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FARM NOTES.

Fall Seeding of Alfalfa.

I have 2½ acres I sowed to alfalfa in 1907. Last year it came up in the spring till about eight inches high, when it stopped growing and June grass came up very thick. I cut it off and there came a nice rain and the alfalfa grew and had a good green color, but as I intended to plow it up on account of the June grass, I pastured it off, and being very dry all the fall it was eaten off completely. Could I plow early and plant to early potatoes and get them off so it could be sown to alfalfa in August, or would it be better to plow early and keep cultivated without any crop, then sow to alfalfa early, say in May or June.

Washtenaw Co. A. C. FREEMAN.

This is a most pertinent question to be raised for the consideration of the farmers of the state who are experimenting with alfalfa at this time. In a great majority of cases the great difficulty in getting a stand of alfalfa that will produce well seems to lie in the imperfect inoculation of the plants with the nitrifying bacteria. Another great difficulty is the tendency of June grass to run out the alfalfa plants before they get well established. Now as a means of giving the crop the best possible chance to establish itself before the first winter the common practice among those who have succeeded in getting it established upon their farms has been to plow in the fall or early in the spring and cultivate well until all conditions seem favorable for the quick germination of the seed and rapid growth of the young plants. A plan favored by other growers is to fit ground which was devoted to potatoes the previous year in a similar manner and sow as early as the conditions will warrant. In the west, however, where the crop has reached its highest development, fall sowing has the preference, as the weeds bother less and it makes it possible to get a seeding of alfalfa that will yield hay the following year without the loss of a season's time in getting it established. Coburn, of Kansas, in his book of alfalfa, says that in all except the northern tier of states the fall seeding seems to have the preference, and that in these states good results are reported from fall seeding; while even in the southern states, where fall seeding is the general practice, some growers favor spring seeding. This is in line with results secured at our own experiment station where monthly sowings of alfalfa have been made to note the difference if any, in favor of seeding at any particular time of year. It was found that different results were indicated in differ-

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ent seasons, so that it seems to be quite well established that the conditions which prevail at the time of sowing are more important than the exact season of the year in which the seeding is done.

In a case like the one cited in this inquiry it would be the writer's opinion that it would be better to plant the early potatoes, so as to make sure of a sufficiently long period of cultivation to get the June grass thoroly eradicated. Of course one would be taking a chance on getting favorable conditions for the sowing of the alfalfa after the potatoes

are harvested, and if it should be a dry season like the last those conditions might not favor a successful fall seeding of the crop. But in that event no time would be lost, as the crop of potatoes would be secured and the land could be devoted to some other catch crop or held over to be seeded to alfalfa without plowing the following spring. It would seem that the chances of success with a fall seeding upon this land would be very much better than upon land which had never been seeded to alfalfa, as the bacteria is no doubt present in the soil and would be well distributed thru the

cultivation of the potatoes, so that the young plants would become early inoculated and the crop thus make a vigorous growth from the start.

Unfortunately there is no reliable data as to the relative likelihood of spring and fall seedings of alfalfa surviving the first winter in Michigan. But so far as the writer has been able to ascertain from observation and inquiry the loss from this cause is not usually greater than with clover, if as great, and is more often the result of smothering from an excessive snow fall which lies long upon the land or from a coating of ice than from heaving, which often causes serious losses with clover.

An experiment of this kind would not only be interesting but the results would be a valuable addition to the sum of our knowledge of this crop and its requirements for successful growth in Michigan, and should Mr. Freeman try it out we trust that he will report his success to the readers of the Michigan Farmer, many of whom are seeking for more knowledge with regard to this forage crop, which in the writers opinion is destined to become an important one in Michigan agriculture, and that at no very distant date.

Sowing Rape with Oats.

I have 30 acres of stubble ground which I wish to sow to oats and seed to clover this spring. I wish you would advise me whether I can, without danger to the clover, sow with it also, the dwarf Essex rape and pasture the same with hogs and sheep after the oats are cut. What would be the proper amount of oats, grass seed and rape to sow per acre?

Ingham Co. SUBSCRIBER.

Under favorable conditions it is entirely practicable to sow rape with oats for use as summer forage for sheep and hogs after the oats are harvested. Of course, it should be remembered that the rape is but a catch crop and that it cannot be depended upon with certainty to make a large amount of feed, as the results will depend very largely upon the climatic conditions which prevail during the growing season of the oats, as well as after they are harvested. Then, too, where the land is to be seeded to clover a good deal of judgment should be used in the pasturing of the crop so as not to injure the seeding. There is a great temptation to pasture it too severely, especially in a dry summer when other feed is poor, and this is just when it should not be pastured closely if the clover is to be saved. The writer is of the opinion, however, that upon open soils especially a little pasturing



Clearing Swamp Land and Removing Roots for Truck Crops.



with sheep is a benefit rather than a detriment to the seeding, as by trampling over the surface they form a kind of dust mulch on the surface and compact the soil below so that it does not dry out as badly as the stock is kept off entirely.

Where using this combination the writer sows about 1½ bu. of oats per acre with about 5 lbs. of rape and 10 lbs. of clover, covering the smaller seeds lightly with the weeder or roller, as may seem best under the conditions which prevail at seeding time. The rape will come up and grow rapidly at the start and one is likely to think he has made a serious mistake in sowing it, as it seems to be more vigorous than the oats at the start. But when the latter commence to send up seed stalks and to pump the moisture out of the soil the rape grows little more until after the oats are removed from the land. Of course, if the season should be a particularly favorable one the rape will continue to grow after it is shaded by the oats and there will be a good deal of this green stuff in the bundles when the oats are cut. Once in our experience with this combination we were obliged to cure the oats in the field and draw them directly from the field to the threshing machine. That year the rape made a very vigorous growth after the oats were off and furnished as much pasture as we ever got from it sown alone, but ordinarily by cutting the oats a little high the rape will not bother in this way a great deal.

As above noted, the writer has had good success with seeding in oats where rape was sown with the oats and pastured after harvest. Two years ago this coming summer part of a field was sown to this combination and the balance of the field sown to rape later and seeded. The whole field was pastured rather severely after the oats were cut, and without apparent injury to the seeding, which made a good growth and was pastured last year. But that season was an unusually favorable one for clover and this severe pasturing would not do in all seasons. Where succulent forage is an acceptable addition to the summer feed for the sheep or hogs, as it is upon most farms, it may be profitable to sow rape in the oats, as suggested in this inquiry, but this could not be made a main dependence for the flock as in that case the pasturing is altogether likely to be too severe, and the experiment thus prove a losing rather than a paying investment in the long run.

THE TREATMENT OF LIGHT, SANDY SOILS.

A great many farmers who have a sandy soil, or what is termed a "light" soil, are not greatly successful in growing crops of some varieties, due, no doubt, to the physical imperfections of such soils, or a lack of knowledge of what such soils need in order to develop vegetation. There is, however, a wide difference in the chemical composition of sandy soils, and in some of them it is about impossible to grow fine crops, even though we supply the essential plant foods in abundance. In such soils the particles are too coarse, which makes the soil too open and porous, and air, water and warmth are admitted too freely. They therefore heat or dry out too rapidly, and there is a premature ripening or burning of the crops. In such loose soils neither the phosphates nor potash compounds become readily fixed and the loss from leaching is great. Then again, there are what we term sandy loams, which contain a certain percent of clay, and are not deficient in humus.

The problem of improving light or sandy soils which have little or no content of humus or clay, consists in changing their physical condition so that they will retain plant foods and moisture. If we can add clay to such soils they will be much improved, but it is an absolute necessity that we introduce humus, and the more clay or humus we can add, the better will be the condition for retaining the plant foods which we apply. Applications in liberal quantities of very strawy manure will supply humus to a large extent. We have had quite an extensive experience with such soils and have brot them up to the growing of maximum crops, by first applying stable manure, then sowing rye, using a generous amount of seed, then plowing this under and using lime at the same time. The application of lime is very beneficial, because it binds the particles together in a way, thereby making the soil more compact. Buckwheat is a good crop to

turn under also. Both (or any) crops should closely follow the application of manure. The rye we frequently allow to grow until nearly matured, because there is so much more benefit from the larger and harder stalks or stems, than when the soft young growth is turned under. The next crop which follows receives a large application of potash and bone or rock phosphates. From thirty to forty pounds and more to the acre, of potash is none too much, for sandy soils are almost entirely deficient in this important element of all plant life. In fact, we have come to believe, in our years of experience, that potash and nitrogen are of far more importance than any other element, altho we must have the others also. It is necessary that we begin growing clovers and other legumes as soon as possible, because they enrich the soil by adding nitrogen obtained from the air. If by the use of generous applications of both the mineral plant foods we obtain—as we should—a fine growth of clover with good, strong roots we have made a long step towards the fertile condition of our sandy ground, and the occasional applications of manure, supplemented with potash and phosphates, and with care to furnish a good amount of humus, we may expect surprising results.

Ohio.

E. A. SEASON.

WHAT PART OF STABLE MANURE IS USED THE FIRST YEAR?

What per cent of the manure applied to land and plowed under for corn and beans will really benefit the single crop for the season? Would wheat after these crops, without plowing, utilize any great per cent of it? This is manure as thrown from the stable the present winter. Would the same benefit me most by selling it at a reasonable price and what should that price be? Would I get more benefit from hauling it two miles to my own land? The corn and beans will be on a sort of clay loam.

Berrien Co.

HENRY HUNT.

Of course, this is a question that no one can answer with any degree of accuracy, altho it is perfectly evident that you do not get the entire benefit of stable manure the first year. In fact, the benefits of stable manure last for a number of years. The amount of benefit received from stable manure on the first crop depends a great deal upon circumstances. If the manure was applied last fall or early winter and evenly spread upon the sod to be plowed down for corn and beans this year, you will get a great deal of benefit the first year because the soluble part has had a chance to be dissolved by the rains and snows of winter and absorbed by the soil, consequently you will get a large benefit from it.

On the other hand, where your manure is thrown in piles during the winter, and then in the spring you draw this manure and plow it under, you get only a small per cent of the value of the manure the first year. Here, again, conditions will vary and allow you to get a larger benefit one year than another. For instance, if there is plenty of rain soon after the manure is spread, or soon after the land is plowed, you will get decomposition quicker and get greater benefit, but if it is put on and very little rain comes, then you will get very little good. I am quite positive that I have seen manure applied late in the spring, just before the ground was plowed for corn, where one got scarcely any benefit from it that season.

Now, how long manure will last in a soil is another matter of opinion largely, but we do know that it lasts, in numerous instances, for several years, because we can see the effects where it has been applied to one portion of a field and not to another. It takes stable manure considerable time to so decay in the soil that we get all the plant food, but stable manure gives another beneficial effect which is sometimes not appreciated, and that is that it adds vegetable matter, which in turn becomes humus, or vegetable mould, and this has a good effect upon the mechanical condition of the soil, consequently we see the effect of applying stable manure long after the greater part of the plant food has been consumed by growing plants.

The value of stable manure is also an uncertain quantity and depends upon what kind of animals it is made from and how well these animals were fed. If an animal is only fed a maintenance ration the manure is not nearly so valuable as where the animal receives a liberal ration, a work ration, because it is more economically digested and assimilated than where only a maintenance ration is fed. The common price for stable manure in town, which is largely horse manure and

contains considerable bedding, is 50c a load, and they allow a man to draw about all he can get on. I should say that you had better haul this manure to your own farm rather than sell it. If you had to hire it hauled and pay \$3 or \$4 a day for a man and team to haul it, then it is a question in my mind whether you could afford to do it. But you could probably have a team take back manure when it comes from the farm with something, and thus get this manure hauled back to the farm for practically nothing by making plans accordingly, and where this can be done it certainly would not pay to sell the manure at 50c a load. We need all the manure we can possibly command. Our farming nowadays, that is, the profits from it, depend upon the amount of stable manure at our command, and we can't afford to sell any of it, nor can we afford to allow any of it to go to waste.

COLON C. LILLIE.

AFRAID OF WIREWORMS.

I have a field that has been in timothy and June grass sod for the last three years. It ought to be broken up and I want to plow it this spring but am told that it will be impossible to grow a crop of corn on it because of wireworms. I could put it to beans but prefer using it for corn. Would like your opinion regarding danger from wireworms.

My 24x60-ft. barn has a lean-to horse and cow stable on south side. I want to overhaul the barn and think that while doing so I will raise it 8 ft. and put a basement under the whole of it. Am thinking of tearing down the lean-to and rebuilding it as high as the upright portion which would make the barn 42x60 ft. Now will it be best to make basement of grout, or should I build it of lumber? I can get the lumber on my farm, but will have to buy sand and cement.

O. D. H.

With an old June grass timothy sod there is always danger of wireworms, and also of cutworms. I would be more afraid of the ravages of cutworms than I would of wireworms, and yet you are liable to have trouble from both sources. However, if I wanted to grow corn on the field, I should put it in and take my chances. If you will plow it early keep it well cultivated and not plant your corn too early, many of the cutworms will have passed the condition where they will injure the corn when it is put in. Use plenty of seed and plant it rather deep, because when planted rather deep the cutworms can cut the corn off just at the top of the ground and the corn will grow again. Then you should keep the ground well stirred. After you plant the corn, harrow the ground thoroughly twice if you can before the corn comes up. Just as soon as you can see the corn get in and cultivate it, cultivating deep. Keep it stirred up and I do not believe you will have very much loss from cutworms.

Wireworms are a little bit different proposition, but thoro tillage is the best thing that I know of to overcome the ravages of the wireworms.

Grout or Lumber for Basement.

I would recommend that you build a grout wall just nicely above the ground and then build the rest of the basement out of lumber. I do not know which would cost most, but local conditions will determine this question. I do know that a basement built of lumber is a better kind of a stable than one built of grout. It is not so liable to be damp. It is better for the cows to live in. A basement stable needs a great many windows in it and if you build of grout you will not put in enough. A solid grout wall will cause condensation of moisture in the cold weather of winter and keep your stable damp, while if walls are of lumber with dead air spaces in them, the building can be properly ventilated so that there will be practically no accumulation of moisture on the inside walls at any time. Therefore, by all means, for the best interests of the animals which are to live in the stable, make it out of lumber rather than out of grout.

COLON C. LILLIE.

White Hullless Barley.

Stock raisers are being especially impressed with the merits of White Hullless Barley. This wonderful grain is not only hullless, but beardless, and makes a very valuable feed for horses, cattle, hogs and other live stock. It is so early that it may be profitably grown as a catch crop, maturing in from sixty to ninety days. It yields enormously, 35 to 80 bushels per acre. Its feeding value is very great, and half as much can be used as oats. It also makes excellent hay. Further particulars of this valuable grain may be learned by sending for the handsome 25th anniversary catalogue issued by Northrup, King & Co., Seedsmen, 186 Bridge Square, Minneapolis, Minn. This catalogue is sent without charge to those who write for it.

Lumber Making Profitable.

As such high prices now obtain for lumber it would pay in a great many cases to have a saw mill if to make lumber only for home use. But there is always the opportunity of sawing for neighbors or the town market as well. Among the different styles and sizes of the American Saw Mills, there are some especially adapted for use in a small or large way on the farm. Simple in design and construction and equipped with remarkable time and labor saving devices, these mills have become extremely popular among the inexperienced who want to make a start in this profitable line of work. These mills are run with low powers, do rapid work and make as high a grade of lumber as the large, expensive mills. They are used in practically all timber sections of this country and are noted for the following features: Variable friction feed, improved giant duplex steel dogs, combined ratchet networks and quick receder, rolled steel track and self-oiling bearings. The American Saw Mill Machinery Co., 128 Hope St., Hackettstown, N. J., will be pleased to send their fine catalog and prices to anyone who writes for them. The catalog also illustrates and describes their wood saws, shingle machines, planers, edgers, and all kinds of wood working machinery.

Book of a Thousand Wonders.

A handsome book entitled "The Overland Route to the Road of a Thousand Wonders," has just reached the editor's desk, in which the story is graphically told. You see the long caravan of ox-teams bearing the persecuted Mormons. The scene changes. The trail is filled with eager gold-seekers. On they come, heedless of perils and hardships, in their haste to reach the place where every rock is said to be honeycombed with gold. The book brings vividly before you the turbulent, lawless life of the west in these stirring times. It tells how the railroad builders, in the face of tremendous odds, transformed the Overland Trail into a mighty highway of commerce—the Overland Route of the Union Pacific and the Southern Pacific. When the last spike (of virgin gold) was driven on May 10, 1869, the pilots of the engines on these two roads touched, and the news flashed round the world that the Pacific Railroad was completed. From this event dates the marvelous development of the vast territory pierced by its glistening rails. The Union Pacific is known as The Overland Route to the Road of a Thousand Wonders because of its matchless scenery and the historic interest that clings to the Overland Trail, now the Overland Route. A copy of this remarkable book may be obtained by sending 12 cents in stamps to E. L. Lomax, G. P. A., Omaha, Neb.

No reader of the Michigan Farmer should buy any new machines until he has learned all about the modern line made by the Walter A. Wood Company. This old reliable concern has been making machines for the farmers every year since 1852. Walter A. Wood machines of today have an experience of fifty-seven years squeezed into them. This experience has been gained in every part of the world. It is plain that machines that are meeting all the requirements of every country must satisfactorily meet those of our readers. The new Walter A. Wood catalog describes and illustrates a very fine line of mowers, rakes, tedders, binders, harrows and cultivators. It lists the several styles and sizes in which these machines are made. Anyone in need of machines can readily determine just what he requires by reading this valuable book. As we desire that our readers be thoroly posted on the best there is in everything pertaining to their work we urge every one of them to write without delay to the Walter A. Wood Company at Hoosick Falls, N. Y., for a copy of their new illustrated catalog, also their attractive booklets. As the time is growing short we suggest your writing at once.

Another U. S. Government Endorsement for Paroid Roofing.

Uncle Sam is sending over half a million square feet of paroid roofing with other building supplies for the new homes of the Italian earthquake sufferers at Messina, Italy. Since 1898 when Uncle Sam covered a large warehouse at Havana, Cuba, with Paroid roofing, it has been a U. S. Government standard. After the Spanish-American war, Uncle Sam sent 25 carloads of Paroid to the Philippines and when he purchased the Panama Canal he covered his buildings on the Isthmus with Paroid. Paroid has been just as popular with farmers and poultrymen for many years. Its reputation merits its consideration by all who may be interested in roofing.

"Costs Less for Results than Cheaper Remedies."

Albion, Ind.
Troy Chemical Co., Binghamton, N. Y.
Gentlemen:—I purchased a bottle of Save-the-Horse, last spring, to use on a curb that had been laming a horse for nearly a year. I had used several other remedies, but they failed to work. I only used Save-the-Horse a few times when all lameness stopped and the horse has been bothered with it no more.—S. S. Stue.

Bargains in Incubators and Brooders.

I guarantee my machines to do good work, and let the buyer try them 30 days. I pay the freight to all points east of the Rockies. A postal will bring my new catalog. My business has doubled every year, and all because I am saving my customers half the cost and giving them perfect, satisfaction-giving machines. Thos. J. Collier, Manager, Wisconsin Incubator Co., Box 89, Racine, Wis.

LILLIE FARMSTEAD NOTES.

Experimenting with Lime.

For a number of years I have had a notion that an occasional application of caustic lime would be beneficial to my soil. I have never tried it because a great many of our experiment stations, our own Michigan station among the number, claim that there is no acid soil and that there is plenty of lime in most all of our soils. Yet I have had a suspicion that lime would in some way affect the crop-producing power of the land beneficially. This question has been discussed more or less, pro and con, in the agricultural papers and the idea has gotten such a firm hold upon me that I have resolved to experiment and solve the problem on my own farm.

I have accordingly purchased a carload of hydrated lime and have had it delivered. I have also purchased a lime distributor and am going to put this lime on different crops, in different proportions, this coming spring, for the simple purpose of noting whether lime has any beneficial effect or not. There is evidence going to show that lime has a marvelous effect upon sugar beets. In fact, one test as to whether lime is beneficial or not is called the beet test. If you sow caustic lime upon the soil and harrow it in, and plant beets, you will get a good deal better stand of beets than where the soil is not limed. This goes to prove that liming is beneficial, and is called the beet test. Consequently I propose to use lime pretty thoroughly on portions of the beet field and note carefully the results.

I also have some quite hard clay spots in some of my fields and, altho I have grown clover in a rotation and have used large quantities of stable manure, the past few wet years have gotten this soil in such condition that it is lumpy. Some of it is quite lumpy and I am going to apply lime pretty liberally on these clay places to see if I cannot make them more porous. All the evidences that I can find about lime goes to show that it will have this desired effect. I will know more about lime in a year from now, and I hope to be in shape to give the readers of The Farmer some results which will be of practical aid to them also.

Dr. Beal's Alfalfa Idea.

The readers of The Farmer have commented much upon the fact that I have not seemed to take a great deal of interest in the growing of alfalfa. My reason has always been that I did not like the philosophy of the crop. I have always argued that we needed a rotation of crops, a rather short rotation containing clover. I wanted clover to better the mechanical condition of the soil. I wanted clover roots to add vegetable matter and, consequently, humus to the soil and improve its physical condition. Now if you seed down an entire field to alfalfa and keep it seeded for fifteen years, getting all the clover hay you want from this field, then on the remainder of your farm you will neglect the short rotation with clover and, consequently, are liable to get the land into poor mechanical condition. Then, too, I don't believe that very many of us get all out of common red clover that we can. We don't grow it for all it's worth. We don't cut it early enough. If we cut it as early as they do alfalfa, there is hardly a year but what we could get two good crops and then have a good sod to turn down for corn the next year.

Some people are now advocating the idea of having alfalfa two years and then plowing it under and making a rotation in this way. This, now, is talking something that I can see some philosophy in. If we can rotate the alfalfa, if we can get a hardy plant that will stand our climate and will do well upon most of our soils, and keep our land seeded to this plant only two years in succession, thus making a rotation in this way, and if this plant will yield more than common red clover, then I am for alfalfa. Many people have lost considerable money in trying to get a seeding. It takes about two years to get it well enough established to get anything from the land. The most of us need all we can get from the land every year. So I have hesitated and allowed others to do the experimenting. I know of some people who are getting grand results from alfalfa, and yet people who have paid particular attention to this plant in this state declare that it is still in the experimental stage.

Dr. Beal, of M. A. C., now comes forward with a new idea with regard to al-

falfa, and one which strikes me as all right. I am going to try and put it into practice. You will all remember that just a few weeks ago Dr. Beal advised sowing alfalfa in connection with other grasses. He advised fitting the land in good shape and sowing, the last of April or first of May, 5 lbs. of alfalfa seed, one peck of orchard grass, one peck of meadow fescue, one peck of tall meadow oat grass and 2½ lbs. of timothy seed per acre, dragging it in, and also applying a liberal dressing of commercial fertilizer. If the weeds bother, clip it with a mowing machine, the cutter-bar being set high. Clip twice if necessary to overcome the weeds. Then about the last of August or first of September take the first crop. Now, if this plan of seeding will get us a good stand of alfalfa, then we can get alfalfa established without any particular loss of time, because the orchard grass, the meadow fescue, and the tall meadow oat grass and timothy will certainly grow and produce a good crop the first year. I am going to try Dr. Beal's idea upon four acres the coming spring, and have arrangements all made so that I will be able to report later to the readers of The Farmer whether this idea is practical under my conditions or not.

Another 40 Acres of Land.

Forty acres of land in the neighborhood came into the market and I purchased it, not because I wanted more land, for I already have enough and more than I have capital to farm as it should be farmed, but it hitched onto a back forty and brot this forty out to the public highway. Heretofore, I have had nothing but a private road to the back forty. I could get it at what I considered a reasonable figure, and so purchased it. It will leave the land in better shape to sell later on if it is that best to do so. This land, while gently rolling, needs considerable tile draining. I have carefully paced off the number of rods of drain that I think advisable to put in and find that it reaches the neighborhood of 800 rods. I have purchased two carloads of tile; have had them delivered and we are going to tile drain the entire forty this spring. This will put it in shape to get something out of the investment. I can't farm around water holes. It is necessary to take the water off the surface. It will take two or three years to get this forty in shape to grow profitable crops because it has been farmed on the extensive plan for quite a number of years. The former owner has grown crops upon it and drawn all the crops off. I will have to go to work and put something back into the soil.

On one portion of the forty, where oats were grown last year, they did not get a catch of clover. I am going to put this into potatoes and intend to put on 1,000 lbs. of commercial fertilizer per acre. I hope in this way not only to raise a good profitable crop of potatoes, but also to help build up the soil so that I can raise future crops profitably. I am firmly of the belief that in using commercial fertilizers on potatoes we ought to use more than the ordinary man does. The potato plant needs an excess of plant food in the soil where it can get it easily.

COLON C. LILLIE.

COW STABLE FLOOR IS TOO SMOOTH.

I would like some advice on what to do with my cow stable floors. They are made of cement and were worked down smooth with a steel trowel. They are so smooth that cows slip on them. I have tried putting on another coat of cement and roughing it, but it cracks off.

Kalamazoo Co. M. MALONEY.
I had a horse stable floor finished in this same way. It was very smooth and, even when dry, horses would slip. I overcame this largely by chipping it with a sharp-pointed bar, or iron rod. It ought to be a good steel rod and sharp. It need not necessarily be a heavy bar. It wants one that you can simply tap the floor with but it must have a sharp point. When you strike this into the floor a little chip of the cement will be broken out. By taking a little time and going over the floor carefully you can in this way roughen the floor and yet not destroy it. This is the only way I know of to overcome the difficulty.

FREE DEAFNESS CURE.

A remarkable offer by one of the leading ear specialists in this country, who will send two months' medicine free to prove his ability to cure Deafness, Head Noises and Catarrh. Address Dr. G. M. Brannaman, 102 East 12th St., Kansas City, Mo.

You know what is in the food you buy. The law gives you that protection.

Why shouldn't you know what is in your roofing so that you may be sure of your buildings' protection?

Genasco Ready Roofing

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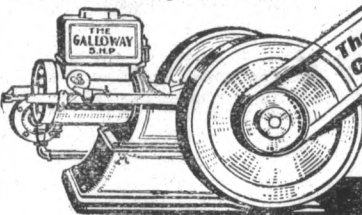
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An engine that is made so good in the factory that I will send it out anywhere in the U. S. without an expert to any inexperienced users, on 30 days' free trial, to test against any engine made of similar horse-power that sells for twice as much, and let him be the judge. Sell your poorest horse and buy a

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ing on the track; the simplest lock that works perfectly every time; patented swivel takes kinks out of rope. Why not buy a LOUDEN carrier that will be good for life. We are hay tool specialists—Free catalogue of LOUDEN Litter Carriers, Flexible Barn Door Hangers and other labor saving hardware specialties will show you why. Free Booklet. "Fitting up Barns."

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Fertilizers That Give Results

WE WANT AN AGENT For our Fertilizer in every neighborhood in Michigan.

We will ship to responsible parties on a consignment contract; that is, the agent only pays for what he sells. We will take farmers' notes for pay.

Our prices are right, our goods are extra. Write for prices and terms.

THE CINCINNATI PHOSPHATE CO., Station P, Cincinnati, Ohio.

THE BUSINESS END OF FARMING.

We often hear the expression that farming is a business and should be run on business principles, and we often hear of city men with a good business training but who have a love for farm life and the energy to apply themselves and go slow until they learn the details of the work; we often hear of such men succeeding on a farm while their neighbors who have lived on a farm all their life have never seemed to get along like their less experienced city neighbor. I do not say this is the rule, but a very common exception.

If we look for the cause of this success of the city bred man we will generally find it is due, (1) to a better systematization of his business so little energy is wasted, (2) a better system of farm accounts, (3) and a better knowledge of where and how to buy and sell.

Now, if the country farmer who has the practical farm knowledge would supplement this with the above knowledge he would be far better equipped than his city farmer neighbor.

Let us take up these reasons separately for a few moments. A proper systematization of the business, thereby eliminating many losses and wastes, would work wonders for some farmers. If we will study the plan of carrying on the affairs of an up-to-date factory, retail establishment, or bank we will see what I mean. Everything has its time and method; every motion almost is timed and experts are continually studying to see if it is not possible to do the same thing with less motions or do it a little better some other way. If we will study our method of doing the chores, for example, and strive to save time and labor in doing them just as well or better, we can probably save considerable time and labor in doing this one thing. It may be necessary to change the stabling or equipment somewhat but if we can figure out a profit by so doing we should not consider it all expense. In laying out our work or that of our men for the day or week, each operation should fit into the next one so as to save all the time possible in making the change. If there are several jobs to do in different fields we can plan to do them with the least driving back and forth, and can so time them that we will be ready to unite in doing another if necessary. We can also plan on taking everything that will likely be needed along with us and save possible trips back to the barn. I mention just a few of the things to plan on by way of illustration how all these operations can be planned out ahead and everything got in readiness for them, then when a job is ready the tools are ready, the men are ready, we go at it without losing time and are convenient and ready for the next one at once. The hardest factor to figure on in planning farm work is the weather, but with the telephone and newspaper giving the weather reports every day we are beginning to compute the weather for a day or two ahead as a known factor in our calculations.

As for a better system of farm accounts, I need say but little here. We all know that the majority of farmers do not carry this advice out as far as they should, as they think it takes too much time and bother. Now if they will stop to compute the time and bother a factory or mercantile business is put to keep an accurate account of its business we would think that the few minutes needed every day for a farmer to attend to his accounts, very insignificant. Then observe that those enterprises that do not "bother" with a system of accounts do not know where their profit lies or whether there is any, get careless of expenditures, and probably go to the wall sooner or later. It has often been said that farming is the only occupation that is prosperous enough to stand such lax methods. The time has been when the farmer who weighed the food fed to each steer, computed its cost, weighed the steer weekly, and sold the animal when his gain ceased to return a profit, would be scoffed at—now he is looked up to. By this operation he has learned more of the principles of feeding than would be possible by spending twice the time studying about it from books, and he also gets the knowledge of where the profits and losses of the business lie, which knowledge is necessary to successfully carry on an enterprise on a conservative basis.

In the same way he can weigh and test the milk from each cow and determine how much profit she is returning above her feed, and incidentally whether he is feeding her properly or

not. He can keep a record of the expense and labor put upon such a crop and each field and determine whether in a series of years this crop is paying him as well as it should or as well as some other branches of his work. When this is determined to a certainty he can so adjust his business as to engage more extensively in the branches that pay best and drop those that do not return a profit.

Still another branch of business training valuable on the farm is a knowledge of where and how and when to buy and sell. This problem continues to become more and more complicated as the organizations of middlemen, and often of manufacturers or consumers, become more numerous and stronger. Competition is well nigh eliminated along many lines of the purchase of farm products and sale of farm machinery. The farmer may think there is competition, but it is only so in appearance and the profits are pooled by the middlemen. All this complicated machinery of the distribution of farm products and of things needed on the farm requires considerable study by the farmer if he is to get his just part of the products of his labor or pay a reasonable price for what he needs to carry on his farm work. The more familiar he is with this machinery the better he is fitted to cope with it, and the more he associates with his fellow farmers in securing the same object honorably the better success will he have. Farming is something more than mere physical labor, it must be sandwiched with knowledge, the application of business principles. When this is done the vocation will not only be more remunerative but it will take on a new aspect and make farm life a pleasure rather than drudgery.

Calhoun Co.

S. B. H.

FERTILIZER FORMULA FOR BEANS.

What mixture or formula of fertilizer would we want to use on beans? Clay loam fall plowed, was in corn last season, clover sod, no manure.

Tuscola Co.

C. E. H.

Beans are a leguminous plant and are supposed to get part of their nitrogen from the atmosphere, consequently, it would not be necessary to have a fertilizer contain as much nitrogen as it would to grow wheat. That is, the formula would not contain as large a proportion of nitrogen. I would therefore recommend a formula containing something like 1 per cent ammonia, 8 per cent phosphoric acid and 4 to 5 per cent of potash. This would make an excellent bean fertilizer. Some firms put out a special bean fertilizer that contains 1 per cent ammonia, 8 per cent phosphoric acid and 2 per cent potash, and if the beans are put on a clay soil, this probably contains a sufficient amount of potash. On a sandy soil, however, I should prefer a fertilizer containing four or five per cent of potash. I would recommend sowing the fertilizer on broadcast before the beans are planted and not putting it all right in the drill with the beans. The fertilizer ought to be put on earlier than you plant beans. If you wait and put on fertilizer as late as one ordinarily plants beans, if the season happens to be a little bit dry, you may not get any benefit from the fertilizer at all, while if you put on the fertilizer earlier in the season before it is time to plant beans and work it into the soil, it will invariably give results. Many people make a mistake in not putting on their fertilizer until late in the season after the spring rains are over with and the dry hot season has commenced. There is not moisture enough after that to properly dissolve the fertilizer so that it can be used as a plant food.

COLON C. LILLIE.

World's Champion Corn Grower.

The breeding of seed corn has now reached such a high plane of perfection that it requires a man of unusual experience, judgment and ability to produce prize winners. Mr. Overstreet, at the Omaha Corn Show, not only won the first prize for the single ear but also the first in best exhibit of 20 ears and first, in best of 60 ears of corn. In addition to these three prizes he won several others in different classes. The above three being of the nature of sweepstakes open to any exhibitor. While there are many elements entering into the growing of corn of this class. Mr. Overstreet believes that special attention should be paid to the manner of planting, particularly as to the accuracy of drop. He says: "An accurate drop is most important. The Deere No. 9 planter is the only planter I ever owned that I can plant my corn and get exactly any kind of a stand I want." The Deere No. 9 planter used by Mr. Overstreet, is manufactured by Deere & Mansur Company, Moline, Illinois. Send for their free catalog.



Why B. P. S. Is More Economical Than Hand-Mixed Paint.

When you take your wheat to the miller you know that the finer he grinds it the better the flour will be. Just so with paint.

B. P. S. Paint is as carefully mixed as a painter mixes lead and oil, but in addition is ground through large stone mills, so that the lead, the zinc and the linseed oil will spread over the largest possible surface per gallon.

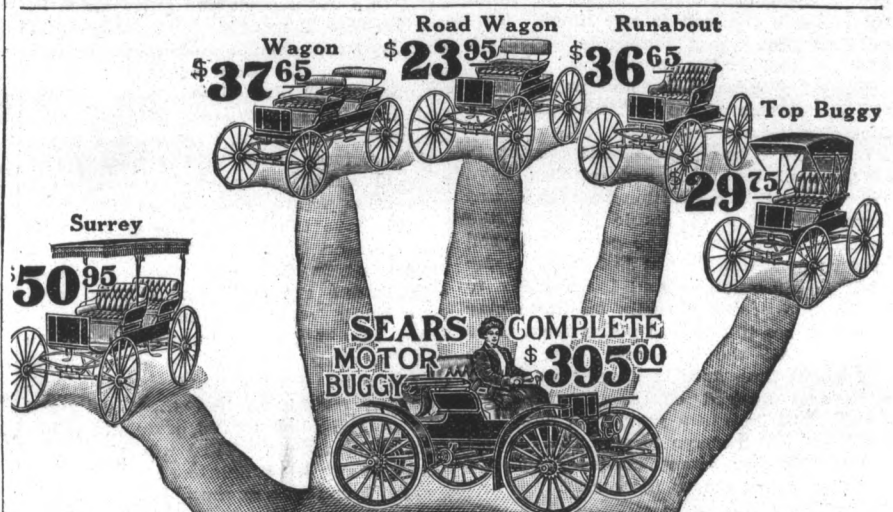
Even the color pigments are ground right with the paint. This is why you can paint your house with three to five gallons less of B. P. S. than lead and oil hand-mixed.



THE PATTERSON-SARGENT COMPANY,

GENERAL OFFICES AND FACTORY: CLEVELAND, OHIO

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Our Sears Motor Buggy, complete and ready to run, for \$395.00—all you need is gasoline. The best, simplest and most practical motor buggy. For \$395.00 we ship the Sears Motor Buggy complete with top, lamps, fenders, roller bearing axles and rubber tires, all ready to run.

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Save Time and Freight Charges

as we ship buggies direct to you from warehouses in Kansas City, Mo.; Wichita, Kan.; St. Paul, Minn.; Fargo, N. D.; St. Louis, Mo.; Omaha, Neb.; Milwaukee, Wis.; Grand Rapids, Mich.; Columbus, Ohio; Pittsburg, Penn.; Buffalo, N. Y.; Albany, N. Y., and Evansville, Ind. Our new Vehicle Catalogue explains all about our latest warehouse proposition.

Ask for Catalogue No. 429C Tell us whether you are interested in Buggies, Farm Wagons, Pony Vehicles or Motor Buggies.

BETTER THAN "FIRSTS"

There are, what the rubber boot maker calls, "firsts and seconds." Formerly, "firsts" were the best that could be made, and "seconds" were "firsts" with flaws in them. Nowadays, "firsts" only mean, best workmanship—but not best rubber. Price competition started the use of remelted "old junk" rubber. "BUFFALO BRAND" rubber boots are made only of lively pure Para rubber—that's why they wear better and longer than others. Therefore, the best workmanship with the best (Para) rubber has made Buffalo Brand known as "Better than Firsts." Look for yellow label. Insist on your dealer telling you all he knows about these rubber boots—INSIST.

W. H. WALKER & CO., 77-83 So. Pearl St., Buffalo, N. Y.

AGENTS WANTED to sell a full line of high class Fertilizers

We offer the best goods for the lowest prices and most reasonable terms. We also sell NITRATE OF SODA, ACID PHOSPHATE, SULPHATE and MURIATE of POTASH, AGRICULTURAL LIME.

Write for Prices and Terms.

THE BUFFALO FERTILIZER CO., Sta. A, BUFFALO, N. Y.

The New Way AIR-COOLED ENGINE

Michigan Farmer Says: "Grows Better With Use."

Eaton Rapids, Mich., Jan. 18th, 1909.

Gentlemen:—I want to tell you what I have done with my 3 1/2 H. P. "New Way" Air-Cooled Engine. I have sawed 25 1/2 cords of wood in 4 1/2 hours, and ground 27 bushels of feed in one hour, corn and oats mixed. My engine seems to develop more power than it did a year ago. Yours truly,

Ask the Man Who Owns One. A. W. NAYLOR.

Write us for Catalogue C. The New Way Motor Company LANSING, MICHIGAN, U.S.A.

GUARANTEED

FOR ALL WORK.

7 ASH STREET.

AT THE CLOSE OF SUGARING.

Most of the hints to sugar makers are in regard to getting ready for sugaring, or the carrying on of the work. There is something to be said regarding the closing up of the season. It often happens that the end of sugaring and the beginning of spring work seem to overlap. In the haste to get into the fields the final work in the sugar bush is left undone, awaiting a slack time. Buckets are either not gathered at all or are collected hastily and packed away without washing, nails and spouts are not gathered, wood for next year is not cut and put under cover.

Now, just so surely, here as elsewhere, a stitch in time saves nine. Get in extra help if necessary, but finish the sugaring methodically and in good order before leaving it for something else. Buckets and holders, particularly those made of wood that have contained sap for a month, will have a coating of slimy substance upon them along at the last when the days are warm. If put away unwashed this will sour and dry on. Next spring when wanted it will take a deal of scrubbing to put them in good condition; more scrubbing than they often get, for the beginning of sugaring is often a hurried season, lest the first run be lost. If any of the last year's accumulation remain it soon sours the buckets and impairs the flavor of the sugar. A panful of boiling water, a pail of hardwood ashes and a stiff brushbroom make a good outfit for cleaning buckets. Put in a handful of ashes, a big dipperful of boiling water, scrub briskly with the broom, around and around, rinse clean in boiling water outside and in by turning over and over in a kettle of boiling water, turn to dry and take the next bucket. Next spring all they will need is rinsing to take the dust off and they will be sweet and clean. If spouts and nails are left out, the spouts rust and many of both are lost.

