 at \$9.25; to Goose 6 av 140 at \$9, 5 av 150 at \$8.75; to Rattkowsky 2 av 135 at \$9.25; to Parker, W. & Co. 12 av 140 at \$8.50, 16 av 140 at \$8.50.

Sheep and Lambs.

Receipts, 6,075. Market steady with last Thursday, 15@20c lower than on Wednesday this week. Best lambs, \$5.50@5.75; heavy lambs \$4.50@5.15; light to common lambs, \$4.75@5.25; fair to good sheep, \$3.50@4; culls and common, \$2.50@3.

Bordine sold Youngs 59 lambs av 75 at \$5.65.

Thompson sold Nagle P. Co. 124 lambs av 85 at \$5.65.

Adams sold same 39 lambs av 85 at \$5.65, 5 sheep av 120 at \$3.75.

Roe Com. Co. sold Mich. B. Co. 7 sheep av 140 at \$3.75, 12 lambs av 85 at \$5.50; to Nagle P. Co. 138 lambs av 80 at \$5.65, 60 do av 85 at \$5.75.

Haley & M. sold Thompson Bros. 10 sheep av 134 at \$3.50.

Bishop, B. & H. sold Sullivan P. Co. 130 lambs av 75 at \$5.50, 67 sheep av 85 at \$3.25, 4 lambs av 140 at \$4.50, 44 do av 73 at \$5.25, 23 do av 70 at \$5, 13 do av 75 at \$5.50, 26 do av 85 at \$5; to Mich. B. Co. 19 sheep av 95 at \$3, 25 lambs av 67 at \$4.75, 30 do av 68 at \$5.60; to Parker, W. & Co. 246 do av 67 at \$5.65; to Breitenbeck 39 do av 80 at \$5.50, 10 sheep av 115 at \$3.25; to Swift & Co. 737 lambs av 77

at \$5.50, 92 sheep av 112 at \$3.75, 58 do av 110 at \$3.60, 180 lambs av 85 at \$5.65; to Youngs 87 do av 90 at \$5.30; to Barlage 100 do av 77 at \$5.60, 12 do av 90 at \$2.50.

Spicer & R. sold Nagle P. Co. 228 lambs av 77 at \$5.75, 15 do av 90 at \$5.25, 135 sheep av 110 at \$4.25, 70 do av 112 at \$4.25, 40 do av 125 at \$4.25, 31 lambs av 83 at \$5.50, 10 do av 115 at \$4.75, 62 do av 92 at \$5.25, 7 sheep av 100 at \$3.50; to Mich. B. Co. 8 sheep av 125 at \$3.50; to Nagle P. Co. 66 lambs av 83 at \$5.60; to Sullivan P. Co. 10 do av 93 at \$5; to Stoker 15 do av 85 at \$5.75; to Gordon 14 do av 85 at \$5.40, 3 sheep av 112 at \$3.

Hogs.

Receipts, 2,474. Prices are 10-15c lower than last week.

Range of prices: Light to good butchers, \$7.60; pigs, \$7.65; light yorkers, \$7.60; heavy, \$7.40@7.50.

Roe Com. Co. sold Parker, W. & Co. 425 av 200 at \$7.65, 60 av 220 at \$7.60.

Sundry shippers sold same 270 av 190 at \$7.65.

Bishop, B. & H. sold Hammond, S. & Co. 2,020 av 180 at \$7.65, 215 av 220 at \$7.60, 110 av 270 at \$7.50.

Spicer & R. sold Sullivan P. Co. 260 av 180 at \$7.65.

Haley & M. sold same 380 av 180 at \$7.70.

Sundry shippers sold same 460 av 200 at \$7.65.

Friday's Market.

February 3, 1911.

Cattle.

Receipts this week, 1,629; last week, 1,151. Market dull and 10@15c lower than on Thursday.

We quote: Best steers and heifers, \$5.75; steers and heifers, 1,000 to 1,200, \$5.25@5.50; steers and heifers, 800 to 1,000, \$5@5.25; steers and heifers that are fat, 500 to 700, \$4.50@4.85; choice fat cows, \$4.50@4.65; good fat cows, \$4@4.15; common cows, \$3.25@3.65; canners, \$2.75@3; choice heavy bulls, \$4.75; fair to good bologna bulls, \$4@4.40; milkers, large, young, medium age, \$4@6.00; common milkers, \$2.50@3.50.

Veal Calves.

Receipts this week, 553; last week, 653. Market 25c lower than on Thursday on common; good grades steady; best, \$8.75@9.25; others, \$4@8.50.

Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 8,105; last week, 6,588. Market steady at Thursday's closing prices. Best lambs, \$5.50; fair to good lambs, \$5@5.25; light to common lambs, \$4.50@5; fair to good sheep, \$3.50@4; culls and common, \$2.50@3; heavy lambs, 85 lbs. and up, \$4.75@5.

Hogs.

Receipts this week, 4,794; last week, 4,850. Market 5@10c higher than on Thursday. Range of prices: Light to good butchers, \$7.75; pigs, \$7.75@7.85; light yorkers, \$7.75; heavy, \$7.50@7.60.

LIVE STOCK NOTES.

A short time ago a consignment of 1,274-lb. steers from Williamsburg, Iowa, was marketed at Chicago at \$6.35, as well as a car-load of 1,438-lb. steers at \$6.40. These steers had been on full feed for about 100 days, and the owners felt much disappointed over the poor returns. They said that neighboring farmers had sold steers recently to packers 100 to 200 lbs. lighter in weight on the feeder order, carrying a little killing quality, within 20 to 40 cents of the prices paid for their finished cattle. They added that there was mighty little difference in prices between "roughed along" and steers that had been given plenty of corn.

Western rangemen who are actively engaged in the sheep industry are complaining that the attitude of the banks in their districts was the cause of a great share of their marketing of sheep and lambs prematurely during the last half of 1910. The banks seem to have become nervous because of the declining market for sheep and lambs, and they so generally refused to grant credit that owners had no recourse but to sacrifice their flocks. It is now said that fully 25 per cent of the flocks that were thrown on the Chicago and Omaha market markets would have been carried over the winter on the ranges had the local banks been willing to finance the feed bills. One result of this is that there is a superabundance of hay up there and no way of disposing of it except by sending to market. During 1909 the banks were ready to loan all the money needed on sheep, but the opposite was the course pursued in 1910, according to sheepmen, but the banks place a good deal of stress upon the fact that last year a great many sheep owners had consigned their wool and thereby much lessened their security against loans.

Of Nebraska have been getting \$10 a ton this winter for alfalfa hay. There has been a great reduction in the supply of prairie hay in that part of the country, where farmers have been in the habit of farming more and breaking up more sod. Not long since a farmer of Arapahoe in that state remarked that in the coming years farmers will be forced to feed fewer cattle or else secure cheaper forage feed. He said that in cutting corn and saving the fodder the process is too costly, as it has to be handled several times before it reaches the stock.

Far western and southwestern farmers are finding hay a much more important item of feed for their stock than in past years, as well as for selling, and farmers Owners of herds of dairy cows are affected by the decline in butter prices that has been brought about by the great increase in stocks in cold storage warehouses. A late report showed that the aggregate stocks of butter in the principal cold storage warehouses of the United States were 45,140,000 lbs., as contrasted with only 24,485,000 lbs. a year ago. Recent butter receipts at Chicago have been more than four times as large as a year ago, and an extremely weak market is

witnessed, the best creamery butter having declined to 27 cents per pound, which is six cents lower than the price paid a year ago. Retail grocers have been charging their customers 38 cents per pound for their best butter, and their best is usually far from being choice. Under such circumstances, is it any wonder that the consumption of good butter, which is much lower-priced than the real article should steadily increase in volume? If city people could be sure of buying direct from farmers choice dairy butter, there would be an enormous sale all the time. The cost of living is greatly increased, and families generally are forced to retrench in expenses.

Western packing since November 1 aggregates 6,065,000 hogs, a decrease of 435,000 hogs compared with a year ago for the same time, but this falling off has been partly offset by much heavier average weights.

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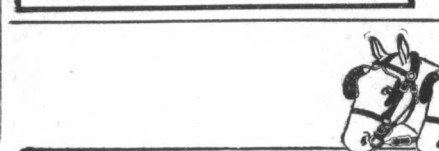
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J. F. Jackson, Immigration Agent, C. of Ga. Ry. 267 West Broad St., Savannah, Ga.

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Garden Spot—
THAT GREAT FRUIT AND TRUCK
GROWING SECTION—
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WILBUR MCCOY, E. N. CLARK,
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GUARANTEED
QUALITY

In buying harness it's not what you pay that counts; it's what you get for your money.

It's good insurance to buy Williams' Guaranteed Quality Harness. We give you ALL you're entitled to in quality, wear, service and value. Considering these points you'll find the price lowest.

The above Double Farm Harness is our No. 10F35562. Bridles, 3/4 inch—Lines, 1 inch wide, 20 feet long—Traces, 1 1/2 inches wide, 6 feet long, with heel chain—Breast Straps and Martingales, 1 1/2 inches—Breeching, heavy folded body—Double Hip—Straps, 3/4 inch. Price, without collars... \$27.00

Our special Harness Catalog fully describes more than seventy different patterns in Williams' Guaranteed Quality Harness; also saddles and saddlery goods of every kind. Free for the asking. You need this book if you want harness of quality.

Sears, Roebuck and Co.
Chicago, IllinoisFARMS AND FARM LANDS
FOR SALE OR EXCHANGE

Fruit, Grain and Stock Farm—For sale, in Oceana County, Michigan. Write C. W. MORGAN, Shelby, Michigan, for lists.

Washington Fruit & Wheat Farms—100 acres, improved, 320 acres, all in cultivation, good improvements, 2 miles to town, \$80. J. C. Butts, Pullman, Washington.

LIST No. 5 & 6 will tell you all about Fruit & Stock Farms near Fremont, White Cloud and Big Rapids. VAN NESS, White Cloud, Michigan.

I SELL FARMS in Oceana, best County in United States. Fruit, Grain, Stock, Poultry. Write for list. J. S. HANSON, Hart, Mich.

200-ACRE FARM near Marquette. 2 large basement barns and 7-room house, with water system. Fenced and drained, nearly all cleared. Will sell all or part. W. J. McClure, Birmingham, Mich.

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"ELDORADO FARM" 120 A. 22 mi. City Hall, good 11-room house, barn 34x90, all A 1 condition, running water; one of best farms in Macomb Co. 20 mi. Detroit, 30 rds. carline, 130 A. best soil, brick house, b. barn 50x65, sheds etc., Desirable. \$15,000, will exchange.
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Have good farms all over the State. Write me. G. H. CARPENTER, 803 Ford Bldg. Detroit.

Ann Arbor Farm For Sale—Live in a beautiful country home near Ann Arbor and the University of Michigan. The Braun Dairy Farm, 163.5 acres, about one and one-half miles from Ann Arbor, is offered for sale. This farm has been used as a dairy farm upwards of 20 yrs. is very fertile and has always been a good money maker. 14-room house with bath, cow barn with cement floors, silo, horse barn, hay barn, granary, ice house, wood house, two hen houses, hog house, corn cribs, milk house, three wells, two new windmills, running spring, 15 acres woods, 4 acres maple grove, 5 acres fine apple orchard. Inquire of CARL F. BRAUN, at Ann Arbor Savings Bank, Ann Arbor, Michigan.

Fertile Farms in Tennessee
\$5 to \$10 per acre

Fortunes are being made on fertile Tennessee farms raising big crops of grain and grasses of almost every kind, also Cantaloupes, Cabbages, Tomatoes, String Beans, Green Corn, etc., also Horses, Cattle, Sheep, Swine, Poultry and Eggs. Write me at once for Free Literature, which advises how to get one of these splendid farms for \$5 to \$10 per acre. Act quickly! H. F. Smith, Traf. Mgr. N. C. & St. L. Ry. Dept. P. Nashville, Tenn.

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Sears, Roebuck and Co.
Chicago, Illinois

HOME AND YOUTH

HIS VALENTINE.

BY MILDRED M. NORTH.

AT SEVEN.

Thers knot one of all the gurls
With such pretty yelow kirls,
Thers knot one excepting yew
With such pretty ies of blue,
I will draw yew on my sled
With its runers panted red,
I am yure own valentine,
And ide like yew too bee mine.

AT SEVENTEEN.

No words of eloquence I boast
I cannot sing thy praises,
The thots which I shall send you
Are simple, like the daisies.

Perhaps you will hear other words
More polished, which will move you,
But I can only send this line
In simple phrase—I love you.

AT SEVENTY.

The time flies on, my dear one,
'Tis years since we were wed,
And many a friend and loved one
Is numbered with the dead.

The years have brought their silver
And dropped it in your hair,
Have brushed the glowing roses
From off your cheek so fair.

But still we are together,
I'm yours and you are mine,
I'll kiss your withered cheek, love,
My dear old valentine.

A LINCOLN-WASHINGTON DAY AT SCHOOL.

BY INA C. ESTES WHITE.

It was my privilege to attend some exercises given last year in honor of Lincoln's and Washington's birthdays by one of Kalamazoo county's excellent district schools. The teacher was a classmate of mine in high school and asked me to read some selections and help her in a general way. Now, I will frankly state, I promised to go just to please her. I never attended a country school when a child and my experience in visiting several had been disappointing, so I did not anticipate having a very good time. As I look back now I think I have never really enjoyed a day, that is, every part of a day, as I did that one.

The bell rang at nine as usual but, of course, there was no use trying to make those boys and girls study. Such a happy, rollicking group! Every one in their best clothes and manners, every face beaming and every eye shining in joyous anticipation of an unusual break in the week's routine. There was a little practicing, a little "helping teacher" and much playing during the first hour. "I am going to let them have a day of it," my friend answered when I remonstrated with her for allowing them so much freedom.

Every one in the neighborhood was invited, whether they had children attending school or not. And I think everyone came. Every seat was filled and every chair available in the vicinity was utilized. The nearest neighbors housed the horses.

When the teacher called order I think she must have been proud of her little band. They responded so willingly, their play forgotten. They became eager little citizens. The program consisted of music, recitations, dialogues and readings, all of a helpful nature and of national themes.

One of the fathers was a university man and gave a fine talk to the children, bearing upon the exemplar lives of Lincoln and Washington. The lives and heart stories of both presidents were read, and at almost any time during the whole program I could hear the clock tick. There were three or four Holland children in the school. Their parents came and listened eagerly to the words which told them of these great men, the father and the savior of this great republic, the land where their children can learn and be free.

After the program the children had a valentine box, and ate popcorn and rosy-cheeked apples, while the parents and friends inspected the maps, drawings and writing on exhibition in the rear of the room. Dinner was then served, from the well-filled baskets which the mothers brought. There was cold chicken and beef, biscuits and butter, pickles, coffee, (which was made on a small oil stove brought for that purpose), also ice cream and assorted cakes. A long table was spread in the front of the room for the

older people. The children and young people sat in the seats.

Neighbors chatted with neighbors, became better acquainted and found new virtues in one another which they had never discovered before. Then, too, they observed the ways and means by which their children were being taught and how much they were progressing. One of the gravest mistakes parents make, both in country and city, is not visiting the schools in which their children are taught.

The children seemed to be so proud of their school and teacher, so glad to have their fathers and mothers take an interest in their school work. There was one aged grandmother there who seemed to be the proudest parent in the lot.

It was a hard day for the teacher but I think she had her reward in the gratitude of both parents and children. They all seemed to know she was their friend and I believe they would have done anything within reason for her.

So, I would say to any teacher who wishes to bring the parents in touch with the school, or to have greater harmony in the schoolroom itself, "Go ye and do likewise."

FAMOUS PERSONS OF FEBRUARY.

BY YULE CARDIGAN.

It seems strange indeed that the shortest month of the year should have the most great people to its credit; but it has been proven by investigation that more authors, reformers, lawyers, jurists, lecturers, statesmen, U. S. presidents, generals, journalists and educators have been born in February than in any other month of the year. April ranks second, with October following close.

No one of exceedingly great renown was born on the first day of this twenty-eight-day month, nor on the second day, but on the third, in the year 1811, Horace Greeley emerged into the world. Very bright as a child, he became America's greatest journalist. On this date of 1842, Sydney Lanier, a melodious southern poet, was born. Of his poems it has been said: "One thread of purpose runs through them all. This thread is his love for his fellow men, and his endeavors to kindle regard for purity and beauty."

The fifth day of February, 1837, is the birth date of the famous divine, Dwight L. Moody. With Mr. Sankey, he toured the entire country from coast to coast in his work of evangelism. One of the most remarkable violinists the world has ever known, Ole Bornemann Bull, was born among the firds of bleak Norway, Feb. 5, 1810.

General Stuart, born Feb. 6, 1833, said when his troops were retreating and there seemed to be little chance for victory: "I would rather die than be whipped," and on that day the southern cause triumphed, for that gallant commander had the spirit that wins battles. On the same day of the month but in the year 1756 a man who was great as a statesman, but who was also a murderer and perhaps a traitor, first came into the life of the colonies. This man was Aaron Burr. He has been reviled and condemned by many, vindicated by few persons, but there is room for doubt if he was as evil as is popularly supposed. Aaron Burr is the hero of the novel, "Blennerhassett."

February 7, 1812, is the date of the birth of Charles Dickens. Perhaps no writer has ever enjoyed greater fame during his lifetime, and he is widely read even today. Millard Fillmore, who became President of this nation, was born on this date of the year 1800.

General William Tecumseh Sherman, and John Ruskin, were each born on the eighth of February, the first in 1820, the second in 1819. Sherman was the man who marched south with a vast army and virtually ended the cruel war of the rebellion. Ruskin was a celebrated author of England.