Nothing is more essential to the making of good sugar than plenty of good, dry fuel. Before leaving the camp for the season see that enough fuel is cut and stored under cover to last thru the next season. Put all sugar tools in a dry place and close up the camp, then one can tackle the spring's work with a clear conscience and give his whole thot to the task.

There is considerable saving in the longer length of time that sugar tools will last when cared for in this way. An expensive evaporator left on the arch in the exact condition in which it was last used, will not last as long by several years as it will when thoroly cleaned. Tin buckets rust if left uncared for, wooden ones fall down, as do holders, tubs and pails. A first-class article that will bring the top price cannot be made unless the utensils are absolutely clean and free from rust, and this they cannot be unless cared for at the proper time.

Vermont.

H. L. HUNT.

ELM LUMBER FOR LATH AND PLASTERED SILO.

I am thinking of building a silo 12x30 ft. and want to know whether elm lumber will answer to build a lath and plastered silo. Will elm answer for lath inside of silo? If so, how thick and how wide should the lath be, using elm for studding, and buying siding for outside; or would it be better to sell the elm lumber for \$20 a thousand and buy a readymade stave silo?

Calhoun Co.

L. W. CROSS.

If you will put up your frame work and lath the silo on the inside and leave it until the elm lumber is pretty well seasoned out, I do not think you will have any trouble caused from the elm warping. Otherwise, if it was plastered onto the green elm, the elm might warp sufficiently to crack the plaster. If your elm lumber is worth \$20 a thousand, it would be just as cheap to sell this elm lumber and buy hemlock lumber to make the lath and plastered silo, as it would be to build it of elm. I am of the opinion that a lath and plastered silo properly constructed is a better silo than a stave silo, and that where one understands how to build it, it could be built a little bit cheaper than a stave silo; but on the other hand a stave silo comes all ready to put up. It only takes a few days to put it up and it is a serviceable and economical silo. Whether it would pay to sell this lumber and buy the stave silo is a question that I would rather not give an opinion upon because it would be a matter of judgment.

C. C. L.

We received the paper and premium this morning and am very much pleased with them.—R. Ousnamer, Leonard, Mich.

The Verdict of Millions of Farmers

YOU might not accept one neighbor's verdict as to the worth of a harvesting machine. You might feel some doubt as to the correctness of the opinion of three or four farmers.

If half a dozen farmers—neighbors whom you know—said this or that machine was the best machine—that it did the work right—that it saved money and labor and gave them all their crop—you would be likely to believe them.

There can be no reason to question the verdict of millions of farmers—practical men like yourself—millions of farmers all over America—all over the world, wherever grain or grass are grown—who have given the real test to harvesting and haying machines, and have declared one line the best.

THE INTERNATIONAL LINE

| | | |
|----------|-----------|---------|
| Champion | McCormick | Osborne |
| Deering | Milwaukee | Plano |

The importance of this verdict is apparent when we stop to consider that over 200 kinds of harvesters—200 different makes—with different names—have been placed on the market during the last half century—that of these 200 not more than ten remain in any favor—and that of these few, the six tried and true makes are far and away, almost immeasurably, in the lead in the number of machines being used.

Could there be greater proof?

Could it be possible that through half a century of testing, of actual work in the fields everywhere and under all kinds of conditions—millions of farmers could be wrong in their verdict?

These millions of men had no prejudices. They had only one purpose. They had crops to be harvested—they demanded machines that would harvest all the crop—with least loss of time—least delay through accidents—least strain on their own strength and their horses—machines that would last and do the very best work season after season, year in and year out.

It was through no favor—no prejudice—that these millions of men came to know that there were six machines which fulfilled their demands: Champion, McCormick, Deering, Osborne, Milwaukee and Plano.

Now, since this is the verdict of the vast majority of farmers, is there any reason why you should experiment? Any reason why you should sacrifice part of your crop, part of your time, part of your strength—all of which is money—trying to find another machine as good as these?

It is the time NOW to get ready for

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, U. S. A.

(Incorporated)

this year's harvest. If it seems too early just call to your mind all the work that is to be done before harvest. Very soon that work will be keeping you too busy to allow time for other things.

So get ready for the harvest now. Don't wait until the last minute—select your new machines now. Have them on the farm ready for work when the grain and grass are ripe—select machines you can depend on—machines the farmers of the world have found to be right—right in design—right in material—right in workmanship.

You can't afford to experiment—You can't afford to take any unnecessary risk—You can't afford to assume any unnecessary responsibility. Why not profit by the experience of others who reap all their harvests and all the profits with one of the six leading lines of machines?

When you go into your harvest field you want to cut your grain without any interruption or unnecessary delays, for when your wheat is ripe, any time that is lost means the loss of money—frequently the loss of a large portion of the crop.

If you have one of the six leading machines, you will have no occasion to worry. Even if the horses should become frightened and run away with the machine and break it, you could still save your crop, because the extra parts that would be needed to repair the machine can be secured from a nearby dealer, who always carries a full stock of repair parts.

Then, too, when you buy one of these machines you buy one in which the materials are right; the workmanship is right; the principle of construction is right; and each machine before being shipped out is tested and retested under far more trying conditions than will ever be encountered in the harvest field.

In view of the foregoing, we suggest that you make the right start by purchasing the right machine.

Then you will be ready for a quick harvest, an easy harvest, a full-value harvest.

Write for a catalogue of whichever of our six dependable, durable machines you want. And remember—this is important—that if accidents should by chance occur you can always get the needed repairs near at hand, without delay—repairs that fit.

International agents sell Champion, Deering, McCormick, Milwaukee, Osborne, Plano and International binder twine, made from high-grade pure sisal and manila fibres—the best raw materials—made for best service.

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any wagon. It is a combination portable, stationary or traction engine. 1 and 3 H.-P. Air Cooled Pumping Engines—Centrifugal and Power Pumps. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR 56th YEAR.

UNICORN DAIRY RATION

a new feed in Ready to Feed Form that every Farmer and Stock Raiser, should know all about. Robert M. Taylor, Towson, Md., says his milk output increased 25 gallons daily after feeding Unicorn. You can increase yours. Send for book, prices, etc. Write, CHAPIN & CO., Inc., Milwaukee, Wis.

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NILES, OHIO.

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LIVE STOCK

BETTER HORSES FOR MICHIGAN.

Address of Dr. L. M. Hurt, of M. A. C. at the State Round-Up Institute at Mt. Pleasant.

The horse-breeding industry of Michigan is not quite where many of us would like to see it. Statistics collected by the Bureau of Statistics of the Department of Agriculture at Washington show us to occupy ninth place in the list of horse-producing states, both in number and value of animals, with an average for all ages in the neighborhood of \$89.00 per head. It is true that this is within \$4.00 of the average for the United States, but there is but little satisfaction in dwelling upon that fact. The point is here. Michigan should be a good horse state. She should be among the leaders. We have the hay, abundant pasture, good quality of grain, and while climatic conditions are somewhat rigorous as compared with the states bordering us on the south, they are only such conditions as will insure ruggedness of constitution in animals well prepared by the means within our power to protect them at critical periods. The need in most localities is more and better horses. You all know that if you had them to sell that they would be eagerly bought and I may offer you some grain of encouragement when I say that the market will probably be good for a great many years. The experience of the horse market during the recent crisis should lend itself strongly towards encouraging the breeding of good horses, for of all industries represented in our leading centers of business as well as in rural communities the horse business suffered the least. For those producing pure-breds the outlook is even brighter for there are many reasons for leading me to believe that the crying need for pure-breds will not be satisfied in the present ensuing decade. Take for example, the Percheron stud book entries of pure-bred colts and fillies for the past year. I believe that I can safely say that if all the pure-bred colts of that breed produced last year were shipped to Michigan, that we would have scarcely one for each township in one-half of the state. I mention this breed because the number of its registration is larger than of the other breeds, so that if we could have all the pure-bred colts of the draft breeds shipped to Michigan, we might have one for each township to use as a breeding animal. The other states would have to wait some time before we would be in a position to supply them with pure-breds for their use in stud. What of the imported animals you ask. I will answer by saying that if we distributed them by townships again, we would have enough, if all were alive that have been imported up to the present time, to supply two states the size of Iowa, and no more.

Is there any danger then, do you think, of the bottom dropping out of the horse business again under anywhere near a normal trend of events?

While I have thus far mentioned only the draft breeds, I do not wish the impression to go out that there is any more risk in breeding the lighter breeds. I firmly believe that the breeder of light horses of whatever breed, is proceeding along the right path, providing always however, that he is producing good representatives of the breed. Allow me to say at this point, too, that there is no best breed. If there were, we would all be patronizing that breed and there would soon be but the one breed. American markets will continue to utilize large numbers of animals from all our breeds, because they each have peculiar characteristics which fit them for some particular line of usefulness and which will in consequence ensure their popularity among certain classes for all time.

No doubt you all have a preference among the breeds and I will not question your preference in the least so long as you are breeding along lines which ensure uniform results. This one point I would emphasize especially among those who are not so fortunate as to be producing pure-breds, but who are trying to build up their farm stock or are breeding merely for market. There is no feature which draws so strongly as uniformity of one's offerings. Uniformity bespeaks the intention of the owner in his breeding practice, and to breed aimlessly is almost, if not quite as bad as not to breed at all. As I said before, you probably all have a preference and

you should as far as possible breed along the lines which lead to a realization of that preference. You will take much more interest in your operations and in consequence will get much better results. You should, wherever possible, study market requirements with a view to anticipating the wants of the market and be able to furnish that class of animals which will bring the best returns. I may say that at the present time the producer of draft horses for market is getting over 10c per pound for pretty ordinary kind of horses. I wonder if anyone in the cattle, sheep, or hog business is doing any better for the feed and care required for two or three years. This is making the prime steer compare with the ordinary gelding, which is manifestly unfair to the steer, since the heaviest drafters and best coaches, and neatest and fastest drivers are bringing better than 15c per pound. That is putting it upon rather a clumsy scale, but I believe you get my point.

Let us see now about the breeding of the farm horse. I am sure that in general the farm horse has less to boast of along this line than other stock upon the farms of Michigan. Perhaps because the fact just mentioned has not yet been presented strongly enough to the owners. In selecting a sire to use upon farm mares, we should be careful not to depart too far from the type which they approach in their conformation. While I believe that it is necessary to establish uniformity among one's horses, this uniformity cannot be reached by one cross or sometimes two, but should be borne in mind, like hygiene, as a thing to strive for rather than to be possessed. There are some mares that could not or should not be mated to the same horse. Breeding small mares to large horses, crossing apparent breed types, oftentimes opposite in character, breeding mares noticeably weak in certain parts to stallion likewise weak, many more common mistakes in everyday breeding practice, all tend to prevent any chance of uniformity. Each colt from such a cross is an accident and two alike are a happenstance. Lack of proportion is the worst result, lack of type is less important, but not to be overlooked. How much better it would be to study our mares and decide what should be the kind of horse to use with regard to her weight, apparent breed, conformation, disposition and energy.

The result of such breeding is not accidental and the sometimes disappointing, the final result of the process is much more desirable and on the whole more profitable than any system which is largely hap-hazard. It is the misfit that drags the market, never the horses with class or type. Were we nearly as careful about selecting a sire for our colts as we should be, the class of marketable animals leaving this state in three years would be considerably different than those now selling at \$120 to \$200 per head.

Laws are in effect in five of our leading states tending to control the service of stallions in regards to posting their breeding and soundness, and other states including our own, will probably soon be in possession of similar laws. But the horse breeding industry is not to be made by laws. It is in the hands of individuals and these individual breeders can make or unmake the standards. We can well be proud of our English cousins who have without any government supervision of breeding policies whatever, except the influence imparted them thru the show rings, built up some of the best breeds of horses that have ever stepped upon our soil. They have attained their proud position by a more or less concerted action among individual breeders, prompted by certain common ideals such as we have, all of us, in this country. They deserve, therefore, much more credit, to my mind, than those other European countries in which strict rules are in practice governing breeding operations, not only of horses, but of all classes of live stock.

Let us all be sure that we are carrying before us a profitable ideal type and that we are building toward that type along the most logical, if not seemingly, the quickest methods, and if the time is not quite exhausted, I would like to say a word more about pure-breds. In my judgment, you will all consult your own interests by breeding to pure-bred stallions, being first sure that the proper individuality is behind the pedigree offered. Too many horses are now being sold with the same qualifications as beef cattle, viz., that they weigh a ton. Individuality cannot be hidden from the true

horseman by excessive covering, and your selection of individuality and pedigree should, on the whole, be equally careful. The pure-bred is much more likely to stamp his progeny with his characteristics than the high grade, and this very fact makes it all the more essential that his individuality be desirable, otherwise the chances of stamping undesirable characteristics upon his progeny are the more probable and the more grave. There is no kind of stallion doing any more damage in America today than the pure-bred scrub, nor is there any horse doing so much good as the strong breeding pure-breds whose get are making up the popular market classes. The grade horse, however, is seriously limited in his usefulness and by judicious selection of our breeding animals, and careful adherence to a desirable breeding policy as regards market or breed type, his usefulness will become more and more limited until finally he will have to join the procession to the stock car billed for work, as he should have been when he reached maturity.

Let us adapt a new motto at this Round-Up Institute. More and better horses for Michigan, and by following the lines of breeding which have been laid down by the experience of countries which have excelled in horse production, build up in the state of Michigan, the kind of horses that the world has use for at all times and is willing to pay for at top prices.

The production of prize-winning or money-getting stock is not, as is popularly believed to be a field of the horse business restricted to the wealthy breeders, but tends to become more and more the business of the small breeder, the average farmer. While some may believe that horses which will bring a satisfactory figure upon the market are too valuable to keep upon the place for workers, this statement is becoming less commonly heard. As the price of land advances with the price of almost everything else keeping pace, we soon find that to make money upon our horses, we cannot keep them for work alone since horse motor power upon the average farm is not cheap power and to get from them a fair return, we must have marketable colts.

From this frame of mind it is an easy step to the appreciation of the fact that these marketable colts command prices directly proportionate to the degree with which they are capable of fulfilling certain market classes; that these classes are represented in highest degree by animals approaching one of the popular breeds now in service that to produce animals for such classes requires the best breeding stock which is obtainable, by selection, building up and getting rid of the culls and old stock from the farm, retaining those which the horse buyers wish to purchase for breeding animals and finally at the earliest possible date, add a pure-bred or a pair of them to the breeding herd and watch the increase in receipts from your operations.


It would probably be ill-advised, if not impossible for all to go into the business of producing pure-breds, since the risk which is always present in breeding operations is made greater with the amount of money involved, and the horse breeding business is a science and art that one should be quite familiar with before entering into too large operations. While the care of breeding animals may be summed up into a short chapter of many good works on the subject, yet each paragraph of the chapter represents a great amount of experience, a part of which, at least, must be passed thru by each breeder of live stock.

Will Have Modern Office Building.

There is now being erected and rapidly approaching completion, a fine office building on Exchange avenue, Union Stock Yards, Chicago, just east of the Main Exchange Building, which, when completed, is to be used for office purposes by the Union Stock Yards Co., and Clay, Robinson & Co. This building is of brick and steel construction, three stories, strictly fire-proof, and will cover an area of 70x85 feet. The building fronts on Exchange avenue and will afford commodious quarters for the offices of the two companies. It represents a cost of upwards of \$25,000. The entire third floor will be occupied by Clay, Robinson & Co., and in addition they will retain a large part of their present quarters in the main Exchange Building. New and enlarged quarters have been rendered necessary by the firm's steadily increasing business. The new offices will be equipped with everything that will facilitate the transaction of business.

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WHITE SCOURS AMONG INFANT LAMBS.

The lambing season is generally accompanied with more or less serious trouble for the flock owner. The ewes may have received excellent care during the entire pregnant period and yet when the young lambs begin to put in an appearance and until they are several weeks of age they are frequent victims of many common ailments. In early life lambs seem more susceptible to attacks of certain diseases than later. As a general thing the diseases most prevalent among infant lambs are confined to the digestive system, which part of the body is so low in vitality and difficult to administer special treatment.

Among the common diseases attacking lambs during the first few weeks of age possibly none causes higher mortality than "white scours." This disease, while more prevalent among some flocks than others, rarely appears in the form of an epidemic unless there has been grave mistakes made in feeding. It sometimes occurs that the flock has been fed upon food that injures the quality of milk supplied the young lambs and a general out-break of white scours appears. Instances of this nature are not rare and because of this state of affairs some flock owners carry the impression that the disease is contagious. While we are not absolutely certain regarding the communicable nature of this common ailment of young lambs we have every reason to feel that attacks are invariably traceable to abnormal conditions due largely to mismanagement.

White scours of lambs is more the manifestation of an existing condition of the digestive organs in which the food consumed is not properly digested and is discharged, resulting in an irritation of the bowels. Nature intended the function of the fourth stomach of the lamb to curdle the milk to a certain degree to facilitate digestion, but it is an easy matter to overdo the curdling process in case the milk is excessively nutritious and produce abnormal conditions which interfere with digestion. As a rule the digestive system of infant lambs is extremely low in vitality and any abrupt change in the quality of food consumed immediately sets up irritation which gradually affects the process of digestion. It is, therefore, very important in handling the ewe flock during the early life of the young lambs that the food supplied be of a uniform quality and not excessively high in nutritious elements.

It is a very common practice among flock owners who desire to encourage their young lambs to make rapid growth to gradually increase the daily ration by feeding an additional amount of highly concentrated feed, such as oil-meal. Any change in the ration supplied the ewes must sooner or later influence the quality of milk produced. Not only is the quality affected by the change of feed, but the quantity as well. Infant lambs, like all animals which are under a process of rapid development, become very hungry between meals and when the time comes to take up the ration with more food than can be easily and properly digested. Every time the lamb repeats this process of overloading, the stomach becomes overworked and gradually weakens until a part of each ration consumed passed on thru the digestive system without being properly acted upon by the different fluids. It is self-apparent that a diseased condition of the entire system must sooner or later result.

Few flock owners fully realize that at weaning time the foundation is laid for many cases of white scours among their infant lambs the following season. At weaning time many a heavy milking ewe is separated from her offspring while producing a large overflow of milk. What becomes of this supply that abruptly accumulated in the milk glands of the ewe's udder? It is safe to say that a large portion of this accumulated milk must undergo a form of decomposition and gradually be cast off as waste products of the system. While this process is going on the milk glands are badly congested from which it is very doubtful if they ever fully recover. When the ewes come fresh at lambing time on account of the result of the congested condition of the milk glands they fail to perform their natural function and consequently allow a low quality of digestible milk to pass that, when taken into the stomach of the lamb, sets up irritation that produces a derangement of the entire digestive system. This common cause of white scours among lambs

can be remedied by flock owners by directing more attention to the ewe flock at weaning time.

Any treatment administered to infant lambs to check an attack of white scours must be of a very delicate nature as the digestive system of the young lamb is very sensitive and immediately resents abuse. I have never had very good success in treating infant lambs for white scours. In my several years' experience with handling sheep I am fully convinced that it is far more prudent to remove the influences that bring on this trouble rather than attempt to effect a cure after the disease has once got a foothold. The first step advisable is to reduce the feed to a normal ration that is being supplied the ewe. The important thing to do first in treating the infant lamb is to dissolve the curdled matter in the stomach and empty the intestines. For this purpose I have given linseed oil, 1 teaspoonful, and 5 drops of essence of ginger. The dose should be repeated in four hours if the bowels remain unaffected.

Shiawassee Co. LEO C. REYNOLDS.

A FEW WORDS ABOUT HOGS.

There is nothing on the premises of the general farmer that will pay him a better income for time and money expended than his hogs. A good brood sow will any year bring in more profit for less labor than any cow on the farm. A young sow cannot always be depended upon to raise a good litter. She may not have a large litter, may not care for them well, may go wrong completely the first year, and yet prove a profitable breeder in the end. If she is of good stock, healthy and a thrifty feeder, well shaped and kind, it is worth while to keep her and give her another trial. A long bodied sow with good width across her hips and one that does not take on fat too readily is the best for a brood sow. Do not breed her until she has attained her growth. Feed her for growth rather than for fat. Skim-milk, vegetables, bran or any wheat or oat product is better than corn to make bone and muscle and this is what is wanted. Clover, either green or dry, is ideal feed for the brood sow and saves grain. She should have comfortable quarters, and room to exercise. Spring pigs are usually the most profitable because they are not so plenty as summer and fall. It is worth dollars to any man to make friends of his brood sows and it is easily done. An apple or an ear of corn handed them when looking them over, a few words kindly spoken, a few scratchings of back and head and the deed is done. The man who does this can go amongst his sows at farrowing time and they will grunt their approval of his presence and welcome his aid if it is needed.

A sow so petted is nowhere near so likely to hurt her pigs or be cross to them and as for eating them, if they have been fed clover and bran, or either one previously they will not eat their pigs. It is a lack of some needed element in their feed that causes them to do this, not a vicious disposition.

Feed sparingly for a day or two on slops and bran then give her all she will eat but not over one-third of corn. The pigs want feed that will develop bone and muscle. If skim-milk is to be had it is the best of feed for sows with pigs, combined with corn and wheat products, but they can be raised equally as well without it only at a little greater cost. Four quarts of a mixture of equal parts corn meal, oatmeal and middlings, made into a slop with water three times a day will keep a sow with a good litter of pigs doing well and the pigs growing like weeds. Wood ashes and charcoal kept within their reach are a great preventative of disease and aid to digestion. Get them into pasture on clover or alfalfa as soon as possible. The grain ration may be reduced one-half if the feed is good in the pasture. Pigs may be taken from the sow when four weeks old. Two litters a year may easily be raised and a sow that does well can profitably be kept until she is six or seven years old, as long in fact, as she brings good litters. A sow two or three years old will bring stronger, healthier pigs than a young sow.

Last year my three-year-old O. I. C. sow brot me a litter of fourteen in April, eleven of which lived, and sold at \$3.00 each when four weeks old. In September she brot me twelve more. She laid on the "titman," but she was very small anyway. The other eleven grew well and brot me \$2.00 each, a total of \$55 from her in the year. Her feed was very in-



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—at the State Fair, and in talking with her owner he said that the secret of his success was good stock and good care. It is surprising how well it pays to give farm animals a little good care.

It simply means making their quarters sweet and sanitary and ridding their bodies from lice, mites, ticks and all other vitality-consuming pests which sap the life-blood and keep them in a lousy, unthrifty condition. You can't raise the standard of your stock and raise these pests at the same time. They eat up your profits faster than you can make them.

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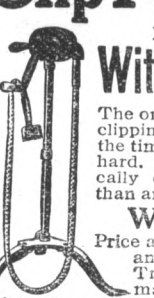
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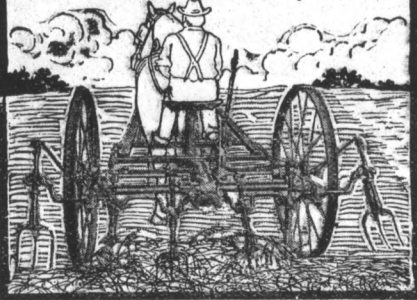
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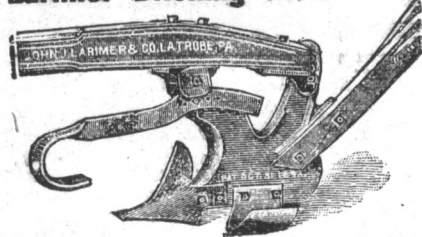
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expensive. Thru the winter she had skim-milk, table scraps and a quart or two of bran daily. She had skim-milk bran and corn meal while suckling her pigs and thru the summer she run in the orchard where she was fed some skim-milk and pumpkins. Thru the winter she run on the horse manure in the barn basement and the good she did there would more than balance the cost of her keeping.

Pigs, to be profitable, should be grown as quickly as possible and marketed as soon as they reach 200 lbs. weight. The cost of adding another 100 lbs. is much greater than that of growing the second 100 lbs. and the first 100 costs comparatively little.

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THE AMERICAN BERKSHIRE CONGRESS.

The fourth annual meeting of the American Berkshire Congress was held at Lansing, on March 16th, 17th and 18th. The first session was called to order in the Convention hall of the Hotel Downey at 10 a. m. on March 16th, and after the Berkshire men from a number of states, including New York, Ohio, Indiana, Illinois, Tennessee and Iowa, and Canada had been welcomed to the city by the mayor of Lansing and Mr. J. W. Hibbard, President of the Michigan Berkshire Association, the organization proceeded to its regular order of business.

Following this business session, the Congress met at 1:30 p. m. in the new live stock pavilion at the college. The first number on this program was "Swine Judging from the Packers' Standpoint," demonstrated with live animals, by Prof. J. J. Ferguson, of Chicago. Prof. Ferguson explained the relative value of different portions of the carcass and described the conformation which gives the largest proportion of valuable cut, pointing out defects as well as excellencies in the several specimens which he used to illustrate his lecture; and as these hogs were to be killed for illustrating purposes later on in the program, Prof. Ferguson gave his idea as to how they would kill out from their appearance on foot. Altogether, this lecture was a very valuable one from an economic standpoint to the skilled breeders who were present.

"The Promotion of Breed Interests" was the topic of an address by Prof. R. S. Shaw, Director of the Michigan Experiment Station, of which a synopsis will be given in a succeeding issue, inasmuch as this question is one of value to every breeder as well as to the champions of the Berkshire breed.

In the evening the hog men from the several states were served a banquet at the Women's building by the young lady students at the college, under the auspices of the State Board of Agriculture and the Faculty of the College. As usual in such cases, the serious talk and pleasant jests which passed over the teacups, served to promote a feeling of good fellowship between those present and to bring many compliments from noted breeders of other states to the Berkshire breeders of Michigan.

Wednesday's Session.

The morning session of March 17th was again held at Hotel Downey, being principally a business session in which the regular order was taken up. Prof. C. F. Curtiss, of Iowa, was to have delivered an address but he was unable to be present at the meeting. Altogether the business sessions were of no small importance to the Berkshire breeders and to the hog interests in general, as will be noted later on in this report.

At the Wednesday afternoon session, a talk on "Pork Judging After Being Slaughtered," was given by Prof. J. J. Ferguson, of Chicago. Prof. Ferguson used the same animals which had served to illustrate his lecture of the previous day. They had been slaughtered and hung up for the occasion. Using these carcasses to illustrate the different types, Prof. Ferguson explained how the flesh should be laid on in both the lard and the bacon type of hog, and showed some undesirable characteristics which were present in a number of specimens used to illustrate the lecture. One of the carcasses was cut up on the block to further show the percentage of the different cuts and to illustrate the quality of each as well as how they are handled and graded in the big packing houses. Altogether this lecture was a most interesting one, and taken in connection with the preceding one by Prof. Ferguson, was of great value to every hog man present, whether a breeder of Berkshire

or other breeds. Something more of this practical lecture will be given in the future, provided it can be properly illustrated so as to be thoroughly intelligible to the reader.

"Hog Cholera and its Prevention" was the subject of an interesting lecture in the bacteriological laboratory of the college, by Dr. Mills, of the Bureau of Animal Industry, at Washington, D. C., stationed in Iowa. Dr. Mills described the treatment for the prevention of hog cholera with serum obtained from immune or hyper-immunized animals; also the treatment which he designated as the serum-simultaneous treatment, which consists of the injection of serum from an immune hog into one side of an animal and disease-producing virus into the other side of the same animal simultaneously. From an extensive amount of data covering a large number of cases, Dr. Mills deduced the apparent fact that where treatment is given sufficiently soon after exposure to the disease, practically every hog may be saved from the ravages of hog cholera. He stated, however, that the treatment should be given at least two or three days before the symptoms of the disease appear, and that it takes from five to ten days for the disease to develop. Where a herd is known to have been exposed, treatment with serum alone is necessary, as the germs of the disease will be contracted in a natural way, and the same degree of immunity will be obtained; but where the disease is not known to be present, the use of the virus with the serum is necessary to secure an extended immunity.

A discussion of the cost of the treatment and the manufacture of the serum at experiment stations, followed this lecture and this was followed by an interesting demonstration by Dr. C. E. Marshall, of M. A. C. Naturally the breeders present took a universal interest in this session and many of them gave their experience with this destructive disease. All seemed enthusiastic over the treatment.

The evening session of March 17th was held in the Convention Hall of Hotel Downey, where the business organization was concluded and a "Round Table Talk" was indulged in. New officers elected for the ensuing year were: President, E. J. Barker, Thorntown, Ind.; vice-president, Prof. C. S. Plum, Columbus, Ohio; secretary, C. S. Bartlett, Pontiac, Mich.; treasurer, F. S. Springer, Springfield, Ill. The directors of the organization elected at this meeting were: Prof. C. F. Curtiss, Ames, Iowa; J. S. Henderson, Kenton, Tenn.; J. W. Hibbard, Bennington, Mich.

The official action taken by the Association or the Congress on the hog cholera proposition, is incorporated in the following resolutions, unanimously adopted:

Resolved, That whereas this Congress has thoroughly discussed the great importance of the different states taking up the matter of providing for free serum and virus for the prevention of hog cholera and

Whereas, such manufacture of the serum and virus will save much valuable property and greatly increase the amount of taxable property of the different states, therefore

Be it Resolved, That it is the sense of the American Berkshire Congress that the members of this Association present the matter to the legislature of their respective states and ask that liberal appropriations be made for the free distribution of serum and virus for the prevention of hog cholera to the hog raisers of their respective states.

Resolved that, whereas Illinois and Iowa are considering bills for the purpose of furnishing free serum and virus to be manufactured under the direction of proper state officers that it is the wish of this Congress that the state legislatures interested in the general welfare of farmers and hog raisers shall take up this matter at once and assist in stamping out this dreadful disease.

Be it further resolved that the secretary of this Association shall inform the different State Berkshire Associations of this action and ask them to present the matter to their respective state legislatures.

Resolutions were also adopted thanking the house of representatives for an invitation to attend its sessions, thanking the Michigan Berkshire Association and the Lansing Business Men's Association for the entertainment of the Congress, thanking the State Board of Agriculture and M. A. C. authorities for their hospitality, and thanking the speakers who contributed to the Congress and the hotel which afforded accommodation for a number of meetings.

The time and place of holding the next Congress was fixed as February 22-24, inclusive, at Indianapolis. As a means of securing the congress for their state

(Continued on page 365).

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VETERINARY

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Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. In acute cases, where we believe that immediate treatment will be necessary, reply will be made by return mail, free.

Warbles.—My cattle are troubled with great big worms in their back. O. B., Lansing, Mich.—Make opening larger that leads into each grub nest, squeeze them out, kill them and apply 1 part carbolic acid and 20 parts water.

Light Milker.—I have a heifer that came fresh a week ago, had a nice calf, got along nicely, but she fails to give any milk. I am feeding her warm slop and fomenting bag with warm water. R. B., Vicksburg, Mich.—You will obtain best results by light massage and stripping out milk three times a day; also give 1 dr. iodide potassium at a dose in feed night and morning.

Cracked Heel.—I have a horse that has what is commonly called scratches. What had I better apply? H. F., Cheshaning, Mich.—Clip hair off, keep his heels clean and as dry as possible. Apply equal parts iodoform, oxide of zinc and borac acid to sores twice a day.

Stifle Soreness.—I have a 10-year-old cow which has been lame in the stifle for some time. I have applied turpentine, alum and white of eggs, but this has failed to do any good. W. J., McBain, Mich.—Apply 1 part red iodide mercury, 1 part cantharides and 8 parts lard to stifle once or twice a week.

Functional Paralysis.—I have a 10-year-old cow that came fresh a week ago that has had poor control of her hind quarters for the past two weeks. When walking her hind parts swing from side to side and at times she almost falls. J. M. W., Scotts, Mich.—Give 1 dr. ground nux vomica, ½ oz. powdered rosin, ½ oz. powdered fenugreek and 1 oz. powdered ginger at a dose in feed three times a day until she recovers. Also apply equal parts turpentine, aqua ammonia, and sweet oil to back three times a week.

Loss of Appetite.—I have a ram that is very thin; he eats grain, but refuses rough food. He has been in my possession three weeks. I feed clover hay and pea straw but while others feed he stands back. He also runs at the nose. What can I do for him? M. D., Bad Axe, Mich.—Give your ram 30 drops fluid extract gentian, 30 drops fluid extract cinchona, 5 drops tincture nux vomica and 5 drops Fowler's solution at a dose as a drench or in feed three times a day until he commences to thrive.

Chronic Scours.—I have a cow that has not done well since last fall; she scours and has lost her appetite. I have another cow that is quite poor; she scours but has a good appetite. They are both fed shredded cornstalks and mixed hay. What shall I give them? F. B., Birch Run, Mich.—Give each of your cows 1 oz. powdered sulfate iron, 1 oz. ground ginger at a dose in feed three times a day until they cease to scour, then reduce the dose.

Dropsical Swelling.—I have a mare 18 years old that has always been tough and healthy; four weeks ago her left hind leg swelled, she appeared stiff in all four legs and walks as tho she were weak. For the past week flat swellings have appeared on lower part of belly. She is fed corn and hay. Her appetite seems to be good, but she has failed some in flesh. R. B. C., Ithaca, Mich.—Give ½ oz. tr. muriate iron, ½ oz. fluid extract gentian, ½ oz. fluid extract cinchona and 1 dr. fluid extract nux vomica at a dose in feed three times a day for 20 days. Also give ½ oz. powdered rosin at a dose in feed once a day for 10 days.

Indigestion.—I have a Jersey bull calf born last June, that did very well for a short time after he was weaned; since then he has been unthrifty, gradually growing thinner all the time. F. W., Standish, Mich.—If his bowels are constipated give a pint of raw linseed oil every day or two until they open. Also give 1 oz. ground gentian, 1 oz. ground ginger, ½ oz. powdered quassia and ½ dr. powdered nux vomica at a dose either in feed or as a drench two or three times a day until he begins to thrive and lay on flesh. He should be groomed twice a day.

Hernia.—I have a valuable 3-year-old Percheron mare that was ruptured while running in pasture last summer. The rupture is about the size of a small coconut on left side below the flank ribs. Would it be advisable to use such a mare for breeding purposes? I also have another mare five years old that got cut on barb wire, which caused the leg to swell and remain swollen on fore part of fetlock and hock. S. C. V., Mt. Pleasant, Mich.—Your mare might raise colts all right; besides she might work without showing any inconvenience from the rupture. Apply a little iodine ointment to swollen leg three times a week.

Pigs Not Fed Right—Lymphangitis.—I have quite a large bunch of late fall pigs which I have been just running thru the winter and waiting for spring grass to grow them. They are thin, have grown but little all winter and are now beginning to die. Their ears lop, commence to stagger and go sideways when they walk. They keep getting worse and after dumping around a few days die. Now, what is the matter and what shall I do to save the rest? My mare had lymphangitis about two months ago and recovered except the leg is still swollen from hock down. W. S. V., Elsie, Mich.—I am inclined to believe that you have failed to feed your pigs a balanced ration. In addition to their corn, feed some oats, a little oil meal and vegetables; besides,

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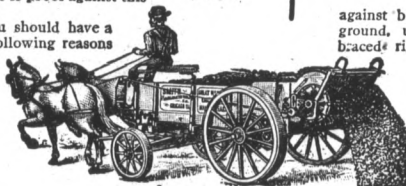
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they may be wormy. Give them some of the following compound powder in feed twice a day: Powdered sulfate iron, fenugreek, cinchona, ginger and charcoal; 1/2 teaspoonful is dose enough for each hog. Now, regarding your mare with thick leg; better bandage it in cotton, but not too tight. All counter-irritating liniments have a tendency to make a leg of this kind swell more. She should have daily exercise and be given 1 dr. iodide potassium at a dose in feed or water twice a day.

Chronic Cough.—I have a horse that has been troubled with a cough for the past two years; he has been treated by our local Vet. several times. His treatment has not helped him. I have fed him a great deal of oil tar, but it fails to help him. F. R., Montague, Mich.—Give your horse 1 dr. powdered opium, 1 dr. powdered lobelia, 2 drs. muriate ammonia at a dose in feed two or three times a day. Feed him no clover nor musty badly cured fodder of any kind. Wet his feed with lime water, which is made by adding a pound or two of lime to a bucket of water; pouring off the first water, then refill and use.

Chronic Cracked Heels.—I have a horse that has had sore heels for some time; a dry scab forms on them; have applied several different remedies which have all failed to heal them. A. B., Howard City, Mich.—Apply one part oxide zinc, one part iodoform and three parts vaseline to sores twice a day. Also give 1/2 oz. Fowler's solution at a dose in feed night and morning for 20 days; also give 1/2 oz. powdered rosin at a dose in feed once a day for 20 days. Feed some well salted bran mash and vegetables to keep the bowels open.

Coffin Joint Lameness—Ophthalmia in Calves.—My 12-year-old horse is lame in coffin joint. How shall I treat him? Also tell me what to do for sore eyes in calves? The water seems to run from their eyes very much like sap from a tree. E. J., North Bradley, Mich.—If you are sure that you have located the trouble right, blister coronet with cerate of cantharides or apply tincture iodine once a day for a few days. If you apply the cantharides an application every week will be often enough. The horse should have rest until he recovers. Blow one part calomel and three parts boracic acid into calves' eyes once a day for a few days, and be sure that they are stable in a clean place where there are no foul gases.

Spinal Meningitis.—I am anxious to know what ails my dog, we lost a valuable one, then bot a six-month-old pup that was affected very much like the other. First symptom, loss of appetite with great weakness of hind parts, stagger and appears to have poor use of himself, finally became paralyzed, then I shot him to end his misery. He was buried, the premises disinfected as well as I knew how. O. A. T., Augusta, Mich.—I am quite inclined to believe that both the old dog and pup died of spinal meningitis and this being a germ trouble both of them were perhaps subjected to the same cause; therefore, I do not believe that either one was poisoned.

Indigestion.—My 2-year-old colt is not thriving and his kidneys are not active enough. A. M. B., Portland, Mich.—Give a tablespoonful of the following compound powder at a dose two or three times a day: Powdered sulfate iron, gentian, fenugreek, ginger, sulfate of soda and charcoal equal parts by weight and they should be mixed thoroly.

Bog Spavin—Thoropin.—I have a yearling colt that has a large puff on hock, also a swelling on each side of joint where a thoropin comes. I would like to know what to apply to take off these bunnies? A. B., Emmet, Mich.—You will find it difficult to remove a bog spavin or thoropin; however, fairly good results follow blistering joint every ten days or two weeks. You had better use cerate of cantharides or any one of the blisters regularly advertised in this paper.

Chronic Thick Leg.—Kindly tell me what to do for a horse that has a swollen leg, the result of a nail puncture. The leg has been swollen for more than two years and is the size of a stove pipe. W. S. C., Homer, Mich.—You have delayed the treatment of this case far too long; therefore you had better give the horse good care and not spend any money on treatment for the results will be unsatisfactory.

Heifer Sticks Out Tongue.—I have a heifer about a year old that has a bad habit of sticking out her tongue. I am unable to state the cause of this ailment and would like to know how to prevent it? C. Y., Mancelona, Mich.—It is entirely impractical to use a spoon bit in your heifer's mouth on account of her not being able to eat while wearing it; therefore nothing can be done to overcome this habit.