Thomas Alva Edison, whom everybody has heard of, made his first appearance Feb. 11, 1847. No less than five eminent persons were born Feb. 12. They are: James Dwight Dana, journalist, 1813; Charles Robert Darwin, scientist and naturalist, 1809; Cotton Mather, militant minister, 1663; Abraham Lincoln, 1809; and Peter Cooper, manufacturer and inventor of the locomotive, 1791.

The birth date of Cyrus McCormick, inventor of reaping machines, is Feb. 15, 1809. His inventions revolutionized methods of farming. The great temperance advocate, reformer, and woman's leader, Susan B. Anthony, was born on the same date of 1820.

The greatest of American actors, Joseph Jefferson, established a great reputation in playing the role of Rip Van

Winkle. He begun his life Feb. 20, 1829, and died a few years ago while the flower of his fame was in its fullest bloom.

Every school child knows the birth date of George Washington; but this cannot be said of the poet Lowell, who came into existence Feb. 22, 1819. He was one of the nation's sweetest singers.

The twenty-fourth day of the month, of the year 1824, is the birth date of

George William Curtis, a journalist, author, lecturer, and a man of great influence during the period in which he lived.

The poet, Longfellow, who was second only to Whittier, and by some persons thought to be the better poet of the two, was born Feb. 27, 1807. His "Hiawatha" is a classic of exceeding merit.

"With his illustrious name,
Let us close the roll of fame."

THE GATES OF BAKAPPLEIN

By { ELIZABETH JEWETT BROWN
and SUSAN JEWETT HOWE.

Chapter IX.—(Continued).

Ned whistled in surprise. Then the result of his many months apprenticeship in the school of sharp dealing asserted itself and he saw a chance to make money for himself. He reasoned that if King had made five pounds on every bushel of potatoes he had bought, he had gained a bushel on every twelve, and it did not take long for Ned to calculate how many bushels there were in that carload that did not belong, honestly, to King—that he had in fact stolen from the farmers who had had their potatoes measured in his basket. Then the boy argued to himself that King had no more right to those extra bushels than did he; and if anyone was going to make a dollar by sharp dealing it might as well be he as King, for he did not think King would dare to say anything even if he found out that Ned did not return to him the value of the stolen bushels. Anyway, Ned decided to take the chances, for he fancied that even if King did suspect him he would be able to explain things satisfactorily. Here he had a chance to make a penny and he soon convinced himself that he was doing no wrong in stealing from a thief, for the few bushels that he could appropriate were but a drop in the many bushels of which King had been systematically robbing the farmers for years. Oh, Ned was well trained! He did not believe in hard work. It was easy money for him every time, and he believed that the world was in two classes—the suckers, and those who provided the bait. He preferred to be the latter, and he trusted to his own fortunate star and natural shrewdness in not getting caught.

To do him justice, he would not have dealt unfairly with anyone else, but it looked to him as if here was a good chance for King to get caught at his own game. He chuckled to himself as he left the car and went to interview the first dealer. He remembered King's words, that it was a skin game and the sharp man won. He knew that they would try to beat him down to the last dollar and he was determined to get the highest market price possible. The first dealer, after looking at the potatoes, told him that they were smaller than the first carload, and that as he did not care very much about them anyway he would not be able to give more than ninety cents a bushel for them instead of the dollar which King had instructed him to get. The market was dull, he said, but perhaps if Ned went up to see another dealer he might get a little more.

Ned began to be suspicious. There was some game here which he did not quite understand. He realized the dealers saw that he was green at the business and they were probably fooling him along in a manner which they would not have dared to do with King. His suspicions were still stronger confirmed when Dealer Number Two disparaged the potatoes even more than did Number One, finally offering him but eighty-five cents and saying that they were a drug on the market at that. He told him of the third dealer who might possibly take them, and then dismissed him, preemptorily.

Lingering at the door a moment, Ned saw him turn to the telephone in the office. As he had seen the first dealer do the same thing after dismissing him, he remained where he could listen, unobserved, to the conversation, which was calculated to divest him of all of his self-esteem.

He heard himself referred to as a "country yap" who was trying to put on style—a fellow that King had sent down with the potatoes. He also heard that if they managed right they could get the load just where they wanted it. Number Three was instructed to offer not more than seventy-five cents, which would compel Ned to go back to Number One, who would then get them at his own price. It was a first-class carload, the best that had come into the market, and would retail at a high figure. They must have the potatoes, but they must get them at their own price.

As a test, Ned went to the third dealer.

He was angry and chagrined at what he had heard, but determined to beat them at their own game. He would prove which was the sharp man of the crowd before he was through with the deal, he assured himself, warmly, as he listened unconcernedly to what the third man had to say. He would offer eighty, at a pinch, he said, though they were not worth more than seventy-five cents anywhere.

"I'll see you later," said Ned, indifferently, turning to leave.

"What ails you, young fellow," called the dealer, a trifle disconcerted by Ned's manner. "You don't seem to care a hang whether you sell your carload or not."

"I don't," said Ned, "but selling and giving them away are different propositions. I wanted to find out what kind of skins you fellows were, that's all."

Sauntering back to the first dealer, Ned noticed him wink significantly to his clerk as he entered. "How's business, young man?" he asked jocularly.

"Fine," said Ned; "just had a telegram from Gregg & Co., of —. They will give me my price and I'm going to reship them in the morning."

"You don't say," gasped the dealer, scrutinizing Ned sharply, but the young fellow's face expressed nothing but blank unconcern. "But it will cost you something to reship," he said, "and I don't fancy King will approve of that."

"He would not stand for my giving them away to you fellows," he retorted, "and as for shipping them again I have an offer that will turn me a penny; if I don't it is my own lookout," and he walked out independently.

The dealer called him back at the door. "Say," he said in a flustered manner, "my partner had an order come in just an hour ago for another carload. I will see what he says and perhaps we can make a deal. You don't want to reship if we can pay enough here, do you?"

"Well, I don't hanker after the job," said Ned, "and if you give me my price you can have them; if not—" he turned to the door significantly.

"Come back and we'll talk it over," urged the dealer. He was a trifle worried over the young fellow's coolness. In place of the green boy, he had a shrewd man to deal with, and he began to realize that he was not going to get the load exactly on his own terms.

After a little haggling he offered him a dollar a bushel. "I shall lose money at that," he said; "the market is being flooded with potatoes and as these are not quite what we expected—"

"Cut that out," said Ned sharply. "You know and I know that there are no finer potatoes in the market than these, and as to the market being glutted, I read the reports and know the quotations as well as you do. You will either take them or leave them, and be quick about it, as Gregg & Co. are waiting for their answer."

The dealer groaned, but finally compromised at Ned's price, which was five cents more on a bushel than King had expected to get. Here was another opportunity to make a dollar for himself which he saw as soon as the deal was completed. "Now what do you get out of this?" said the dealer bluntly. "For how much shall I make out this check?"

Ned calculated rapidly. He sold to the dealer the exact number of bushels which King had ostensibly bought of the farmers, but every twelfth one of the carload he marketed for himself, explaining that they were his. He pocketed the money with complacent approval of his own sharpness, and as an extra commission he received the extra five cents on a bushel, paid to him in money, with the check made out, so much less, in King's name. The dealer was accustomed to such dealings, and as he closed the deal he remarked that Ned was learning and would some day ask more than five cents a bushel as his share in driving a sharp bargain.

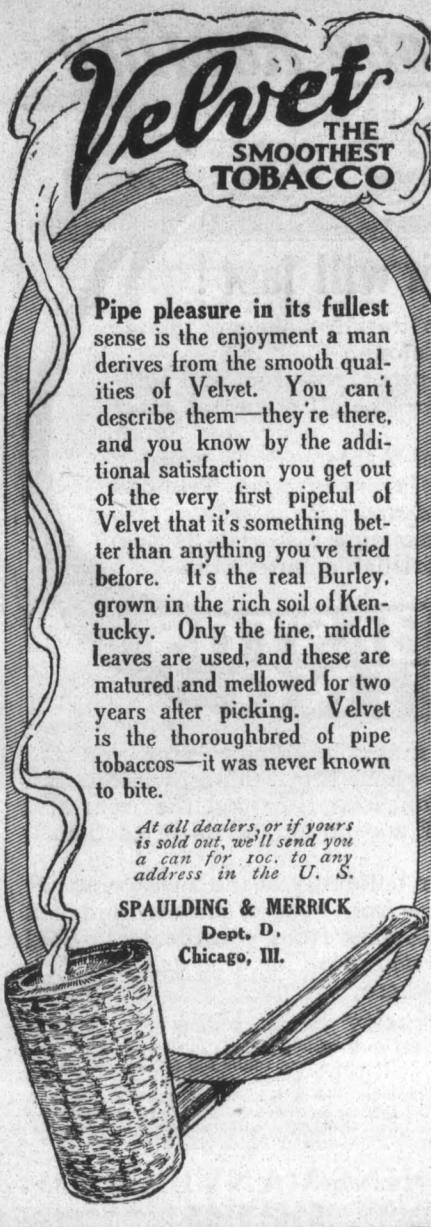
He returned home feeling well satisfied with his first experience in double dealing. He reasoned to himself that King

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would not dare make it unpleasant for him for appropriating the stolen bushels, for fear of being exposed himself; and also that he would be so delighted by receiving more per bushel than he had expected that he would not make trouble over the five cents extra on the bushel, in case he found it out, which Ned hardly thought likely, as the bill of sale had been made out to suit him. He was still congratulating himself on his own shrewdness when he entered King's office for an interview and tossed the check on his desk.