Scours in Calves.—My calves that are fed warm separator milk are troubled with scours. What had I better do for them? R. B., Tallmadge, Mich.—Give your calves a teaspoonful of the following mixture: Equal parts tr. rhubarb, tr. opium, spirits camphor and tr. ginger; this medicine should be given in warm water and a dose may be given every two or three hours until the excessive bowel movements cease. It is a good plan to give a raw egg in some milk that has been boiled. If you are keeping your calves in a damp basement barn where the air is foul and there is no sunlight, move them to the south side; also heat the separator milk to a boiling point before you feed it to your calves, until they recover.

Shoulder Soreness.—My 8-year-old horse appears to be sore and stiff in both shoulders; has been troubled for the past twelve months; is worse in cold than warm weather. His appetite is good; he appears to be in good health, but it hurts him to back and when traveling does not seem to take long enough

steps. Have consulted two home Veterinarians without any good results, for they appear to be at a loss to locate his soreness. A. B. S., Chelsea, Mich.—If the fore feet are not warmer than the hind ones; if there are no rings of contraction; if the sole of foot is not too low, and he does not point, changing feet, then I am inclined to believe it is in his shoulder and not in the feet. Apply equal parts chloroform, aqua ammonia, turpentine and sweet oil to shoulders every day or two. If the trouble is in his feet or if you believe he has any foot soreness apply this liniment to coronet every day for a few days, then occasionally.

Looseness of Bowels—Feeding Cows.—I have a horse which, when exercised much, is entirely too loose in bowels; also is quality of a cow's milk changed much by giving different kinds of feed? A. L. D., Butterfield, Mich.—Perhaps you should have your horse's back teeth floated, the sharp edges taken off outside of upper and inside of lower, file away as little as possible of the tooth, but be sure and dull all sharp points that are making the cheeks or tongue sore. Also give 1/2 oz. ground gentian and 1 oz. ground ginger at a dose in feed three times a day. Feed oats and well-cured timothy and always water him before feeding him grain. The quality of a cow's milk can be slightly changed by different feeding. A fat cow, when she freshens, usually gives a better quality of milk than when she is thin and it is no doubt a fact that the same cow will give a richer quality of milk one season than another. This would seem to be either the result of food or her physical condition.

Rheumatism.—Would like to have you tell me what to do for a six-year-old mare that seems to be stiff in fore quarters, a little worse in one fore leg and much worse at one time than another. I bot her three months ago and she has shown more or less soreness ever since. J. F. C., Eldorado, Mich.—I am inclined to believe that your mare is rheumatic; however, there is perhaps some soreness in coffin joint. Dissolve camphor gum in gasoline and apply to coronets and shoulder once a day. Also give 1 dr. powdered colchicum and 1 dr. sodium salicylate at a dose in feed two or three times a day for 30 days.

Laminitis—Contracted Feet.—My neighbors and myself have profited by the advice you have given us thru the veterinary department of M. F., and now I would like to know what can be done for a mare that has been foundered, feet contracted, the skin sore and tender on back part of pastern. I would also like to know what drugs are safe to give a brood mare as a tonic? L. V., Marion, Mich.—Blister coronets lightly once a week, using cerate of cantharides or any one of the blisters that are advertised regularly in his paper. Also keep the feet moist and cool; this is best done by packing them with wet clay or white rock. There are many drugs which can be safely fed to mares in foal that have a tonic effect. Gentian, ginger quassia, cinchona and fenugreek can be mixed and give a tablespoonful at a dose in feed two or three times a day until the animal shows a more healthful condition.

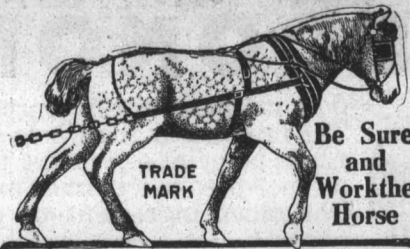
Chronic Stocking.—I recently bot a mare which has thick legs; she had two bunches on one hind leg, one on fore part of hock, the other on fore part of fetlock and these two bunches had been blistered a short time before I bot her. Was the blisters proper treatment or were they too severe? I would like to have you map out a line of treatment for her. S. G. F., Holton, Mich.—Blistering the leg was not good treatment for it generally leaves the leg thicker than before. Bandage in cotton for a few hours after every drive or day's work. Give 1 dr. potassium iodide at a dose in feed twice a day for twenty days. You should not expect to reduce only part of swelling. A horse that perspires too freely at this time of the year should be clipped.

Weak Stomach.—I have a valuable hound that is not quite right for he is apt to vomit soon after eating a good square meal. J. S., Capac, Mich.—Give 2 tablespoonfuls of black coffee, same strength for table use, three times a day, also give 1 gr. quinine at a dose three or four times daily.

Garget—Mammitis—Retention of Placenta.—I wish you would tell me what will take the swelling out of a cow's bag after she comes fresh. Also what can I give a cow to make her clean? J. J. W., Scottsville, Mich.—Foment bag with hot water and apply hot raw linseed oil; give 1 lb. doses epsom salts to open bowels; also give 1 oz. nitrate potash in feed daily for a week. Drugs will not assist much in removing the placenta; it should be taken away by hand if it does not come before 24 hours after calving. The vagina and uterus should be flushed daily for ten days with 1 part coal tar disinfectant and 50 parts tepid water; also give 1 oz. hypo-sulfite soda at a dose twice a day for a week.

Colt Has Nose Bleed.—Will you kindly give me a remedy for nose bleed and a remedy for thrush in a colt's foot. E. W., Marlette, Mich.—Very little can be done for the nose bleed unless it is caused by a polypus in nose; if so it can be removed. Apply calomel to frog daily and keep the foot clean and dry.

Pigs Have Rheumatism.—Six pigs about seven months old have rheumatism, or it acts very much like it; they have been kept in basement barn in box stall all winter; fed on milk and all the corn they would eat. Lately they seem to have lost their appetite and part control of their hind parts. They have trouble getting up. J. E. J., Walkerville, Mich.—Your pigs are showing the effect of living in a damp basement, want of proper exercise and a balanced ration. Feed some oats and oil meal, also some vegetables. Give them some lime and sulfur in their feed twice daily. They should have more exercise.



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HOLSTEIN BULLS. One 15 mo. old, A. R. O., dam, a show bull all over. One 10 mo., one 7 mo., four 3 weeks to 2 mo. old. Buy a good one, worth the money. Write quick. I want to sell every one of these before the 20th. **L. E. CONNELL, Fayette, Ohio.**

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JERSEY BULLS READY FOR SERVICE. Three young bulls ready for spring service, out of good cows with records of 400 to 500 pounds of butter in a year with only ordinary care. Also a fine lot of young calves. Write for description and prices. **COLON C. LILLIE, Coopersville, Mich.**

RED POLLED BULLS, from 6 to 15 months old, bred from good milking sows. **John Berner & Son, Grand Ledge, Michigan.**

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Pure Bates Shorthorns. Polled Durhams. A. D. DeGarmo, Highland, Mich.

HAVE A CUSTOMER for twenty yearling registered SHORTHORN BULLS. No fancy prices. **BOYDEN and FIFIELD, Sta. A, Bay City, Mich.**

DOUBLE Standard Polled Durhams for sale, two yearling bulls, a few cows and yearling heifers at farmers' prices. **S. E. Whitman, Springport, Mich.**

RED POLLED CATTLE—2 very fine bulls, 11 months old, \$50 each. Young cows and heifers at \$50 to \$75. **E. Brackett, Allegan, Michigan.**

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

GO INTO SHEEP RAISING Buy of Michigan's Largest Breeder of good sheep. **Romeyn C. Parsons, Grand Ledge, Mich.**

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HOGS.

CHOICE FALL GILTS and boar pigs. Right breeding and prices right. Also a few aged sows bred for spring farrow. **A. A. Pattullo, Deckerville, Mich.**

BERKSHIRES—Sows bred to Longfellow's Duke, and our new herd boar Prime Bacon 98611, a great son of the noted Lord Bacon, and of intense Masterpiece breeding. **Guernseys, M. B. Tukeys, B. Ply. Rocks, Pekin Ducks. Hupp Farms, Birmingham, Mich. G. C. Hupp, Mgr.**

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NORTHERN GROWN BERKSHIRES. **ROYCROFT FARM, Sidnaw, Mich.**

A DAMS BROS. IMPROVED CHESTER WHITES, Litchfield, Mich. won more premiums in '08 than any other herd in Michigan. Stock all ages for sale. Prize winning W. Orington, W. Leghorn and Buff Rock eggs, \$1 per 15. **Shorthorn bulls & heifers**

CHESTER WHITES—Fall pigs, either sex, \$12. Spring pigs \$8. Will breed gilts for September farrow for \$20. Satisfaction guaranteed. **COLON C. LILLIE, Coopersville, Mich.**

CHESTER WHITES—A few choice young sows bred for April farrow. Also fall pigs either sex. Orders booked for June delivery. **W. O. WILSON, Okemos, Mich.**

Duroc Jerseys—Boars ready for service, sows for Spring farrow. Pigs at weaning shipped c. o. d. if desired. **L. R. KUNEY, Adrian, Mich. Phone 131.**

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Duroc Jerseys—Nothing for sale at present. **CAREY U. EDMONDS, Hastings, Mich.**

Duroc Jersey of size and quality. 40 Boars ready for service. 50 sows at Farmers Prices. Satisfaction Guaranteed. **J. C. BARNEY, Coldwater, Mich.**

O. I. C. "PREMIUM STOCK." Choice Aug. boars and gilts. Extra quality and size. Glenwood Stock Farm—OPHOLT BROS., Zeeland, Michigan, R. 6. Phone 94.

O. I. C's—ALL AGES. Thirty sows bred for spring farrow. Shipped on approval. **H. H. JUMP, Munith, Mich.**

O. I. C. Spring boars all sold have a few choice gilts left to be bred for spring farrow. Satisfaction guaranteed or your money back. **A. NEWMAN, R. No. 1, Mariette, Mich.**

O. I. C. swine very prolific. My herd is headed with a grand son of Jackson, the greatest O. I. C. boar in the world, also a Grand son of Tutsey second, the world champion sow. Place your order now for spring pigs. **A. J. GORDEN, R. No. 2, Dor, Mich.**

P. C. Sows All Sold. 10 heavy, boned boars ready for service. One choice registered **RED POLL COW,** with fine bull by side. **BUFF ROCK COCKERELS** at \$1 and \$2, as long as they last. Write today for what you want. **WM. WAFFLE, Jr., Coldwater, Michigan.**

FRANCISCO FARM POLAND-CHINAS. Boars and sows all cleaned up. Am booking orders for spring pigs. **P. P. POPE, Mt. Pleasant, Mich.**

HEAVY BONED Poland China boars and young Shorthorn bulls at bargains. Send for snap-shot photos. **Robert Neve, Pierson, Mich.**

POLAND CHINAS. **WOOD & SONS, Salline, Michigan.**

POLAND CHINA GILTS—Bred for April farrow, good breeding, size and bone; fall pigs. **E. D. BISHOP, Route 38, Lake Odessa, Mich.**

Large English Yorkshires. Some splendid fall pigs of either sex at \$12 each. Also a fine lot of spring pigs at \$5 each. Will breed gilts for fall farrow at \$20. Satisfaction guaranteed. **COLON C. LILLIE, Coopersville, Mich.**

Please mention the Michigan Farmer when writing to advertisers.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

CHANGING FROM GRAIN TO GRASS.

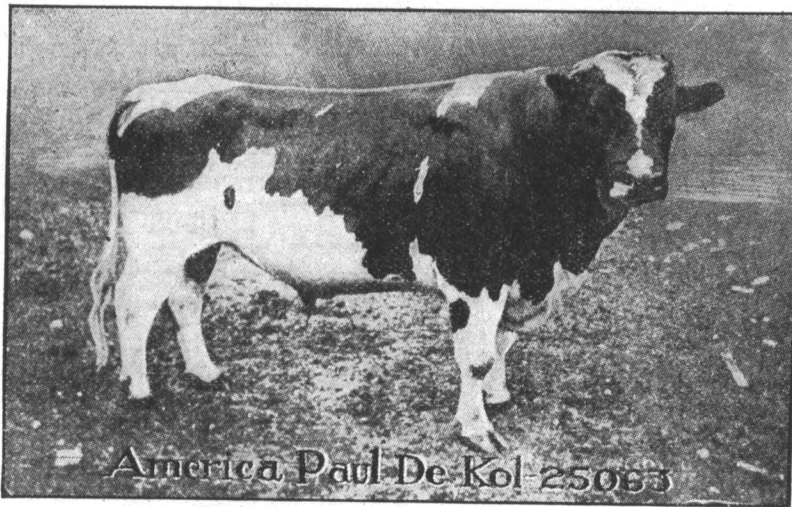
The change from a dry ration to green feed, which must be made soon, should be a very gradual one. At this time the dairy cow should be treated as an invalid rather than turned into luxuriant pasture for a whole day at the start. The careful dairyman finds it better to give his cow access to succulent pasture for not more than an hour a day the first few days. Ground feed is given in connection with the pasturage for at least 10 days or two weeks, after which many allow their cows to subsist on pasture alone. Whether it is profitable to cut off all dry feed at this time is a question, but it may at least be gradually reduced until it forms a very small part of the cow's daily ration.

If the cow has been fed heavily all winter her digestive system is in such condition that it is easily disturbed when spring comes. Her system can easily be thrown into a feverish condition, hence the necessity of care and patience in making a change of feeds. If allowed to eat heartily of pasture grasses right at the start this feverish condition will be noticed to a marked degree, and children or invalids receiving the milk from such an animal will be more or less injuriously affected by it. Of course, consumers that are in excellent physical condition will not be apt to note any bad effects from the use of products coming from a herd that has been thrown out of condition by a sudden change of feed,

taking into consideration the churn gain. This is worth a little over \$8.50, (\$8.62 to be exact), with butter at an average of 25 cents per lb. Without the separator one is losing \$8.50 every year on each cow kept. These figures are applicable to each and every cow that is kept for buttermaking purposes. One can rely upon producing an additional income of \$8.50 as a minimum, and from that to \$15 per cow each year by the use of a separator.

I remember the experience of one man to whom I sold 5 lbs. of butter every week. He used the deep-setting system and needed 5 lbs. of butter extra to supply his regular customers during that particular season. He was persuaded to give the separator a trial and thru its use not only made up the 5 lbs. but had an extra pound per week. I believe there were eight or ten cows in the herd. Another object lesson was furnished by a neighbor who kept his milk at home over Sunday. When he brot the milk for me to separate he would get an increase of about one pound in four over the gravity system. The most convincing proof is to do a churning, using the gravity system; then another churning of the same amount of milk, using the separator. The results will be the proof. One need not accept these statements blindly, but can verify them for himself by making the trial.

A separator throws all the dirt and foreign matter into the skim-milk, which is not true with any other method. It makes it possible to have the milk at once for the calves, while it is yet warm. One can send either milk or cream to the creamery. A better article of butter can be made. It saves labor and money, and no farmer keeping dairy cows can afford to get along without a separator. One



Holstein-Friesian Bull, American Paul De Kol 25063.

This is the stock bull of the well known McPherson's Herd. He is a son of Paul De Kol 14634 and has 16 A. R. O. daughters. His sire has 38 A. R. O. daughters, eight of them having records above 20 lbs., and 20 sons having 179 A. R. O. daughters.

but it is best to be on the safe side. Especially is this true, and likewise important, if one is producing milk and butter for a strictly high-class trade. Under such conditions the essentials touching the condition and health of the cows cannot be too carefully observed at this time of the year.

Minnesota.

A. D. M.

THE PRACTICAL VALUE OF A CREAM SEPARATOR.

The popular excuse for not keeping a separator in connection with the small herd is that it cannot be afforded. Many who contemplate buying a separator accept this conclusion: "Well, I would like one, but I can't afford it, this year at least." Dozens and dozens of farmers we have heard offer this excuse.

Now, it is not a question of whether one can afford to buy it, but whether one can afford to keep cows without possessing a separator. In my experience on the dairy farm I have made many actual tests of skim-milk, both that from the separator and from the various other methods of setting milk. In these the separator skim-milk averaged no more than .05 per cent of fat, while without the use of the separator it is difficult to obtain the cream without leaving at least one-half of 1 per cent (.5 per cent) of fat in the skim-milk. The richness and quality of the milk has little to do with the actual amount of fat left in the skim-milk, either from the separator or from setting.

Now this difference has a practical money value to the farmer. If the cow's yield is 6,000 lbs. of milk per year there will be a loss of 3½ lbs. of butter with the separator, and 35 lbs. without it,

can buy them on terms which give the machines time to pay for themselves. They are durable and have few parts to get out of order or broken. Every farmer owning a cow can afford a separator and make it produce a profit. There is not enough difference between the different makes of separators to influence one either for or against any one kind. It is largely a matter of personal taste and simplicity in washing.

Pennsylvania.

L. J. HAYNES.

ENSILAGE VS. ROOTS.

Why are not more root crops grown for stock feeding, asks "H. L. S., Mecosta, Mich." He comes pretty near answering it at the beginning of the second paragraph, when he mentions weeds, for weeds mean work, and when a man plans out more than he can do, something is bound to suffer.

A man on a farm that carries ten or twelve cows cannot, I think, afford to grub his life out on crops that require so much labor for so small an amount of nutriment.

If a month hand is kept, that alters the situation, but few small farms support such help.

Roots are beneficial in the same way that ensilage is, by their succulence and aid in keeping the cows in good health.

To begin with, roots mean work from start to finish. Weeding, thinning, hoeing, then weeding and hoeing a few times more. Then a heavy job gathering them, and some more work all winter lugging them out. This all contributes to their unpopularity as a stock feed.

When a home-made silo can be constructed at so small an expense, and

Suit Against Infringers of DE LAVAL Cream Separator Patents

The fact is hereby announced, for the information and caution of all whom it may concern, that suit has been begun by the DE LAVAL SEPARATOR CO. in the UNITED STATES CIRCUIT COURT against the STANDARD SEPARATOR CO. of Chicago, Milwaukee and elsewhere, for infringement of LETTERS PATENT No. 892,999 in the manufacture and sale of cream separators containing Disc covered by the claims of said letters patent.

Separators made by the said STANDARD SEPARATOR CO. have been and are being sold by various different concerns under various different names, including the SHEFFIELD CREAM SEPARATOR CO. of Chicago; BABSON BROS. of Chicago; the SIMMONS HARDWARE CO. of St. Louis, Mo.; the BLANKE & HAUK SUPPLY CO. of St. Louis, Mo., and several others.

All such separators containing such infringing Disc construction sold by any of these concerns, or anyone else, equally infringe said letters patent as if actually sold by the STANDARD SEPARATOR CO. under its own name, and all of these concerns are equally liable for such infringement.

Likewise is every USER of any such infringing separator, bought of any of these parties or anyone else, liable to the DE LAVAL COMPANY for all income or profits derived from the use thereof.

The WM. GALLOWAY CO., of Waterloo, Ia., and L. E. ASHER & CO. of Chicago, also advertise separators that are made by the STANDARD SEPARATOR CO. but no evidence has yet been obtained of their sale of machines infringing the patent in question.

The caution is again repeated that there are still other concerns infringing this and other DE LAVAL owned patents who will be held accountable in due course.

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the crops to fill it can be cultivated and harvested almost entirely with horse power and gasoline, and, when in the silo, are no more work to feed than hay, or little more, it is small trouble to answer why root crops are in disfavor. They take too much out of the man, when an article can be grown and housed by little hoe-work, that is good enough.

On the farm we bot last May, is a stave silo built of rough-sawn 2x4 spruce, with cement bottom. About all the farmer need buy who has timber, is the lugs for the hoops, the iron rods for hoops, and a few barrels of cement. I do not believe the gross expense would exceed \$15 if he erects it himself in a corner or bend in his barn, and there is no fine work about it to require a carpenter, and it keeps the contents as well as a more expensive one.

When a man milks eight to twelve cows twice a day, and raises soiling crops so as to cut out summer grain feedings, and other hoed crops to supply his table, and does the general farm work that must be done, he needs little unnecessary work at the end of a hoe handle.

In the winter when he would be lugging turnips and running them thru a root cutter, he can feed his ensilage, having a little time to read good papers like the Michigan Farmer and store up some knowledge that will help him the coming summer.

Maine.

D. J. RYHER.

SOME DETAILS IN STAVE SILO CONSTRUCTION.

I think of building a silo next summer. Have enough oak timber to furnish the staves which I think of preparing in the form of 2x4 stuff. I would like to know whether oak is good material for this purpose. Also how to join or splice the staves and how to make the doors. Am thinking of making it 12x30 ft., getting the logs cut 14 ft. long and breaking joints.

I am getting out lumber to build a barn 34x74 ft., the greater portion of which will be used for cows. An L, 22x48 ft., beginning near one end of the cow stable, will be added for use as a sheep barn. Where should I build the silo to be handiest for feeding?

Arenac Co.

R. C. RESTAINER.

Oak timber would make the very nicest kind of a silo. There is no better wood for almost any purpose than oak. The only question is, is the oak not so valuable for other purposes that it would make an expensive silo? This, of course, is reasoning that you could sell the oak lumber if you didn't use it in the silo. If you could, I do not believe that it would pay to make an oak stave silo when perhaps there is cheaper timber that you could use. This, however, is a matter for Mr. Restainer to decide for himself. He could use 2x6s for staves instead of 2x4s. There would be one trouble in making a silo out of oak 2x4s or 2x6s which you would not experience in using the soft woods like hemlock. You can make a very good serviceable silo out of hemlock by simply putting up the 2x6s, putting on the hoops and screwing them up tight. The wood, being soft, the edges of the 2x6s will bite into each other so that it will make it practically air tight. It would be a difficult matter, however, to squeeze the oak 2x4s or 2x6s sufficiently to make it tight. Of course, a purchased stave silo is tongued and grooved, which makes it better, but many good silos have been made without having the staves tongued and grooved.

You can splice the staves readily by sawing into the end of a stave with a rip saw and getting some good sheet iron pieces cut that will just fit into the opening made by the saw. Then put your stave on top of that to match. This makes a very good joint. In putting on the hoops, place a hoop very near the splice, or you can put one just below the splice and one just above, which would make it perfectly safe. As to the door, in a home-made stave silo, I would put up the silo without leaving any door in the first place. Build it up solid. Then I would go to work and cut the doors out just where I wanted them. For instance, three feet from the bottom of the silo, from the inside, I would mark off my door. Then I would take strips, something like barrel staves, and nail to the staves that I was to cut out so that they would be held together. Then go to work and saw out the door, sawing at an angle so that the opening will be the largest on the inner edge. In other words, it should be so beveled that when the door or section is cut out it cannot be put in from the outside but will have to be put in from the inside and will fit nicely. Then when you fill the silo, all you have to do is put a little tar paper

around the edges of the opening and put the door in the place from which it was cut and you will have a tight fit. The doors should be in a horizontal line and I would leave about three feet between them.

I am of the opinion that it would be better to take these 2x4s, set them up on a circular sill and make a lath and plastered silo. You could take your oak and cut it into 2x4s, and it would take only few of them compared with the staves. Set them on a circular sill, 16 inches apart, then lath them on the inside with good strong lath. The lath ought to be 5/8-inch thick so that they will not spring in between the studding. Then plaster it from top to bottom with Portland cement and good clean, sharp sand in the proportion of one of cement to two of sand. This makes an absolutely airtight silo and gives the best of satisfaction. Lath and plastered silos have been in use for years and give splendid satisfaction. On the outside you could either lath and plaster it, or you can put on clapboards, common pine clapboards. This would make a cheaper silo, and I think a better one than your oak stave silo.

With regard to the location of the silo, I would select the angle between the sheep barn and the cow stable. Then if you wanted to feed some ensilage to your sheep you wouldn't have to carry it so far as you would if you located it on the outside of the barn on the opposite side. As I understand it, you are to build this barn next summer. Now, I feel like saying to you that you are not making your cow stable wide enough. Thirty-four feet will give you too narrow feeding alleys in front of the cows to be handy, or else it will make the alley between the cows, thru which you are to drive in loading your manure, too narrow. I would build the barn 36 feet wide anyway, and if I was to build again I would make mine 37 or 38 feet

BUTTER AND CHEESE AT THE DAIRYMEN'S MEETING.

One of the regular monthly educational scoring tests was held in connection with the annual meeting of the State Dairymen's Association at Grand Rapids last month, and owing to the fact that liberal premiums were offered by the Dairymen's Association there were many more exhibits of both butter and cheese than is usual at the educational scoring contests. There were 112 samples of creamery butter, 15 samples of dairy butter and 18 cheese on exhibition. Some of the butter was mottled and some of it showed poor workmanship in other respects. Some was salty. Some tubs were scored low on account of a distinct butter color flavor, but the probability is that the butter color was not of good quality when it was used. It probably was too old or not kept at a proper temperature. The great majority of the butter, of course, showed winter flavors. Much of it showed old, stale cream flavors as this is the time of year when the cream and milk is not delivered at the factory as often as it should be and the weather being mild, the product probably was not as it ordinarily is at this season of the year.

The dairy butter, where the farmer has complete control of all conditions, showed no better, and in fact did not receive as high a score as the best creamery butter. Certainly this ought not to be laid to old stale cream, because a private dairyman has no excuse for using this kind of product in making his butter.

The criticism on the cheese was that they lacked uniformity, and at the session of the Dairymen's Association devoted to the discussion of subjects relating to cheese, that was the principal fault found with Michigan cheese, that the factories do not make cheese that are uniform. They differ. As long as Michigan cheese is put almost entirely upon a local market it doesn't make so much difference, but if we develop this industry so that we have to take a foreign market, then we will have to make a more uniform product, and there is no question but what, when that time comes, we will get the uniformity and probably not before.

The high score on creamery butter was 95 and on dairy butter 93. The high cheese scores were: Cheddar, 97.5; Michigan, 96.5; soft Michigan, 95.5; fancy 99.5.

I received one of your sewing machines some three months ago and have tried it on all kinds of sewing and can say it is O. K.—Mrs. W. L. Richens, East Springfield, Pa.

Hay There! See The Deere

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AFTER the load is on, the loader is uncoupled from the wagon by means of a rope carried up to the top of the machine, as shown in the illustration above.

To couple the loader on for the next load, it is only necessary to back the wagon up to the machine and couple it on automatically, without the driver or any one else getting off. (See the small illustration below). The New Deere is the only loader made which has this automatic hitch, which will be found very convenient and a great time and labor saver. There are many other features embodied in this loader which make it the choice of progressive farmers everywhere. It is the lightest weight loader of its width, and in swath work rakes two full swaths of a 5-foot mower. In windrow work its capacity is practically unlimited, as it will successfully pick up and elevate the largest windrows and haycocks.

The New Deere is the only loader that has a flexible floated gathering cylinder thickly studded with flexible steel fingers. It is therefore the only loader that will do clean and successful work in rough meadows, and it positively will not dig into the ground or gather trash. The flexible fingers lift the hay softly and gently onto the elevator which carries the hay to the top of the machine in the very best shape to be forked and handled on the load. The hay is not jammed or crushed during any part of the operation. For handling clover, alfalfa, bean or pea vines, the New Deere is, without doubt, the only practical machine.

It is the longest lived and lightest draft loader, because all working parts are slow driven and all the hay gathering and lifting parts are yielding. The delivery point is higher than that of any other. We want to hear from every farmer who needs help in handling his hay crop. Just write us a post card and we will send free by return mail our latest hay loader booklet. Profusely illustrated.

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AN EXAMPLE OF INTENSIVE DAIRYING.

One of the most recent examples of the profitability of intensive dairying comes from Missouri. Mr. F. W. Coleman, of that state, received last year \$832.50 net profit from seven cows, or \$118.93 per cow, and Mr. Coleman owns only ten acres of land. He, however, does not attempt to raise any winter feed, but purchases that. It is stated that Mr. Coleman is not a strong man physically and is unable to work land enough himself to furnish the winter feed for the cows, consequently he buys that, but he does the rest of the work himself. He makes his own butter and sells it. It seems to me quite remarkable that a man could clear as much money as this from only seven cows where he has to purchase all of his winter feed. The probability is, however, that on the average farm it costs about all the feed is worth to produce it, so that he doesn't lose as much there as one would naturally suppose at first.

Mr. Coleman began his dairying with cows that produced only about 200 lbs. of butter-fat in a year and has gradually built up his herd by selection until now they produce an average of over 400 lbs. of butter each year.

CREAM TASTES BITTER AFTER THREE OR FOUR DAYS.

What is the cause of cream tasting bitter after standing three or four days? What can be done to prevent it? I milk four cows, all fresh since November. I use hand separator and feed hay, silage twice a day, and about 2 qts. of ground oats and peas once a day.

Muskegon Co. SUBSCRIBER.

I wish I knew the cause of cream tasting bitter and how to prevent it. The quality of butter in Michigan could be raised considerably if we only knew the cause of this and how to prevent it. The usual cause for cream tasting bitter is the fact that it is allowed to stand three or four days, and that is about all we know about it. The probability is that cream is kept in rather a dark place, not very well ventilated, and bacteria develop which give the cream this taste. It certainly makes a bad mess of the butter. The only remedy we know at the present time is to not allow the cream to stand this length of time. In other words, to make it into butter before it becomes bitter. I realize that Subscriber is getting very little satisfaction out of this answer, but it is the best that I can give at the present time.

DAIRY BREEDS OF COWS.—STONE VS. STAVE SILO.

What breeds of cows are known as strictly dairy breeds, and which would you recommend for the average farmer? Do the Holsteins and other large breeds require more feed for maintenance and to produce a flow of milk than Jerseys or Guernseys, and if so, how much more?

What do you think of the solid concrete or stone silo? I notice some who have used both concrete and wood claim that a certain percentage of the ensilage is spoiled near the concrete or stone walls while in the stave silo it is all good. I can build a stone silo much cheaper than any other as I have all the material on the farm and am a mason, so can do the work myself, but would not like to have it prove a failure after it is done.

Calhoun Co. E. E. LINTON.

There are four distinct breeds of dairy cows, namely: Jerseys, Guernseys, Holsteins and Ayrshires. It would not be policy for me to recommend any particular breed thru the columns of the Michigan Farmer, because the subscribers of The Farmer differ in opinion about this matter, and it would hardly be fair to take advantage of this opportunity to state which, in my judgment, is the best for the average farmer to own. It can be truly said that there is little difference in these four breeds. While they differ considerably in characteristics, yet for profitable production there is very little difference. There is more difference in individuals of the same breed than between the breeds themselves. A man who selects any one of them will make no mistake. The thing to do is to select the breed that one fancies most, because one is sure to give the breed that he fancies most the best chance, take the most pains with it, and consequently it will do best for him.

There isn't any question but that the larger the cow the more feed it will take for a maintenance ration. All scientific rations are based on 1,000 lbs. live weight. If the cow weighs more than 1,000 lbs. then the ration should be increased in proportion. If the cow weighs less than 1,000 lbs. then it should be decreased in proportion.

As has often been said in the columns

Farmer Jones Talks on Wire Fence Buying

No. 3—Buying for Permanence.



BUILD your fence right in the first place.

Don't put up a makeshift for this year because it's cheap. It is not cheap.

No temporary or makeshift fence can be an economical fence.

Just stop and consider the matter one minute. Put up a "cheap" fence and you'll be out with your wire cutter and stretcher with stay rods and splice wires, repairing your fence the very next year.

And you'll be doing the same thing the following year. And almost before you know it you'll have to buy all new fence.

When I build fence I don't want to have to do the work all over again, right away. And I don't want to have to buy new fence in two or three years.

Neither do you.

The way to dodge it is to go at the matter right in the first place. Buy for permanence.

Begin with good, big, strong wires. That's just plain common sense in fencing. Don't have any little wires in it. Of course, they'll break sooner than the big wires and then—

—then your troubles begin.

See that your fence is made of wires that will all be permanent. Not just some of them—all of them.

Big wires have strength and staying qualities. That's just exactly what you want. Strength so they don't break when you climb over and so they don't give way, when attacked by animals.

Big wires are not only strong. They have some substance to them, so it takes the rust a long time to eat them up. That's another thing—really the big thing—I have in mind when I talk about staying qualities.

Rust is the great fence enemy. It's bound to come sooner or later. Every farmer knows that. You can do a good deal to stave

it off by buying a heavily galvanized fence, like the Empire fence, but when it does get a hold your big wire fence doesn't go to pieces all at once.

It's still a good fence for years and years.

You can't say that for the little wire fence.

You know perfectly well that the rust no sooner gets started on the little wires than your fence is gone.

There's no body or substance to it. There's nothing about it to make it last.

Rust comes and your fence goes. Animals attack it and it doesn't stand that test.

In the name of all that's good, I ask what's the excuse for putting up a little wire fence anyhow.

Here's the way I look at it. The Empire No. 9 All Big Wire Fence which I buy comes just as near lasting a man his lifetime as it is possible for any fence to do. That makes it a most economical fence.

Mind, I do not say it will actually last a lifetime, but I do say it outlasts two or three ordinary wire fences that many farmers are wasting their money on.

I say it is entitled to be called a permanent fence.

You would like to know just why I say that.

Well, I've already given two of the biggest reasons—the All Big Wires and the Heavy Galvanizing.

Another reason is that the steel wire used in Empire Fence is made right. It is "open hearth" steel. It is tough, and there are no impurities or pores in it to start rust. That is really a great point.

Another reason is that it has just the right crimp in it so it "gives" when the cold weather makes it contract and it takes up the slack when it gets warm. The wires do not snap when it is cold and the fence does not sag when it is hot.

Another reason is that it is so fastened at all the crossings of the big stay wires with the big horizontal wires that there is no "slip" to it. It is a fence that keeps its shape. Look at the knot down in the corner and you will see what I mean.

There are other reasons. It is attractive. It is easy to put up. Nothing about it to hurt stock. It is a fence against everything. And the great big reason that you buy it right straight from the people who make it, the Bond Steel Post Company at Adrian, Mich.

Maybe you are wondering whether there are not other fences that have all these good qualities as well as the Empire Fence.

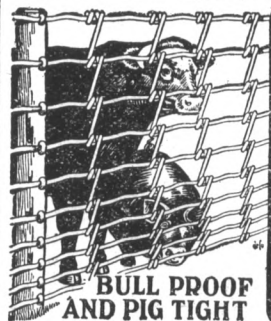
Well maybe there are. I do not know of any.

But I do know Empire Fence. It is good enough for me.

You can make the search for a better fence or a fence as good if you want to, but in the mean time you had better write to the Bond Steel Post people and find out all about Empire All No. 9 Big Wire Fence.

Send your letter direct to the factory at 16 Maumee Street, Adrian, Mich.

Farmer Jones.



BULL PROOF AND PIG TIGHT

BROWN FENCE

GET OUR FREE SAMPLE which we send for inspection. Test it for strength, stiffness and rigidity, then look to the galvanizing. File it and see how thick that is. We want you to satisfy yourself that for YOU Brown Fence is the best fence to buy for Horses, Cattle, Sheep, Pigs, Chickens, etc. Our fences are made of extra heavy Steel Wire—both strand and stay wires No. 9 gauge.

SELLS AT 15 to 35c PER ROD DELIVERED. WE PAY THE FREIGHT. Easy to put up. Stands staunch, solid and rigid. Won't sag or bag down. Our prices are less than you would pay for much lighter fences—fences not half so durable. Write today for sample and catalog showing 150 styles.

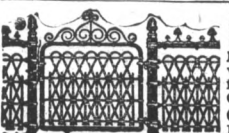
The Brown Fence & Wire Co., Dept. 49 Cleveland, Ohio.

SAMPLE FREE



The Cyclone Catalog of Fences and Gates is full of good things on the protection of lawns, trees, flowers and shrubs. Let us mail you one.

THE CYCLONE WOVEN WIRE FENCE CO.
1244 E. 55th Street, Cleveland, Ohio

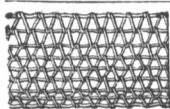


LAWN FENCE
Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries. Coiled Spring Fence Co. Box 1 Winchester, Ind.

15 Cents a Rod

For a 22-inch Hog Fence; 16c for 26-inch; 19c for 31-inch; 23 1-2c for 34-inch; 27c for a 47-inch Farm Fence. 50-inch Poultry Fence 27c. Lowest prices ever made. Sold on 30 days trial. Catalog free. Write for it today.

KITSELMAN BROS.,
Box 278, MUNCIE, IND.



WARD FENCE Farm and Poultry. Old fashioned galvanized. Elastic spring steel. Sold direct to farmers at manufacturers prices. Write for particulars. Ward Fence Co., Box 544 Decatur, Ind.

RANGER BARB WIRE
HEAVY SINGLE WIRE
STRONG, DURABLE.
The only absolutely successful single strand barb wire ever made.
M. M. S. Poultry Fence Saves 50%
We make the most complete line of Field, Hog, Poultry and Lawn Fencing in the country. Write for our new catalogue.
DEKALB FENCE CO., - DEKALB, ILL.
Southwestern Office and Warehouse, Kansas City, Mo.

Frost Wire Fence
is made in different heights and weights and is the genuine, original, coiled steel wire fence. Secure as steel and science can make it; lasts a lifetime. Write for catalog and prices.
The Frost Wire Fence Co.
Dept. G Cleveland, O.

48 IN. FENCE a rod 29c
Best high carbon coiled steel wire. Easy to stretch over hills and hollows. **FREE** Catalog—fences, tools. Buy from factory at wholesale prices. Write today to Box 68
MASON FENCE CO., LEESBURG, O

of The Farmer, a stone silo, or a concrete silo, is a good one. The only objection that can be offered against either is the expense of building. Of course, where one has the stone, and is a stone mason himself, he can save the expense of a skilled artisan and this would make considerable difference. With either a concrete or a stone silo it is necessary to plaster on the inside with rich cement mortar. This mortar should be made out of good Portland cement and fine sharp sand in the proportion of one part cement to two parts sand. If this is done there will be no waste of silage next to the wall. In a common stone or grout silo the walls are so rough, and the proportion of sand to cement so great that it will absorb a large amount of moisture from the silage and consequently some of the silage next to the wall will spoil. If plastered with a rich coat of cement it becomes impervious to the moisture and the wall will be smooth so that the silage will settle well. It will keep just as well in such a silo as it will in a stave silo, and it stands to reason that after you have built a grout or stone silo, if the work has been well done, it will outlast any stave silo.

GROWTH AND DEVELOPMENT OF THE DAIRY INDUSTRY.

One of the most striking features in the history of dairy farming in the United States is the transfer of this productive industry, in large part, from the farm to the factory. The cows and milk continue to be farm property and products, but a constantly increasing share of the labor of converting milk into marketable form is done at creameries, cheese factories and condensaries. The products of the establishments come into the realm of manufactures. This change has taken place during the last half century which covers the period of development of associated and co-operative dairying in America. Where the milk produced on two or more farms, or the cream from such milk, is brot together at one place to be condensed, or made into butter or cheese, domestic industry ceases, the place becomes a factory and its output a manufactured product.

The United States census of 1850 noted the existence of eight cheese factories. The number increased very little until after 1860, but in 1870 there were 1,813 reported, including both cheese and butter factories, generally called creameries. The census for 1880 reported 3,932 and that for 1890 gave the number as 4,712. The latter number of establishments represented those only from which reports were received. It is known, however, that a considerable number of such factories, probably 2,500, were then in actual operation from which no returns were obtained for the eleventh census. Thus the actual increase from 1880 brot the number up to 7,312, or about 100 per cent increase. Taking the census report of the United States there were, in 1880, 3,932 manufacturing plants; in 1890, 4,712, or 19.8 per cent increase. From 1890 to 1900, 9,355 plants, or an increase of 98.5 per cent. At this rate there is today 19,700 manufacturing plants—an enormous increase of over 140 per cent.