"Here's your money," he said. "You will find that I made a better deal than you did on your load; you will have to send me again if you want a good bargain."

The grin which was widening on King's thin, sallow face suddenly stopped when he glanced at the bill of sale. From a mercenary smile it turned to a snarl as he drew back his thin lips, exposing two yellowish fangs like a wolf. Such an idea crossed Ned's mind, but he laughed impudently. He felt that he held the trump card in the game and could afford to be agreeable. "What's the matter?" he asked. "You don't look pleased."

"Pleased," said the man, bringing his jaws together with a snap. "There is some crooked work here; and I tell you this, young man, I don't allow anybody to get funny with me. Do you understand?"

"Guess you will find that I marketed for you every bushel you really bought of the farmers," drawled Ned, significantly.

King glared at him. What in thunder do you mean?" he shouted.

"You know what I mean," returned Ned. "and I think we can discuss this quietly. You would not care to have me tell all I know in this town, would you?"

"Tell and be damned," roared King, shaking his yellow fist in the boy's face. "Now I want to know what you did with the rest of my potatoes, the ones you stole."

"That is an ugly word to use," returned Ned, still holding his temper. "I wonder now who is the real thief when we come down to talking about stealing."

"You'd better get down to brass tacks in a hurry," snarled the man. "You are in my employ and I sent you there to market for me a certain number of bushels of potatoes. You return to me a bill a certain number short of what I expected. What did you do with them?"

"You said a certain number short. Perhaps you can tell me just how many," asked Ned craftily.

King fairly shouted the whole number at him. "That's what you ought to have sold, so I say you stole the rest."

"One in every twelve, I believe," commented Ned. "How did it happen, Mr. King, that it should come that way every time? There was no funny business in weighing the potatoes in your own basket was there?"

"That was my business," "Not the business of these poor cusses around here who sold you sixty-five pounds for a bushel instead of sixty. I suppose."

"If they were fools enough not to know a big basket that was their lookout."

"Did those extra bushels belong to you or the farmers?"

"What in the devil are you driving at? They belonged to me, of course."

"Can't see that they belonged to you any more than they did to me," replied Ned. "Suppose we submit this question to arbitration—say to any half-dozen farmers around here, as to whether those extra bushels belonged to you, to me, or to the farmers."

"Submit nothing," he roared, dancing around the room in a frenzy of passion. "I tell you they were mine; you deliberately stole them from me and sold them as your own. Oh, I'm wise to all tricks any of you young fools think you can play on me. I know about what is coming to me every time, and I am here to get it. Now, what I want to know is, how soon you are going to hand me over that money? You will do it earned quick or I will make you do it."

Ned was angry. He had no intention of handing over the money for the potatoes, for he believed that he had as much right to it as King had, which was none at all. "You talk about honesty," he said sneeringly. "I can do about as much talking as you can. I can queer you in doing business in this town if I choose. You listen to me a moment before putting up such a fight, then perhaps you will see things different. What in thunder did you steal five pounds of potatoes on every bushel for?"

"I had to," whined King. "I had to do

it to keep myself square. I'm docked ten per cent for shrinkage on the load, so to keep myself from losing anything I have to take the extra measure. It wasn't stealing. I was just keeping myself even. Good business and not a kind that robbed anybody. What's five pounds of spuds anyway?" he asked contemptuously.

"It is enough to make several bushels on a carload of them," returned Ned warmly. "Now I think you had better drop this subject. I deserve that extra for making such a sale for you, and you can't afford to have me go out on the street and tell it, can you? Suppose Joe Green should get hold of it? You shut up on this subject and I'll keep still. You are getting rusty and need me to keep up your business. Nobody but you and me need know about this little basket deal. I made enough for you to make up for those bushels. I can't do business for nothing and that is my commission."

"Talk about commissions," thundered King. "How do I know that you haven't taken your commission already. If you will do such a trick as that you will take all you can get. I've seen that before; fellers making a per cent on what they bought and sold. It's a good bet that you've already pocketed your commissions," glaring suspiciously at Ned, who felt his face redden at the home thrust.

"Good business," he answered evenly. "I've been to a good school lately, Mr. King, a school where the first man that gets to the milk-can takes the cream in the first dip. I have taken my dip and now you can have the rest."

The man shook with rage. He felt himself practically helpless in the hands of the cool young fellow who was threatening him with exposure if he dared to prosecute. He could not run the risk of the basket business being told openly, neither dared he retain Ned in his employ. The young fellow was becoming too sharp for him and he realized that he would take the first dip in the can at every opportunity. He waited a moment before he tried to speak. "What are you going to do about it?" he asked. "Are you going to hand over that money or not?"

"Not," said Ned.

"Then, by the Lord, I'll make you."

"Go ahead," Ned turned indifferently to the door. "I know how many bushels you bought of each man. I've a fancy of returning to each one his share of the extra bushels."

"Do it and be damned," King thundered as he leaped across the room and barred Ned's exit from the door. "See here," he began in a wheedling tone, trying to master the rage which was clogging him. "You say you won't hand that over to me. I could make you do it, but—but—Can't we settle this thing peaceably?"

"How many pieces do you demand out of the pie? I think that question must be answered before we arrive at any settlement."

"You miserable little whelp of a Jackson! Oh, I know the breed of you, from Searls Jackson down. Always looking for the main chance and never making a deal but that they did not get the best of it. I was a fool to take you in here at all. I might have known how it would end," he raved. "I overlooked your meddling in the old Malley affair, but this has gone too far. You pay up and perhaps you can stay right here as if nothing had happened, though I tell you right now there can't be another bit of this funny work or out you go, and I'll put the law on you if I have to spend every cent I have."

"Supposing I don't pay up, what?" asked Ned indifferently.

"You will pay up or I'll make you do it."

"All right. Make away," answered Ned carelessly. "How long before you are going to do it?"

"See here," spluttered King, making a desperate effort to preserve his dignity and arrive at an understanding at one and the same time. "What are you going to do?"

"Keep my money and talk a little," answered Ned pointedly.

King shook his fist in Ned's face. "If you dare open your mouth in this town I will have you arrested for stealing. You know what that means. I've got money enough to send you to jail and keep you there. What have you got, you miserable penny-ante dude, you? Nothing but perhaps a few hundreds, maybe not that. And do you suppose, for one minute, your Christian-Cousin Searls Jackson would spend one cent to help you out of jail? No, you know he wouldn't, and so do I. And no matter how bad you hurt me I could hurt you ten times worse. And, remember this, young man, nobody ever

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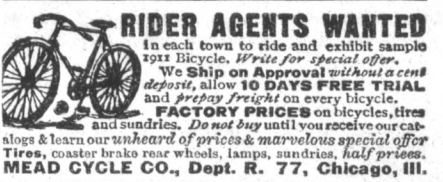
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crosses John King's path but once. I've got a long arm and there ain't many places but that it can reach. Now, what are you going to do? Talk, or keep your mouth shut?"

Ned was cowed. He began to see that he had no chance whatever in an unequal fight against a rich man, but still he was stubborn enough to not give up the money. King had no right to it, neither had he, but he was going to hold on to it as long as possible. "I'll keep still if you will," he said finally.

"Will you give up that money?"

"Not by a darned sight. It is as much mine as yours," he retorted hotly.

King hesitated. He had no desire to have his trickery made known in a court of law. There was so much shadow in his career that he dreaded the sunlight of publicity. It would search out many things which his money could not cover. Also there was the possibility that Mrs. Searls Jackson would fight for the young man, and he had a wholesome respect for her, especially since the Malley affair, so he capitulated by saying gruffly that if Ned would not return the money he should consider himself discharged; but if he would say nothing about the basket deal in the town, he, King, would say nothing about appropriating the money. Each would keep still and the public could think what it pleased.

Ned was glad to get off so easily. His conscience was uneasy, but yet he would not admit that he was doing wrong in keeping that money. He would keep it even if he was arrested, he told himself stubbornly as he walked out into the chill of the winter day. He went directly to his boarding place where he could be alone and think the matter over. He felt sure of King's silence, so he had no fear of trouble, but the question of no employment stared him in the face. Not that that worried him. He was so sure of himself that he thought he could find plenty of congenial work anywhere. The world was wide, and with what money he had saved he would soon be doing business for himself elsewhere.