The capital invested in 1880 was \$9,604,803; in 1890, \$16,624,163, or 73.1 per cent increase; in 1900, \$36,508,150, or 119.6 per cent increase; today, \$75,000,000, or 120 per cent increase.

The cost of materials used in 1880 was \$18,363,579; in 1890, \$51,364,574; in 1900, \$131,199,277.

The value of products in 1880 was \$25,742,510; in 1890, \$62,686,043; in 1900, \$131,199,277.

What the Figures Show.

The above figures show that, in the last twenty years, the capital having increased from \$9,604,803 in 1880 to \$36,508,015 in 1890, or 280.1 per cent, the product in the same period increased from \$25,742,510 to \$131,199,277, a gain of \$105,456,767, or 409.7 per cent. And the number of establishments increased from 3,932 to 9,355 or 137.9 per cent in the same period. It is a conservative estimate that today there is a capital invested of a billion dollars; that the number of establishments is about 35,000, and that the value of the product approximates \$655,999,385.

There is much difference in the size of creameries in the several states. In New York and Pennsylvania they are small, the average annual product being respectively, 54,991 and 59,995 lbs. of butter. In Illinois and Minnesota the average is 73,237 and 75,411 lbs. and in Wisconsin 78,444 lbs. In Iowa the creameries are larger, with an average annual

output of 93,730 lbs. Vermont and Kansas show the influence of a few large establishments in raising the average to 118,176 and 129,975 respectively. For the entire country the average product of a creamery for the year 1890 was 71,731 lbs. of butter. In Michigan and Pennsylvania the average is 76,637 and 73,339 lbs. respectively.

The annual product of the average cheese factory for the whole country is a little larger than for the average creamery, namely, 72,842 lbs. It must be remembered, however, that this represents only 730,000 lbs. of milk used by the average cheese factory in a year, while the average creamery requires over 1,500,000 lbs. of milk for its annual product of butter. This does not indicate that twice as many cows are necessary to support a creamery as for a cheese factory, because as a rule the latter is in operation only during the pasturage season, or about half the year, while in most cases the creamery makes butter the entire year. In fact, the average creamery represents, while in operation, the milk of 450 cows. In the aggregate, the creameries of the United States appear to use all the milk from about 2½ million cows throughout the year, or an average of 160 lbs. to the cow, while the cheese factories use milk from 1,130,000 cows for half the year, representing an average product of 250 lbs. of cheese per cow.

What the Repeal of the Oleo Law Would Mean.

The census of 1900 gives the aggregate value of the dairy products of the United States as \$590,827,154. But today this vast industry is again threatened by the possibility of legislation desired by the oleo or butterine manufacturers. It is believed that they will make a determined effort, at the next session of Congress to secure a law repealing the tax of 10c per lb. on colored oleo. Now, if these packers and manufacturers of oleo are successful, in my opinion, butter will sell for 10c per lb. The result would be the necessity of every creamery shutting down, as farmers would sell their cows and go out of dairying. At present prices of hay, grain and labor no farmer could then afford to keep cows for dairying. Again, it would throw down the bars to the greatest fraud that can be perpetrated on the American people. The housewife would be buying oleo, thinking she was buying butter. Petitions are being circulated by the "Octopus" thru the groceries in the cities, claiming that the tax of 10c per lb. is a burden on the working man. This we know is a snare and a delusion. Today there is a tax of only ¼c per lb. on uncolored oleo, and the workman can buy such oleo at from 10c to 20c per lb. The difference between now and what will come if the law is repealed and the duty of 10c per lb. is taken off colored oleo, is that one knows now what he is buying. Repeal the law and the consumer receives no protection. Repeal the law and you have affected over three million farmers, practically putting out of business an industry that represents over a billion dollars today. The trusts and oleo manufacturers have the money. The farmers and creamery manufacturers have the votes. Which will win?

Kent Co.

W. S. BURNS.

UNITED STATES

Cream Separators

U.S. Everybody knows the name **United States** on a Separator is an absolute guarantee of Superior Quality, Long Service and Absolute Satisfaction.

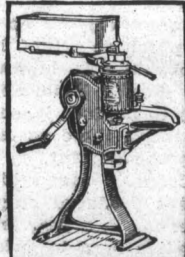
That is the best sort of economy; it means a saving of money to you. Why then run any risks with "cheap" makes?

See the U. S. Separator Dealer

Let him show you how a **United States Separator** is made, its perfect mechanical construction, strong, solid, one-piece frame, no bolts to shake loose with wear. Scientific construction of the Separator bowl. You can readily see for yourself how the purchase of a **United States Separator** means economy for you. If you do not know a United States dealer let us send you his name.

A request by postal card for United States Separator Catalogue No 111 and mentioning this paper, will bring you a beautiful hanger lithographed in colors.

VERMONT FARM MACHINE CO.
Bellows Falls, Vt.



WAIST HIGH
\$29⁷⁵ FOR THIS NEW LOW DOWN \$29⁷⁵ AMERICAN CREAM SEPARATOR
A SEPARATOR THAT EXCELS ANY SEPARATOR IN THE WORLD

DON'T HESITATE BECAUSE OUR PRICE IS LOW. The quality is high; we guarantee it. It is up to date, well built and well finished. It runs easier, skims closer and has a simpler bowl with fewer parts than any other cream separator. Don't accept our word for it. Judge for yourself. Our offer enables you to do this at our expense. Write us a postal card or a letter and receive by mail, postpaid, our 1909 catalogue. It is handsomely illustrated, showing the machine in detail, and fully explains all about the Low Down AMERICAN. It also describes the surprisingly liberal LOW TIME TRIAL proposition we can make you. Competition is decided by the quality and price we make. Our generous terms of purchase will astonish you. Remember, we are the oldest exclusive manufacturers of hand separators in America, and the first to sell direct to the user. You are not dealing with any agent, middleman or catalogue house when dealing with us. Not one single profit is paid anyone between ourselves and our customer. You save all agents', dealers', even catalogue house profits and get a superior machine by dealing with us. Our New Low Down AMERICAN Waist High Separator is the finest and highest quality machine on the market and our own (the manufacturer's) guarantee protects you on every AMERICAN Separator. We can ship immediately. Western orders filled from Western points. Write us and get our great offer and handsome free catalogue on our New Low Down AMERICAN Separator. Address

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Nothing Like This With a National!



It Pays You to Pay More

and get a National. You get just what you pay for in a cream separator. No manufacturer is in the business for his health. If you pay a "cheap" mail-order price you get a cheap mail-order separator—made to sell and not to keep all the money-bringing cream away from the calves and hogs. The

National Cream Separator

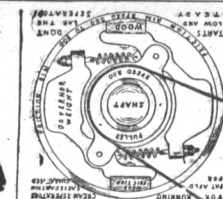
costs from \$50 to \$100, according to size, because the difference in price has been put into better material and finer workmanship. When you examine its skimming device—when you see its clutch and spring—its simple bearings—its construction as accurate as a watch, you will agree with us. Insist on your dealer demonstrating a National without expense to you. Illustrated Catalog of full particulars free on request. **THE NATIONAL DAIRY MACHINE CO.** Goshen, Ind. Chicago, Ill.



\$29⁵⁰ Buys the Best

Improved Illinois Low Down Cream Separator

direct from the maker to you. We are the only western factory selling direct to the consumer. We ship on 30 days free trial. Write for free catalogue. **American Hdw. Mfg. Co., Dept. 196, Ottawa, Ill.**



NO DAIRYMAN OWNING A CREAM SEPARATOR can afford to be without a **Strite Governor Pulley**, which will prolong the life of your separator and get you a better grade of cream. Write the Manufacturer.

Strite Governor Pulley Co., 308 Third St. So., Minneapolis, Minn.



THE NEW IOWA CREAM SEPARATOR

Has won universal favor among the ladies. In fact they will have no other after seeing the NEW IOWA. They know a convenient, easy washing, and durable cream separator when they see it. This is the reason they insist on our low down, handy NEW IOWA. The best is none too good and is the one you will eventually buy.

Let us give you the advice which we have received from a great many people who bought a cream separator because it was cheap or because some friend wanted to sell it to them. They all see their mistake later and are compelled to throw their cheap machine away and purchase one which is durable and will get all the butter-fat.

Let us send you our catalog which explains how a cream separator should be built to be durable. You will be convinced that there is a great difference between different grades of cream separators. We will show you that the NEW IOWA is the best skimming separator in the world. We know that if you will investigate the NEW IOWA, you will purchase it in preference to any other machine at any price. You must have a high grade cream separator to make your dairying profitable, and you should not make the mistake of purchasing anything else but the best for you will regret it sooner or later.

We are the largest manufacturers of cream separators in the world and know what we are talking about. We are willing to show any prospective purchaser that the NEW IOWA is so far ahead of its competitors that it is in a class by itself.

It is the only cream separator which was awarded Gold Medals at the three National Fairs. A postal will bring all the proof to you. Send it today.

IOWA DAIRY SEPARATOR CO., 108 BRIDGE ST., WATERLOO, IOWA.

YOU like to know that your cream separator is so simple and finely made that, if necessary, you can order any part and be sure it will fit perfectly.

We insist upon exactness for every part of every Sharples Tubular cream separator.

Constant tests keep the making of Tubular parts perfect. One test, recently made, was both unusual and positive proof of Tubular exactness.

We took twenty Tubular Cream Separators,



at random, from our immense ware-rooms. They

were already boxed for shipment. We had those twenty cases opened. We had those twenty Tubulars taken entirely apart. Every part was taken from the frames and separated into single pieces, down to the smallest screw and spring. **All the separate un-marked pieces, from those twenty Tubulars, were mixed together in a single heap.** Then we had those twenty Tubulars put together again.

The supply can is set low and on the side of Sharples Separators. It is easy to fill, always steady, and need not be lifted off to remove either the milk and cream covers or the bowl from the machine. The supply cans on all other separators are directly over the bowls and must be lifted off before bowls can be removed from such machines, which is doubly unhandy if the can is full.

The Sharples Separator Co.

Toronto, Can.
Winnipeg, Can.

WEST CHESTER, PENNA.
Chicago, Ill.

Portland, Ore.
San Francisco, Cal.

Mixed The Parts Ran Perfectly

Every part that went into them was fished, at random, out of that mixed-up pile. Just one chance in twenty that any piece was put back into the machine from which

it had been taken.

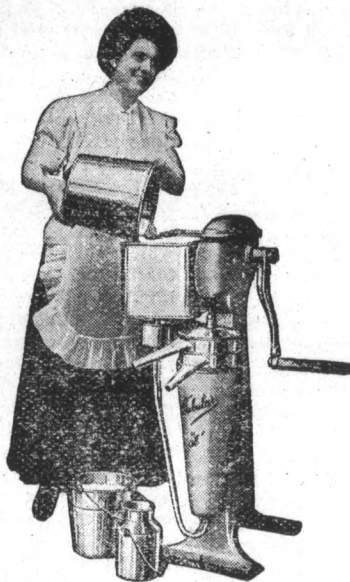
Then we sent those twenty Tubulars to our big testing room, where every Tubular is given an actual running test, and had **every one of the twenty tested. Every one of them ran perfectly** showing that every part was perfect and interchangeable.

Tubular perfection, simplicity and superiority have

made Tubulars so popular, all over the world, that the Tubular factory is the largest and finest separator works in the world. We also have branch factories in Canada and Germany.

Tubular sales for 1908 were way ahead of 1907—out of sight of most, if not all, competitors

combined. The plumb bob, and other improvements on our 1909 Tubular "A" will make 1909 better yet. Write for catalog No. 152, fully describing the finest cream separator money can buy.



WHAT OUR READERS SAY.

Editor of 'The Farmer':

I have received sewing machine and am pleased with it. Does as good work as a \$50.00 machine would do.—Mrs. Edward Roll, Swartz Creek, Mich.

We have received your machine and it is entirely satisfactory. My wife is well pleased with it. Accept thanks for same.—John Nieboer, Grand Rapids, Mich.

I write to you in regard to your sewing machines. They are very nice machines and give satisfaction.—Mr. Henry Austin, Jr., Grand Junction, Mich., R. 2.

We received the sewing machine all right. We have now had it nearly two months and the more I use it the better I like it.—Mrs. Geo. F. Lee, De Ford, Mich., R. 2, Box 35.

Please send me your catalog of sewing machines. About three years ago I purchased one of your \$19.00 machines and I am well pleased with it and would use no other.—Mrs. F. W. Ford, Augusta, Mich., R. 21.

I bot a sewing machine from you the 25th day of July last, the Michigan Farmer No. 254517, which does good work and is satisfactory in every respect.—Mrs. Hugh Graham, Rosebush, Mich.

Machine is pleasing me more and more the longer I use it.—Mrs. Geo. W. DeWitt, Holland, Mich., R. 5.

We received machine the last of December and have given it a thoro test. To say that I am very well pleased with it is making the statement very light. I don't see how I could have done better, besides the small amount we paid for it.—Mrs. W. S. Baird, Olivet, Mich.

We received one of your machines last summer and the more I use it the more I am pleased with it. It does such good work.—Mrs. H. M. Green, Charlotte, Mich., R. 11.

I received your Michigan Farmer Sewing Machine and have given it a fair trial, and think it is a very good machine.—Mrs. Dave Hullberger, Marion, Mich., Box 28.

I have received my Michigan Farmer Sewing Machine all right and am very much pleased with it. Have sewed on it today and it does fine work.—Mrs. O. G. Hosner, Oxford, Mich.

The machine I got from you a couple of years ago is just as good as the day I received it.—Mrs. Rosa Bonhard, West Branch, Mich., R. 2.

I received my sewing machine in good shape—no broken parts, and as far as I have used it I think it will prove satisfactory. Thanking you very much for your kindness, I remain, Mrs. E. Avery, Bellevue, Mich., R. 1.

The sewing machine I purchased from you last June has given perfect satisfaction.—E. H. Whitney, Clarksville, Mich.

I enclose order for one of your \$19.00 machines. My mother has used one of your machines for ten years. We think they cannot be beat.—Mrs. Tobias Buckbee.

Our New Improved

ONLY
18 Dollars

DROP HEAD
Golden Oak
or Walnut.

Ball Bearings

STYLE "A" HEAD.

Our \$12 Machine has a smaller head than on the \$15.00 machines but built on same principles. Plain, straight front, Golden Oak or Walnut, 5-drawer Box Top Table. Equals machines sold elsewhere at \$15 to \$20, and will do in a first-class manner, all kinds of family sewing. Guaranteed for 20 years and sold under our 90-day trial offer the same as the higher priced machines.

Attachments. With each machine we send free, full set of latest style solid steel Greist attachments, with complete accessories, needles and instruction book. Notice that our machines include all attachments which are not furnished with machines offered by others at a low price.

Garantee. Every machine guaranteed for 20 years against all imperfections of materials or workmanship. Defective parts replaced free.

90-DAY TRIAL OFFER. We agree to refund full purchase price, and pay all freight charges, for any machine that is not entirely satisfactory after a 90-days' trial. We take the risk.

ONLY
\$12



STYLE "C" HEAD.

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describing all machines in full as we have not room to give all their good points here. To pay more for a machine is to waste money.

THE MICHIGAN FARMER, Detroit.

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The Lawrence Pub. Co.,
Detroit, Mich.

DETROIT, MARCH 27, 1909.

CURRENT COMMENT.

The Farmer and the Square Deal. In another column of this issue will be found an article entitled, "A

Square Deal for the Farmer," in which the writer comments on the report of the commission on country life and comments upon his conclusions after carefully reviewing the situation from the standpoint of the average farmer. Those who carefully read the message of the President with which the report of the commission was transmitted to congress will remember that great emphasis was placed on the fact that the final working out of the problem of the betterment of their condition rested with the individual farmers and their co-operative efforts. Without question, this writer is right in his conclusions that the farmers of the country should be better organized for the promotion of their material welfare, but we believe that he is making a common mistake in the nature of the organization which he recommends. But let us analyze the growth and success of the business organizations to which he refers and see if a lesson cannot be drawn from them.

In the article referred to particular mention is made of the beef trust, so-called, and of its operations. But it must be remembered that this great business organization, or the allied organizations handling that particular line of business on a large scale, have reached their present development because their methods of production and distribution are superior to the methods which they have displaced. In earlier days the farmer produced and dressed and prepared his own meat supply, and sold his surplus in the various forms to supply the demand of the consuming public, often selling it direct to the consumer at a price arranged between the two. But the supply was not constant, and the product was not a standard one, and besides the aggregate waste in production and distribution was large. The big packers developed their business by offering a standard product, constant in supply and offered to the trade in an attractive form. This suited the consuming public, and gradually their trade increased, displacing in a measure from year to year, the hand to mouth methods which

had previously prevailed, until today a considerable portion of the farmers of the country are constant users of their products, a tribute which they pay voluntarily and apparently willingly as a matter of convenience to themselves. At the same time the packers made it their business to eliminate the small wastes which are inevitable where the killing of animals is done on a small scale in many places, and the aggregate saving from this source is represented by the millions of dollars worth of by-products which are marketed every year by the big packers, and which were practically lost under the old methods of production which they have so largely displaced.

What is true with regard to the meat business is true in only slightly less degree with other lines of production in which the farmers of the country are interested. Within the memory of even the younger generation of farmers, it was the common practice in every community to take the "grist" of wheat to the local mill and exchange it for flour to supply the needs of the family. But again the disadvantages of production on a small scale were apparent; the product was not a standard one and it could not be produced as well or as cheaply as it could be in the large plants that were operated day and night at a minimum of expense. Today the local grist mill is able to compete in the production of flour only when equipped with modern machinery and when producing flour on a commercial scale and the old toll mill is nearly a thing of the past, while the farmers as a rule buy their flour in sacks and many of them buy it in the form of bakers' loaves mostly. Again a matter of convenience which, on the whole, may be said to mean a saving of time which balances up the larger expenditure of money on the part of the farmer.

And so we might recount almost indefinitely the changes which have been made in the methods of producing and distributing the common foodstuffs as well as other articles of trade thru the introduction of modern methods of such manufacture and distribution. These factors in the market have been able to control the price only to that degree that they have displaced the old supply with a standard product which the consuming public preferred. In like manner the farmers of the country will be able to advance the price of their products by raising the standard of those products and offering them to the public in a more attractive form. No better illustration of this fact can be offered than that of our co-operative creameries. They turn out a much better product than was offered by the individual dairymen who patronize them; it is a standard product which commands a much better price, because the consuming public prefers it to inferior goods or to goods which may or may not be up to a certain standard in quality. It is also produced more economically in a co-operative way, and the business of producing it is correspondingly more satisfactory. The same thing is true of the fruit which is produced by the members of the fruit growers' associations of the west and marketed in a co-operative way. The goods are of a high and uniform standard of quality and command a premium on the market. They are also distributed economically, and leave the growers a very satisfactory net profit.

This is, in our opinion, the kind of business organization which the farmers of the state and country need; co-operative organization along lines of special production in communities, which separate organizations may be capable of some degree of affiliation after they are well and generally established. Reference has been repeatedly made in these columns to the success which has attended this form of organization by the farmers of Denmark and some other of the smaller agricultural countries of Europe. What they have done our farmers can do, and more, because their resources are greater. This method is also in line with the commercial development which has given birth to the great trusts. They were not the growth of a year nor yet simply the product of organization. They have been in every case the outcome of an affiliation of the larger producers along a specific line. It is no more practicable to organize the farmers of the country into one great business organization than it would be to organize all of the vastly different businesses which are now largely controlled by a central organization or trust into a single gigantic trust. What we first need in the way of organization is co-operation along lines of special production, which will be made

a community industry. The rest will follow naturally and easily, as it has done in our modern commercial development.

It is a matter for sincere congratulation that right here in Michigan we are making a very creditable beginning. Aside from our co-operative creameries, we have a number of co-operative cow testing associations organized for the purpose of improving the average quality of our dairy cows. The first organization of this kind to be effected in America was right here in Michigan, and the idea is spreading so rapidly that a number of states, scattered from the Atlantic to the Pacific are now promoting similar organizations. In like manner there have been organized in our state more than a score of co-operative breeders' associations within the last year for the purpose of improving the dairy cattle of the state. At the present time in one of our northern counties there is in process of organization a potato growers' association which will no doubt prove the nucleus for extensive organization along that line. We have a large number of productive industries in this state capable of similar organization, and we believe that as soon as the benefits from such organization become apparent in the communities where it is being effected others will follow suit and that in a few years we will have many strong industrial organizations of this kind where we now have a few pioneers. This will be building upon a substantial foundation. It is the sure way of getting a square deal, as it will put the farmers of the state and country in a position to exact such from those with whom they have business dealings, because it will enable them to cultivate a desired economy in production and to place upon the market a uniform and high grade product. They will thus secure to themselves a larger profit, to which they will be entitled, but they will give in return a product which is worth more to the public. It will be a "square deal" all around.

In accordance with the Revision of generally understood plan the Tariff. for a revision of the tariff,

President Taft called the new congress together in special session on March 10 to consider this great problem and thresh out the details of new tariff legislation. To the end that the basis of this legislation might be at hand at the opening of this session the ways and means committee of the house of representatives has been holding hearings for many months and gathering data and information necessary for an intelligent revision of the schedules. This work has enabled them to formulate a bill for introduction as soon as the new congress had completed its organization. This is known as the Payne bill, Congressman Payne, of New York, being chairman of the ways and means committee of the house, in which the bill was framed. As predicted in a former comment upon this subject, the provisions of the Payne bill, or at least many of them, are in the nature of a compromise, the changes being conservative, rather than radical, and thus probably calculated to cause as little disturbance in the business of the country as would be possible under any change in the tariff regulations which govern the shipment of goods into the country. But even the conservative revision which is proposed in the Payne bill is raising a storm of protest from many interests. The inquiry which has been conducted by the committee and the protests which have followed the introduction of the bill, have brought out some interesting phases of human nature, since it appears that no matter how enthusiastic the advocate for a revision of the tariff, he wants the lower schedules applied to the products or manufactures produced or made by others than himself, and declares that if a reduction is made in the duty which applies to his particular line of production it will be necessary to reduce the wages of the laboring men who are employed in the particular line of production in which he may be interested.

In the revised schedules which are incorporated into the Payne bill, the interests of the farmers, and particularly the farmers of Michigan, appear to be pretty well conserved. The tariff of 45 cents per bushel is retained on beans, as is the 25 cent duty on potatoes, while the wool schedules are altered mostly in the lower grades, of which but a relatively small quantity is produced in Michigan, while the tariff on lumber, steel, and many other materials is materially reduced. However, the farmer's interest in the tariff proposition is not

limited to the protection which is afforded the products in which he is particularly interested as a producer, nor yet to the nature of the duty on the products which he must buy, but as well in the general effect which a change in the tariff may have upon the business and industrial condition of the country. When business is prosperous and labor is well employed, the farmer finds conditions most suitable for his own material prosperity, and under these conditions he will reap some benefit from the limitations upon foreign competition along certain lines of production which are imposed by the tariff schedules in those lines. But, on the other hand, when business is generally stagnant; when labor is poorly paid or only partly employed, and when consumption along many lines shrinks, as it must shrink under those conditions, prices fall to a level where the tariff schedules cannot affect them, because under those conditions we soon pile up a surplus of products for which there is but a slow market. Thus the consumer who has been insistent in his demands that the tariff be removed from certain products entering into our manufactures as raw materials, and in the goods resulting from their manufacture, should not forget that the reductions which are contemplated in the revision of schedules as proposed by the Payne bill are probably safer than the extreme reductions which they have favored, so far as the effect upon the business of the country is concerned, while the same thing may be true with regard to reductions of which they complain because of a personal, rather than a general interest.

As before noted in these columns, the business of tariff making is a complicated one. To the lay mind it is almost inconceivable that a reduction in tariff schedules all along the line, with but an occasional addition of a new article, will bring about a material increase in the revenues of the government. Also to one who is not accustomed to think in big figures and to carefully weigh the relative importance of our different industries and the part which they play in the industrial progress and prosperity of the country as a whole, the problem is too big to be successfully grasped. This fact is doubtless one cause for the conservatism of the bill which is now before congress, and is a good reason why compromises rather than extremes should be the basis of the final determination of congress with regard to the tariff schedules. Of course, there will be many details to be threshed out and settled in the committee of the whole before the contemplated tariff legislation is accomplished, but again these will surely be in the way of compromises, and the result, it may be hoped, will be such as to inspire confidence and activity among business men rather than the opposite, so that the country will not suffer materially from any general interruption or depression of business. At least the fact that the question is settled and is not pending will have a beneficial effect upon business conditions, and it is entirely probable that the latitude for reciprocal arrangements with foreign countries will be sufficiently broad to enable negotiations to be successfully conducted with any country in which our foreign markets may be profitably extended and from which we may in return admit needed goods at a lower rate of duty, thus benefiting consumers without decreasing the revenues of the country, as the imports as well as the exports will be greatly increased thru such arrangement.

A SQUARE DEAL FOR THE FARMER.

I have been reading the report of the President's commission on country life. The report shows the general condition of farming life in the open country. Judged by thirty public hearings, to which farmers and their wives from forty states and territories came, and from 12,000 answers to printed questions sent out by the department of agriculture, they have drawn their conclusions, and they go on to state in a general way what they think would be the panacea for the various ills that the farmers as a body are afflicted with.

They say there is a great deal of discontent and discouragement, and in fact, are honest enough in their views to say that farming is not as profitable or satisfactory as it ought to be.

I believe that this commission acted in good faith, and some of their recommendations are good and all of them are more or less helpful, and yet there is an undercurrent that flows far beneath the

surface, which this commission has failed to reach.

In order to feel the effects of this undercurrent fully, a man must be a farmer. We are living in an age of wealth. Wealth is increasing by leaps and bounds. The rich man of twenty years ago would be considered at the present time as a man in moderate circumstances. The farmer that reads and thinks, draws his own conclusions in regard to this rapid increase of wealth. He looks about him and sees men that have been tilling the soil all their lives industrious and hard working, and by close economy they have paid for a farm of from \$3,000 to \$8,000 in value. They have raised thousands of bushels of grain, and sold it regardless of cost to men who have sat on boards of trade and dictated the price and gambled on their hard earnings.

The meat trust fixes the price on every hog or steer that is sold from the farm. These prices vary to such an extent that a shipper, in order to protect himself from the sudden fluctuations, is obliged to buy on a broad margin. This stock, when it passes into the hands of the meat trust and is converted into marketable products, is sold to the consumer at a big profit. The farmer takes what the meat trust is pleased to give him, and the consumer pays the price set by the trust—if he is able—or in case of the poor laboring man, goes without the luxury of meat, and thus the meat trust holds all under tribute. The meat trust piles up the millions wrong from the farmers on the one hand, while on the other it is exacting a price far in excess of the legitimate profits of trade. Every farmer in the land knows this to be a fact. Now, what is the remedy? I am afraid the remedy can never be applied by legislation, altho Ex-president Roosevelt has done what he could along this line. I believe that the producers and consumers can control the situation. A great stock company could be formed, or several of them for that matter, or perhaps each state could handle their own products by establishing something of the nature of a clearing house. This problem can certainly be worked out in the interests of all. The consumer is just as much entitled to fair treatment as the producer. There is no reason why one or both should pay tribute to the extent of millions of dollars every year to these trusts. These trusts are built up largely out of money that has been obtained by shady transactions.

There is no question but what the farmers are the wealth producers of this nation, and when they can so combine and co-operate that they can set the price on what their labor produces, then farming will take on a new interest and happiness and contentment will be a permanent guest in every farmer's home, and he will feel like a man among men, for he will have the money that honestly belongs to him to improve and beautify his home and hire necessary labor to the extent that he and his family can throw down the implements of labor once in a while, and enjoy a well earned rest.

Van Buren Co. J. S. DRAPER.

HAPPENINGS OF THE WEEK.

Foreign.

The postoffice strike in France which cut off Paris from communication with the outside world came to an end early this week by the strikers suing for peace. The government reciprocated and on Monday one-third of those who went out were back to work.

The critical situation existing between Austria and Serbia as reported a week ago seems to have taken on a different color during the past few days. Austria now is withholding her demands upon the little country and thereby preventing the powers from interfering with the affairs. Serbia is also considering the question of disarming, which is good evidence that a peaceful settlement of the matter is probable.

Announcement has just been made of the work of the conference of ten leading nations held in London last winter to take up matters pertaining to naval warfare. The conclusions reached in the discussions and the definitions adopted are highly satisfactory to the American delegates. Such actions as that of the American government in the famous Mason and Slidell case during the Civil War when these men were taken from a British steamer, were allowed as legitimate during times of war.

An extremely violent earthquake shock was again felt in southern Italy last Wednesday. Much destruction of property resulted.

Neighboring republics are opposing with considerable active opposition the three-cornered treaty between the United States, Columbia and Panama purporting to have Columbia recognize the independence of Panama.

The importers of American meat into England are about to test the laws of London which provide that the local health board can condemn any meat

which the board believes to be unfit for food.

Immigration to Canada the past year has fallen off nearly one-half according to the reports of the officials.

The Chinese and Russian governments have reached an agreement with regard to the control of the municipality of Harbin, Manchuria, the different consuls located in the city being empowered to appoint a governing board.

The navy scare in England has become so real that the government does not appear able to wait for the building of the ships, and may negotiate with Brazil for the purchase of three warships of the Dreadnaught type instead of waiting to build the vessels.

Winnipeg, Canada, has decided to hold a world's exposition in 1912. A million dollars has been raised by that municipality for the purpose of launching the celebration.

Former President Castro, of Venezuela, is about to leave Europe after his journey hither for his health and for escaping political circumstances at home that did not appear inviting. He will land at Port of Spain, Trinidad, where he will get in communication with real conditions at home.

The commonwealth government of Australia has decided that the financial condition of the country precludes her participation in the proposal of Canada to subsidize a mail route between the two English colonies.

National.

The Philippine assembly is preparing a message on the tariff question, which is to be sent to the representatives of the Islands at Washington giving the views of the assembly on the proposition. Claims amounting to \$3,000,000 have been filed against the state of New York for the condemnation of 30,000 acres of land in the Adirondack region, for forestry purposes. The claimant demands the damages upon the ground that he holds an option on the lands.

The grand jury in session at Pittsburg has authorized six indictments and are now out to investigate further into the bribery cases.

Three battleships now in Pacific waters along the coast of California will hasten to Central America to care for American interests until trouble between those republics is settled.

The collection of poll tax from the Japanese in Southern California beet sections is driving many from the localities and the beet growers are despairing for lack of help to get their crops thru the season successfully.

A bill, supported by a large number of the governors of the several states and by many congressmen, to change the inaugural day from the fourth of March to the third Thursday of April will, according to present indications, be presented to Congress this term as an amendment to the constitution.

A movement is begun for teaching the Indians of the west better sanitary methods to diminish the ravages of the consumptive germ which is threatening the race. Thousands are dying every year from the "white plague" and it is only thru better sanitary conditions that the loss of lives from it can be checked.

The recent raising of the live stock quarantine lasted for but a short period as on Monday last the state commission again laid quarantine upon certain sections of Oakland county.

Ex-President Roosevelt departed for Africa Tuesday of this week for his hunting trip in the forests of the east side of the "dark continent."

Already twenty balloons have entered in the contest for the James Gordon Bennett medal. The race is to be held in Switzerland this coming September.

The United States and Mexico are planning to restore peace among the Central American countries. They will first direct their attention toward Nicaragua.

The Pennsylvania Steel Company, one of the largest independent concerns of the country, announced this week that a reduction of ten per cent in wages will be made pending the return of normal business conditions. The order will affect about 6,000 men.

THE AMERICAN BERKSHIRE CONGRESS.

(Continued from page 356).

The Indiana breeders who are identified with the organization have pledged 40 hogs for a public sale, the proceeds of which are to go into the treasury of the Congress.

The morning of Thursday, March 18th, was given to a practical demonstration in the judging of Berkshires by eminent breeders, including A. J. Lovejoy, Illinois and President-Elect C. J. Barker, of Indiana, giving reasons for each case in the judgment accorded. This was a most interesting part of the program to the Berkshire breeders. The afternoon was devoted to the public sale of Berkshires contributed by members of the Congress, mostly by Michigan breeders.

At the opening of the sale there was a good attendance, as there were quite a large number of students present. After about one-half of the hogs had been sold many of the students went away. There was not a very large representation of local buyers, but a few of the nearby farmers were there and secured some good hogs at bargain prices.

As a missionary venture the sale was only partially a success. It was the design of the managers to scatter some good blood among the farmers of Michigan, as sample seed of something better than they have on their farms, but they did not attend to accept the offerings. It was not so much the price that the Berkshire men were after as the opportunity to show the farmers some good stock, and let them take it at their own price. In all 36 animals were sold at an average price of approximately \$22 per head.

RAILROAD FARMERS' INSTITUTES.

The success attained during the last three years has led the Agricultural College to arrange for holding a series of Railroad Farmers' Institutes the present season.

Stops of one hour each will be made at the different places mentioned and short talks will be given upon such topics as seed selection, corn growing, potato culture, dairying, milk testing, sugar beets, fertilizers, poultry raising, fruit growing, good roads, etc. The selection of topics at each place will be governed by its special needs.

When the train passed over the same route in 1907 everyone who attended expressed himself as well pleased and amply repaid, and as the exhibits will be materially increased and the stops slightly longer at each place, even better results can be expected. The train will be run on a regular schedule and the meetings will commence promptly.

The following are the places to be visited by the Farmers Institute train during the ensuing week:

March 29—Williamston, 8:00 to 9:15 a. m.; Fowlerville, 9:30 to 10:45 a. m.; Howell, 11:00 to 12:00 a. m.; Brighton, 1:15 to 2:30 p. m.; South Lyon, 2:45 to 3:50 p. m.; Salem, 4:00 to 5:15 p. m.

March 30—Northville, 8:00 to 9:15 a. m.; Wixom, 9:30 to 10:45 a. m.; Milford, 11:00 to 12:00 a. m.; Clyde, 1:00 to 2:15 p. m.; Holly, 2:30 to 3:45 p. m.; Grand Blanc, 4:00 to 5:15 p. m.

March 31—Flint, 8:00 to 9:00 a. m.; Mt. Morris, 9:30 to 10:45 a. m.; Clio, 11:00 to 12:00 a. m.; Birch Run, 1:00 to 2:15 p. m.; Bridgeport, 2:30 to 3:45 p. m.; Saginaw, 4:00 to 5:30 p. m.

April 1—Vassar, 8:00 to 9:10 a. m.; Mayville, 9:30 to 10:30 a. m.; Marlette, 11:00 to 12:00 a. m.; Brown City, 1:15 to 2:15 p. m.; Melvin, 2:30 to 3:45 p. m.; Avoca, 4:10 to 5:30 p. m.

April 2—Atkins, 8:00 to 9:15 a. m.; Amadore, 9:30 to 10:45 a. m.; Crosswell, 11:00 to 12:00 a. m.; Carsonville, 1:00 to 2:15 p. m.; Deckerville, 2:30 to 3:30 p. m.; Uby, 4:00 to 5:15 p. m.

April 3—Bad Axe, 8:00 to 9:15 a. m.; Elkton, 9:30 to 10:15 a. m.; Pigeon, 11:00 to 12:00 a. m.; Unionville, 1:15 to 2:15 p. m.; Akron, 2:30 to 3:30 p. m.; Reese, 4:00 to 5:15 p. m.

CATALOGS RECEIVED.

Manda's Pocket Garden Dictionary and catalog of everything pertaining to horticulture, for 1909, will be sent upon application to W. A. Manda, Inc., South Orange, N. J.

The 1909 catalog issued by L. J. Farmer, Pulaski, N. Y., lists a variety of strawberry and small fruit plants, grapes, etc., in which this grower specializes.

DeKalb Fence Co., DeKalb, Ill., manufacturers of wire fencing for all purposes, send an illustrated catalog describing their many kinds of fence, gates, etc.

"The New Huber" is the title of a new catalog issued by the Huber Mfg. Co., Marion, Ohio. This book is printed in colors and handsomely illustrated, and fully describes their well known line of engines and threshers.

The Union Fence Co., of DeKalb, Ill., send their catalog No. 10 for 1909, which describes their full line of fencing, gates, etc.

"Satisfaction" is the title of an interesting little booklet published by the Western Electric Co., of Cleveland, O. It is a "Story with a moral" and contains several photographic reproductions of, and quotations from, President Taft.

"Farmer on the Strawberry, or the New Strawberry Culture," is the title of an interesting and instructive pamphlet on this subject, by L. J. Farmer, of Pulaski, N. Y.

Why Boys Leave Home.

Do we thoroughly appreciate our boys? Of course, it would be hard to find a father who did not have affection for his son, but does the average father, the average father on the farm particularly, do the best he can for his youngsters? No doubt, he thinks he does; but is his method the best? Put yourself in your boy's place. Remember you were a boy and also remember that times have changed, wages have advanced and that you pay your farm help more than the prevailing rate on your father's farm. A clever man named Anstey once wrote a book called, "Vice Versa," in which a father and his son miraculously changed place and were compelled to appreciate the other's point of view. After that they were good friends and more satisfied with their own proper duties. So many boys and young men are leaving the farm and going to the cities that this subject is momentous to all. It is of national importance. Pay your boy a wage for his services. Better yet, make him your partner in a small way, telling him if he makes good you will increase the interest. Buy him a U. S. Cream Separator and fix his hours of work (when not at school), from say, 7 a. m. to 12 m. Let him have the afternoon to himself to work for outsiders to earn some extra ready cash. Charge the cost of the U. S. Separator to his account and show him how to pay for it gradually to you and the interest on the money from the profits he makes in separating the neighbors' milk for them. Then give him a calf to raise all his own, and later some good milk cows. He can use the U. S. Separator to still better purpose then and start buttermaking on his own account. To run a U. S. Separator will not tax a boy's strength, it is so free from friction and weight. U. S. Separators are so simple that a child can run one. As a first step toward keeping your boy on the farm, where he will do himself, his parents, the farm and his country the most good, write the Vermont Farm Machine Co., Bellows Falls, Vt., for Catalog No. 111.

This Home-Made Cough Cure Is Getting Famous.

Probably no recipe has acquired more general use in the last few years than the one given below, for making cough syrup at home. The remedy is inexpensive, easily made, pleasant to take, and remarkably effective. Use

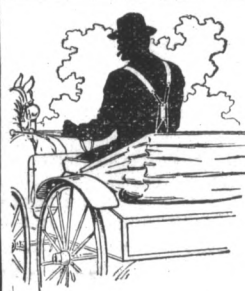
Granulated Sugar Syrup... 1 1/2 oz.
Pinex... 2 1/2 oz.

Put the Pinex (50 cents' worth) in a pint bottle and fill up with the syrup, made as follows: To a pint of Granulated Sugar add 1/2 cup of water, stir and let boil just a moment. Take a teaspoonful every one, two or three hours as required.

A few doses of this simple mixture will usually conquer a stubborn, deep-seated cough. The effect in colds, whooping cough, pains in the chest and similar troubles is surprisingly prompt.

The Granulated Sugar Syrup is a very simple but effective sedative. The Pinex is the most valuable concentrated compound of Norway White Pine Extract. It is rich in guaiacal and other elements which give the air of the pine forests its curative power in tuberculosis and membrane diseases. There are many pine oil and pine tar preparations, but the real Pinex itself is far better in this recipe. All druggists have it or will gladly get it for you if requested.