He whistled cheerfully as he made his plans for leaving his boarding place. He had decided that he would return at once to Searls' for a few days, saying that he was taking a brief vacation, and frame a plausible excuse for leaving King. They had never approved of his working there and he did not doubt but that they would be glad he had left; so he went to the telephone and, calling up the house, asked Merle if she would drive up and get his trunk, as he was through at King's and was coming home for a rest.

Chapter X.—The Beginning of the Harvest.

Her first question disconcerted him at once. "I wish you would tell me the real reason for this sudden move," she said quietly.

"Haven't I told you?" he demanded irritably. "I need a vacation—that's all."

"A week ago you did not need one."

"The need had not developed then," he returned caustically. "Hang it all, Merle, can't you let a fellow alone? I am tired of being under someone else and now I intend to launch out in business for myself."

"What are you going to do?" she asked.

"Plenty of things. Your little brother, my dear, is not a kid any more. He is free, white and twenty-one and consequently can do about as he pleases."

"Ned," she said, turning her serious eyes toward him, "I am very sure that you are keeping something from me. Have you had any trouble with Mr. King?"

"No; he had the trouble, not I."

"What about?"

"I do not think it concerns you; it is my business."

"Probably; but after all, Ned, there is nobody in this world that cares for you as much as I do. If anything was troubling me I should tell you. Why can't you tell me?"

"Girls can't understand business," he answered irritably, "but if you are so curious I will tell you this: I know too much for King. What he wants is some ignorant boy that will take what he chooses to give him and ask no questions. When he found I had brains, why then he was disagreeable, and I quit."

Merle was silent for a moment; then she said: "I am not sorry that you have left him, Ned, but I am sorry about something else, for—"

"For what?" he interrupted savagely.

"I have told you all there was about it. What have you got to be sorry for?"

"You don't act just right about it. You know that you are not telling me all there is to this affair, and I fancy you will have

some difficulty in satisfying Cousin Searls. He would not be put off if you answer him as you do me."

"Searls has nothing to do with me nor my business," he retorted crossly. "I am just as capable as he is in doing business and perhaps more so. See the money I've made for King. I'm going to talk with Searls and see if I can get it into his thick head that the best thing he can do is to let me take hold of his affairs for six months at least. I want a chance to beat King at his own game. He would soon be a back number if he had to deal with me," he boasted; "besides, Searls would find that I could turn him two dollars for every one he is making now."

She shook her head. "You know what Searls will say to this talk. He will call it 'hot air'; and just as long as he is able to think and plan, just so long will he run his own business. Why, even Nell never buys and sells anything, and Ben never thinks of making a deal unless Searls has authorized him to do it; and it is very likely, indeed, that he will turn over his business, which he has run for twenty years, to you," she said sarcastically.

"That may all be," he returned unabashed, "but in spite of all his big ideas I have a shrewder head than he has. He is too darned particular, and if a man pins down the questions—why, he'll tell all there is to tell, when he might just as well keep his mouth shut and make a few dollars. Such methods might have been all right twenty years ago but they are out of date now. It is every man for himself and the devil for them all."

"It is something to have the name of being square, and that is what he has, every time," defended the girl. "I am afraid you have been learning crooked ways lately;" she turned suddenly towards him as a thought flashed across her brain; "perhaps you have been crooked yourself with King which is the reason you are getting through."

"I have never taken one cent from that man which was not as much mine as his," he answered angrily, flushing under the clear look in her eyes.

"I hope you have been as honest as you wish me to think," she said, doubtfully. "Anyway I hope you will soon find some other business where you will hold up the Jackson standard. But I fancy you will find Searls a little particular if he comes down to questions, and if there is anything you have not told me I advise you to tell him at once in order to save yourself trouble," she urged.

"You are a silly goose," he said lightly. "Attend to your own business and I will attend to mine. How are your baked apples coming on?"

"Splendid. It has been great fun all summer. You will be surprised when I show you the books and you see how much money I have earned. Even now I have a few parties occasionally, and Cousin Searls says the farm was never so profitable as it has been this year. Raymond did a big business with the market wagon, and Bakapplein is becoming famous," she laughed.

"I suppose Searls takes all the credit to himself when everybody knows that Nell has had a mighty big share in the prosperity of the farm since he married," he said tersely. "King was growling because they did not buy any grain, and he says that her motto 'Live off the farm or get off the farm' would soon drive him out of business if all the farmers practiced it. Joe Green is fond of getting in the store evenings and bragging how the Jacksons live, how the farm furnishes everything they and the stock eat excepting the groceries and things they can't raise. He told King one day that the Jacksons sold enough honey to pay for their sugar one year, and other things, to say nothing of the maple sugar they are making."

"What did King say?" asked Merle, interested. "I can imagine Joe telling it."

"Nothing but a growl," laughed Ned. "He has no use for the Jacksons, nor never had; from now on he will have less," he laughed shortly.

He was not quite as easy as he tried to appear. The wall which he had built defending his action in appropriating those extra bushels of potatoes was not as impregnable as he thought it was when defending it in his own mentality; he had convinced himself that he was not stealing them; King had stolen them; therefore he had as much right to them as had King; but yet, when Searls began to question him about the reasons for his sudden departure he floundered helplessly in a sea of excuses.

"See here," said his cousin, sternly. "You come to me with a gilt-edged proposition of running my business so I can



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attend to my State Senatorship; but my being Senator Jackson does not interfere sufficiently to prevent my being able to look after the farm, and as long as I retain my faculties I shall look after my own business. So we will cut that subject out of future discussions, but if you would like to come back here in my employ—going on the market wagon again, for instance, where you did finely, we will consider that."

"You haven't anything I want," said Ned, surlily. This was two or three days after he had left King's employ. He had spent the time in making trips to Winthrop, hoping to strike something he would like, but much to his disgust, no business man had seemed properly impressed with his worth. No one needed a financial agent, and Ned had no idea of accepting any job where he would have to labor with his hands. That kind of work was not for him; he would have his own class or none at all, he decided scornfully; so, falling in with Jimmy Malley, who was just married, the two had gone to a saloon where Jimmy was treating in honor of his marriage, with the result that Ned, while not intoxicated, was not in the state of mind to use his usual judgment and caution in a business discussion. He had opened the conversation by representing to Searls his pressing need of just such a manager as he, and when his cousin had firmly declined to avail himself of his services he easily became ugly. "I won't be used like a dog by any man," he insinuated roughly.

"No one has used you like a dog," said Searls, controlling himself at this pointed thrust. "I am simply offering you the same position you had last year and I will give you more pay. Raymond does well, but I think he would prefer the dairy work exclusively, so in case you don't take it, someone else will, Joe Green's Tom, for instance."

"Tom can have it for all me," growled Ned. "Joe Green wouldn't be happy if he didn't have all three of his boys on this farm. But I won't come down to being a common laborer for you or anybody else. I should not think you would expect such a thing of me. What you ought to do is to help me to make a start in business. Now, Jimmy says—"

"We will leave Jimmy out of the question," said Searls, icily. "You talk about my setting you up in business, Ned. In the first place I would like to know the exact reason why you quit King."

"Haven't I told you?" said the boy. "No you have not. There are ugly rumors about, and I desire to know the truth."

"King had better shut his mouth and not tell any lies about me," blustered Ned. "I could show him up before this town in a fine manner that would make him squirm."

"Perhaps he has not told lies," said Searls, quietly.

Ned looked at him blankly, a dull red creeping over his face. "What do you mean?" he said thickly.

"That is for you to explain. Listen," as the boy started to interrupt. "I can't find out that he has said anything, but the general impression is that you have been crooked with him."

"He is a pretty man to talk about crookedness," sneered Ned.

"That is neither here nor there. His being dishonest does not make you so, necessarily. If you can tell me that you have a clean record—have not knowingly cheated nor taken the advantage of him in any of your deals—I will consider a business proposition with you. Otherwise," he said meaningly, "I shall not. How would I know but that if you would 'do' him you would me?"

Ned's face paled. "Whoever says that I stole from John King what was his, tells a lie," he shouted. "He is a mean cut-throat. I beat him at his own game and that is why we got through with each other. He dare not prosecute me. He knows I've got one hand on his throat—"

"And he has two on yours," said Searls, pointedly. "In other words, you know so much about King's crookedness, and he knows that you know it, that he dare not prosecute you for a thief."

Ned jumped at the ugly word, said in Searls' coldest tones. It rasped like iron, and for the first time Ned saw, as if in letters of fire, what he really was: "Don't you say that again," he threatened.

"I won't—not if you can prove that you have done nothing to deserve it. Wait," as Ned began to pace the room excitedly, "I know that you were not discharged for nothing. You need not tell me what it is about unless you wish, but if you have defrauded that man at all, in any amount of money, I advise you to put it back. If

you don't he will reach you if you go to the end of the world. And another thing: He hates you with the hate of a villain who has been foiled at his own game. So I advise you to say nothing publicly against him, for as sure as you do and he gets hold of it he will prosecute. You are standing on too thin ice, and the sooner you get off of it the better."

"He can go to the devil," roared Ned, backing up against the wall and clenching his fists. "What I took was as much mine as his. I wouldn't have taken a cent from him that he came by honestly, but I saw a chance to squeeze him and I did," he boasted. "And he'll know it, too, when I give it back to him. He couldn't make me do it and you can't either."

"Then you admit that you have money in your possession that he claims," said Searls, wrathfully.

Ned was trapped. "I said I never took anything from King which was not mine as much as it was his," he muttered.

"By your own admission you have the same as stolen from your employer," Searls continued mercilessly. "You, a Jackson, the only one of our race left—you have become a thief. Do you suppose I would give you a chance to handle a dollar of mine. No; were you my own son I would not, and if King prosecutes you you will not get one cent of aid from me. But if you will hand the money back to him, whether it is one cent or one hundred dollars, so you can come to me with clean hands, I will help you to make a man of yourself. But if you don't you will never have another favor from me as long as you live."

"I won't give it back," shouted the boy desperately. "I'm not a thief. You talk as if I had broken into his safe, forged his name or turned pickpocket. What do the doctors do all the time. Look at Dr. Dickson! Doesn't he charge the rich high prices and doctor the poor for nothing? He does not think he is robbing the rich. It is not stealing to take a commission on the sales. They all do it, and I won't stand being called a thief by you nor by anybody else."

"It is business to believe every man a rogue until he proves himself honest," remarked Searls, deliberately. "As for taking or giving commissions, if I thought that was all you done I would not be so severe, though I can't see that this accepting commissions on what you buy for your employer is anything short of stealing. You think it smart. You buy a hundred dollars' worth of produce for King and fix it up so the bill calls for ten, or fifteen, or perhaps twenty dollars more, which you pocket. If that isn't stealing from him I don't know what stealing is. No, you are not the only one. I don't believe there are a dozen rich men in my acquaintance who are not systematically robbed of from five dollars up to the hundreds on every deal their go-betweens make for them. It is the meanest kind of stealing, and until I reach senility I shall do my own buying. Have you anything further to say for yourself?"

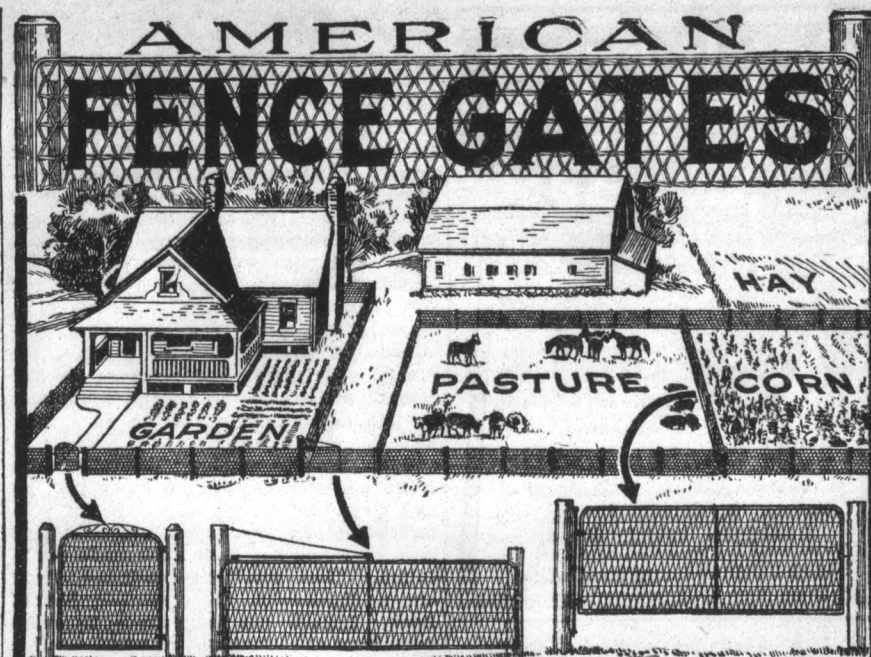
"I told you all I had to say," said Ned, stubbornly. "What I've got I'm going to keep. It is no sin to rob a thief, and that is all he is—a miserable, yellow-skinned thief. I can make my way in the world independent of you, Searls Jackson. What have you ever done for me I would like to know? Put me down as a hired man," he snarled, his rage mastering him. "Then when I have made some money for myself by sharp dealing, by proving that I had brains—Jackson brains, if you will—you say I've got to give it back before you will give me a job as hired man again. Faugh!" He turned contemptuously on his heel.

The older man was controlling himself with difficulty. He had a strong desire to take him by the collar and pitch him out into the chill winter rain which was falling drearily. "For Merle's sake, Ned, I will overlook your insulting words; now I advise you to go to your own room until you are sober enough to think this matter over calmly."

His words infuriated Ned. He turned on his cousin with a cry of rage. "Sober," he said between his clenched teeth. "Just because I took a glass of wine as a treat today you say I am drunk. You narrow-minded, bigoted, backwoods farmer, I tell you I am man enough to take it or let it alone."

"Let it alone, then," said Searls shortly. "And I advise you to let your tobacco alone also. What with cigarettes you are becoming a wreck, and you know it."

"Much obliged for your advice," mocked Ned, starting to leave the room. "I am as sober as you are and as much of a man. All I want is a chance and you will see somebody who can make the



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THE MICHIGAN FARMER, Detroit.

shekels come in by the bushel. None of your slow ways for me. I will give these cut-throats a few of their own tricks and they will find there is one Jackson that knows a dollar when he sees it."

"You will be as much of a man when you are an honest one," Searls replied slowly. "You are the first Jackson to disgrace the name. For generations, from father to son, we have been an honest family. A hundred years ago your grandfather and mine was known as 'Honest' Jackson, and this place was also called 'The Honest Inn,' as well as 'Jackson Stand.' But you," his voice was contained but it thrilled with passion, for Searls' slow anger had risen to its full height, and there is always something terrible in the mighty wrath of a man who is slow to anger. Ned realized it and his temples throbbed painfully. His brain was clearing and he knew that he had gone too far, yet he would not give in that he had done wrong, and if he had died he would not then have made restitution. "But you," he continued, "you are a degenerate. You scorned honest work. I gave you the chance to make something of yourself. You was a spoiled boy; and why any sensible man or woman would wish to bring up a boy like you, absolutely good for nothing, is a mystery I cannot explain. The hotel life spoiled you in the beginning; you knew no restraint but what was given by a doting mother and a capricious maid. You was a plague to your tutors; you never had the discipline of public schools; no, you was not to mix with the common herd," he continued scornfully. "At prep. school you was idle and turbulent, so much so that you escaped being expelled by some lucky chance; consequently, when your father died poor you were left helpless, with no ability to earn anything. Why, most ten-year-old country boys could take care of themselves better than you could have done," he said witheringly. "I gave you a chance here; you made a mess of everything you tried but the market wagon, because you would not degrade yourself to work with your hands. Then you went to King, and God knows what dirty tricks you have done there. I don't. But I know this: You are on the high road to the devil, and unless you stop now, leave off your cigarettes and cigars which are ruining your health, cut out all liquor and resolve to make a man of yourself, I would not give much for you five years from now. I am ashamed of you—ashamed of you, and if it wasn't for your sister I would turn you out of my house today and you should never enter it until you had repaid what you have stolen."

"You needn't wait for my sister," chortled Ned, his face deathly white with passion. "I won't stay here another hour. You have insulted me the last time you ever will. You call me a drunkard, do you? I'd like to know where I got my first taste of strong drink," he sneered. "I'll go, and some day you will be sorry for what you have said, you miserable hypocrite," he foamed. "I shan't wait for my trunk. I'll get my suitcase and start, and you can save your charity for somebody that will crawl on their knees and thank you for it," he flung back as he left the room.

In the adjoining room Merle and Nell had heard every word, though Searls' tones had been the low voice of a gentleman. The girl in her agony had begged Nell to go in and stop them, but she had shook her head. She knew it would not do to interfere, and with her arms around the sobbing, trembling girl she had heard every word, but when Ned left the room Merle had darted away to follow him. She heard her flying step as she mounted the stairs, but Ned locked his door against her. Then, with a white face Nell rose to see if Ned would let her come in, when Searls came into the dining-room. His face was white and drawn, but his eyes had the same expression of unyielding determination they had had when, in years gone by, she had begged him to choose between her and the free hard cider barrel. "You have heard?" he questioned, directly.

"Yes," she breathed, searching his face with tear-dimmed eyes for some signs of relenting in its hard lines.

"He will go straight to the bad," he said finally. "I can do nothing with him. He will end in becoming a drunkard and a tramp. I don't know whether King will push him or not. I advise him to get out of here, for if King does prosecute him I will not spend a cent to help him."

"Searls," she began, "let me try. I—" "No," he said firmly. "I am master in my own house. He is my blood, not yours. There is one unpardonable sin and that is theft. He is drunk today and

he will be drunk tomorrow. Let him go."

Nell rose to her feet. Her voice trembled, but she spoke with dignity, every word ringing with force and truth.