The recipe makes a full pint of cough syrup—enough to last a family a long time. It is a very handy thing to have around the house. If taken when the first symptoms appear it would wipe out nine-tenths of the trouble caused by coughs and colds.



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HORTICULTURE

ONION QUERIES.

1. I would like to know what variety of onions to plant on a loam soil that is not affected by dry weather? It has been planted to potatoes for the past ten or twelve years; has been heavily manured once in two years and sometimes every year. (2) Would like to raise Prizetakers but do not know as they would mature here (Northern Kent Co.), or would it be better to grow an early variety? (3) The seedsmen claim to have a kind that matures in ninety days. (4) Would Large Red Wethersfield mature here from seed sown in open ground in the spring?

Kent Co.

A. A. L.

(1) Generally speaking, the globe-shaped varieties are heavier croppers than the flattened, or turnip-shape sorts. This is especially true on muck soils, and if your land inclines to this, the globe shapes will be safest. With previous treatment of your ground I would suggest another heavy application of well-rotted, (not green), manure, turned under just before seeding supplement the manure with 50 lbs. nitrate of soda per acre. Later on when plants are well established apply same quantity again; and near maturing time, add still another 50 lbs. This can be broad-casted but should be done when plants are dry. If you prefer the yellow sorts use Yellow Globe Danvers or Michigan Yellow Globe, which has been especially bred for low land or muck soils. You will not go amiss with either of these. If you desire the red, the Southport Red Globe is desirable.

(2) The Prizetaker is one of the very best under cultivation; but best results will be obtained by sowing the seed under glass and transplanting. If you can obtain the plants from some grower who has them already started it will pay to get them, otherwise you had better depend upon those before mentioned. They will mature all right, I think, sown in the open ground; but best crops are

(3) The average time of maturing rotted, (not green), manure, turned under from seed is 130 to 150 days, and a ninety-day onion, if you can get it, is a hustler; but perhaps, they have it. On general principles, however, exceedingly early vegetables are always lacking in cropping qualities.

(4) I believe you would have no trouble with Large Red Wethersfield, but think the globe sorts will give best satisfaction.

Whatever kinds you decide upon, get the seed in the ground just as soon as weather and soil will permit. The onion is a cool weather plant and requires all the time possible before setting in of the hot midsummer weather.

Wayne Co.

J. E. MORSE.

FIELD NOTES ON LIME-SULPHUR SPRAY FOR THE AMATEUR.

By the time this reaches the reader the season for active warfare against San Jose scale will be here. I believe there are thousands of farmers in the state who will use the lime-sulphur, either home made or commercial, this spring for the first time and will be eager to learn all they can regarding the details of preparation and application, at least that was our case when we first used the wash and if we had been told a few things that we had to learn by experience, it would have saved us some time, materials, and chapped hands and faces.

The first problem the beginner will want to figure on is how much of the material will be needed for a certain number of trees of a certain size. The following data will give him some idea. On an orchard of half peach and half apple, three years old, of about 400 trees we used five barrels of lime-sulphur wash in making two applications of $2\frac{1}{2}$ barrels each, four days apart, with the wind in opposite directions. On apple orchards with medium sized trees perhaps 20 years old, we used about one barrel to eight trees, in this case spraying the tree as best we could at one application. On mature apple trees of large size we averaged about one barrel to five trees, making two applications with the wind in opposite directions. The barrels referred to are 50 gallon barrels and the spray was applied with a hand-pump thru double vermored nozzles. If 15 lbs. of sulfur and 20 to 25 lbs. of lime, which is the usual formula, are used to make 50 gallons of the wash, the approximate amount of materials needed can be computed from this data. If the commercial

material is to be used the amount can be computed from the formula advised by the manufacturer. In most cases they advise one gallon to eleven of water, which would be practically four gallons of the commercial mixture required to make 50 gallons of the spray.

Another problem with the home-made wash will be the details of cooking. An iron kettle that one is not particular about getting well daubed up is a necessity, and if one wishes to prepare enough for 50 gallons of wash at one cooking a kettle holding at least 25 gallons, or still better 50 gallons, is required. One can boil the mixture concentrated enough so that once or twice its volume of water may be added to make up the 50 gallons, but it is not advisable to attempt to boil with the kettle more than a half or two-thirds full, as much of the mixture may be lost by boiling over. Lump lime is best as it adds to the heat in slacking but ground lime will answer very well, and it is the only form that can now be readily obtained in many towns. The lime is added after the water is brot to a boil and if lump lime is used one must be careful or the mixture will boil over from the intense heat created by the slacking. I like to have the sulfur or a part of it in at this time to give it the benefit of this heat, but aside from this it is not material which is added first, or they may be added at the same time, small quantities at a time. Do not make the mistake of putting in the dry sulfur all at once for it will settle to the bottom in a mass and no amount of boiling will dissolve it all. We tried this at one time and even the violent agitation of steam cooking would not dissolve the mass. The sulfur may be sifted in dry thru a screen or by hand, a little at a time when the liquid is boiling, or it may be dissolved in a little water in a pail just as Paris green or arsenate of lead would be, and poured into the kettle. I prefer the first method as it is easier and if care is used all the sulfur will be dissolved. I believe a thoro boiling for a half hour after the lime and sulfur are all in will serve to combine the two sufficiently, but if fire is slow or kettle too full a longer time may be necessary. When sufficiently cooked the mixture will have a greenish-copper color. It may now be diluted with once to twice its volume of cold water to make the desired amount. If it is not applied for a half day or more it may be well to use warm water to prevent clogging of the nozzles. It is not advisable to use the wash too hot as it is harder on hose and pump.

We have cooked lime-sulfur wash, both by steam and in a kettle, and while the steam cooking is somewhat easier and faster and keeps the mixture better stirred the kettle-made wash appears to be just as good. To make the steam cooked wash we connected with the steam pipe of a near-by saw mill and used steam from this plant, which saved all expense for apparatus except the pipes and barrels. The steam pipes were fitted with suitable stop cocks, but the pipe ran down the barrel at the side and connected with a cross in the bottom of the barrel, these cross pipes having one-eighth inch holes every three inches to make an outlet for and distribute the steam. We had some trouble in drawing the hot mixture from the barrels which were elevated so as to be above the spray barrel on the wagon. We first used large wooden faucets, but the material would not go thru them fast enough. Then we tried the large iron faucets with gate valve such as are used on oil and molasses barrels, but the hot liquid melted the preparation which held the washer and caused them to leak. We finally pulled the plugs and let the wash run into a strainer and thru a tube into the barrel. An iron pipe fitted with a steam valve of ample size would probably prove efficient. Another thing to be that of is an air vent for barrels when lime-sulfur is being run into them thru a strainer setting in the bung hole; neither should the barrels be corked tightly while the material is warm if it is being transported in a wagon.

In applying the mixture a few problems may arise. All clamps and connections should be thoroly tight so there will be no danger of getting the material in one's eyes, and there should be extra clamps and washers to take the place of any which may become rusted or worn. A wrench, pincers and small pipe pliers should be always at hand to loosen or tighten any part of the pump or connections. The material should be strained before going into the barrel and the barrel kept clean. It is advisable

to wear goggles if the wind blows the spray in one's face or there is danger of the hose coming loose, for the material in one's eyes is unpleasant, to say the least. If the wash irritates one's hands and face it is well to rub them with vaseline before beginning to spray, and when thru wipe the vaseline off before washing. Rubber coats and gloves are advised, but if the rod is kept dry by having a drip guard and all connections tight, and one does not try to spray against the wind, these are unnecessary. Cloth or leather gloves and an old jacket and overalls will answer. If possible one should spray one side of the tree with wind in one direction and the other with wind in opposite direction, as he can do a better job and do it more easily and with less waste of materials. If the day is quiet and the trees not too large they may be sprayed fairly well in one operation, but a change of wind is better. One should choose clear, quiet days as the moisture will evaporate more rapidly when foliage is dry and spraying is very disagreeable when the wind is blowing briskly and it is more difficult to do a good economical job. One can not do a good job right after a rain while foliage is damp. It can be readily seen that in throwing a spray against one side of a tree only half of a given limb will be covered. If plenty of lime is used the sprayed part of the tree will soon turn white so it can be readily seen where the spray was applied; for this reason it is well to add some lime to the commercial preparations, as they are nearly colorless.

If the trees are tall a ten-foot bamboo, brass or aluminum lined rod will be a convenient length, and in addition the operator will need a platform or tower to stand on to spray the highest parts of the tree. If there are only a few trees he can use a large box placed on the wagon for this purpose, or even a step ladder; if there are many high trees it will be well to make a tower to set on the wagon. In this case it is more convenient to have three to do the work, one to pump, one to spray from the ground, and one from the tower. The secret of good spraying is first to have good nozzles and good pressure, then keep the rods moving so as to cover all parts of the tree and not over-spray any part. One must be especially careful not to miss any part of the tree in spraying for scale and there is little danger of applying too much except to waste the material.

Calhoun Co.

S. B. HARTMAN.

MICHIGAN APPLES.

As far as real quality is concerned Michigan apples are away ahead of western apples but for size and color Michigan apples generally fall a little short when compared with apples from the west. This fact, taken with the careful growing, thoro spraying and thinning, and the better system of picking, grading, packing and marketing of the western fruit grower has, in a measure at least, enabled him to take from the Michigan grower his market.

It is a shame that the Michigan fruit growers have allowed the western men to send their apples here, long distance by rail, to supply the fancy and better trade. Apple growers all over the state should awaken and take measures to put their fruit upon the market in such shape that it will be able to "hold its own" against outside fruit.

To do this there are several things the Michigan apple growers must do, also some things they must learn from the western growers: They must produce uniform, well colored, high quality fruit, free from scab, worms, and bruises, by choosing varieties suited to the environment, and market, and by proper cultivation, pruning, spraying and harvesting. They must learn and put in practice the western growers' methods, or modifications of them, of grading, packing and marketing.

The western fruit growers market thro associations and every box put out is guaranteed by the association to be just as represented by the label. It is right here that the Michigan growers have fallen off more than anywhere else. When a dealer buys Michigan apples he cannot depend upon them for, while most growers pack honestly there are always some who do not, and the whole have to suffer for the misdeeds of the few.

While it is hardly probable that the Michigan grower can ever grow as high colored fruit as the western growers, they can always make much of the high

FORTUNES IN ARKANSAS RICE

Do you know that you can earn \$50 to \$100 per acre from rice on the prairie lands of Arkansas—land that is to-day selling at about \$40 per acre? Do you know that rice is more staple than wheat—that the supply doesn't half equal the demand—that its price is always around \$1 per bushel?

Mr. Roy Kleiner of Stuttgart, Ark., last year planted 49 acres which threshed out 4,336 bushels and sold at the Stuttgart mill for \$4,285.57. His entire expenses, including feed for teams, was only \$666.40, leaving him a net profit of

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And he had never raised rice in his life before. His experience is not exceptional. The lowest single yield—not the average yield—of any rice grower in Arkansas County was 45 bushels per acre, netting over \$30. Will wheat bring you, that much?—will corn?—will hay?—Will any crop that is as easy to raise bring you half so much? Twice as profitable as wheat and easier to raise.

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This year I grew 10,000 bushels of corn. For years I have been selecting for a more prolific crop—for full sized, perfect ears. I kept at it until I succeeded. That's why I grew this year's big crop. It is the finest type of corn I ever saw and I have selected the best of it for seed. I guarantee it. I will refund your money if you do not find it satisfactory. Send us your orders now—before it is all sold. An order means a full corn crib for you next fall.



My new oats and seed potatoes are the same high grade. Catalogue free. If you are interested in fruit, I will send you a nice plant—free.

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Most wonderful grass of the century, yielding from 5 to 10 tons of hay per acre and lots of pasture besides. It simply grows, grows, grows! Cut it today and in 4 weeks it looks for the mow again, and so on. Grows and flourishes luxuriantly everywhere, on every farm in America. Big seed catalog free or send 10c in stamps and receive sample of this wonderful grass, also of Speltz, the cereal wonder, Barley, Oats, Clovers, Grasses, etc., etc., easily worth \$10.00 of any man's money to get a start, and catalog free. Or send 14c and we add a sample farm seed novelty never seen by you before.

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quality of their fruit. Altogether, the outlook for the Michigan grower is very favorable and if they will but make honesty in packing and marketing their motto, their success is assured.

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W. C. ECKARD.

SETTING TREES AND PLANTS.

Any one can dig a hole in the ground and set therein a tree or plant, and a great many think that all there is to know is that the root end goes down. There is a right way and a wrong way of transplanting trees, plants and shrubs. I have planted several orchards in my life, and except for a severe drouth or injured trees, have scarcely lost one. The trees are usually well packed at the nursery, and if received in a reasonable time are in good condition. They are usually left with as much root as can be dug out of the ground, and a great many think that the more the better and leave all the roots. This should never be done, but all roots should be trimmed off in proportion to the top. For one-year apple or peach trees I leave from four to six inches, removing all injured roots. They should be cut with a sharp knife, and the cut made from the under side. Likewise the branches should be shortened by cutting back to half their length, and all surplus limbs removed entirely. Blackberry and raspberry vines should be treated similarly to fruit trees, also grape vines. Strawberry plants should have the roots cut off square across, leaving about four inches on the plant.

Now, when you have the ground prepared and the plants or trees ready, dig the hole large enough to contain the roots so that they may be spread out without being in a cramped position. If the ground is very dry it is necessary to use about a gallon of water in each hole after the tree is in place and a few shovels of loose earth has been well tramped about the roots, then after the water has soaked in fill the hole and tramp, leaving a slight depression about the tree. Set a very little deeper than the tree stood in the nursery row. Remember that the first dirt put around the roots should be well pulverized and should be so distributed thru the roots as not to leave them all packed down together, but in a natural position. As soon as enough dirt has been put in to protect the roots from injury tramp firmly. Fill up and pack again. This packing of the dirt about the roots is the secret of success. A good tree, a well prepared seed bed, root pruning and well packed after setting, and your labor will bring forth fruit.

H. F. GRINSTEAD.

HORTICULTURAL SUBJECTS DISCUSSED.

Plowing the Old Apple Orchard.—A subscriber who has hogs is wondering about plowing his orchard. This proposition is easy of solution. Let the hogs do the plowing. If the animals have not the plowing habit it can be readily cultivated by making holes in the sod and dropping corn in the bottom. As soon as the corn is found the work will begin and will continue till the soil has been thoroughly worked. The damage done to the roots of the trees from this kind of cultivation is not so detrimental as that done by plowing; and the sods will be better torn to pieces. After they have worked some time and patches are left which have not been touched, the attention can be called to these spots by making holes and putting the corn as above mentioned. Another advantage of the scheme is that the work can be begun in the spring as soon as the frost is out of the soil. This is important, as by stirring the soil at this time growth is encouraged from the start and the trees get in good condition to supply food for the fruit crop. One of the chief faults to be found with much of the cultivation of orchards is that it is begun too late. The damage from frost affecting the blossoms of orchards cultivated early may be avoided by allowing the cultivation to rest for ten days or two weeks before the blossoms appear. No practical farmer will fail to see that this job, which is so dreaded by the average man, can be done without interrupting any of the other farm work and without cost but rather to the added vigor of the growing hogs. It is easy, so do not put it off until the ground is so hard that the pigs cannot do their work.

On Pruning Trees.—A majority of men prune trees "backwards." They do it thus because it seems easier—a natural fault of mankind. One reason for pruning is

to let more sunlight get to the bearing surface of the trees. The pruner comes with his saw and shears and sometimes his axe and the first place he touches upon the tree he begins to saw wood. His employment demands that he "saw wood" so he is impatient to wait till he reaches the place where sawing is required. He soon has all the bearing surface at the center of the tree removed when it becomes unnecessary to remove any of the limbs near the end of the large branches for there is nothing beneath them to shade. The bearing surface that was most available is gone; that which taxes the strength most to care for and to secure the fruit from, remains. The tree has been reduced in value as an economical producer by this "backward" pruning. The better method is to prune so as to keep down the top and permit the bearing surface about the center of the tree to remain. To do this one must work from the outside of the tree towards the center rather than from the center out. Far less wood will be removed, more surface will be exposed to the sun light, the tree will be kept within closer bounds and the operations of the orchard will be more economically performed, perhaps with the single exception of pruning, where there is much question, for many believe that the right way is quite as easily done as the "backward" method when the pruner once gets the right habit.

Burning Brush.—There are few farms where rubbish does not gather. It is usually of such material that it can be destroyed by fire as soon as piled. It would be a revelation to many to learn how green branches from the apple and other fruit trees can be burned upon such a pile. The usual excuse for not burning this brush is, that it is not dry. If the old knots and old logs and boards full of nails about the yard are piled up and set on fire and the brush is added to the pile while it is burning it becomes easy to show that the above excuse is no valid reason at all. Where orchards are large a brush burner is the best since it requires that the brush be carried the minimum of distance as the burner can be drawn thru the orchard and the limbs burned on the spot. But with small orchards this is not a necessary appurtenance. In pruning trees one should generally think more and do less than is usually done, but here is a case where the opposite is more apt to be true, for in thinking of a subject that means a delay in action one often makes a flimsy excuse sear his conscience for many days.

NO DANGER FROM SPRAYING WITH ARSENATE.

Please tell me thru your paper if there is any danger to the pasture in the orchard after trees are sprayed with arsenate of lead and Bordeaux mixture?

J. J. L.

When the subject of spraying was first being agitated, this question arose, and a number of experiments were conducted to ascertain whether or not sufficient of the poison would fall upon the grass and other foliage crops beneath the trees, to effect the animals eating them. All the experiments conducted went to prove that there need be no apprehension in this regard; that the small amount of arsenate secured in this manner was so insignificant as to cause no perceptible influence upon the health of the animals. This, therefore, should not influence any person in foregoing this protection of their fruit against insects and fungous diseases. The only damage that could come to the pasture is that, by applying the sprays, increased foliage will likely result upon the trees and therefore the ground will be shaded more than if the spray is not used. This increased leaf surface, however, will cause the production of more fruit of a higher quality.

SPRAYED TREES ONLY ONES THAT YIELDED FRUIT.

F. E. Shriver, Greenlawn Farm, Grafton, Ohio, writes: "Our season here was such that it was almost impossible to find a suitable day for spraying. I sprayed but once and then only a part of our trees. Where I used Pyrox I got apples and where I did not I harvested none. I used it also on pears and they were as nice as any one could ask for. Pyrox is the best spraying material I have ever used and I expect to use more of it next season." "Pyrox" does not wash off the foliage like Paris Green, but sticks like paint thru even heavy rains. We endorse it. Address this paper or Bowker Insecticide Co., Boston, Mass.

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Have You Rheumatism, Kidney, Liver or Bladder Trouble?

Pain or dull ache in the back is evidence of kidney trouble. It is Nature's timely warning to show you that the track of health is not clear.

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If these danger signals are unheeded more serious results follow; Bright's disease, which is the worst form of kidney trouble, may steal upon you.

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Lame back is only one of many symptoms of kidney trouble. Other symptoms showing that you need Swamp-Root are, being obliged to pass water often during the day and to get up many times during the night.

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Inability to hold urine, smarting in passing, uric acid, headache, dizziness, indigestion, sleeplessness, nervousness, sometimes the heart acts badly, rheumatism, bloating, lack of ambition, may be loss of flesh, sallow complexion.

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Most people do not realize the alarming increase and remarkable prevalence of kidney disease. While kidney disorders are the most common diseases that prevail, they are almost the last recognized by patient and physicians, who content themselves with doctoring the effects, while the original disease undermines the system.

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SAMPLE BOTTLE FREE.—To prove the wonderful merits of Swamp-Root you may have a sample bottle and a book of valuable information, both sent absolutely free by mail. The book contains many of the thousands of letters received from men and women who found Swamp-Root to be just the remedy they needed. The value and success of Swamp-Root is so well known that our readers are advised to send for a sample bottle. Address Dr. Kilmer & Co., Binghamton, N. Y., be sure to say you read this generous offer in The Detroit Michigan Farmer. The genuineness of this offer is guaranteed.



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If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at all the drug stores. Don't make any mistake, but remember the name, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., which you will find on every bottle.

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THE STRAWBERRY.

There cannot be many people who do not possess a considerable regard for the genuine strawberry. By this we mean freshly gathered fruit in mid-June and July. Such being the case, it is not surprising that the strawberry is generally very well grown. The field acreage under this fruit in a variety of districts continues to increase, few crops are as sure to yield a good return, and the strawberry bed is a prominent feature in practically every garden where any kind of fruit is grown. In May when the flowering of the plants affords a pretty spectacle, and even the meanest man does not grudge the wealth of litter that is laid down, the strawberry bed becomes a centre of interest: later on, it is elaborately netted to defeat the birds, and when the fruit is ripe, astonishing feats of early rising are quite commonly performed. Where the strawberry bed is neglected, it is reasonably safe to assume that there is no gardening whatsoever worthy of the name.

The principles of successful strawberry growing are simple enough but when the fruit season comes round there are invariably many people who discover that something must be wrong, so for their benefit we will make mention of the cardinal points. The strawberry will succeed very fairly well in a variety of soils. A rich deep loam somewhat light in character is to be preferred, and this should be deeply cultivated and well manured to the depth of one foot. It is necessary to lighten a heavy clay. Planting should be performed in late summer or early autumn, or failing that, in April or May. It is of real importance to commence with vigorous young plants, preferably those that have been rooted in pots. The planting distance varies with the variety and strength of the soil. It is a usual mistake, however, to plant too close, and in making a summer bed we commend the practice of planting 18 inches apart with 18 inches between the rows, leaving a wider space as an alley for cultivating purposes between every three rows and removing the middle one after the first season's crop. Altho often neglected, we consider it imperative that the bed should be renewed every three years, but we do not recommend an annual planting. To keep down the weeds constant surface cultivation is required during a great part of the year, the consequence of neglect in this particular being anything but labor-saving. Never dig between the rows. We prefer to litter with long manure early in spring; by the time it is required to protect the fruits this is washed clean. It is less costly than new straw, and it feeds the plants as well. After the crop is gathered the old leaves may be carefully cut off with a knife, the young ones being spared. The runners must not be allowed to choke up the bed, but it is not advantageous to cut them all off immediately on their appearance. In dry seasons it is undoubtedly unprofitable to water the strawberry freely from the time that the blossoms are set.

Canada.

W. R. GILBERT.

TESTING SEEDS.

We read considerable discussion in regard to the guaranteeing of seeds by seedsmen. Those who are not dealers do not seem to understand why the seedsmen can not guarantee seeds to grow satisfactorily or pay damages if they do not, while the seedsmen say such an agreement would soon drive them from business. Both sides give good reasons for their contentions.

It is not our intention to rehash this argument pro and con but to draw conclusions from it by which the farmer may profit. If we cannot look to the seedsmen for recourse in case we get a batch of poor seed we can at least use care in our selection of the seedsmen of whom we are to purchase our seeds. The reputation of the firm for carefulness in growing their seeds, care in handling so varieties are kept distinct, and strict business integrity should all be considered. We must use the same care in the selection of the firm as we would in the selection of the seed if we could do it ourselves, and more care than we would in the choice of a make of wagon or binder. The latter we can judge quite accurately from appearance, but the worth of the seeds lies deeper and can be determined only by trial.

Truck growers who use seeds in large quantities will do well to secure them early and test representative samples in time to secure others if they should

prove unsatisfactory. This precaution may save a crop or turn a profitless season's labor into a profitable one. We have several times tested the seeds for use in the garden to determine their per cent of germination, and while this may not be profitable where but few seeds are used and care is taken in selecting them, it is certainly so where the planting is done on a larger scale.

In the case of grains, and especially corn, the case is different. The amount of seed used is such that the farmer cannot afford to guess at the germination. Testing is quite simple and requires little time, and every farmer should get his germination box ready and get it done before he is "too busy."

Calhoun Co.

S. B. H.

CHRYSANTHEMUMS.

All of us who have the privilege of visiting a green-house or florist's store have been delighted beyond measure with the displays of autumn's queen, Chrysanthemum. And how we have longed to carry away great armfuls of the glorious "mums;" but most of us then think of the coming winter, with all its needs of warm clothing, fuel, light and food and dare not spend the two or three dollars necessary to procure even a single dozen of the beauties.

There is a way out of most difficulties, and a road to most desires, if we search faithfully for it, and this is the Chrysanthemum road.

Dig up a generous root, some hardy variety in the fall, no matter if it is frozen, put it in a box or crock and set it in the kitchen or other place where the frost will draw out. See to it that there is plenty of soil in the box to cover the roots well. As soon as frost is out of the soil the box may be removed to the cellar or any frost-proof place, and kept there until March, when it should be brot out to the light and warmth of the kitchen or living room and watered with warm water as often as necessary to keep the soil moist. In a few days quantities of new shoots will spring up from the roots, as soon as they have reached a height of three or four inches prepare a box of soil about four inches deep and large enough to hold your cuttings or slips, allowing about three inches between the plants each way.

Now take the growing root from its box or pot onto a table or flat board and carefully shake off the most of the soil; you will see that the roots can easily be divided into numberless short pieces, each with its new growth of top, or at least with a green eye or tip showing, each one of which will make a plant if cut off with a sharp knife and planted out in the cutting box. Of course, you understand that it is meant each green shoot must have a piece of root if we expect it to grow quickly and make a strong plant ready to plant in the open ground as soon as the season is far enough advanced, from the first to the middle of May.

"Mums" require quantities of water at all stages of growth; watch carefully that they do not dry out. When growth has started you can pinch out the tip of the young plants, inducing them to branch, or you can train them to a single stem as the florists do to produce larger and finer blooms. I like to try both ways; by the former method one gets hundreds of blossoms to a single plant averaging two or three inches in diameter. The single stem method gives a tall stalk crowned by a cluster of from four to seven fine flowers and from a dozen to twenty blossoms in lateral branches; or one may disbud, leaving only one at top of stalk to develop. At planting out time give at least two feet space between the plants which are allowed to branch, and one foot to those trained to single stalks. Keep them growing vigorously all summer and in September lift them carefully with plenty of dirt, into pots or boxes and keep in a sheltered place out of direct sunlight for a week or more, not neglecting to water thoroly. After they have recovered from shock of potting they may be moved to a sunny window where they will last for more than six weeks in all their glory and beauty.

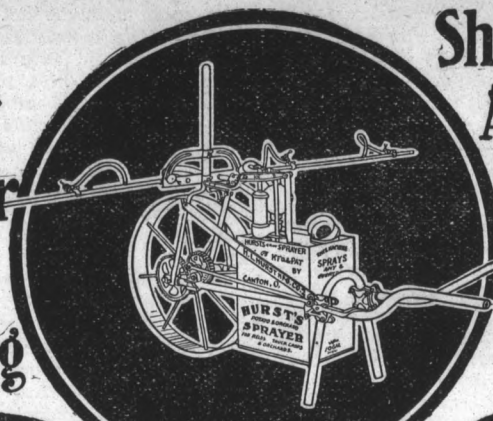
These hardy "mums" may be had in pure white, yellow, red, lavender and numerous shades of pink. Of course, if one prefers they may be planted in the open ground and left for years.

Wayne Co.

EVA ALICE MORSE.

The worst enemy of the fruit business cannot be controlled by spraying. He must be controlled by education, not only education of the mind but also of the heart.

This
Hurst
Sprayer
Sprays
Anything



Shipped On
Absolutely
Free Trial
Not A Cent
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AS ORCHARD SPRAYER

potatoes, truck, etc., 4 rows at a time. Also a first-class orchard and vineyard sprayer. Handiest sprayer made. Pushes easy as is well-balanced. Develops high pressure from big wheel.

Cheap in price, light, strong and durable. Brass ball-valves, Brass plunger, strainer, etc., Vapor spray prevents blight, scab, rot and bugs from cutting your crop in half and doubles your crop. The extra profit of "one acre" will more than pay for it the first season. The HURST Horse-Power Sprayer (shown below) is the sprayer for the large growers of potatoes, fruit, vineyards, etc.

"No tree too high, no field too big for this kind of sprayers." Simple in construction; powerful pressure, easy on man and horse. Is made for hard service. One-piece, heavy-angle-iron frame, cypress wood tank 60 to 100 gallon, metal wheels, nozzles adjusted to rows by the feet of the operator as the machine moves along.

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and "no strings" to OUR free-trial offer. Shipped direct to you at dealer's wholesale prices. You are under no obligations whatever to keep our machines if not fully satisfied. Write today for Spraying-Guide, Catalog and Special Free Offer to "first" in each locality this season. Be first to write and save money. Don't put it off but write now and save money. All our machines are sold subject to the same liberal offer.

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with timbered homesteads, small cash payment, 2 new railroads, 10c. rate on wheat, gently rolling land, better than Alberta, better than Texas, grass waist high. Write for new map Canora District, cheap 1909 excursions. "In all the West no trip like this!" SCANDINAVIAN-CANADIAN LAND CO., 172 Washington St., Chicago.

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As she is termed, will endure bravely and patiently agonies which a strong man would give way under. The fact is, women are more patient than they ought to be under such troubles.



Every woman ought to know that she may obtain the most experienced medical advice free of charge and in absolute confidence and privacy by writing to the World's Dispensary Medical Association, R. V. Pierce, M. D., President, Buffalo, N. Y. Dr. Pierce has been chief consulting physician of the Invalids' Hotel and Surgical Institute, of Buffalo, N. Y., for many years and has had a wider practical experience in the treatment of women's diseases than any other physician in this country. His medicines are world-famous for their astonishing efficacy.

The most perfect remedy ever devised for weak and delicate women is Dr. Pierce's Favorite Prescription. IT MAKES WEAK WOMEN STRONG SICK WOMEN WELL

The many and varied symptoms of woman's peculiar ailments are fully set forth in plain English in the People's Medical Adviser (1008 pages), a newly revised and up-to-date Edition of which, cloth-bound, will be mailed free on receipt of 31 one-cent stamps to pay cost of mailing, only. Address as above.

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The double layer of glass does it

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The Western Plow Attachment MAKES SULKY PLOW of any walking plow. Steadies the plow, saves the horse. Does away with hard work. Right or left hand—wood or steel beam. Absolute control of shear however hard the ground. Address **WESTERN IMPLEMENT CO.** 206 Park St., Ft. Washington, Wis. "A Boy can run it as well as a Man"

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FLOWERS FOR THE HOME.

For the successful cultivation of flowers, as well as with any other plants, three things especially should be observed: Conservation of moisture, ventilation of the soil, and destruction of the weeds. Many people think that cultivation is done primarily to destroy weeds. This, however, is a mistaken idea. The two prime objects are to retain moisture and admit fresh air to the surface layer. It is a fact that if the ground is allowed to crust it will lose moisture much more readily than when a dust mulch is established.

If a painful of water is poured on the soil and a blanket is thrown over the spot, the soil will remain moist much longer than it will when it is exposed to the sun and wind. The blanket prevents the loss of moisture. Cultivation serves much the same purpose. Mellow soil on the surface is similar to the blanket, and the water in the layer below the blanket and around the flowers' roots cannot escape to the air.

The soil needs air. There are many organisms in the surface layer that must live and multiply to improve the soil. If these organisms do not have an abundance of air at all times they will perish the same as other life would if it could not get air. Cultivation opens the "windows" and "ventilators" of the soil and admits air to all parts needing it.

Cultivation of flowers should be as deep as possible without cutting the roots and should be done at least once a week. Usually a rake is the ideal instrument when there are no weeds to kill.

Great care should be exercised, especially by the amateur, not to have too many varieties of flowers. Start with only a few, learn their habits and characteristics, and after you have a thorough knowledge of the plants attempted, you can add other flowers to your garden. More failures in the annual flower garden can be traced to attempting too many varieties from the start than to any other one cause.

Asters may be grown with limited care and will thrive in almost any kind of soil. The bloom is the most beautiful and popular of any of the annuals and many of the perennials. Plant them any time during the month of May or the first of June, about one-half inch deep and eighteen inches apart.

If the flower roots become infested with root lice remove the soil till the uppermost roots are exposed; then throw in a handful of tobacco dust and cover with the soil removed. This tobacco dust can be obtained at very small cost, but in case, however, that it could not be obtained, apply a little unleached wood ashes.

Plant the balsams in May also, and when the plants appear, thin to two feet apart in the rows. They require a mellow soil.

The candytuft is a very pretty flower for the beginner to include in the flower garden. By planting seed every two weeks there will be a succession of bloom that will furnish excellent flowers for cutting during the entire summer. Plant the seed in mellow warm ground, and when the plants appear thin to eight inches apart in the rows. Do not plant them more than one-fourth of an inch deep.

The corn flower is another excellent variety that should have a place in every garden. The seeds are very fine and should not be planted more than one-fourth of an inch deep. When they are once started they will usually reseed themselves.

It should be remembered that the land should be in good condition and the flowers be well taken care of, and under such conditions they will show themselves to provide an abundance of nice flowers for the home.

Illinois.

N. M. RUSHING.

ABOUT GRAPES.

How long the grape has been in cultivation by man can never be fathomed. Profane history does not reach back to the first plants or the first wine made from the grape. It is interesting to note that grape seeds have been found with the remains of Swiss and Italian lake dwellers, in European graves of the Bronze Age, and in the tombs of the Egyptian mummies. The vine is frequently the subject of metaphor in the scriptures—to dwell under the vine and fig tree is emblematic of happiness and peace.

Perhaps no plant and its products are used in so many ways and for so many

purposes as the grapevine and its fruit. We enjoy the grape in the fresh state, or, when dried, in the form of raisins; the unfermented grape juice and wine are important items in household economy and medicine, while the grape yields many other products and by-products. The vine itself gives pleasure to the senses by its fragrant blossom, beautiful foliage and luscious fruit; it affords shade and shelter; various parts of it are employed for divers purposes; and the wood is used for fuel and in the manufacture of furniture and other useful articles. In Switzerland the leaves are applied to medicinal or surgical articles. For cuts and fresh wounds they are esteemed a sovereign remedy. Decoctions of the juice of the leaves are used in poultices. An agreeable tea is also made from the leaves which is said to greatly strengthen the nerves. In its use more sugar is necessary than for tea from the tea plant. The leaves are also excellent food for cows, sheep and hogs. The "tears" of the vine, used medicinally, are a limid exudation of the sap at the time the plant begins budding. The liquid is selected by cutting off the ends of the canes, bending them down and sticking the ends into the neck of a bottle, which will be filled in a few days. The wood and branches are used in the manufacture of baskets, furniture, rustic work, bark for typing material, etc., and when burned furnish potash and salts. The wood of the grape is said to be of the most lasting nature, very beautiful in its texture. The columns of Juno's temple at Metapont and also the statue of Jupiter at the city of Apollonium were made from the wood of the vine. The great doors of the cathedral at Ravenna are made of vine planks, some of which are 12 feet long and 15 inches broad.

It is difficult to accurately estimate the age of vines by the usual methods of counting the rings, because the yearly growth is not distinctly marked. Some authors state that the vine equals and even surpasses the oak in point of age. Pliny mentions a vine 600 year old. It is stated that some of the vineyards of Italy held good 300 years and that vines 100 years old are accounted young. The celebrated vine in the conservatory at Hampton Court, England, planted in 1769, had in 1830 a stem 13 inches in girth and a principal branch 114 feet in length, the whole vine occupying more than 160 square yards; and in one year it produced 2,200 bunches of fruit weighing on an average a pound.

A wild grapevine upon the shores of Mobile Bay, about one mile north of Daphne, Alabama, is commonly known as the "General Jackson vine," from the fact that General Andrew Jackson twice pitched his tent under it during the campaign against the Seminole Indians. In 1897 the trunk of this vine was reported to have a circumference of six feet one inch at its base.

A vine now standing in California, planted in 1842 by a Spanish woman covers nearly half an acre and it is estimated that 800 persons could find protection from the sun's heat under its branches. The first election in Santa Barbara county under American rule, was held beneath it. In 1893 it bore eight tons of grapes and in 1895 over 10 tons. The trunk of the vine is seven feet eight inches in circumference.

What is considered the largest vine in the world is a scuppernon grape vine on Roanoke Island, North Carolina. According to tradition of the island this vine was planted by a member of the first Anglo-Saxon colony in the United States in 1585-87. It is still hearty and vigorous, covering over an acre of ground and yielding today a large crop of fine, large grapes. The parent stem is larger than a man's body.

Washington, D. C. G. E. MITCHELL.

How to Save Money on Fence.

We take pleasure in calling our reader's attention to the advertisement of the Frost Wire Fence Company, of Cleveland, Ohio, contained in this and other numbers of our current issue. The manager of the Frost Wire Company has been actively engaged in the manufacture of wire fences and steel gates for the past twenty years and he and his able co-workers, have made it a study to produce an article that will give the progressive farmer satisfaction and continued service for a lifetime. Their aim has been to offer nothing to the public but what would be worth one hundred cents on the dollar. We believe that if you will buy a good field-erected fence, which is very easily and quickly put up, it will last indefinitely and we know the Frost Fence is thoroughly reliable and they will be glad to send you samples, catalogs and prices on any amount you may need. Write them.

Doctors

say take Cod Liver Oil—they undoubtedly mean **Scott's Emulsion**.

It would be just as sensible for them to prescribe Quinine in its crude form as to prescribe Cod Liver Oil in its natural state. In

Scott's Emulsion

the oil is emulsified and made easy to take—easy to digest and easy to be absorbed in to the body—and is the most natural and useful fatty food to feed and nourish the wasted body that is known in medicine today.

Nothing can be found to take its place. If you are run-down you should take it.

Send this advertisement, together with name of paper in which it appears, your address and four cents to cover postage, and we will send you a "Complete Handy Atlas of the World." **SCOTT & BOWNE, 409 Pearl St., New York**

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60,000 settlers from the United States in 1908. New Districts opened for settlement. 320 acres of land to EACH SETTLER—160 free homestead and 160 acres at only \$8 per acre.

"A vast, rich country and a contented, prosperous people." Extract from correspondence of a Kansas Editor, whose visit to Western Canada in August, 1908, was an inspiration.

Many have paid the entire cost of their farms and had a balance of from \$10 to \$20 per acre as a result of one crop.

Spring and Winter Wheat, Oats, Barley, Flax and Peas are the principal crops, while the wild grasses bring to perfection the best cattle that have ever been sold on the Chicago market.

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For pamphlets, maps and information regarding low Railway Rates, apply to Sup't of Immigration, Ottawa, Can., or to the authorized Canadian Government Agent.