"You call him a drunkard and a thief," she said. "But remember, Searls Jackson, that he took his first drink at your cider barrel years ago when the bulkhead door was always open. You are reaping what you have sown."

For a second he met her gaze unflinchingly, though his face had grown ashen gray. It was the first time in all their married life that she had made reference to what he had grown to feel was the one great sin in his life; but, in the steadfast light in her eyes, he saw himself in a new light. For a moment he hesitated, then without a word he left the room.

She followed him to the window, her heart beating almost to suffocation, but he did not turn his head. He passed directly down the driveway and stood by the high stone post, unheeding the icy rain. She thought he was waiting a word with Ned, who came running down the stairs with his suitcase in his hand. She went out in the hall to speak to him. He was only a boy and her heart went out to him in a great surging wave of love and pity. "I am so sorry," she said simply.

His lips quivered. "You are a good sort, Nell," he said kindly; then he impulsively threw his arms around her neck and kissed her. Yvonne clamored for attention. He caught her in his arms and gave her a great hug. "God bless you," he breathed. Then, as Nell tried to speak through her tears he laughed harshly. "Don't cry for me. I'm not worthy of it. Save them for that man of iron down by the gate. He will need them. He thinks he'll see me there, but he won't. I'll go the other way. Say good-bye to the help here, and tell little Martha to be a good girl. I suppose she is over with her father today. Tell him I'm glad I helped him away from King's clutches, anyway."

"You will write to Merle," she said. "Yes, don't worry. I'll come out at the top of the heap yet. Searls will find he can't kill me if he wants to. I'll buy him out yet," he boasted as he strode out of the door just as Merle came to the head of the stairs with her cloak and overshoes on. She took her tam-o'-shanter from the hall-tree and, pulling it down over her wavy hair, darted out in the storm after him.

Nell did not try to stop her. She knew the girl must have a final word with him. With straining eyes she watched him striding across the field to reach the road while Merle, fleet-footed as a deer, ran after him.

Bruiser trotted around the house. He scented trouble, and with an inquiring look in his face he took Ned's track and started after him.

Then Nell turned back to answer Yvonne's sobbing questions about Neddy. Searls was walking back slowly; his head was bent and his step dejected. The boy had evaded him and the kind word he had hoped to say had not been uttered.

The turn in the road hid Ned and his sister from sight.

(To be continued).

A certain American naval officer brought a Chinese servant named Quong home with him from the Far East. One day the Oriental asked permission to attend a funeral.

"Go ahead, Quong," assented the officer. Then he supplemented. "I suppose you will place different kinds of food on your dead friend's grave, as they do in your native country."

"Samee as in China," said Quong.

"Now, Quong," continued the officer good naturedly, "when do you think your friend will come up to eat what you leave on his grave?"

"Allee samee time that Melican Man comes up to smellee flowers you put on his," retorted Quong in the same spirit.

Teacher was telling her class little stories in natural history, and she asked if any one could tell her what a ground hog was. Up went a little hand, waving frantically.

"Well, Carl, you may tell us what a ground hog is."

"Please, ma'am, it's sausage."

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GRANGE

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

THE FEBRUARY PROGRAMS.

Suggestions for Second Meeting.

Opening song.
Reading, "The Worth of a Boy."
Review of a late number of my favorite paper or magazine, briefly reported by a man and woman.
Music, by Grange orchestra.
Home Nursing, I—Hints on care of the sick—in charge of Woman's Work Committee.
Music.
Distinguished guests—some illustrious Americans.
Song.

THE PROGRESSIVE MOVEMENT IN THE GRANGE.

That the "old order changeth" was strikingly illustrated by the Patrons of Husbandry of Michigan at their annual meeting held at Traverse City last December. There were in attendance 420 delegates, besides hundreds of visitors, making a crowd of one thousand farmers, counting their wives and children, composed of well dressed, earnest, purposeful men and women who had come up to this annual meeting with well defined and matured ideas of what should be said and done along certain lines of legislation, social progress and educational betterment.

To the men and women of the cities, the manner in which their country cousins acquitted themselves in speaking, debating, reading and making reports upon great questions now before the country, was a surprise. But it need not be so when they reflect that the order is well on the way towards the half-century mark, this annual meeting being its thirty-eighth, and that it has been a school of instruction—one of the best ones, too—for the country folk for more than a generation.

Not alone along agricultural lines has the Grange been an education, but it has given its members a business training in co-operative buying and selling whereby thousands of dollars have been saved to the farmers. Through this work the time will no doubt come when there will be shipping agencies at the growers' point and marketing agencies at the consumers' point. The Grange has been a great education in economics, civics, schools and politics. It does not develop the man side of society, but the man and woman side. A farmer and his wife are elected by a certain number of local Granges to attend the annual State Grange, and the woman is invested with the same privilege of voice and vote as the man; hence, for nearly a half-century, the women of the Grange have had a voice and vote in helping make some of the better laws written into the state and national statutes.

The progressive, constructive trend of the Grange is demonstrated in the measures endorsed at the state meeting, among which are the initiative, referendum and recall; amendment to the constitution whereby U. S. senators shall be chosen directly by vote of the people; a better system of land transfers; a practicable parcels post law; farmers' centralized township schools and the teaching of the elements of agriculture therein.

The chief good growing out of the local Grange is that it establishes in the neighborhood where located a social center of community life, an environment "where the future is growing." Many of Michigan's sons, distinguished in private and public life, owe their inspiration, their start on the road, to the Grange, and herein is the progressiveness of the order. In the Grange they commenced and developed the work which was pursued to success.

The Grange is nothing if not progressive, and its position upon public questions has again and again compelled the political parties and politicians to sit up and take notice. It is a sociological, economic and agricultural educator that is leading its people onward to better living.

D. E. McCURE.

Deputy Master.

MUSKEGON POMONA HOLDS ROUSING MEETING.

Muskegon Pomona Grange, No. 41, met with Alumina Grange at Holton Jan. 18 and 19. After a generous dinner the Patrons retired to the hall where Lecturer Nistle introduced Mrs. O. J. C. Woodman, chaplain of State Grange, who gave an

admirable talk. In part Mrs. Woodman said: "I am here to talk about 'The Problems of 1911,' which are, after all, only a continuation of those of 1910. We who are in the fold know what great problems the Grange has solved for agriculture. But, I say, in the future build higher, loftier and grander than in the past and if you can't reach the pinnacle go as high as you can. The first problem that meets young people is this one of establishing a right ideal."

"It isn't true that there are certain things you can not do. The American citizen can accomplish anything which is good and true. If we look back into history we see what our citizens have done for civilization. All nations do honor to them. Here we see the difference between the Old World governments and ours. Despotisms take strong men and make feeblings of them, while republics take feeblings and make strong men of them. The ideals which these men strove for can be carried on by our boys and girls, and their names written on the scroll of fame. This great republic leans on us, the common people, for accomplishment! It is our country's yeomanry that makes it grander every year. The world can not do without us."

"I want the Grange to be the peer of any society that reaches out a helping hand to all humanity. It is through the Grange that we can most effectually help the people. I want the young people to know that life is great, is noble, is worth living. It behooves us to think about the great problems that are agitating the American nation, for it is we who pay the bills. I'm always proud when I think it is the good old farm homes that give this nation its prestige among the nations. It is no particular credit to have large streams that those of Europe would not even make a splash in if turned into ours, but the things we have obtained, through the ability of the common people, are the things we should be proud of."

I want the youth of this nation to have the privilege of a still greater school system than we now have. The time has come when the common people can work shoulder to shoulder with any man, no matter how prominent he may be. The great temperance problem is a vital one that has got to be met. It costs \$700,000,000 a year to take care of the crime that is committed in this country. Don't we know there needs to be something to stem this tide? Agitate some live question, such as education, that will fight this. I don't want to walk through life in the footsteps of someone else. I want to work for something higher."

"We can put shields around our race that will protect the weak and innocent against the evils of their environment. That is what laws are for. The larger duty of all public officials is to protect. Shall not we build so that future generations shall be born better? I believe every child has the right to be well born. Let us build up a sentiment for the best in things educational and social; our laws should all tend to that end. We ought to be patriotic enough to want every child to have a good heritage."

"Another problem is managing our finances; but it is worth more to build a man than a bank. It behooves us who live in the country to furnish the right building material. Let us, in the Grange, not make the culture of potatoes the predominant factor in our existence, although we should demand that we be taught scientific farming; but the thing that is most important is that our boys and girls bring home from college the idea that frugality, industry, and patriotism are the links that make this nation stand for the best things of life."

Pomona Master John S. Walker and wife then rendered "Sweet Belle Mahone" in a way that made the older members think of their sweetheart days.

In her talk on "Some Factors in Rural Education," Mrs. Nellie B. Chisholm emphasized the following points: First factor is the building of character. In this, the home plays the most important part. The parents are the ones that make the home. The province of our public schools is to make men and women that are better able to meet the problems that confront them than were our fathers to meet their problems. The work of the school is to keep people from being lost, not in saving those who are lost. If our schools fit boys and girls for life, they will then be fit for jobs. We of the Grange have a great responsibility in regard to the rural schools—it is our duty to extend a lifting hand to them."