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True Catalpa Spec. & Bl. Locust, healthy 1 yr. trees \$4.50 per 1,000. All kinds forest & evergreen trees cheap. **T. G. BROSIUS, Tiffin, Ohio.**

PEACH TREES—Orchard size, 4 and 5 cts. each. Elberta, etc. Write for free catalog. **Woodbine Nurseries, W. A. ALLEN & SON, Geneva, Ohio.**

MILLIONS OF TREES, PLANTS, VINES, ROSES, ETC. The oldest, largest and most complete nursery in Michigan. Send for catalog. Prices reasonable. Agents wanted. **I. E. ILGENFRITZ SONS CO., The MONROE NURSERY, Monroe, Michigan.**

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PEACH TREES, 3c; Apple, 5c; Cherry, 12c. All kinds of fruit trees and plants. Get cata. **ERNST'S NURSERIES, Moscow, O.**

OATS Sensation: Great yielder. (Weigh 40 lbs. per bushel). Also Seed Corn, Potatoes, Alfalfa and Clover Seed. Samples and catalog free. **THEO. BURT & SONS, Meirose, Ohio.**

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Onion Seed—We are extensive growers and dealers in all the prominent varieties. Write us. **Schlader Bros., Chillicothe, Ohio.**

SEED CORN! Send to the Old Reliable Firm, Originators and Growers of the Famous Leaming Corn. **J. S. Leaming & Sons, R. F. D. No. 2, Waynesville, Ohio.**

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Strawberry, Raspberry, Blackberry, Grape and Currant Plants. Extra heavy rooted high grade stock. 17 annual wholesale and retail catalogues free. **A. R. WESTON & CO., R. 1, Bridgman, Mich.**

SEED OATS—CZAR RUSSIA SEED OATS, Reclaimed. Price 80 cents per bushel. **RINA M. DELL, Mason, Mich.**

WHITE CAP DENT SEED CORN for sale. Careful! \$1.50 per 70 lbs. of ears or \$1.00 per 56 lbs. shelled. **E. M. MOORE, Wixom, Michigan.**

POULTRY AND BEES

POULTRY RUNS.

One of the most important things in poultry raising is to have proper runs. It is a mistaken idea that the best land for poultry is the poorest land that lays outdoors i. e., gravelly or sandy land, an acre of which will not produce enough hay to keep a goat alive. Hens and chickens require grass and lots of it. An acre of good grass land is necessary for every 100 adult fowls. A poultry plant requires just as good soil as a dairy farm. No wonder so many people fail in the hen business when they erect their buildings upon sand. Remember the Bible's warning about building upon the sand, and its advice about building upon the solid rock. Better locate the plant upon a rocky farm, for where there are rocks some good soil is sure to be found.

Poultry can be kept in most any kind of runs, providing there is something for them to eat in the shape of green stuff and animal food. Yards or ranges upon poor sandy or gravelly land are usually as destitute and barren of animal food as the desert of Sahara. Little creeks, meadows, slashes, apple orchards and woods make excellent runs for poultry.

A small wet meadow with a little brook oozing thru it is a good run, for in such a place mud worms, polywogs, and various water bugs are found in great abundance. There are certain soft juicy grasses that grow around such streams that the hens enjoy. If such runs are bushy, so much the better, for they will furnish shade. Meadow land that is drier and contains larger brooks also makes splendid range for fowls.

Runs in slashes or bush pieces are especially good for growing stock. Chickens love to rest underneath low bushes and they are better protected from hawks if there are bushes under which they can hide. Bugs and insects galore are found around old stumps where the original growth has been cut off, and patches of grass and clover here and there furnish a bountiful supply of green food.

An apple orchard is perhaps the best kind of a run for poultry in any stage of life. Plenty of grass, shade, bees, flies, moths, worms, and other kinds of insect life are ever present. The early and fall apples when ripe are good for fowls and are heartily devoured by them. A fruit orchard of any kind, however, makes an ideal run.

A heavy growth of wood or timber furnishes an excellent working place for the hens, especially in hot weather. The leaves and pine needles have many kinds of insects lurking under them and the hens enjoy raking them over for the choice morsels they will discover.

A run half covered with grass and the other half planted to corn makes a good combination, as they secure green food from the grass land and animal food and shade in the corn field. Chickens may be allowed free range in fields of grass, growing oats, potatoes, corn, and garden stuff, with great benefit not only to them but also to the crops.

Free range for poultry is the inexorable law of nature. Confinement is an artificial condition. Poultry left to themselves will not often frequent sandy land or sand banks unless to dust themselves. Hens given their freedom are much better able to satisfy their wants and supply their needs than any human being is able to do when hens are confined.

In parts of the country where foxes or other animals destructive to poultry, abound, it is necessary to be on the safe side by enclosing the farm or poultry range with a wire fence, having the mesh fine enough to keep out all intruders. The fence should be tight at the bottom and at least four feet in height. If no fence was put up one might not be troubled for several years and then have a severe blow struck, to rally from which would cost a season's work.

Small enclosures and poultry yards should be frequently renewed by plowing and seeding down. Peach, plum, cherry trees, and the like, set out in the yards, are valuable not only to the fowls in the number of insects they attract, but also because of bountiful crops.

Whatever runs are used for poultry let them be productive, not sterile, of an abundance of green and animal food, with plenty of shade. If confinement in yards is necessary make them approach natural conditions as nearly as possible.

N. H.

A. G. SYMONDS.

PRESERVING EARLY EGGS.

It is practical to begin preserving eggs as early as May—in fact, it is well to begin earlier than this. Storage men prefer April eggs to those of any other month because they realize that the better the condition of the eggs when put away the more perfect will they be when wanted for market. It is a waste of time and material to put away eggs that are not perfectly fresh and wholesome, and for this reason farmers who attempt to preserve eggs should follow the example of storage men and examine every egg. By means of the candle it is an easy matter to cull out every egg that is the least bit off as to condition.

Liquid preservatives are the only kind now considered practical for farm use, as by the old method of packing eggs in grain, salt and such materials it has been found that they lose much of their moisture by evaporation. The only liquid preservative that has really given satisfaction is "water glass," chemically known as sodium silicate. It may be obtained at most drug stores at a cost of about \$1 to \$1.25 per gallon. It makes a comparatively cheap preservative, as a gallon of the chemical, when diluted, makes about 10 gallons of preserving fluid.

The Connecticut station, in a recent bulletin on this subject, states that several hundred dozens of eggs are preserved by this method at the agricultural college each year. They are used for pastry cooking by the students' boarding clubs, proving very satisfactory and effecting a considerable saving.

The directions for using the preservative are as follows:

For the preservation of eggs in "water glass" a cellar or room should be used where the temperature is even and does not go over 60 degs. F. Any clean watertight receptacle will do, tho stone jars are commonly used, or barrels when larger numbers of eggs are to be preserved. The receptacle should be scalded thoroly two or three times, to make sure that it is perfectly clean.

The preserving fluid itself should be made from water that has been boiled and allowed to cool, and to every nine quarts of this water add one quart of "water glass," stirring thoroly to insure a proper mixing of the two.

When the eggs are to be preserved in several receptacles, the water and "water glass" should be mixed in each receptacle separately, for if mixed in one receptacle and poured into several there is the liability of getting different percentages of "water glass" in each receptacle, and the result is that some eggs are likely to spoil.

Into this fluid place the eggs, examining each egg to see that it is clean and is not cracked. A good method is to tap two eggs together gently before putting them into the "water glass." If they are not cracked they will give a true ring, while if one of them is cracked the sound will be entirely different and the cracked egg can be discarded.

If several receptacles are used in which to preserve the eggs, it is a good plan to mark the receptacle bearing the April eggs and those containing the May and June eggs. These receptacles should be kept where the sun's rays do not fall directly on them and they should be covered by laying loose boards over them. From time to time water should be added where there is a loss by evaporation, keeping all the eggs wholly submerged, but the preservative should not be stirred.

When the eggs are desired for use, the June eggs should be used first, the May eggs next and the April eggs last, for their keeping qualities are different. The "water glass" should be washed from the eggs, leaving the shells clean and, if they are sold, they should be sold as "water glass" eggs.

GROWING CAPONS.

Raising caponized cockerels has become a good paying branch of the poultry business. A capon is a castrated male bird. Caponized fowls become more quiet and are easily fattened. They show no disposition to fight or crow. If properly raised a capon will weigh about 12 lbs. at one year of age. Caponizing should be done when the cockerel is from two to three months old. A complete set of tools must be purchased for this work and used according to the directions that accompany them. I would advise the beginner to learn by watching an experienced person perform the operation. If this cannot be done,

AMERICAN FENCE



To get the most out of a farm, every square foot must be either tilled or else made to produce feed for live stock. A fence all around the farm, then cross fences, making more and smaller fields—permitting rotation of crops and change of pasture—are first essentials in making possible maximum earnings.

Here are two great fences—the best square mesh and the best diamond mesh. We selected these two styles years ago, after careful study and advice from many of the most experienced and successful farmers, the correctness of which has been verified by actual results in the field. These fences are the simplest in construction; are made of any size or weight of wire desired and perfectly adapted to all uses and conditions.

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We are building the best fence we know how—and we know how. Best material, best knot, best mechanical help—it takes all these to make fence of Anthony quality—"Best Fence on Earth." Hard steel wire; smooth, compact, strong knot; stays parallel on hillside or level ground; gauge every wire in ours—then gauge the wire of others.

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"Sold Anthony Fence for 5 years. First sold stands today straight and firm."
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WANT THE BEST
"We have customers who would not have any other kind but Anthony."
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"We find that our sales of Anthony Fence are continually increasing."
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"I have handled Anthony Fence for 5 years and have not had one complaint."
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"Must say Anthony Fence is good enough for every respect."
Sedalia Lumber Co., Sedalia, Ind.

AND WE HAVE STACKS MORE



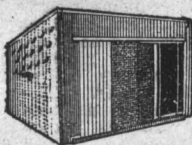
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The Anthony Fence Co.,
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Protect Your Chicks



They have the snug, warm, dry quarters in this **Sanitary Brood Coop** that keeps off the dreaded roup and makes them **Safe from Rats, Mink, Weasel, Lice and Mites**

All galvanized iron and steel. No other brooder anything like it. Exclusive pattern made and sold only by us. Adds 100 per cent to profits, keeps down cost and expense of poultry raising. Shipped knock-down. Easily stored. Write for free booklet today fully describing this coop; also our Metal Feed Combination, Trap, Laying and Sitting Nests, Non-Freezing Drinking Fountain, Egg Carrier and Medicated Charcoal. Des Moines Incubator Co., 255 Third St., Des Moines, Ia.



\$7.55 Buys the Best 140-Egg Incubator ever Made

Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water brooder, \$4.50. Ordered together \$11.50. Satisfaction guaranteed. No machines at any price are better. Write for book today or send price and save waiting. Belle City Incubator Co., Box 14, Racine, Wis.



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That is what we guarantee you can do with the **Invincible Hatcher**. Try it and if it doesn't produce more strong, healthy chicks than any other hatchling, regardless of price, send it back. 50-Egg Size Only \$4.00. Same low prices on larger Hatchers, Brooders and Supplies. Write for 176-page FREE catalogue. The United Factories Co., Dept. X22, Cleveland, O.



125 Egg Incubator \$10 and Brooder Both For

If ordered together we send both for \$10 and pay freight. Well made, hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Wisconsin Incubator Co., Box 39, Racine, Wis.

Send Us a Postal for a Price

Just your name and address on a postal brings prices on all sizes of celebrated **Racine Incubators and Brooders**—guaranteed to hatch highest percentage of eggs. Liberal Free Trial Plan. Best Incubator Proposition on the market. Postal brings all printed matter and prices at once. Address **Racine Hatcher Company, Box 54, Racine, Wis.**

THROW AWAY PICK, SPADE

Quit the old, back-breaking, hand-blistering way of digging—use the new, up-to-date, low-priced **Iwan Digger**—goes through gravel, clay, sand or gumbo—no matter how wet or dry. Falls out and unloads quick and easy. Anyone can **Dig a Hole in a Jiffy With**

Iwan's Patent Post Hole Auger. It pays for itself in one job. A simple pipe extension permits going down to 40 feet—deep enough for wells. The blades of Iwan Augers are double, tempered steel. Remain sharp for years, never out of order. Write now for our free book called "Easy Digging" and learn how easy it is to dig—nowadays. We will also tell you where you can see one of these low-priced implements—write to **Iwan Bros., Dept. South Bend, Ind.**

ANNOUNCEMENT OF PAGE FENCE "JUBILEE YEAR"

This is the Quarter-Centennial or "Jubilee Year" of Page Fence. To celebrate the twenty-five years' triumph of the Pioneer Woven Wire Fence, we are preparing a "Jubilee Edition" of the Page Fence Catalog for free distribution. It is the most interesting, unique and valuable Fence Book ever printed. It tells the story of Page success, from the first fence sold to the present time, when over 800,000 progressive farmers own and praise Page Fence. Gives the reasons for the use of Page Fence by the Government as the highest standard of quality. Handsomely illustrated. Filled with important Fence facts. Send today. Its FREE.

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FENCE Strongest Made. Made of High Carbon Double Strength Galvanized Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free. **COILED SPRING FENCE CO.** Box 21 Winchester, Indiana.

FENCE 13c Up Per Rd.

Get our 1909 prices on any style fence. We sell direct, you get all dealers' and jobbers' profit when you buy direct from our factory. Write at once. **Anchor Fence & Mfg. Co., Dept. L, Cleveland, O.**

White Cedar Posts, Poles and Shingles in car lots. **Fuller & Harris, Farwell, Mich.**

PATENTS ALEXANDER & DOWELL, Attorneys at Law, 918 F. St., Washington, (Est. 1857.) **Procure Patents and Trade Marks; Render Expert Opinions on Patentability of Inventions; Validity and Infringement of Patents; Practice in all Federal Courts.** Will send book of information on request.

experiment on several dead cockerels before attempting to operate on a live one. After the operation give the fowl plenty of water and soft feed. No further care need be given for two or three days. Should a slight swelling occur, prick the skin at one side of the swelling with a sharp needle and gently press out the air. About three or four weeks before marketing confine the fowls in small yards and give them plenty of corn, mash and other fattening food three or four times a day. **OTTO HACHMAN.**

FAVORS EIGHT-FRAME HIVE FOR EXTRACTED HONEY.

While attending the last National Beekeepers' Convention at Detroit, and listening to the different ideas advanced and discussions entered into, I could not help being much interested in the debate between S. D. Chapman, of Michigan, and R. F. Holtermann, of Ontario, as to which hive—an eight-frame or larger—is best for the production of extracted honey. While this question was very fully discussed by these gentlemen and others, there was no real decision rendered by the meeting. For the benefit of those who are about to purchase hives for the coming season I would say do not jump at conclusions. If you have been using an eight-frame hive and it has given satisfaction, don't switch off on a ten-frame, for if you do you are very apt to rue your bargain. And likewise if you have been using a ten-frame hive. I have hives containing but seven Langstroth frames, and I have those holding as high as twelve, but for me here the eight-frame hive, taking one year with another, has given by far the best results. In California, however, a ten or twelve-frame hive is not a bit too large and an eight-frame hive is altogether too small.

Now as to what makes the difference. Here I take my bees from the cellar about April 1, and I have from then until June 1 to raise enough workers to take care that time. Now, all thru April and May our weather is very changeable. First, of the harvest that comes soon after we may get a few days of real summer and then we may get a few days of almost winter, and things inside the hive must be so situated as to keep the temperature the same regardless of that outside, or a lot of chilled brood and backward colonies will be the result. Here we can place very little confidence on the honey crop after the clover is gone, and to get best results we must figure to get all the bees possible raised before the clover comes, and then to make the bees turn their attention towards reaping the harvest instead of raising more workers. Any beekeeper who simply lets nature take its course and pays no attention to the matter of having all the workers on hand he can get ready to reap the harvest of honey when the flowers secrete it is sure to lose one-half the crop that should otherwise be his.

Eight-Frame Hive Conductive to Rapid Building Up.

Now, as to the best way to use an eight-frame hive in this state. I think Mr. Chapman works on very nearly the same plan as I do, only I do not understand whether he practices stimulative feeding or not, which I do. I endeavor to produce an artificial honey flow for about two or three hours each day from the time I take my bees from the cellar until clover begins to bloom. That is, every day there is not a natural flow on. This causes the queen to lay all the eggs that the bees can possibly attend to and in the eight-frame hive I find, owing to the temperature being more easily controlled inside, they breed up a great deal faster than in a hive of larger size. Heat radiates upward more readily than any other way. For example, the flame of a lamp placed at the bottom of a piece of gas pipe standing upright will heat the entire amount of air inside quite hot in a short time, but if we turn the pipe horizontal and place the flame in the center the air at the extreme ends will hardly be warm.

Now, with the eight-frame hive we wait until enough heat has been generated to enable the bees to fill six of the center frames with brood, then we put on an upper story of the same size as the lower one, without any queen excluder between. Raise up the two middle combs of brood from below and in their place put two empty combs from above. These two frames of brood are placed directly over the heat-generating cluster in the lower hive body. The queen usually fills the two empty combs put in below first; then she goes up stairs

and fills the four inside empty combs up there. This gives us six frames of hatching brood in each story, or twelve frames in all, and sometimes I have seen the sixteen frames very nearly full of solid brood by the time clover began to blossom. Now, if there are 3,000 cells on each side of a brood frame, or 6,000 cells in each frame, in twelve frames we have 72,000 brood cells and about three-fourths to seven-eighths of them will be filled. This will give us from 50,000 to 60,000 good workers to begin the harvest with, and surely this is quite enough to make a good showing. No, there won't be many drones. If there are any they must be raised in the two outside frames, for that is the only place any drone cells should be located.

Now about two weeks before the real harvest comes on we go thru and, making sure that the queen is in the lower hive body, slip a queen excluder between the two stories, thus preventing any more eggs being deposited in the upper story. Then, as fast as the bees hatch out the cells are filled with honey.

Now, as to the ten or twelve-frame hive. First, all heat must be radiated from side to side and very seldom do we find more than six frames filled with brood before May 1. If the weather has been a little bit cold there will not be more than eight frames filled before June 1, which will give us but two-thirds the amount of brood which we have in the twelve frames where the eight-frame hives are tiered up. And, upon opening the hives, say May 10, we can notice that while the brood in the lower story of the eight-frame hive is tightly covered with bees, that in the upper one is only lightly covered. This upper brood does not require the number of bees to keep it warm that the brood in the lower story does on account of the heat generated below and radiating up, while in a ten-frame hive there is no heat radiating from below and all brood must be well covered with bees or it will be chilled. I do not believe it takes any more bees to keep twelve frames of brood warm in a good, tight, two-story eight-frame hive than it does in a ten-frame single story. The number of bees required to keep the two outside frames of brood warm in the ten-frame hive will go upstairs in the eight-frame two-story hive and attend to six frames of brood with the aid of the heat coming up from below.

Now you may say, why don't we tier up the ten-frame hives and get sixteen frames of hatching brood? A colony of bees in an eight-frame hive will cover six frames of brood fully as quick as one in a ten-frame hive and as we must wait with any hive until three-fourths of the frames are filled with brood before we put on an upper story, we can do so much sooner with an eight-frame than we can with the ten or twelve, and this gives us, here in this climate, our upper story three-fourths filled with brood and partly hatched out before the honey harvest begins in good earnest, where, with the larger hive, our harvest would be half gone before we secured the harvest help.

In California the bees fly more or less all the year and by February 1 are doing as much as bees here are doing in May. By March 1 the bees there are beginning to swarm and from then on there is continual honey flow of more or less volume until October 1. One set of workers there would not do for the harvest, but the bees must be kept continually breeding and, as the weather is very hot and not changeable, the larger the hive the better, so long as it is not so big as to be unwieldy.

A hollow tree here is nature's own bee hive, and the bees, we know, will build combs must faster up or down than from side to side. I think that this alone proves that the more we work on the tiering up plan instead of the broadening out one, the nearer we will imitate nature and the better will be our results. **JACKSON CO. L. D. HUFFMAN.**

Cockerels About All Sold. Mr. E. D. Bishop, Lake Odessa, Mich., who has been advertising cockerels, writes us to change his advertisement to eggs for sale as his cockerels are about all sold. We wish to say to those of our subscribers who have more stock than they can use to advantage, and wish to get better than market prices, that they can readily dispose of them thru an advertisement in the Michigan Farmer.

The Michigan Farmer Sells Poultry. Willis S. Meade, Holly, Mich., the well known breeder of Buff Rocks, writes: "My advertisement with you has been entirely satisfactory. I am nearly sold out of cockerels. You can change my card to eggs."

Long ago the Scotch learned this.

The sturdy old Scotchman must be amused at the recent "discoveries" that oatmeal is the best food in the world.

Our scientific men have been making experiments which prove that Americans eat too much fat and grease and not enough cereals.

The Scotchmen say: "Look at our nation as proof. The sturdiest nation on earth." Still we have one good point to make. We make better oatmeal than the Scotch.

They buy Quaker Oats and consider it the leader of all oatmeals to be had anywhere. Quaker Oats is sold in family size packages at 25c or at 30c for the package containing a piece of fine china. The regular size package sells at 10c. Follow the example of the Scotch; eat a Quaker Oats breakfast every day.

All grocers sell Quaker Oats.

Crown Bone Cutter

FEED your hens out green bone and get more eggs. With a Crown Bone Cutter you can cut up all scrap bones easily and quickly, and without any trouble, and have out bone fresh every day for your poultry. Send at once for free catalogue. **WILSON BROS., Box 660, Easton, Pa.**

Best Made—Lowest in Price

RED BABIES—Rhode Island Red baby chicks only 15c each, \$15 per 100 and up. Prize winners Cincinnati, Chicago, Indianapolis, Kansas City, Milwaukee, Detroit, Toledo. Eggs \$2 to \$20 per 15. Owner CHICAGO KING, world's greatest Red male. High grade eggs and chicks to a few parties on a share basis, at reduced price. Barred Rock, Leghorn, Black Minorca chicks 10c each, \$10 per 100. One lot Black Minorcas, 15 hens, 1 cockerel, \$16. One lot Black Minorcas, 15 hens, 1 yearling male, son 1st cock at Detroit, \$25. Two lots Buff Orpingtons, 1 male, 10 hens, \$12. Five lots of Reds, 11 birds, \$12. Also Red cockerels and females \$1 & \$2. **EDWIN R. CORNISH, Edwardsburg, Mich.**

"MONEY IN EGGS" S. C. BROWN Leghorns—My method and farm arrange has developed layers with vigor. My eggs produce layers. One-third fancier's price and better layers. \$1 per 30, \$2 per 60, \$3 per 100, \$5 per 200, \$7 per 300. **J. E. McARTHUR, R. 3, Enfield, Ill.**

STOCK AND EGGS in Mich. best White, Silver, Golden and Buff Wyandottes, Rhode Island Reds, Barred Rocks, Pat. Cochins, Light Brahmas, White & Black Langshans. All varieties of Leghorns & Hamburgs. Pekin, Rouen, Cayuga, and Muscovy Blue Swedish White & Gray Call Ducks. Toulouse, Embden, African, Bronze & White China Geese. **E. J. Haskins, Pittsford, Mich.**

FAIRVIEW FARM R. I. Reds and R. C. B. Leghorns. Eggs \$1.50 and \$1 per 15; \$2.75 per 50; \$5 per 100. **ENGLISH & WIDMAYER, Chelsea, Mich.**

BEST STRAIN R. C. B. I. Reds. Eggs each, A pens, 10 cents; B pens, 8 cents; C pens, 5 cents. Gray African Geese world's best eggs, 40 cents each. **W. T. FRENCH, Ludington, Mich.**

White Wyandotte Eggs from prize winning & A. 1 laying stock \$1.50 per 15 or \$2.50 per 30 eggs. **A. Franklin Smith, Ann Arbor, Mich.**

Barred Plymouth Rocks—Eggs for hatching. Price, 15 for \$1; 25 for \$1.50; 50 for \$2.50; \$4 per hundred. Satisfaction guaranteed. **Colon C. Little, Coopersville, Mich.**

EGGS—M. B. TURKEY, PEKIN DUCK, BARRED ROCK, HUPP FARM, Birmingham, Mich.

MINORCA cockerels at \$1 and \$2 each. Am book-keeping orders for P. C. pigs, sired by boars of extra breeding and great quality. **R. W. Mills, Saline, Mich.**

White Wyandottes—Eggs for hatching. Price, 15 for \$1; 25 for \$1.50; 50 for \$2.50; \$4 per hundred. Satisfaction guaranteed. **Colon C. Little, Coopersville, Mich.**

S. C. W. Leghorns. Eggs 15 for \$1; 50 for \$2.50; 100 for \$4. Month old. April hatched chicks \$18 per 100; May hatched chicks \$15 per 100. **GILMAN A. GREEN, Clarkston, Mich.**

EGG PRODUCTION SOLVED—Six cents doz. to produce. Feed 5 cents bu. White Diarrhoea eradicated. Book \$1. "Explains Waterglass preservation." **F. Kelley, Holton, Mich.**

BUFF ROCK EGGS—\$1 for 15. Best farm fowl. Hardy. Quiet. Good winter layers. Large. **WILLIS S. MEADE, R. No. 3, Holly, Mich.**

R. C. and S. C. RHODE ISLAND RED and White Wyandotte Eggs, \$1 per 15. **BUELL BROS., Ann Arbor Michigan.**

S. C. BROWN LEGHORNS. Our Egg Circular now ready, it's free. Big Birds—Greatest Layers. 15 cockerels yet for sale. **FRED MOTT, Lansing, Mich.**

SINGLE COMB WHITE LEGHORNS—Eggs for hatching. Price, 15 for \$1; 25 for \$1.50; 50 for \$2.50; \$4 per hundred. Satisfaction guaranteed. **Colon C. Little, Coopersville, Mich.**

Imported Japanese Pekins—the hardest of the duck family. Buff Turkeys, Embden and African Geese, bred from Chicago winners. Write your wants. **ZACH KINNE, 3 Oaks, Mich.**

SILVER. Golden and White Wyandottes. A nice lot of good cockerels still left. Satisfaction Guaranteed. **C. W. Browning, Portland, Mich.**

DOGS.

FOX AND WOLF HOUNDS of the best English strains in America; 40 years experience in breeding these fine bounds for my own sport. I now offer them for sale. Send stamp for Catalogue. **T. B. HUDSPETH, Sibley, Jackson Co., Mo.**

COLLIES for Service—Two Registered sable and white prize-winners and stock workers. No puppies at present. **W. J. ROSS, Rochester, Mich.**

FOR SALE SCOTCH COLLIE PUPS. Females spayed and kept till well. **A. C. FREEMAN, Ypsilanti, Mich., R.F.D. 2.**

MARKETS

DETROIT WHOLESALE MARKETS.

March 24, 1909.

Grain and Seeds.
Wheat.—Prices were holding steady at about the closing figures of last week until Tuesday when an accumulation of bullish news sent the quotations up a couple of cents for cash grain. The market at home received much of its strength from Liverpool, where news that the Australia crop is far below normal and exportations will amount to only 4,000,000 bushels, and also war troubles on the continent gave the trade an upward shoot that looked good to the bulls. At home the crop reports are not prophetic of a large crop as the ground in most of the wheat growing sections is bare. The millers of the southwest are looking for the grain and are paying premium prices to get hold of it for immediate manufacture into flour. One year ago the price for No. 2 red wheat was 97½¢ per bu. Quotations for the week are:

| | No. 2 | No. 1 | No. 3 | May | July |
|-------------|-------|-------|-------|------|-------|
| Thurs. | 1.21 | 1.21 | 1.18 | 1.19 | 1.05½ |
| Fri. | 1.21 | 1.21 | 1.18 | 1.19 | 1.05½ |
| Sat. | 1.21 | 1.21 | 1.18 | 1.19 | 1.05 |
| Mon. | 1.21 | 1.21 | 1.18 | 1.19 | 1.04½ |
| Tues. | 1.23 | 1.23 | 1.20 | 1.20 | 1.05½ |
| Wed. | 1.25 | 1.25 | 1.22 | 1.22 | 1.06½ |

Corn.—While the rally in the wheat trade has been a supporting factor to the corn deal the heavy receipts of the latter grain from the farmers has steadied the prices and little change is noted from the basis of prices a week ago. Locally the market is quiet with a comparatively small amount of stock and a limited demand. One year ago the price for No. 3 corn was 65¢ per bu. Quotations for the week are:

| | No. 3 | Yellow |
|-----------------|-------|--------|
| Thursday | 67 | 68 |
| Friday | 67 | 68½ |
| Saturday | 66½ | 67½ |
| Monday | 66½ | 67½ |
| Tuesday | 66½ | 67½ |
| Wednesday | 66½ | 67½ |

Oats.—Practically all of the influence bearing upon this trade is borrowed from the other grains. Prices are ruling about the same as a week ago. The demand is fair and the supply limited. The price one year ago for No. 3 white oats was 55¢ per bu. Quotations for the week are:

| | No. 3 | White |
|-----------------|-------|-------|
| Thursday | 55½ | 55½ |
| Friday | 55½ | 55½ |
| Saturday | 55 | 55 |
| Monday | 55 | 55 |
| Tuesday | 55 | 55 |
| Wednesday | 55½ | 55½ |

Beans.—For many weeks past the trade in this market has been nominal. On Tuesday the quotations were dropped a nickel but the change failed to result in any dealing. The nominal prices for the past week are:

| | Cash | May |
|-----------------|--------|--------|
| Thursday | \$2.40 | \$2.45 |
| Friday | 2.40 | 2.45 |
| Saturday | 2.40 | 2.45 |
| Monday | 2.40 | 2.45 |
| Tuesday | 2.35 | 2.40 |
| Wednesday | 2.35 | 2.40 |

Cloverseed.—Prices have firmed for both cash and future deals. The chief interest at present lies in the cash trade still the rather unfavorable weather for the clover plants is causing some of the wise dealers to give heed to the fall deliveries, values for which have advanced during the week. The quotations for the week are:

| | Prime | Spot | April | Oct. |
|-----------------|--------|--------|--------|------|
| Thursday | \$5.30 | \$5.30 | \$5.85 | |
| Friday | 5.30 | 5.30 | 5.85 | |
| Saturday | 5.30 | 5.30 | 5.85 | |
| Monday | 5.30 | 5.30 | 5.85 | |
| Tuesday | 5.40 | 5.40 | 5.95 | |
| Wednesday | 5.45 | 5.45 | 6.00 | |

Barley.—There is an active demand for barley at \$1.45@1.50 per cwt.
Rye.—Market is higher but inactive, with almost no trading being done at 85¢ for cash No. 2.

Visible Supply of Grain.

| | This week | Last week |
|--------------|------------|------------|
| Wheat | 37,076,000 | 36,996,000 |
| Corn | 6,353,000 | 6,617,000 |
| Oats | 9,142,000 | 8,948,000 |
| Rye | 468,000 | 529,000 |
| Barley | 3,097,000 | 3,052,000 |

Flour, Feed, Provisions, Etc.

Flour.—Prices steady with last week on all grades. Demand is improving. Quotations are as follows:

| | |
|-----------------------|--------|
| Clear | \$5.50 |
| Straight | 5.65 |
| Patent Michigan | 6.10 |
| Ordinary Patent | 5.75 |

Hay and Straw.—Prices unchanged. Carlot prices on track are: No. 1 timothy, new, \$10.50@11; No. 2 timothy, \$9.50@10; clover, mixed, \$9@10; rye straw, \$7@7.50; wheat and oat straw, \$6@6.50 per ton.

Feed.—Prices are steady for all feeds. Bran, \$28 per ton; coarse middlings, \$29; fine middlings, \$31; cracked corn and coarse corn meal, \$27@28; corn and oat chop, \$25.

Potatoes.—Trading rests on practically the same basis as a week ago. High prices are restricting the movement somewhat. Good stock is quoted at 80@85¢ per bu. New Bermudas, \$2.75 per bu.

Provisions.—Family pork, \$19; mess pork, \$17.50; light short clear, \$18.50; heavy short clear, \$19; pure lard in tierces, 10½¢; kettle rendered lard, 11½¢; bacon, 12½¢; shoulders, 8¢; smoked hams, 11@11½¢; picnic hams, 8½¢.

Dairy and Food Products.
Butter.—Creamery goods have been working firmer the past several days and early this week an advance of 1¢ was made. Dairy grades are steady. Quotations: Extra creamery, 30¢; firsts,

28¢; packing stock, 16½¢; dairy, 18¢.
Eggs.—Much buying in country places is now being done for storage purposes, and this demand with the regular consumptive demand is keeping prices up. Fresh stock is up ¼¢ since last week, being quoted at 18½¢ per dozen.

Poultry.—Supplies are scarce and demand fair. Quotations: Dressed chickens, 15@16¢; fowls, 14@15¢; ducks, 15@16¢; geese, 12@13¢; turkeys, 20@22¢. Live—Spring chickens, 15@16¢; fowls, 14@15¢; ducks, 15@16¢; geese, 10@11¢; turkeys, 18@20¢ per lb.

Cheese.—Michigan, 15½@16½¢; brick cream, 17@17½¢; schweitzer, 18@19¢; limburg, June, 15¢; Oct., 17¢ per lb.

Fruits and Vegetables.

Apples.—Market firm. Best grades are quoted at \$4.75@6 per bbl. Western apples in bushel boxes, \$2.25@3.25.

Onions.—Spanish, \$1.90 per bu; home-grown at 70¢ per bu; Bermudas, \$3.50 per crate.

Cabbage.—Home-grown selling at 4¢ per lb; new cabbage, 3¢ per crate.

Vegetables.—Green onions, 15¢ per doz; radishes, 30¢ per doz; cucumbers, \$1.75 per doz; lettuce, 14¢ per lb; head lettuce, \$3 per hamper; watercress, 45¢ per doz; celery, 40@45¢; spinach, 85¢ per hamper; parsnips, 90¢ per bu.

OTHER MARKETS.

Grand Rapids.

The local market is quiet this week, dealers in meats and provisions reporting little doing. No special change is noted in the potato situation, the local prices are a little firmer, the wholesale trade asking 80¢, which means that the consumer must pay close to \$1 per bu. Creamery butter is up 1¢ and Michigan cheese is also 1¢ higher. Eggs are ¼¢ higher. Poultry is unchanged, with the exception of broilers, weighing 1¼ to 2 lbs., which bring 28¢, an advance of 3¢. Farmers say there is little money in raising broilers at this price, when the expense is figured. Broiler raising pays, however, near New York and the large cities, where much higher prices are realized.

Quotations follow:
Grains.—Wheat, \$1.16; corn, 67¢; oats, 55¢; buckwheat, 65¢ per bu; rye, 75¢.

Beans.—Handpicked, \$2 per bu.
Butter.—Buying prices, Dairy, No. 1, 21¢; No. 2, 16¢; creamery in tubs, 30¢; prints, 30½¢.

Cheese.—Michigan full cream is selling at 16@16½¢ per lb; brick, 17¢; Swiss, 17¢; limburg, 17¢.

Eggs.—Case count, 16@16½¢.
Apples.—New York, \$5@6 per bbl.
Potatoes.—70@75¢ per bu.

Cattle.—Cows, \$2.50@4 per cwt; steers and heifers, best quality, \$3@5; dressed mutton, 7@8¢; dressed veal, 5@8½¢; dressed beef, cows, 5@6½¢; steers and heifers, 6@8½¢.

Hogs.—Dressed, 8¼@8½¢.
Live Poultry.—Fowls, 12½@13½¢; young chickens, 13@14¢; roosters, 9@10¢; turkeys, 18@19¢; young ducks, 13@14¢; geese, 10@11¢; capons, 20@21¢; broilers, 1¼ to 2 lbs., 28¢ per lb.

New York.

Butter.—Firm. Creamery specials, 31@31½¢; extras, 30½¢; western factory firsts, 19@19½¢.

Eggs.—Firm. Fancy selected white, 23¢; do., fair to choice, 21@22¢; western firsts, 19¢; do., seconds, 18½¢.
Grain.—Wheat, No. 2 red, \$1.22¼@1.22½¢; corn, No. 2, 74½¢; oats, mixed, 56½@57½¢.

Poultry.—Alive, firm. Chickens, broilers, 25@33¢ per lb; fowls, 18@19¢. Dressed, firm. Chickens, 12¢; fowls, 14½@16¢; turkeys, 16@23¢.

Potatoes.—In bulk per 180 lbs., \$2.50@2.75.

Chicago.

Wheat.—No. 2 red, \$1.22½@1.24½¢; May, \$1.16½¢; July, \$1.08½¢.

Corn.—No. 3, 64@65½¢; May, 66½¢; July, 65½¢.

Oats.—No. 3 white, 52@54½¢; May, 54½¢; July, 48½¢.
Butter.—Steady. Creameries, 22½@29½¢; dairies, 20½@25½¢.

Eggs.—Steady. Firsts, 18¢; prime firsts, 19¢.

Potatoes.—Steady. Car lots in bulk. Fancy, 85@87¢ per bu; poor, 80@84¢.

Pittsburg.

Potatoes.—Michigan, 90¢ per bu.
Apples.—Steady. King, \$6.25 per bbl; Spy, \$5@5.50; Spitzenburg, \$5@5.50.

Eggs.—Fresh candled, 18½@19½¢ per doz; current receipts, 18@19¢.

Butter.—Creamery, 31½@32¢; firsts, 29@30¢; country offerings, 29@30¢.

Elgin.

Butter.—Market is firm and 1¢ higher than last week at 30¢ per lb. Sales for the week amounted to 442,100 lbs., as compared with 436,500 for the previous week.

Other Potato Markets.

New York.—Per 180 lbs., \$2.50@2.75, which is an advance over last week's quotations.

St. Louis.—Northern stock quoted at 89@91¢ per bu.

Philadelphia.—For good offerings, 85@87¢ per bu.

Boston.

Wool.—Only small amounts of old wool is moving, the stocks being practically cleaned up for the year. The chief activity is in the foreign offerings. Buyers are turning their attention to the new clip where the farmers and sheepmen are generally having their way in the making of prices for fleeces yet upon the sheep's back. Contracts are being made at prices advanced over those of last year. The leading quotations for domestic grades are: Ohio and Pennsylvania fleeces—XX, 34@35¢; X, 32@33¢; No. 1 washed, 38@39¢; No. 2 washed, 38@39¢; fine unwashed, 23@24¢; half blood combing, 31¢; three-eighths blood combing, 30¢; quarter blood combing, 29@30¢; de-

laine washed, 39@40¢. Michigan, Wisconsin and New York fleeces—Fine unwashed, 22@23¢; delaine unwashed, 28@29¢; half blood unwashed, 29@30¢; three-eighths blood unwashed, 29¢; quarter blood, 28@29¢. Kentucky, Indiana and Missouri—Three-eighths blood, 29@30¢; quarter blood, 28@29¢.

THE LIVE STOCK MARKETS.

Buffalo.

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

March 22, 1909.

Receipts of sale stock here today as follows: Cattle, 125 loads; hogs, 12,800 head; sheep and lambs, 14,400; calves, 1,200.

There were more good cattle on the market today than for some time. On account of the light run of cattle in Chicago today we fully expected to get higher prices today than last week but buyers were late in taking hold and in order to do any business we were forced to sell our best cattle strong 10@15¢ lower than last week. Notwithstanding this, two loads of cattle sold at 7¢ but they were better than any that have been on this market so far this season. The quality is what makes the difference in price.

We quote: Best export steers, \$6.25@6.75; best 1,200 to 1,300 lb. shipping steers, \$5.90@6.40; best 1,000 to 1,100 lb. do., \$5.70@6; best fat cows, \$4.50@5.25; fair to good, \$4@4.25; trimmers, \$2.60@2.80; best fat heifers, \$5.25@5.75; light fat heifers, \$3.75@4; best bulls, \$4.50@5; bologna bulls, \$4@4.25.

There was a little better demand here today for the fresh cows and springers and with but few on the market they sold about \$2 per head higher.

We quote: Best cows, \$4@5.50; medium, \$3.50@4.50; common, \$2.50@3.50.

The hog market today was steady to strong at Saturday's prices. There was a good clearance for all that got yarded in time for today's market. We think the prospects fair for the near future.

We quote: Mixed, medium and heavy, \$7.25@7.30; best yorkers, \$7.15@7.25; light yorkers, \$6.90@7.15; pigs, \$6.75; roughs, \$6.30@6.40; stags, \$4.75@5.

The lamb market today was active at the following quotations and we look for steady prices the balance of week.