The audience was next entertained by D. E. McClure, District Deputy Master, who talked on "A More Active Pomona Grange," after which he moved that a Grange institute and conference be held in Muskegon court house in March, and that the master appoint a committee to make arrangements.

In the evening Mrs. Woodman gave another good talk, after which a very pleasing literary and musical program was given by the children of Holton school to an audience of about 500 Patrons and townspeople.

Early Saturday the business meeting was called. Reports of officers showed an increase in membership and interest. The present membership is 130. The next meeting is to be held with Silica Grange, at Dalton, in March.—S. Elaine Moore, Secretary.

COMING EVENTS.

Pomona Meetings.

Gratiot Co., at Ithaca, Saturday, Feb. 11. Joint meeting of Patrons and teachers. Charlevoix Co., with Pine Lake Grange, Thursday, Feb. 16.
Arenac Co., with Bay Grange, at Arenac, Friday, Feb. 17. Geo. B. Horton, state speaker. Installation of officers.
Ingham Co., with Wheatfield Grange, Wednesday, Feb. 22. Special patriotic program.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—B. A. Holden, Wixom.
Vice-Pres., J. D. Leland, Corunna.
Secretary—Mrs. C. P. Johnson, Metamora.
Treasurer—Mrs. Lewis Sackett, Eckford.
Directors—A. R. Palmer, Jackson; Wm. H. Marks, Fair Haven; C. L. Wright, Caro; E. W. Woodruff, Blanchard; C. P. Johnson, Metamora; Patrick Hankerd, Munith.

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

Associational Motto.—

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

Associational Sentiment.—

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

AGRICULTURAL EDUCATION.

Synopsis of an address given before the State Association of Farmers' Clubs, by Prof. W. H. French.

It is too early to determine with certainty the effect of the introduction of agricultural courses in the public high schools, but it seems to be settled beyond a question that industrial subjects may be included in the curriculum of the high schools with safety.

The results thus far secured, show an increase in regular attendance, especially from the non-resident students; 2nd, an increased interest in the regular subjects of the course; 3rd, broader interest on the part of the parents; 4th, practical results in actual farming operations.

The work of the high school touches the student of the formative period, that is, when a man or woman begins to think out a future and make plans. This being true, the character of the school work presented at that time should be such as to give the student the widest possible scope of observation and intellectual activity, and he should also have some concrete examples on which he may build his career.

The traditional course of study does not touch in any marked way the activities of human life. The fault in the present system lies with its traditions and ideals. The work of the school points toward the professions and nowhere does the student have an opportunity to study the interdependence of man engaged in real vocations nor does he come in contact with the fact that the thing the man does, does not make him professional, but the manner in which he does it. The expert worker on stone, or metal or soil is at once raised to the professional rank.

It is proper to cherish old ideals, providing you can build new ones from them but old traditions may safely be banished, because they do not tend to progress.

During the current year agricultural courses will be presented in eleven high schools in Michigan. The subjects pursued include agricultural, botany, farm crops, horticulture, soils, dairying, live stock and farm management. These courses are taught, in each case, by a teacher who has received special training in agriculture as well as pedagogics. The work is moving forward very satisfactorily, a good degree of interest is manifested and the effect produced upon the general work of the high schools is excellent. The total number of young men pursuing these courses in the high schools is about 500. The location of the schools is as follows: Hudson, Northville, Saline, Lawton, Union City, St. Louis, Traverse City, Watervliet. Hillsdale has 99 young men studying agriculture, this being the largest number in any one school.

In this secondary work in agriculture we are attempting to give especial emphasis to four general phases of agriculture, plant life, soils, animal husbandry and business agriculture, in addition to the regular work pursued in the school room. A special course of extension lectures for the benefit of the farmers will be given during the months of December, January and February. The farmers of the community will meet at the school buildings or other convenient places on Saturday afternoons and will hear a lecture either from the local teacher of agriculture or from some member of the faculty of the agricultural college, after which there will be a general discussion and frequently actual demonstration work. This plan of agricultural extension work will bring the school and the home closer together and will give an opportunity for real growth of agricultural ideas. In addition to the

schools above mentioned where agriculture is taught by a special teacher, some agricultural work is being presented in the high schools at Plymouth, Monroe, Tecumseh, Boyne City and Elsie. Other places may be doing some of this work which have not come to our attention.

It is quite probable that some mistakes may be made in working out these new lines of school work, but we are quite certain that secondary agriculture in the public schools has come to stay and in spite of the mistakes and present uncertainty, we believe that ultimately great good will result to the people of Michigan.

WHAT THE LOCAL CLUBS ARE DOING.

Thornapple Club, of Barry Co., was represented by Mrs. Morgan, who stated that the charter members of the Club numbered 16, but the membership is now 120 and the average attendance around 45 or 50. The Club holds 11 regular meetings each year. An annual picnic is a feature of the Club program. The monthly programs are provided by a committee appointed for the purpose. The entertainment committee plans so that the members with the larger houses and barns will entertain the Club during the winter season. The matter of refreshments has been settled by the use of lap boards for a portion of the year and by the serving of an old-fashioned dinner for the balance of the meetings. A temperance meeting is held in March, and the young people are given one meeting during the year.

The Starrville Club, of St. Clair Co., represented by Mrs. W. H. Marks, holds 12 meetings during the year. Each member furnishes a portion of the refreshments as assigned by the menu committee. An oyster dinner is served in February and a strawberry festival in June or July. Children's day is observed at one meeting during the year, and a Club fair is made a special feature in October.

Rives and East Tompkins Club, of Jackson Co. Delegate Severance reported that this Club holds 11 regular meetings during the year and a picnic meeting rounds out 12 months. This Club holds an annual fair, the proceeds from which are devoted to charitable purposes, being given for the benefit of the Charlotte Home for Aged Ladies.

North Newburg Club, of Shiawassee Co., was represented by Mr. J. D. Leland, the present vice-president of the State Association. He stated that the membership of this Club consists of 24 families, who entertain in rotation. Refreshments are served on lap tables which, together with the necessary dishes and silverware are owned by the Club. The family entertaining furnishes the refreshments. The question box is one of the most interesting features of this meeting. Members of the Club and Maple River Club interchange attendance of meetings very largely.

CLUB DISCUSSIONS.

Hold Annual Meeting.—The 24th annual meeting of the Columbia Farmers' Club was held Jan. 14, at "Holmdale," the beautiful home of Mrs. C. M. Crego, over 100 people being in attendance. The annual reports of the secretary and treasurer were read and showed the Club to be in an exceedingly prosperous condition. Ten new members were added and two deaths had occurred during the year. The officers elected for the ensuing year were: President, Judson Freeman; vice-pres., Mrs. R. F. Peterson; sec., Mrs. Flora Vining; treas., Miss Belle Weeks; reporter, Miss Maude Smith; chaplain, W. B. Lowry. The executive committee met on Thursday, Jan. 26, at the home of Geo. J. Friedrich to prepare programs for the coming year.—Mrs. Flora Vining.

Will Hold Club Institute.—The Salem Farmers Club held its January meeting at the home of Mr. and Mrs. Fred Burnett. After the usual enjoyable dinner, the Club was called to order by the new president, G. H. Thompson, and a fine program given, consisting of music, recitations, etc. An original poem was read by Mrs. Webb-Lane, entitled, "One Day On the Farm," showing how busy a farmer's wife can be. Most of the hour was devoted to the report of the state meeting given by the delegate, Herbert Smith. This was listened to with marked attention. Many interesting points were brought out. A vote of thanks was given Mr. Smith for his good and profitable report. Remarks of practical interest to the Club were given by President Thompson. Club voted to hold an institute in place of the February meeting. New executive committee is as follows: Mr. and Mrs. Wm. Taylor, Mr. and Mrs. Arthur Wheeler. Resolutions were adopted on the death of Mr. Timothy Donovan, one of the most faithful members of the Club, expressing the feeling of personal loss by the Club and sympathy for the bereaved family.—Mrs. H. C. Thompson, Reporter.

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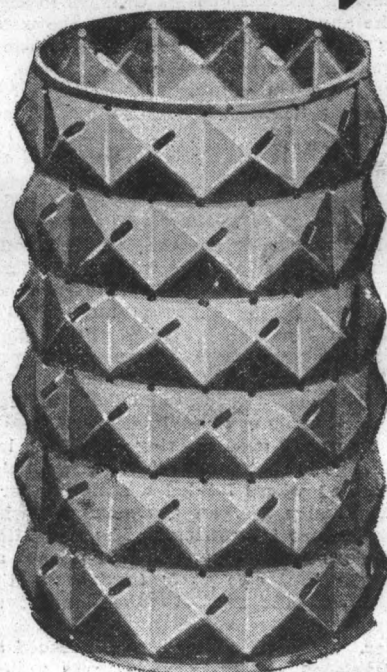
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