Top lambs, \$8.30@8.35; fair to good, \$8@8.25; culls, \$7@7.50; skin culls, \$5.50@6.25; yearlings, \$6.50@7.25; wethers, \$6@6.50; ewes, \$5.75@6.25; cull sheep, \$4@5; best veals, \$9.50@9.75; medium to good, \$7@9; heavy calves, \$4@5.50.

Chicago.

March 22, 1909.

Cattle. Hogs. Sheep.
Received today 15,000 42,000 15,000
Same day last week .. 25,666 46,350 15,192
Received last week .. 54,047 174,990 64,509
Same week last year .. 53,257 170,264 46,358

Cattle were marketed last week with too much freedom for a period of decreased consumption of beef due to its dearth and hard times for many people. The recent advance in cattle prices and muddy feed lots combined to place more cattle on the market than could be readily disposed of, and prices got some very hard hits on both Monday and Wednesday, prices ruling 30@50¢ per 100 lbs. lower than a week earlier. On Monday there was a \$7.35 top, but two days later saw the better class of heavy shipping cattle selling at \$6@7, while the poorer light-weight killers went at \$4.40@5.25. Prices still looked good as compared with most former years, but the way values dropped should prove a lesson to country shippers. Recent sales above \$6.50 have comprised but a moderate percentage of the offerings, and some attractive looking steers have been purchased below \$6.

As usual, butcher stock has shown activity at times when steers were slow of sale, and cows and heifers had a smaller decline, buyers filling their orders at \$3.30@5.85, with a few fancy heifers taken as high as \$6.25. Cannery and cutters have had a fair outlet at \$1.90@3.25, with bulls selling at \$2.85@5. Calves were active, selling at \$3@8.25 for coarse heavy to prime light weights, with a few prime vealers going at higher figures. There was a fairly large stocker and feeder trade at \$3@4.80 for stock steers, and at \$4.75@5.50 for ordinary to strictly prime feeders with not many prime feeders offered. Milkers and springers had a moderate sale at \$2.50@5.50 per head.

Today's meager supply of cattle for a Monday resulted in a lively general demand, prices moving up 15@25¢ on an average and steers selling at \$4.60@7.15. Last week saw \$7 hogs, there being a strong general demand, with eastern shippers taking the cream of the offerings. As usual, the Chicago packers drew back whenever prices were near the \$7 mark, yet it was plain they wanted the hogs, and rallies followed the weak spots. Country shippers are learning to market fewer extremely light weights, as there is such a good premium for the heavier weights, and within a short time the average weight of the hogs received here has increased to 207 lbs., compared with 201 lbs. only a short time ago, 210 lbs. a year ago and 228 lbs. two years ago, the average being the heaviest since the third week of last December. It hardly needs to be said that the hog market is on a firm basis and that stockmen should act accordingly. The prevailing sentiment is that for the next few weeks there will be no unusual changes and that hogs will continue to sell satisfactorily within moderate fluctuations of prices. The eastern shipping demand may be expected to remain extremely large. The hog market today was active and a dime higher, with sales at \$6.35@7.

Sheep and lambs have been coming on the market freely for another week, with Colorado furnishing the greater part of the lambs, and clipped sheep and lambs offered in increasing volume, as is usual at this season. There was a good demand, but buyers were discriminating

and declined to take the numerous inferior offerings except at low prices, while the few offerings of prime lambs, yearlings and sheep brot handsome premiums. The demand for western feeding lambs showed no abatement whatever, and the limited offerings sold readily, prices ruling at \$6 all the way up to \$7.40 for prime shearing lambs. The best advice that can be given at this time to sheepmen is to produce choice mutton, something that is certain to sell well. It hardly pays to ship in "warmed-up" flocks, yet this is just what many are doing. Today's market was sharply higher under meager receipts, lambs selling at \$6@8.10, while ewes were salable at \$2.75@5.85, wethers at \$5.40@6.50, rams at \$3.50@5 and yearlings at \$6.25@7.25.

Horses are being marketed freely most of the time, and there is a good demand for desirable animals, but inferior horses are slow and weak in price. Drafters are selling at \$175@220 per head, with fancy ones going at \$225@250 and upward. Light drivers are having a good sale at \$140@350, and farm chunks and mares are active at \$130@175, with the best inquiry for blocky mares at \$140@160. Mules are very fair sellers at \$75@200, with more call for the cheaper light weights than formerly. Complaints are heard that too few good horses are being bred for the market, and it seems a good time to start in, taking care to use prime stock.

LIVE STOCK NOTES.

Owners of hogs that are healthy and growing well should hold on until they are good and heavy. The market requirements are extremely large and promise to continue liberal for some time to come, and there is every reason to look for continued high prices in the markets of the country, west and east. The eastern states have very few hogs left, and most of these are little more than pigs, necessitating calling on the west for eastern packing requirements. Furthermore, there is all the time a heavy consumption of fresh pork, which is in great measure taking the place of beef and mutton on account of its relative cheapness. Corn is dear, but it is not too high in value to feed to hogs the way finished droves of hogs are selling in the markets of the country.

There has been a very good inquiry in the Chicago stockyards recently for stockers and feeders from farmers interested in preparing cattle for the market. The demand has been largely for a good class of cattle to go east, and Indiana and Ohio stockmen were well represented, but there have been also fair inquiries from Pennsylvania and West Virginia, the last named state wanting stockers. All the time there are complaints about the scarcity of high-class feeder cattle and the high prices asked. Word comes from Iowa that cattle feeding for the spring market are from 30 to 35 per cent fewer in number than a year ago. Good weight feeders are wanted by many stockmen to replace heavy finished beefs that have been marketed within a short time. Kansas continues to furnish a large part of the choicest heavy cattle.

Sheepmen have had good reason to feel pleased with the way prime flocks have been selling in the Chicago market recently, the poor average grading of consignments of lambs, yearlings and sheep from feeding regions resulting in placing a big premium on choice stock. As for western feeding lambs it is utterly impossible to fill one-tenth of the buying orders placed with live stock commission firms, and prime western shearing lambs have been purchased at \$7.40 per 100 lbs. to ship to the country. Butchers have shown a marked preference for Mexicans because they dress so much better than other lambs. Weight is a handicap, and even the best Colorado fed lambs that weigh over 100 lbs. are discriminated against by buyers. Feed is so dear at St. Paul that hay-fed flocks have been marketed direct at Chicago without the usual warming-up process on screenings.

Cattle have been marketed in Chicago recently with too much freedom for a period when the consumption of beef is lowered materially by its dearth and the inability of a great majority of the American people to pay the raise. Cattle continue to bring much higher prices than in most former years, although some sharp declines have taken place within a short time. New York has been Chicago's best customer of late, and on Monday of last week purchases were made of 162 car loads for shipment to that city, prices ruling mostly above \$6.25 per 100 lbs. and up to \$7.30. Heavy long-fed cattle have continued to sell at a good premium, and there has been a good call for fat heifers at good prices, but dairy cows were hard to dispose of. There were a good many of these among the receipts, and packers' buyers were slow to bid for them, the greater part selling at least 25 cents below the figures obtained for other cows than "dairies."

Prices for provisions remain unusually high, being far in advance of former years, and for this reason the exports of pork, lard and meats have been suffering a great falling off. Provision exports from the United States for the month of February decreased nearly 5,000,000 pounds of bacon, 6,000,000 pounds of hams and 43,000,000 pounds of lard as compared with 1908. Comparative exports for the eight months ending with February show an increase of bacon and a heavy decrease of lard and hams. Comparisons for eight months follow:

| | 1909. | 1908. |
|------------------------|-------------|-------------|
| Pork, lbs. | 39,125,894 | 115,081,820 |
| Lard, lbs. | 338,288,821 | 414,896,280 |
| Hams, lbs. | 132,260,427 | 138,176,231 |
| Bacon, lbs. | 165,337,054 | 144,362,763 |
| Fresh beef, lbs. | 90,619,215 | 153,709,742 |
| Salt beef, lbs. | 28,860,372 | 32,124,120 |
| Canned beef, lbs. | 10,518,255 | 18,602,863 |
| Tallow, lbs. | 33,667,893 | 63,353,586 |

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

March 25, 1909.

Cattle.

Receipts, 1,069. Market steady at last week's prices.

We quote: Extra dry-fed steers and heifers, \$5.50@6; steers and heifers, 1,000 to 1,200, \$5@5.35; steers and heifers, 800 to 1,000, \$4.75@5.25; steers and heifers that are fat, 500 to 700, \$4@4.35; choice fat cows, \$4.50@4.75; good fat cows, \$4@4.25; common cows, \$3@3.50; canners, \$1.75@2; choice heavy bulls, \$4.50; fair to good bolognas, bulls, \$4@4.25; stock bulls, \$3.50@3.75; choice feeding steers, 800 to 1,000, \$4.50; fair feeding steers, 800 to 1,000, \$4@4.25; choice stockers, 500 to 700, \$4@4.25; fair stockers, 500 to 700, \$3.50@4; stock heifers, \$2@3; milkers, large, young, medium age, \$4@5; common milkers, \$2@3.

Roe Com. Co. sold Hammond, S. & Co. 1 steer weighing 630 at \$5, 5 cows av 1,012 at \$3.50; to Mich. B. Co. 2 do av 865 at \$3.50, 1 steer weighing 510 at \$4.50; to Kamman B. Co. 21 steers av \$10 at \$5.25; to Kull 10 do av 755 at \$5.20, 6 do av 500 at \$4.

Bishop, B. & H. sold Mich. B. Co. 6 cows av 1,160 at \$4.50, 2 do av 1,090 at \$3, 2 do av 1,100 at \$3.75, 1 do weighing 880 at \$3.75; to Sullivan P. Co. 1 bull weighing 1,230 at \$4, 4 butchers av 1,002 at \$4.62½, 5 do av 586 at \$4.62½; to Kamman 4 do av 780 at \$4.50, 5 steers av 856 at \$5.25; to Hammond, S. & Co. 6 do av 925 at \$5.25, 8 cows av 934 at \$4.25, 2 bulls av 1,425 at \$4, 2 steers av 770 at \$5, 4 cows av 955 at \$3.75; to Newton B. Co. 2 cows av 1,070 at \$4, 5 do av 1,054 at \$3.50, 1 do av 880 at \$3, 10 butchers av 745 at \$4.50, 17 steers av 990 at \$5.30, 2 do av 700 at \$4.50, 1 bull weighing 1,060 at \$4; to Sullivan P. Co. 10 steers av 1,043 at \$5.50, 1 bull weighing 1,370 at \$4; to Fitzpatrick Bros. 4 cows av 950 at \$4; to Thompson & Son 3 steers av 1,050 at \$5.50, 1 cow weighing 1,100 at \$3; to Newton B. Co. 13 steers av 868 at \$5.30, 7 do av 604 at \$4.25, 3 cows av 936 at \$3.25; to Fitzpatrick Bros. 4 steers av 935 at \$5, 3 cows av 806 at \$4.25, 4 do av 815 at \$3.50, 13 steers av 964 at \$5.25, 3 cows av 873 at \$4, 2 heifers av 740 at \$3, 1 cow weighing 730 at \$1.50.

Spicer, M. & R. sold Hammond, S. & Co. 1 cow weighing 940 at \$3, 2 do av 1,000 at \$4.50, 1 do weighing 750 at \$3, 1 do weighing 1,000 at \$4.25, 3 do av 976 at \$2.75, 2 do av 785 at \$4, 2 butchers av 885 at \$4, 10 steers av 787 at \$5; to Bresnahan 7 butchers av 541 at \$4.20; to Sullivan P. Co. 1 bull weighing 1,280 at \$4.75, 1 do weighing 800 at \$3.75, 1 do weighing 1,380 at \$4.15; to Fitzpatrick Bros. 6 butchers av 841 at \$4, 1 cow weighing 820 at \$1.50; to Kull 3 bulls av 933 at \$4, 2 cows av 800 at \$3.50, 6 butchers av 753 at \$4.50; to Hammond, S. & Co. 13 do av 830 at \$5.15; to Fry 3 cows av 950 at \$3.50, 2 do av 995 at \$3, 2 heifers av 720 at \$4.50, 5 butchers av 776 at \$4.

Haley sold Goose 1 cow weighing \$30 at \$2.50, 2 cows av 985 at \$3.50.

Lewis sold Hammond, S. & Co. 5 cows av 1,060 at \$4, 2 steers av 1,290 at \$6, 26 do av 850 at \$5.35.

Stephens sold Thompson Bros. 3 steers av 776 at \$5.35, 3 do av 746 at \$4.25.

Groff sold same 4 cows av 970 at \$4.

Cheney sold Hammond, S. & Co. 1 cow weighing 1,160 at \$4.25, 2 steers av 875 at \$5, 1 bull weighing 1,530 at \$4.25.

Haley sold Higbee 5 stockers av 665 at \$4.

Wagner sold Kamman 1 cow weighing 800 at \$2.25, 1 do weighing 860 at \$3, 3 steers av 876 at \$5.35.

McAninch sold Bresnahan 4 butchers av 567 at \$4.

Haley sold Mich. B. Co. 6 cows av 975 at \$3.75.

Lowenstein sold same 8 do av 1,070 at \$4.25, 5 do av 1,000 at \$3.50.

Lovell sold same 8 do av 1,050 at \$4.25, 3 steers av 726 at \$5, 12 do av 942 at \$5.25.

Haley sold Sullivan P. Co. 24 steers av 872 at \$5.25, 2 bulls av 1,235 at \$4.25.

Robb sold same 3 steers av 926 at \$5.25, 8 do av 1,170 at \$5.60, 3 cows av 1,153 at \$4.25, 2 bulls av 1,500 at \$4.25.

Kendall sold same 5 steers av 990 at \$5.50, 1 steer weighing 1,000 at \$5, 2 cow and bull av 985 at \$3.

Long sold same 3 steers av 760 at \$5.10.

McCormick sold same 3 butchers av 973 at \$4, 5 do av 896 at \$5.15, 1 steer weighing 1,230 at \$5.

McCormick sold Regan 7 heifers av 650 at \$4.40.

Haley sold Schlischer 3 butchers av 850 at \$4.25.

Groff sold same 5 steers av 874 at \$5.25.

Veal Calves.

Receipts, 708. Market steady at last week's decline. Best, \$7@7.75; others, \$3.50@6.50. Milch cows and springers, steady.

Bishop, B. & H. sold Nagle 3 av 150 at \$7.75, 16 av 120 at \$7.50, 2 av 120 at \$5.50, 10 av 135 at \$7.50, 4 av 95 at \$7, 23 av 135 at \$5, 3 av 140 at \$7, 1 weighing 170 at \$4, 6 av 90 at \$7, 23 av 150 at \$7.50; to Fitzpatrick Bros. 5 av 150 at \$7.75, 2 av 160 at \$5, 9 av 145 at \$7.50, 9 av 140 at \$7.50, 2 av 150 at \$5; to Rattkowsky 10 av 131 at \$7.25, 3 av 115 at \$7; to Burnstone 1 weighing 130 at \$7.75, 2 av 150 at \$3.

Spicer, M. & R. sold W. W. Smith 19 av 115 at \$6.75; to Goose 10 av 120 at \$7; to McGuire 10 av 148 at \$7.50; to W. W. Smith 16 av 130 at \$7.

Sheep and Lambs.

Receipts, 3,196. Market 25c higher than last week. Best lambs, \$7.85@8; fair to good lambs, \$7.25@7.50; light to common lambs, \$6.50@7; yearlings, \$7; fair to good sheep, \$4.50@5.50; culls and common, \$2.50@3.50.

Robb sold Fitzpatrick 15 lambs av 50 at \$6.50, 15 sheep av 90 at \$4.

Young sold Spicer, M. & R. 7 lambs av 85 at \$7.60.

Einrich sold same 10 do av 56 at \$7.10.

Fitzpatrick sold same 14 do av 65 at \$7.50.

Robb sold Sullivan P. Co. 74 lambs av 75 at \$7.75.

Haley sold Hammond, S. & Co. 3 sheep av 150 at \$3.75.

Cheney & H. sold Burnstone 20 lambs av 65 at \$7.25.

Vickery sold Mich. B. Co. 52 lambs av 85 at \$7.75.

Roe Com. Co. sold Nagle 31 lambs av 83 at \$7.75, 1 sheep weighing 130 at \$4; to Barlage 2 do av 155 at \$4.

Sharp sold Nagle 108 lambs av 95 at \$7.80.

Bennett sold same 20 do av 75 at \$7.10.

Duelle sold same 157 do av 70 at \$7.

G. J. Smith sold same 256 do av 80 at \$7.75.

Roe Com. Co. sold Nagle 1 weighing 170 at \$7.25; to Rattkowsky 2 av 105 at \$6.75; to Nagle 41 av 135 at \$7.50, 5 av 120 at \$6.

Wagner & A. sold Newton B. Co. 3 av 140 at \$5, 21 av 125 at \$7.25.

McAninch sold Bresnahan 17 av 130 at \$7.50.

Stephens sold Nagle 10 av 143 at \$7.75.

Belheimer sold same 14 av 135 at \$7.

Adams sold same 5 av 140 at \$7.50, 1 weighing 180 at \$6.

Duelle sold same 13 av 135 at \$7.50.

Bennett sold same 2 av 155 at \$7.10.

Cheney & H. sold Burnstone 6 av 125 at \$5, 12 av 135 at \$7.

Groff sold Markowitz 4 av 175 at \$3.50, 25 av 120 at \$7.

Haley sold Hammond, S. & Co. 1 weighing 140 at \$5, 7 av 115 at \$7.

Berry sold McGuire 1 weighing 160 at \$6, 5 av 145 at \$7.50.

Jedele sold Rattkowsky 4 av 125 at \$7.25.

Sheep and Lambs.

Receipts, 3,196. Market 25c higher than last week. Best lambs, \$7.85@8; fair to good lambs, \$7.25@7.50; light to common lambs, \$6.50@7; yearlings, \$7; fair to good sheep, \$4.50@5.50; culls and common, \$2.50@3.50.

Robb sold Fitzpatrick 15 lambs av 50 at \$6.50, 15 sheep av 90 at \$4.

Young sold Spicer, M. & R. 7 lambs av 85 at \$7.60.

Einrich sold same 10 do av 56 at \$7.10.

Fitzpatrick sold same 14 do av 65 at \$7.50.

Robb sold Sullivan P. Co. 74 lambs av 75 at \$7.75.

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Sharp sold Nagle 108 lambs av 95 at \$7.80.

Bennett sold same 20 do av 75 at \$7.10.

Duelle sold same 157 do av 70 at \$7.

G. J. Smith sold same 256 do av 80 at \$7.75.

Bishop, B. & H. sold Nagle 184 lambs av 85 at \$7.75, 8 do av 97 at \$7, 9 do av 70 at \$7, 2 do av 125 at \$7.50, 106 do av 85 at \$7.85; to Newton B. Co. 121 av 84 at \$7.75; to Nagle 115 av 88 at \$7.85, 229 av 85 at \$7.35, 219 av 88 at \$7.85, 97 av 95 at \$7.90; to Fitzpatrick Bros. 6 sheep av 100 at \$5.50, 79 lambs av 74 at \$7.90; to Parker, W. & Co. 39 do av 75 at \$7.65, 69 do av 70 at \$7.85; to Ogelworth 9 do av 83 at \$8; to Halse 14 do av 70 at \$7, 6 sheep av 100 at \$5.

Hogs.

Receipts, 4,328. Market 10c lower than last week.

Range of prices: Light to good butchers, \$6.70@6.75; pigs, \$6@6.35; light yorkers, \$6.25@6.35; stags, ½ off.

Sundry shippers sold Hammond, S. & Co. 244 av 170 at \$6.75, 106 av 165 at \$6.70, 272 av 158 at \$6.

Roe Com. Co. sold same 30 av 209 at \$6.75.

Spicer, M. & R. sold same 48 av 190 at \$6.75, 64 av 190 at \$6.65, 182 av 172 at \$6.60, 97 av 176 at \$6.70, 93 av 155 at \$6.50.

Sundry shippers sold Parker, W. & Co. 6 av 205 at \$6.80, 25 av 181 at \$6.75, 98 av 180 at \$6.70, 116 av 135 at \$6.50.

Bishop, B. & H. sold same 178 av 160 at \$6.65, 811 av 170 at \$6.75, 263 av 170 at \$6.60, 86 av 145 at \$6.50, 378 av 165 at \$6.70, 105 av 210 at \$6.80.

Bishop, B. & H. sold Sullivan P. Co. 48 av 220 at \$6.80, 88 av 190 at \$6.75.

212 pigs av 101 at \$6, 34 do av 90 at \$6.

Roe Com. Co. sold same 108 av 180 at \$6.75, 88 av 137 at \$6.55, 14 av 203 at \$6.85.

Spicer, M. & R. sold same 142 av 180 at \$6.85.

Friday's Market.

March 19, 1909.

Cattle.

The run of cattle was very light on Friday and prices held full steady with Thursday on all grades. Milch cows and springers also were steady.

We quote: Extra dry-fed steers, \$5.50; steers and heifers, 1,000 to 1,200, \$5.25@5.75; steers and heifers, 800 to 1,000, \$4.75@5.25; steers and heifers that are fat, 500 to 700, \$4.25@4.75; choice fat cows, \$4.50; good fat cows, \$4@4.25; common cows, \$3@3.50; canners, \$2; choice heavy bulls, \$4.50; fair to good bolognas, bulls, \$4@4.25; stock bulls, \$3.50@3.75; choice feeding steers, 800 to 1,000, \$4.50; fair feeding steers, 800 to 1,000, \$4.25; choice stockers, 500 to 700, \$4@4.25; fair stockers 500 to 700, \$3.50@4; stock heifers, \$3@3.50; milkers, large, young, medium age, \$4@5; common milkers, \$2@3.

Bishop, B. & H. sold Laccatt 4 steers av 807 at \$5, 1 cow weighing 980 at \$4, 1 bull weighing 910 at \$4.25, 6 butchers av 645 at \$3.75.

Same sold Sullivan P. Co. 4 bulls av 1,210 at \$4, 5 cows av 1,040 at \$4, 7 do av 903 at \$3.10, 8 butchers av 1,044 at \$4, 1 bull weighing 1,740 at \$4.25, 1 do weighing 1,300 at \$4.25.

Veal Calves.

The veal calf trade was extremely dull and prices were 50c lower than on Thursday. The wholesale market is full of dressed calves and they are selling very low. There were nearly 1,000 on sale here and prices will undoubtedly go lower.

Sheep and Lambs.

The sheep and lamb trade was active at Thursday's opening prices, and the close was strong.

We quote: Best lambs, \$7.75; fair to good lambs, \$7@7.50; light to common lambs, \$6@6.50; yearlings, \$6@6.50; fair to good sheep, \$5@5.50; culls and common, \$3@4.

The hog trade was strong at Thursday's prices, best grades bringing \$6.90 per hundred.

Range of prices: Light to good butchers, \$6.80@6.90; pigs, \$6@6.15; light yorkers, \$6.25@6.50; stags, ½ off.

LIVE STOCK NOTES.

The Chicago hog market has developed a strong undertone, recently, and frequent advances have carried the best heavy hogs close to \$7 per 100 lbs. With the single exception of 1907, the recent hog market has been the highest seen in early March since 1903, when hogs were selling at \$6.80@7.55. Stockmen owning healthy young hogs that are gaining in weight satisfactorily need have no fear as to future results, and the proper course is by all odds to feed droves until they are fat and heavy. Not enough matured heavy hogs are being marketed to satisfy the strong demand, and eastern shippers continue to draw heavily on the Chicago market for supplies. Whenever the receipts happen to be smaller than usual reports are heard that bad country roads are checking the movement, but when ruling prices are satisfactory to farmers they are apt to find a way of shipping them. The big packing concerns are credited with owning heavy stocks of provisions, which they are anxious to market at high prices, and this is supposed to make them less indisposed than usual to make a determined opposition to an advancing hog market.

There has been a marked advance in prices for prime finished heavy cattle in the Chicago market during the last few weeks based on an improved demand from local buyers and eastern shippers. About five weeks ago \$7 per 100 lbs. was paid for the best beefs, and buyers were reluctant to pay that figure, the popular demand for a long time having been for the lower-priced short-fed cattle. At last choice cattle have sold at suitable premiums, \$7.25 having been paid week before last, while sales took place last week at \$7.35@7.40 for fancy Angus and Hereford steers. The upward course of prime cattle has helped to make quite a number of stock feeders more hopeful of the future, and in various quarters there is a tendency among holders to hang on longer and buy corn to finish off well-bred cattle. It is usual to see higher prices for well fed cattle in the late spring and summer months, but this bullish movement has begun earlier this season than usual.

A singular feature of the recent Chicago hog market was a wild boom in prices for heavy old stags that carried prices up to the top figures paid for prime hogs, and on a few recent days it was an actual fact that competition among rival buyers caused heavy stags of the most desirable class to command a big premium. These facts were not mentioned by the live stock papers issued at the Chicago stockyards, and farmers dependent on them for information on live stock matters were kept in ignorance of the boom in stags, which was due to a big demand from local sausage manufacturers. Subsequently the sausage makers got stocked up and refused to pay the recent advance, causing a considerable break in the quotations, altho stags were still high in price as compared with former years.

Horses have been meeting with an active general demand recently, and those of a desirable kind have firmed up, with quite a number of farm mares and chunks going \$2.50@5 per head higher. These animals are wanted at \$130@175 per head, with numerous shipments to the northwest, as well as to the northwestern Canadian provinces. Heavy drafters are in good request at \$175@220, with a choicer grade going at \$225@250. Light drivers are selling actively at \$150@350, and light harness horses have been purchased at \$250@500 for export to Mexico. Mules are purchased freely at \$75@200, and good numbers are going to the Canadian northwest.

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KHERSON OATS. Hardest and highest yielding variety of oats grown, proved by actual test, two-year field test in Michigan. 1907 yield 45 bu. per A., highest yield of other varieties \$4 bu. 1908 yield 60 bu. per A., highest yield of other varieties \$5 bu. At the Nebraska Experiment Station, where it was first introduced, it is also found to be the heaviest yielder of any variety of oats in that state. Has a very thin hull, while its stiff straw and early maturity make it the best cover crop for clover in existence. Seed \$1.00 per bu., bags free.

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Ref.—Washington Nat'l Bank. Duquesne Nat'l Bank.

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22 H. Buffalo Pitts Hauling engine; 21 H. Pt. Huron traction engine; 16 H. Huber; 16 H. Russell; 16 H. Gaar-Scott; 10 H. Advance; 10 H. Russell; 32 H. Gasoline engine; 32x48 Advance Thresher; 33-in Peerless; 2 Portable Saw Mills. Write us for description and price.

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FARMS.

60 acres—2½ miles from good town; 7-room house, basement barn 32x42 in fine condition; 140 rods wire fence; good clay loam; 5 acres timber, \$3,000.
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165 acres—Clay and gravel loam; orchard; 10-room house newly painted; barn 32x96 on stone foundation (16 foot posts); dairy barn 36x54 cement floors, silo, \$50 an acre.

A noted dairy farm—576 acres—2 miles from a good town; clay and gravel loam; 2 houses, fine barns, cement floor, room for over 100 head of cattle, all necessary outbuildings; 3 silos of 600 ton capacity each; personal property, stock (over 100 cows, etc.) tools and feed included in price. Income at the present time over \$1000 dollars a month, \$5

HOME AND YOUTH

WHEN SORROW MAKES US KIN.

BY RALPH WOODWORTH.

There's a fact that's worth remembering
Along life's rugged way,
It gives us faith and courage and it
helps us every day.
It's the love that's lying latent, the
spark divine within,
And we reach a common level when sor-
row makes us kin.

When multitudes are stricken with fa-
mine, flood and fire,
The world responds as quickly as the
news comes off the wire.
And when accident or sickness lays any
of us low
The burden oft is lightened by affec-
tion's tender glow.

For sorrow draws us nearer unto God
as well as man;
Its visitation teaches us to live the best
we can;
The veil of self is lifted, and we feel
the God within,
And equality is recognized when sorrow
makes us kin.

STILTED, OR FOOLING THE FOOLER.

BY WALTER SCOTT HASKELL.

Dear Brother Nat:

Your letter came last Thursday. Sorry
your eyes are troubling you, but if you
follow your principal's advice and come
home for a short rest, try and get here
by April first. There's something doing.
You know that stuck-up schoolmarm that
boards here? Well, she went the limit
the other day. Actually had the cheek
to advise me to try and improve my vo-
cabulary. Wouldn't that jar you?

I'm going to get even with her April
fool day. Help me out, will you Nat?
You can do it. When you come home
and meet her and she starts talking in
her high-toned way, just show her that
you can talk some. Squelch her with
them big words you learned at college.
Show her that you know more than she
does, and I'll be ready to smile loftily at
her comparative ignorance, and make her
feel all cut up. Oh, it'll be great!

Don't forget, because I'll depend on
you. You owe it to father to appear
high-toned before that little stuck-up
thing. You know father's paying his
good money to educate you, and you want
to show him that it's not all wasted. I'll
meet you at the station. Don't fail.

Your loving brother,

HANNIBAL.

After writing the above letter, the
young man enclosed it in an envelope,
addressed and stamped it and started
for the post office three blocks away.
Before he had passed the grounds of his
father's residence he met the young
school teacher and accosted her.

"Oh, Miss Wells! I'm awfully glad to
see you; I was just hoping you'd come
this way. I want to tell you something.
It's a kind of secret you know, between
you and me. Ah, you know my brother
Nat that's going to college? Well, he's
coming home next week on account of
his eyes. He's awfully educated, can
speak seven languages, fourteen dialects,
and is studying to be a doctor, and a
minister I believe, and I don't know
what all. I like to see my brother edu-
cated and all that but, between you and
me, he's stuck up—stilted, got the big
head. I want to take it out of him,
'cause he's all the time nagging me
about my limited vocabulary. Now, Miss
Wells, you're educated, and I want you
to help me out. Will you do it?"

"Why, how can I help you? I don't
see—"

"Just as easy as falling off a log. Don't
you see? I want you to out-talk Nat
when he comes and begins to put on his
college airs. I'll be ready to snicker in
his face and make him feel all cut up.
Say, if you'll do it I'll get some money
from pa and buy you a present. We'll
April-fool him all right. Ha! ha! ha!"

The evening of the first of April ar-
rived, and Nat Goodwin stepped from
the train onto the platform of the little
station where he was greeted by his
younger brother.

"Come on, Nat, let's hurry! Dinner's
waiting—let me take your suit-case.
Say, did you get my letter? Of course
you did. You won't disappoint me on
the—you know?"

"What are you up to, Han? Some of
your infernal jokes, I suppose. Well, as
it's April first I don't mind taking a hand
in a mild joke—but won't she take of-
fense?"

"No, she won't get mad. I called her
'stuck-up' one day, and she only smiled."

"You say she's educated. Perhaps she

can out-talk me."

"Oh, sure, she's educated. That's the
trouble. She thinks she knows it all,
and she takes me down every little while
on some fool word or other. The idea of
talking proper all the time! I'd get tired
of it, wouldn't you?"

"Yes, it's something of a strain when
one is not used to it, but how did this
girl get her learning? She must be a
paragon by the way you describe her.
I'm getting interested."

"Oh, she's been to seminaries, and lad-
ies' schools and colleges all her life.
Guess if I had her advantages I'd know
how to talk proper. Pa wouldn't spend
four bits to educate me, and everybody
thinks I ought to talk just as tho I had
a college education."

"I think pa will let you go to the
preparatory school next term, and if you
make good—"

"Oh, yes, if I make good! I don't like
study, anyway."

Within a short twenty minutes they
entered the house and Nat was greeted
by his parents. As dinner was ready
he soon found himself at the table and
being introduced to an innocent looking
young lady of the dark blond type, if
there is such a type as expressing a dark
shade of a light person. She was ani-
mated in appearance, yet self-contained,
modest and unassuming. One would not
expect big words from her.

The college man acknowledged the in-
roduction, bowing and smiling in his
stately, pleasant manner that had won
for him the title of "Chesterfield." The
glasses that he wore gave a look of the
scholar, and perhaps added a few years
to his age, tho he was at all times young.

When they were seated and conversa-
tion began, natural inquiries arose con-
cerning the college man's health, and
the eye affliction. The young teacher,
Miss Wells, made some natural inquiry
about the eye trouble, and, as it seemed,
soared into the heights of rhetoric at
the outset, which gave the college man
an excuse for saying in reply: "I am,
unfortunately, afflicted with a malevolent
attack of ophthalmia which induces sco-
tomy and renders academic pursuits
schirrhous and operose."

"Indeed!" she returned as the color
rose to her face and a sparkle of the
eyes indicated that she was roused to
something out of the ordinary. "Indeed,
your canicula is reading badly, in pre-
venting you from matriculating with
scholastic pundits of undoubted omnific
intelligence in the nebula of noncupa-
tive thot."

"Oh, say!" muttered Hannibal under
his breath, as he kicked the cat, nudged
his father who sat next to him, and
winked comically at his mother while a
broad grin over-spread his fun-loving
face. He crammed the napkin into his
mouth to hide the grin.

Nat turned to Hannibal with a look of
mild reproof and said: "I do not wish
to be captious, but my instincts tell me
that my cygnet of a brother is laboring
under an attack of stertorous breathing
bordering on stertoration. His face is
of a cerulean hue indicative of suppressed
saturnalian desires; and I beg, for the
sake of the family tree, that he close
tighter the ventruct of his larynx and
avert, if possible, the threatened catas-
trophe. I trust he is sufficiently recovered
to kindly pass the muscovado while
mother dishes the olio."

"What did you say, Nat, I didn't un-
derstand?"

"Of a certitude, brother, thy tympanum
must be at fault, for my orthoepy was
sufficiently clear to be understood even
by the most obtuse. I will, however,
repeat my simple request that you pass
the muscovado, and I will add, the
salis?"

"Oh, yes," said Hannibal, with a pre-
tense of understanding, "You said the
musco, didn't you?" and he passed the
mustard.

Miss Wells interrupted with: "Will
Hannibal kindly pass the dish containing
the occiput of the young quadruped?"

"Th, sure. I'll pass anything. You
said the butter, didn't you?"

"Au contraire, I wished a portion of
the laniferous creature whose flesh is
tender and anserine with the cooking."

"Oh, sure, I forgot. Here it is," and
he handed the pickles.

Mrs. Goodwin now turned upon her
son with a motherly wish that he "pay
particular attention to what was called
for and cease passing unnecessary arti-
cles and subjecting himself to the sus-
picion of practicing charity and low
persiflage with a touch of crude torpitude
indicative of a valetudinary state of
health."

"Oh, say, ma, what's all this about?"

You're all talking things I don't under-
stand," cried Hannibal, turning uneasily
toward the window.

"I would not expose the occiput of my
cranium to a discriminating company,"
admonished the father with assumed
severity toward his son.

"The deuce take it, pa, what did you
say?"

"Hannibal, please pass the tetragon-
shaped dish containing the oleaginous
residium of the turkey," interposed Nat
with studied effect.

"Oh, say, this is a put up job!" ex-
ploded Hannibal, laying down his knife
and fork and half rising from the table
without having tasted the first dish.

"Mafais! Hannibal seems feverish. I
must give him some pyrotology before he
lapses into pusillanimous torpitude of a
pilgarlic nature," ventured Mrs. Goodwin,
with mock concern.

"I think a little soothing syrup or other
lambative diet for the youth would tend
to calm that restless nature—"

"Please pass the lacteal fluid, Han-
nibal—"

"You are nearest to the baccate ma-
teria—no, not the ossos. Hannibal, are
you making your valedictory, and is this
your gonfannon? So vainly ostentatious—"

"Hannibal—"

But he was gone, with a confused
and excited step, tipping over the chair
in his flight, amid roars of laughter from
the company and cries of "April-fool!
April-fool!"

Miss Wells and Nat were already ac-
quainted, and when the young plotter
had laid his plans, they quickly commu-
nicated with each other and laid counter-
plots to outwit him, with what success
the reader knows.

The tables were turned when about a
minute later Hannibal walked into the
room and with an innocent air unbur-
dened himself. He began:

"My scholastic friends, in dromulating
your esoteric cogitations and in articu-
lating your superficial sentimentalities
and amicable, philosophical or psycholo-
gical observations beware of platitudi-
nous ponderosity. Let your conversa-
tional communications possess a clarified
consciousness, a compacted comprehen-
sibility, coalescent consistency and a
concatenated cogency. Eschew all con-
glomerations of flatulent garrulity, jejune
babblement and asinine affectations. Let
your extemporaneous descantings and
unpremeditated expectations have in-
telligibility and veracious vivacity with-
out rhodomontade or thrasonical bom-
bast. Sedulously avoid all polysyllabic
profundity, pompous prolixity, psittac-
eous vacuity, ventriloquial verbosity
and vaniloquent vapidity. Shun double
ententes, prurient jocosity and pestif-
erous profanity obscurant or ap-
parent. In other words, talk plainly,
briefly, naturally, sensibly, purely and
truthfully. Keep from slang; don't put
on airs; say what you mean; mean what
you say, and don't use big words. April-
fool! April-fool!"

Hannibal had been smart enough to
learn of the counter-plot and fortify him-
self for the occasion by committing to
memory the string of big words which
he had copied from a book, and all his
appearance of being overwhelmed with
their unusual rhetoric was merely put
on to carry the joke to the climax and
then spring it in his own way.

The joker joked,
And the jokers joked the joker.
But up his sleeve the joker had another
joke,
And sprung it on the company of coun-
folk,

Which capped the climax over all the
jokes that they had joked.

THE STAFF OF LIFE.

BY GEORGE BANCROFT GRIFFITH.

"Here is bread," says Matthew Henry,
"which strengthens man's heart," and
therefore called the staff of life." The
making of bread from grain is one of the
earliest of domestic arts. In the dim
historic eras of antiquity men had dis-
covered some means of crushing or
grinding grain into flour and meal.
Bread became the common sustenance
of the people. The Scriptures are full
of references to the art of bread-making
and the use of leaven. So important
was the office of the miller that the law
provided that "no man shall take the
upper or the nether millstone to pledge."
So precious was the staff of life in the
sight of the Israelites that it was offered
to Jehovah as an acceptable oblation.
"And when any will offer meat offering
unto the Lord, his offering shall be of

Is This Fair?

Certain Proof Will Be Made That
Stuart's Dyspepsia Tablets
Cure Stomach Trouble.

THIS EXPERIMENT FREE.

Stuart's Dyspepsia Tablets are made
to give to the system, thru the diges-
tive tract and the stomach, the neces-
sary chemicals not only to digest food,
but to enrich the fluids of the body so
that it may no longer suffer from dys-
pepsia or other stomach trouble.

We will send you a quantity of these
tablets free, so that their power to cure
may be proven to you.

Thousands upon thousands of people
are using these tablets for the aid and
cure of every known stomach disease.
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and use discretion in doing so.

Stuart's Dyspepsia Tablets contain
fruit and vegetable essences, the pure
concentrated tincture of Hydrastis,
Golden Seal, which tone up and
strengthen the mucous lining of the
stomach, and increase the flow of gas-
tric and other digestive juices; Lac-
tose (extracted from milk); Nux, to
strengthen the nerves controlling the
action of the stomach and to cure ner-
vous dyspepsia; pure Aseptic Pepsin of
the highest digestive power and ap-
proved by the United States Pharma-
copoeia.

One of the ablest professors of the
University of Michigan recently stat-
ed that this Pepsin was the only aseptic
pepsin he had found that was abso-
lutely pure—free from all animal im-
purities; Bismuth, to absorb gases and
prevent fermentation. They are deli-
ciously flavored with concentrated Ja-
maica ginger—in itself a well known
stomach tonic.

Liquid medicines lose their strength
the longer they are kept, thru evapora-
tion, fermentation and chemical chang-
es, hence Stuart's Dyspepsia Tablets
are recognized as the only true and
logical manner of preserving the ingre-
dients given above in their fullest
strength.

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

It is due your stomach to give it the
ingredients necessary to stop its trou-
ble. It costs nothing to try. You know
what you are taking, and the fame of
these tablets prove their value. All
druggists sell them. Price 50 cents.
Send us your name and address and
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mail free. Address F. A. Stuart Co., 150
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FOR OUT DOOR WORK
IN THE WETTEST WEATHER
NOTHING EQUALS



fine flour." "Give us this day our daily bread," is the first of petitions in the Lord's Prayer.

Next to a saw-mill the grist-mill is the necessity of a new country. Old mills mark the sites of the early settlements along our coast. The oldest building in New England—the mysterious stone structure at Newport, Rhode Island, was but a mill.

The art of milling, in our time, stimulated by the immense grain fields of the west, has made wonderful strides and reached a high degree of improvement, as seen in the flour mills of Minneapolis. This comparatively new city has become the flour center, not only of this country, but almost of the whole world. Only one other city competes with it, and that is the city of Buda-Pesth in Hungary. The Hungarians have made great progress in the art of milling. They have introduced improved machinery by which our millers have profited. They draw upon the grain districts of Austria, Poland and Southern Russia, but they have not the advantages of our millers in the extent of their grain fields. They have excellent wheat and manufacture a flour equal to our best, but the demand exceeds their ability to supply. The best bread in the world, probably, is made at Vienna; that of France is next in point of excellence, while the bread of England is among the poorest.

HOW TO BE MISERABLE.

BY J. W. GRAND.

Sit by a window and look over the way to your neighbor's splendid barn, which he has recently built, paid for, and fitted out. Then exclaim: "Oh, that I were a rich man."

Get angry with your neighbor and think you have not a friend in the world. Shed a tear or two, and take a walk in the burial ground, continually saying to yourself: "When shall I be buried here?"

Sign a note for a friend, and never forget your kindness; every hour in the day whisper to yourself, "I wonder if he will ever pay that note?"

Think everybody means to cheat you. Closely examine every bill you take, and doubt its being genuine until you have put your neighbor to a great deal of trouble. Put confidence in nobody, and believe every man you trade with to be a rogue.

Never accommodate if you can possibly help it.

Never visit the sick or afflicted, and never give a cent to assist the poor.

Buy as cheap as you can, and screw down to the lowest mill. Grind the faces and hearts of the unfortunate.

Brood over your misfortunes, your lack of talents, and believe that at no distant day you will come to want. Let the work-house be ever in your mind with all the horrors of distress and poverty.

Follow these receipts strictly, and you will be miserable to your heart's content—may so speak—sick at heart with the world. Nothing will cheer and encourage you, nothing will throw a gleam of sunshine or a ray of warmth into your heart.

GAIN IN LOSS.

BY EUGENE C. DOLSON.

I did but lose; yet on my heart still lies
The impress of a lesson not in vain;
I mark my error with awakened eyes,
That this day's loss may be tomorrow's gain.

Nineteenth Century English Prose—Critical Essays. Edited by Thomas H. Dickinson, Ph. D., Assistant Professor of English, University of Wisconsin; and Frederick W. Roe, A. M., Instructor in English, University of Wisconsin. This book presents a series of ten selected essays, which are intended to trace the development of English criticism in the nineteenth century. Cloth, 12mo, 495 pages. Price, \$1.00. American Book Co., New York, Cincinnati, and Chicago.

Standard Songs and Choruses for High Schools. By Marie F. MacConnell, Director of Music, High Schools, New York City. In this book are ninety-eight selections, comprising part songs, excerpts from operas and oratorios, choruses, and folk songs, in which special attention has been paid to the voice range for all parts. Cloth, 8vo, 256 pages. Price, 75 cents. American Book Company.

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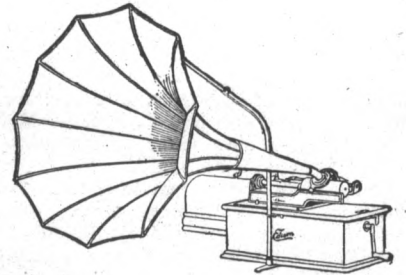
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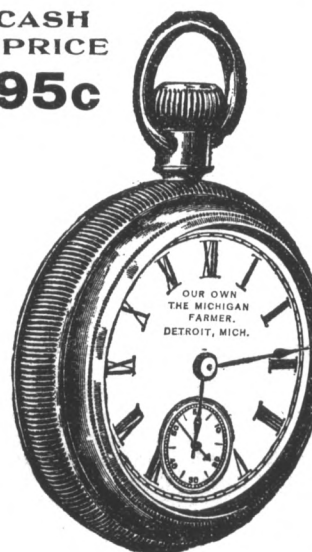
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Address, THE MICHIGAN FARMER, Detroit, Michigan.

THE COMMON QUAIL, OR BOB WHITE.

BY ALONZO RICE.

It has not been many years since quail were very common in the northern states, but they are quite scarce at present. To make up for this deficiency some states have imported quail and set them free. These and the remaining native birds having been protected by a continuous closed season, have increased in numbers, and in time will doubtless become common again.

These birds will frequently visit the garden and are often seen around the farm buildings. They will even mingle with the chickens, and pick up the grain with them. Recently, in one of our very severe winters, a farmer found a small covey in one of his fields. He scattered grain for them, and it did not take much time or patience to induce them to follow him to the barnyard, where they took up their winter quarters, becoming quite tame in course of time. They were fed daily during the cold winter months, often mixing with the domestic fowls. That they appreciated this kind treatment is evinced from the fact that for the two succeeding winters they returned to the same place for shelter. The covey, in the meantime increased to a large flock.

Sometimes the winter is harder on quail than the hunters or other enemies are. They roost on the ground and are often snowed in, or under. This does not matter, for it is warmer in their snow house and they are not so easily seen by their enemies. But, once in a while, a crust forms above them and they can not get out. Unless the crust soon melts or some watchful farmer or school-boy releases them, they starve or smother.

Quail, like the grouse, sandpipers and some other birds, are extremely skillful and courageous in the protection of their little ones. If disturbed while hunting about for food, it is the habit of the old bird to give the alarm, when, quick as a wink, the little ones scatter and hide under the leaves, tufts of grass or anything that offers them shelter.

When disturbed so suddenly that the chicks have scant time to hide, the old bird plays a very clever trick. She flops in front of the intruder as the wounded and unable to fly, meantime giving her warning to the chicks. With matchless skill she attracts all attention to herself. Away she limps and flutters, adroitly keeping just a little beyond reach, and acting her part so perfectly that even the wood-wise hunter is sometimes made to think that really this one is actually hurt, when, off she goes as full of life as any bird in the wood. Then the hunter, feeling a little foolish at having been tricked by a bird that he knew was full of such deceptions, turns back, thinking that he may discover some of the little ones for whose safety all this pretty acting has been done. But there is not a sign of a chick anywhere to be seen. The chicks are safe, and the mother's point has been gained. When the danger is past she clucks them together again and they go on with their search for seeds and insects.

The common quail is about ten inches long. The general color above is brownish red, especially on the wing coverts, tinged with gray and mottled with dusk on the upper back. The chin, throat, forehead, and a line thru the eyes along the sides of the neck are white; a black band across the top of the head extends backward on the sides, and from the bill below the eyes, crossing on the lower part of the throat. Below the bird is white, tinged with brown anteriorly, each feather having black bands. The female has not the black marks, and the white on the head is replaced by brownish yellow. The flight is rapid, low, and with numerous quick flappings. The eggs number from ten to eighteen, and are pure white. The young run about as soon as hatched, but follow the old birds until spring, when they acquire their full plumage, pair, and breed. Only one brood is raised in a season.

They rest on the ground at night, arranged in a circle with their heads outward, so that each can fly off in a straight line, if alarmed, without interfering with the others.

There is great confusion about the name of this bird. It is called quail in the northern states but in the middle and southern it is called partridge. Where the former name prevails the ruffed grouse is called partridge, and where the latter, this grouse is styled pheasant. As neither the name quail, partridge, nor pheasant is properly given

to any American bird, it has been proposed to call this species Bob White, and the other mountain grouse.

HOW THE BEES TOLD.

BY FRANK H. SWEET.

Farmer Metcalf looked out of his kitchen door one fine summer morning, and discovered that one of his bee-hives was gone. He kept a dozen swarms, or more, nicely housed in a long row of hives at the back of his garden. Last night they were all there. He stood a moment, gazing at the vacant place in the row with surprise and indignation. Then he called his son.

"Martin, somebody has been stealing our bees!"

The family were soon out upon the veranda, all staring at the plundered apiary and denouncing the unknown robber. Who could he be?

Browsing forlornly about the place where their little house had been were several stragglers from the missing swarm, and Farmer Metcalf knew very well what would calm the bewildered insects and make their intelligence serve him to good purpose.

A new hive was promptly put in the place of the old one, and some sheets of comb put in it. The bees very soon took possession, and, after waiting twenty or thirty minutes, the farmer and his son saw a 'committee' of their number come out and fly straight to a neighboring cornfield.

Of course, they had expected something like this. Once make a robbed and wandering bee feel at home again, and it recovers its wits and lets you know at once where its companions in misfortune are.

Farmer Metcalf and Martin followed their little guides to the cornfield and quickly found the evidences of last night's work. The hive lay there, broken to pieces; crawling over the scattered fragments, struggling on the ground, and climbing the standing cornstalks, were multitudes of soiled and honey-smeared bees.

Some were rubbing their legs and wings to clean themselves, and now and then one would rise in the air and fly back to the house. There were other bees with legs gone, bees with wings gone, bees half buried, pawing themselves out of the earth, and bees that lay quite still—bees everywhere, and in all conditions, living and dead.

Tracks of broad shoes were seen, and signs of a hard scuffle in the soft soil and among the broken corn. The thief certainly had not got his plunder without paying something for it. It looked as if the little captives had made a gallant fight and taken part of their revenge. It remained now for their master to complete it—when he found out the rest of their story.

The remaining testimony was soon forthcoming. Poking about in the mellow dirt with his foot, the farmer's son brot to light the paper in which the thief had carried his sulfur to smoke the bees and stupefy them, so that he could take their honey. It was the back of an old letter, with the name on it still, clear and plain—"Heman Treat."

A little further search revealed a handkerchief, probably the one the unlucky honey-thief had tried to tie over his face, and it bore the same tell-tale name! Such flat exposure of himself was, no doubt, a consequence of his rather excited state of mind after the evident blunder in managing the bees.

Heman Treat was one of Farmer Metcalf's neighbors, and the discovery of these traces of guilt against him was a very disagreeable surprise. To go directly and accuse him would be still more disagreeable. It was Sunday, too, and that fact made delay more justifiable.

The farmer and his son walked back to the house, carefully concealed the paper and the handkerchief, and agreed to keep still about the matter till the next morning.

In the course of the day Martin walked past Heman Treat's house and noticed bees flying in and out of the attic windows.

Other confirming evidence was discovered that helped to fasten the crime on the man who lived there, and, when Monday morning came, they called a constable and made neighbor Treat a visit.

He was sick in bed, his wife told them, and could not see anyone. But they replied that their business with him was urgent, and must not be put off, and she was obliged to let them in.

They found the man sick enough, to be

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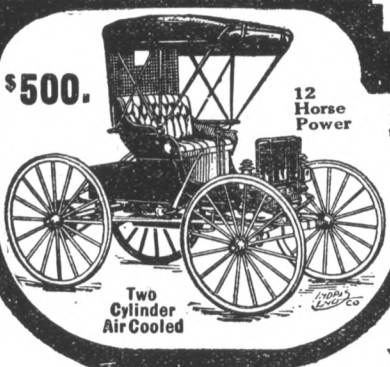
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THE MICHIGAN FARMER, Detroit, Mich.

sure. His hands were swollen to twice their natural size, and his head and face were a sight to behold—inflamed like one great blister, and bloated so that he could hardly see out of his eyes.

"Got badly poisoned working in the swamp last Saturday," was the way he and his wife accounted for it. 'Twas likely he had handled poison elder or ivy; they always affected him so.

The visitors showed deep interest in the sufferer's case, and one of them, remarking on the peculiar appearance of his face, applied his thumb and fingernail to a pimple and pulled out a bee-sting!

"That's the kind of poison you've been handling," said Farmer Metcalf, "and you'll make nothing by trying to lie out of it."

The culprit saw he was caught and confessed the crime. He begged the officer not to put him under arrest, and promised to settle at any price the owner of the bees should demand.

Farmer Metcalf did not wish to prosecute his neighbor, and he readily allowed him to settle the affair by paying the value of the stolen swarm, provided that whenever he happened to want honey again he would take care to get it by honest means.

But for the clue afforded so quickly by the little winged detectives, probably only an accident would have revealed their spoiler's traces before he had had time to obliterate them. The field of tall corn, left to itself, as it was then between cultivation and harvest, was a fine place for concealment, and it was years before Heman Treat knew that he owed his prompt conviction to the bees.

SOME OLD-TIME LENTEN CAKES.

BY MARY FOSTER SNIDER.

A generation or two ago in spite of the self-denial children were taught to observe during Lent they delighted in a few simple rules of diet that they knew would as inevitably be followed as the laws of the Medes and Persians. The delicious pancakes and fritters that were absolutely sure to be served at one or more of their meals on Shrove Tuesday and Good Friday, the rich old-fashioned Simnel cake, the Sunday in mid-Lent was to be made festive (for them), and the spicy hot cross buns for Good Friday and Easter Sunday. Of course, fish for Wednesdays and Fridays was also the rule but this did not savor so much of a treat as the hot cakes for other fast days. The orthodox churchman still has his appointed fish days and hot cross buns for Good Friday, but the old-time significance attached to pancakes and fritters for certain days in Lent has been almost forgotten.

Many of these old-time Lenten cakes were quite as pleasing to adult appetites as to juvenile ones, and a few of the most pleasing recipes are given here.

Dessert Pancakes.—Beat 6 eggs until very light and in another bowl place about ¼ cupful of flour for each egg. Add a generous pinch of salt and 3 cupfuls of milk to the eggs, and stir very gradually and smoothly into the flour. The batter should be about as thick as sweet cream and if it seems too thin add a little more flour. Use a perfectly smooth frying pan to prevent the cakes from sticking. Let it get hot, put in a small piece of butter, and when it is melted pour in enough batter to cover the bottom of the pan. Do not make the cakes too thick. When done, spread each cake lightly with soft butter, sprinkle with powdered sugar, roll it up in the pan, and lift it out with a cake turner. Keep hot in the oven until enough are cooked to supply the table. If they can be served as soon as taken from the pan it is to be advised, as they are then so deliciously crisp. For a change spread the cakes with jelly preserves or marmalade before rolling them up.

Bread Pancakes.—Our grandmothers made these old-fashioned cakes to perfection and there is no more delicious hot cake to serve at any breakfast throughout the year than this particular variety. Soak 2 cupfuls of breadcrumbs in sour milk to cover. When soft add 2 beaten eggs, ½ teaspoonful of baking soda dissolved in a little hot water, a pinch of salt, 1 cupful of sifted flour, and sour milk to make a thin batter. Serve as soon as cooked.

Rice Pancakes.—Boil 1 cupful of well-washed rice in as little water as will keep it from burning, and let it cool. Then mix with it 2 cupfuls of sweet cream, a pinch of salt, ½ cupful of melted butter, 8 well-beaten eggs, and flour enough to make the batter like thick cream. Rub the hot frying pan with a

bit of buttered paper, and fry as for other pancakes. Serve at once with a rich fruit syrup.

Everyday Pancakes.—To 1 quart of sour milk add enough flour to make a rather thick batter, stirring it until quite smooth. Let it stand over night. In the morning add 2 well-beaten eggs, a pinch of salt, and ¼ teaspoonful of baking soda dissolved in a little hot water. Bake immediately and serve as soon after baking as possible. These are not too rich for children and persons of delicate digestion.

The making of fritters is by no means always attended by success, many other-times excellent cooks failing with these surprisingly. They should be crisp, light and delicious but too often turn out heavy, soggy and indigestible. They should be put together quickly, beaten thoroughly, and fried in very hot, sweet fat. Test the heat by dropping in a spoonful of the batter. It will brown almost at once and quickly rise in a light ball if the temperature is right. Drop a bit of dry bread or a piece of peeled raw potato into the fat to prevent burning. The moment the fritters are done take them up with a wire spoon and let them drain a minute in a hot colander. If sweet or fruit fritters, sift powdered sugar over them at once and serve quickly. Any of the liquid pudding sauces are excellent with sweet fritters.

Cream Fritters.—Sift a teaspoonful of salt and half a grated nutmeg with 1½ pints of flour, then mix in gradually 1 pint each of milk and cream, and 6 well-beaten eggs. Beat well and cook as directed for other fritters.

Apple Fritters.—Beat 3 eggs well, add a pinch of salt, 1 quart of sweet milk, the grated yellow rind of a lemon, a teaspoonful of baking powder, and flour to make a rather thin batter. Sift the baking powder with some of the flour. Pare, core, and slice thin 1 quart of tart, well-flavored apples, mix them lightly in the batter, and drop in spoonfuls in boiling fat.

Orange Fritters.—Make a well in the centre of a bowl with a cupful of flour to which has been added a pinch of salt. Beat the yolk of an egg with a teaspoonful of salad oil and mix with the flour to a smooth batter. Add very gradually just enough water to make a batter stiff enough to run from a spoon. Then fold lightly in the white of the egg beaten to a snow. Separate the peeled oranges carefully in order not to break the skin and allow the juice to escape, put two or three pieces at once into the batter, coat them thoroughly, then slide carefully into the hot fat and cook to a delicate brown. Remove with a skimmer, dust with powdered sugar, and serve immediately.

CARE OF THE SEWING MACHINE.

BY E. E. R.

Next to the sweeper I think the sewing machine is most neglected in the average home. The most valuable of all labor-saving inventions for women, it is the object of decided unconcern as a rule. It is allowed to become clogged with dust and gummy deposit of cheap oil in its delicate parts. There is absolutely no attention paid to it until some body desires to do some sewing, then there develops a sudden wonder as to what ails the machine. On the semi-occasional instances when it is oiled, so much is put on that it is almost as bad as none at all.

Once a month a sewing machine that is much in use should be thoroughly gone over and given a careful cleaning. Oiling is not all that is necessary. More or less gummy deposit will form on the parts and the only way to remove this is by means of kerosene or gasoline, which loosens it ready for removal with a cloth.

It is surprising what a change this kind of cleaning effects. Not a woman can be found who would be willing to part with the one she owns unless it might be to replace it with a better one. Yet she neglects it shamefully, allowing the delicate parts to become clogged with dust and the gumming deposit of cheap oil. When she wants to use it she wonders what is the matter with it because it runs hard and clatters like a threshing machine. Then, bethinking herself of the fact that the last time it was oiled is so far in the past that she cannot recall it, she turns on as much again lubricant as is necessary and thinks it all that is required.

Once a month a sewing machine which is much used should be thoroughly gone over and given a careful cleaning. Oiling is not all that is called for. Even where



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one employs a really good quality of lubricant more or less gummy deposit will form on the parts and the only way to remove this is by the use of kerosene or gasoline, which loosens it ready for removal with a cloth. It is surprising what a change this makes in the operating of the machine. It makes even an old one work like new, and actually changes a hard, leg-weary job into a pleasant one. Apply the kerosene freely, work the treadle briskly for a few minutes then go over all the bearings and wipe clean with a soft rag or some cotton waste such as machinists use.

Half-a-dollar paid to some one who understands overhauling and repairing such articles will often work a transformation on an old machine. Remove the head and take it to the agent in town some day. It is not much trouble and the expense far less than where a man comes to the house on purpose to do it. A loose screw may be tightened and stop the rattling noise, a badly worn part replaced with new and the result be eminently satisfactory.

It is one thing to buy a good machine, the next thing is to take care of it. Whether it is for indoor or out-of-door use does not alter the responsibility.

PRACTICAL "SHOWERS" FOR YOUNG HOUSEWIVES.

BY E. J. LYNCH.

"Showers"—the prosaic, practical, useful kind of "showers" are every year becoming more fashionable, and may their number increase.

In a country neighborhood last spring a young couple were quietly married. They had decided to have no guests present and no formal reception. But, very quietly, one afternoon, a "shower" descended upon their new home that expressed eloquently the good-will of their friends and neighbors. The "shower" consisted of over thirty jars of fruit, pickles, maple-syrup and "sech." The "shower" was arranged for by two or three women of the community who approved of quiet, unostentatious weddings, but who did not intend to be cheated out of a chance to express their good-will.

In a country town, there lives a young couple who ever since their marriage a few years ago had a hard time to keep income and expenses even within speaking distance of each other. The man has been out of work a good deal. The woman's father died after a long illness and her mother has been ill for a long time necessitating the presence of the only daughter at home. Keeping boarders isn't a very lucrative occupation, but it had to be done and it meant harder work and lots of it, besides the care of the sick ones. The second baby is expected soon. Who that of it first makes little difference, but one afternoon recently a dozen or so of her young women friends caused a "stork shower" to descend on her. Such dainty little dresses and petticoats and stockings as there came in that shower, and a lovely soft cream cashmere shawl embroidered in "chickens" pattern—everything which any sensible baby could make good use of. And best of all it showed in the most delightful, tangible form, the sympathy of her friends, and there was no hint of charity in it.

Few things will delight the heart of the average housewife more than a "kitchen shower"—all sorts of useful cooking utensils—knives, whetstones to sharpen them, cooking forks and spoons, baking dishes, pudding moulds, cake cutters, tin cans for holding coffee, spices, etc., cake boxes, food-choppers—things that help make housework a pleasure. Wouldn't you like one yourself?

"Linen showers" are another class of "shower" which delight the soul of the housewife, for where is the woman who does not desire a well-stocked linen cupboard? At a very small cost to each individual giver, a good supply of towels of various kinds, pillow covers, sheets, dusters, etc., can be arranged for, to gladden the heart of some friend who is starting a new home.

A "china and glass shower" was arranged for by a Sunday school class for their teacher not long ago. The result was a delightful collection of pretty cups, saucers, plates, tumblers, etc., and there was harmony in the collection, without duplication.

The best thing about this kind of way to express one's good-will, when a more expensive present could not in "shower" is that it gives every one a chance to do something in an individual many cases be easily afforded.

Do You Open Your Mouth

Like a young bird and gulp down whatever food or medicine may be offered you? Or, do you want to know something of the composition and character of that which you take into your stomach whether as food or medicine?

Most intelligent and sensible people now-a-days insist on knowing what they employ whether as food or as medicine.

Dr. Pierce believes they have a perfect right to INSIST upon such knowledge. So he publishes, broadcast and on each bottle-wrapper, what his medicines are made of and verifies it under oath. This he feels he can well afford to do because the more the ingredients of which his medicines are made are studied and understood the more will their superior curative virtues be appreciated.



For the cure of woman's peculiar weaknesses and derangements, giving rise to frequent headache, backache, dragging-down pain or distress and kindred symptoms of weakness, Dr. Pierce's Favorite Prescription is a most efficient remedy. It is equally effective in giving strength to nursing mothers and in preparing the system of the expectant mother for baby's coming, thus rendering childbirth safe and comparatively painless. The "Favorite Prescription" is a most potent, strengthening tonic to the general system and to the organs distinctly feminine in particular. It is also a soothing and invigorating nerve and cures nervous exhaustion, nervous prostration, neuralgia, hysteria, spasms, chorea or St. Vitus's dance, and other distressing nervous symptoms attendant upon functional and organic diseases of the distinctly feminine organs.

A host of medical authorities of all the several schools of practice, recommend each of the several ingredients of which "Favorite Prescription" is made for the cure of the diseases for which it is claimed to be a cure. You may read what they say for yourself by sending a postal card request for a free booklet of extracts from the leading authorities, to Dr. R. V. Pierce, Invalids' Hotel and Surgical Institute, Buffalo, N. Y., and it will come to you by return post.

It's foolish and often dangerous to experiment with new or but slightly tested medicines—sometimes urged upon the afflicted as "just as good" or better than "Favorite Prescription." The dishonest dealer sometimes insists that he knows what the proffered substitute is made of, but you don't and it is decidedly for your interest that you should know what you are taking into your stomach and system expecting it to act as a curative. To him its only a difference of profit. Therefore, insist on having Dr. Pierce's Favorite Prescription.

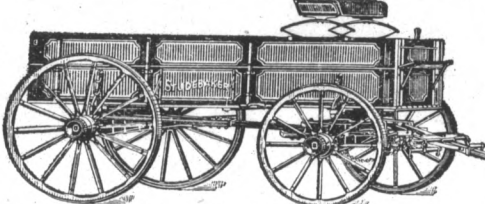
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GRANGE

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

THE APRIL PROGRAMS.

Leading Suggestions for First Meeting.

"We can never rebuild country life until we rebuild the soil on which it subsists."

Soil Fertility—I. Plant food, its nature and source.

Paper: "The Blue Bird" (paper limited to 200 words).

"Legislation we are interested in securing."

Recipes for cookies, by six women, each to give recipe and pass plate of sample cookies made from it.

Suggestions for Second Meeting.

"Millions of acres of bare hillside that produce nothing should be growing trees." Hon. Jas. Wilson, Secretary of Agriculture.

Roll-Call, each member to respond to the question, "What tree do you like best?"

The Child—I. His senses.

Reading, "Improving Country Schoolyards."

Farm Forests in Michigan.

Award of prizes to those naming most specimens in a wood exhibit.

INTERESTING THE YOUNG PEOPLE.

Another good article from the State Lecturer, strongly suggestive of the duty of the Grange to its younger members in giving them responsibility, follows those presented in the last two issues. The experience of the Pennsylvania Patron has, without doubt, had its parallel in many a Michigan Grange and today's roster of leaders in the live Granges, subordinate, county and state, is largely composed of names of Patrons upon whom responsibility fell early in Grange life. Being given something to do they early developed an interest and an earnestness of purpose which practically assured the success of the Order. On the other hand, there are many Granges in this state which owe their present half-dormant condition to their failure to thus interest and hold their younger members.

But in many Granges it is not possible or practical to develop all of the young people by imposing the responsibility of some office, and right here we would call attention to that part of the Pennsylvania Patron's experience having to do with the formation of classes for the study of crops, live stock, etc. Here is a line of work which can easily and profitably be taken up by local Granges. In the quarterly bulletin covering the work for April, May and June, the State Lecturer directs attention to the desirability of organizing local corn associations within the Granges, the members, especially the younger members, to grow corn for prizes to be given by the Grange or for the purpose of securing material for a special corn meeting next fall. Where each member taking up work of this kind is required to present his season's experience and its results, considerable program material of a valuable nature is secured. But much of the value in such work will accrue to the member himself thru the study and observation which the work will call forth. Then, too, the growing of an excellent crop puts him in position to take advantage of the opportunities open to him to contest for prizes offered by local and state fairs and by state shows and national expositions. However, all those willing to engage in this kind of work may not be interested in corn, and in that case classes or divisions may be organized, a live intelligent young Patron being placed in charge of each by the lecturer. Surely the introduction of this line of work the coming season should receive the earnest consideration of every subordinate and Pomona lecturer, and the matter should be placed squarely before each Grange at one of the April meetings.

THE GRANGE AND YOUNG PEOPLE.—III.

"One thing I think a Grange should do above all others," remarked the man lately from Pennsylvania, "is to give its young people responsibility."

I was alert at this, encouraging the speaker to tell me the story of his membership in a Grange in his native state in the east. He continued: "My appli-

cation for membership in the Grange was presented even before I was quite old enough, and when I was admitted I was a happy lad. At the first election, after my admission, I was made gate-keeper, an office where my youthfulness could do no especial harm but where the honor did spur me to do my very best. I committed my part in the ritual to memory and filled the office with the dignity which a great deal of pride for my position inspired in me. I insisted that everyone passing the doors should do so properly and in that way added my mite to the correct conduct of the Grange. At the next election the members kindly made me steward, and here again, honored by advancement, I was stirred to learn and profit by the enlarged field of usefulness. From steward, as the years passed, I was gradually promoted to the offices of overseer, secretary and master, then went back to steward again. In all these positions of trust I was made to feel that I had the support of the elder members, who stood ready to guide me in places where I was not sufficient of myself. Responsibility was put upon other young people in a similar way and it was an invaluable training for us all."

"I shall never forget," this Pennsylvania Patron continued, "the classes we boys had in different farm lines. The lecturer divided us into groups according to our choice of crops, as corn, wheat, oats, potatoes, etc.; also at other times according to our choice of farm animals, horses, cows, sheep, etc. We had a very large body of young people in that Grange and it allowed for several groups, each with a leader appointed by the lecturer. At each meeting we boys reported to our leaders as to what we had done since the last meeting. Accounts were kept by us of the work, feed, seed, cultivation and care of our various undertakings. At the end of the season our reports were made to the Grange and then placed on file with the secretary. I mean to go back to that Grange, up among the Pennsylvania hills, some day, and see those records again that we boys made years ago, for they are preserved among the treasured papers of that Grange!"

JENNIE BUELL.

AMONG THE LIVE GRANGES.

New Grange for Branch Co.—What will henceforth be known as Unity Grange was organized at Bethel, Branch Co., Monday evening, March 15, by Bro. Wallace E. Wright. The prospects are that it will quickly become a strong Grange. The next meeting will be held at the "Butcher" schoolhouse in North Bethel, Wednesday evening, March 31, at which time the unwritten work will be exemplified and all instructions given. The charter will then be closed. The following officers were elected and installed: Master, Roy G. Moore; overseer, E. H. Walker; lecturer, Mrs. L. R. Miller; steward, M. M. Garrett; asst. steward, Oral W. Butcher; chaplain, Mrs. Bertha Butcher; treasurer, Walter S. Jelley; secretary, Perry B. Wessel; gate-keeper, Harry McDougal; Ceres, Mrs. Chloe Moore; Pomona, Mrs. Rose Walker; Flora, Mrs. Dollie Teachout; lady asst. steward, Mrs. Mary A. Carter.

Successful Grange Banquet.—Iosco Grange, of Livingston Co., conducted a most enjoyable banquet on the evening of March 12. Friends of the Patrons were invited and in all about 80 were in attendance. The annual banquet originated in the brain of Sister L. B. Gardner, the first lecturer of this Grange but now living in Chicago. Mrs. Gardner was present and gave a short talk. A long list of toasts were responded to in an able and entertaining way. J. W. Odell told in his subject, "Little Things," how great results are accomplished and how strict attention to details of business is necessary to success. In Christian life little things wield the most influence. "Critics" was the subject of A. G. Stowe. He has been master of Iosco Grange for several years and in that capacity has felt the presence of the critic. He said that the critic had the right to exist and was a necessity if he did not abuse the privilege. Mrs. E. J. Titmus, in responding to "The Future Man," predicted that this individual will be very different from the present generation of men, will wear hats several sizes larger than at present and in general will be a creature of higher ideals. He will live hundreds of years, as medical science will banish all forms of microbism. State Lecturer, Miss Jennie Buell, gave some "Outlooks" for the Grange, and C. H. Hill followed with some very sensible "Advice." He characterized advice as good, bad and indifferent, and cautioned those who were fond of giving advice to be sure of practicing before preaching.

COMING EVENTS.

Pomona Meetings.

Lapeer Co., with Union Grange, in Attica village, Friday, April 2. Master N. P. Hull, state speaker.
Kent Co., with Oakfield Grange, Wednesday, June 23. Miss Jennie Buell, state speaker.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS CLUBS.

President—A. L. Chandler, Owosso.
Vice-President—Mrs. Clara L. French, Pompeii.

Secretary—Mrs. W. L. Cheney, Mason.
Treasurer—D. K. Hanna, Caro.

Corresponding Secretary—Clayton Cook, Owosso.

Directors—D. M. Beckwith, Howell; D. M. Garner, Davisburg; T. B. Halladay, Norvell; E. C. Hallock, Almont; B. A. Holden, Wixom; Wm. H. Marks, Fair Haven.

Address all correspondence relative to the organization of new Clubs to Mrs. W. L. Cheney, Mason, 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.

HIRED HELP ON THE FARM.

Paper read by Mrs. C. P. Johnson, of the Hadley and Elba Farmers' Club, before the State Association of Farmers' Clubs.

It is customary to say and very natural to feel, that one's own topic is a very prominent, if not the most important, one on the program. Indeed, it is the only correct attitude for enthusiasm, backed by perseverance, is the keynote of success. This on general principles only for it is universally conceded that the farm help is one of the greatest problems confronting the American farmer today.

The farm and farmer have, in truth, received official recognition from the government, in the appointment of the Country Life Commission, the general purpose of which is to arrive at an understanding of conditions, and of public opinion, with regards to American country life, as a basis for reports and recommendation to the president.

This list contains twelve questions regarding the condition existing in farming communities, the answer depending entirely on the stamp of man writing, as there is no fixed standard of comparison.

Simultaneously the treasury department issued a list of 29 questions to be presented to bank directors regarding their knowledge and fitness to care for money entrusted to them. As to which of these commissions is the more important you may judge. But, one thing is very evident. The majority of the laboring people are working with a definite purpose, a home, and the wherewithal to maintain it. And it is rather hard lines to have his hardly earned savings swept away by bank failures, due to the cupidity, dishonesty or ignorance of bank officials. The farmers are forging to the front, and they will take care of their own if the government will only protect bank deposits. The Country Life Commission deals with farming communities exclusively, while the prosperity of the whole country depends on the stability and solidity of the banking institutions and the honesty and integrity of their officials. I say again, judge for yourselves as to the relative importance of the two.

You may think this digressing from the subject, but not so, for the hired men are watching this Country Life Commission very closely, and very correctly, too, for there are two sides to every question, and anything that tends to unity of thought and purpose between the farmer and his help is of the greatest importance to the country at large.

The scarcity of farm help is one of the greatest contingencies the farmer deals with. Owners of large farms are at the mercy of their hired help.

Crops must be sown on time or failure is the result.

It is no longer a question of what shall I raise the coming season, but, what can I raise, what help will I be able to get to secure my crop. And the result is not confined solely to the farmer either, for you know the old saying, "The farmer feeds them all," and what concerns him so vitally, must necessarily extend into all the avenues of trade.

Indeed, many farmers are seeding their farms, and doing just what they can do themselves because they either cannot get the help or pay the wages demanded.

The ebb and flow of our farmer boys to the cities is largely responsible for this, and I do think the main reason for the boys leaving the farms is the eternal choring. "A man's work is from sun to sun," runs the old rhyme, but in too many instances the chores are added to this, and are the last "straw that breaks

the camel's back." There is reason in all things, and the farmer should take the chores into consideration when planning the day's work. Then when occasion arises for the extra hour or two, the man is, as a rule, ready and willing to respond to the emergency.

Of course, in this as in other matters, there are many beautiful theories, but we who live on the farm find the average hired help a hard matter-of-fact problem to be met only on a prosaic, practical basis.

Merchants and manufacturers hire their help for a number of hours per day, and give no thought as to where the remaining time is spent. None but the farmer becomes responsible for the board, housing and sleeping of his help.

(Continued next week.)

CLUB DISCUSSIONS.

Oppose County Road System.—The Marion Farmers Club met in February at the pleasant home of Mr. and Mrs. Willis Smith. The retiring president, Charles Reed, after a few remarks presented Charles Burroughs, the new president for the ensuing year. After the appointment of the new committees, Robert J. Wright read a paper on "Proposed change in road law." The paper was ably discussed and the opinions expressed were against the adoption of the county road system. On the subject, "Proposed change in drain law," Joseph Metz presented the advantages to the farmers of our present drain law over the old law. A resolution was adopted by the club protesting against the proposed change. One of the most interesting subjects of the meeting was that of local option by Rev. H. Cansfield. So interested were the listeners that there was circulated among the members a petition against the passage of the Ormsbee bill and ordered to be forwarded to the legislature.

Appoint Committee on Public Affairs.—There was a good attendance at the March meeting of the Ingham Co. Farmers' Club, held in the city of Mason with Mrs. Eva Haskell. Following the opening exercises the following resolution was adopted by the club: Resolved, That a standing committee be appointed by the president, to be known as a Committee on Public Affairs, whose duty it shall be to, by reports and recommendations at club meetings, endeavor to create and promote a deeper interest and larger knowledge among club and farmers generally of public questions affecting the agricultural interests of the country. Also to express the approval or disapproval, as the club may direct, on questions such as the making or repealing of laws, conduct of public officials, management of public institutions, societies, etc., in which we are interested. This committee shall be composed of three members, also a secretary, whose duty it shall be to make investigations and reports as directed by the committee, and to prepare all reports, resolutions, etc., for presentation to and transmission from the club. As such committee President Ives appointed Messrs. Shafer, Vaughn and Taylor, with H. M. Young as secretary, as provided in the resolution.

Rest and Recreation on the Farm was the title of a well written paper by Mrs. C. M. Marshall. In part she said that a change of work is rest, and there is no other vocation where there is as much chance for variety, and no other business where time is so much his own as the farmer. She spoke of government employees at a lighthouse working under orders, and that one would ask another, "When is farmer's night?" meaning when are you off duty. She would place recreation ahead of rest and this can be obtained from books, music, pictures and games. They can also recreate by driving around the country, and farmers are independent of liveries. This was briefly discussed by Mesdames Tanswell and Taylor.

The Township Unit System was the subject of an animated discussion, the subject being introduced by School Commissioner F. E. Searl. He thought many had mixed the unit system with the centralization of schools, which are two distinct propositions. The unit system provides for a township board of education, having control of all the schools in the township. He also spoke of the distribution of the primary money. Many districts received more money than enough to pay the teachers. He thought it would be more equitable could it be apportioned by the number of schools than by the number of scholars. Rep. Sanders was present and said the good thing about this bill was that under the unit system no school district having more money on hand than they pay their teachers can draw public money. Mr. Taylor spoke of the township unit system in Ohio; that it had been a success there, that every school district has an equal voice, and that there is a board of education and a high school whose superintendent has charge of all the schools in the township; that one can look after twelve or fifteen schools better than a county commissioner can 130 or more. E. A. Holden, of Lansing, was present and spoke at some length upon the unit system. It is a matter which he has given very much thought and knew what he was talking about, as he has been clerk in the office of public instruction under Supt. Pattengill. He said in part this unit system was a radical change, that it had been discussed almost biennially and that we wanted to know what we were doing. Our common system as founded by Father Pierce had done well and that no other state had better schools and colleges than our own state of Michigan.

A \$5000. DAN PATCH STALLION FREE.



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DAN PATCH 1:55
IN SIX BRILLIANT COLORS
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This new picture of Dan Patch 1:55, is the Finest I have ever gotten out for framing. It is 21 inches by 28 inches,—is printed in six brilliant colors and free of advertising. It gives his age and a list of all of the fast miles paced by Dan. Being made from a "Speed Photograph" it shows Dan as lifelike as if you stood on the track and saw him in one of his marvelous and thrilling speed exhibitions. You ought to have a fine picture of the King of all Harness Horse Creation and the Fastest Harness Horse the world has ever seen. I will mail you one of these Large, Beautiful, Colored Pictures of Dan Patch 1:55 free With Postage Prepaid and full particulars concerning my plan of Giving Away a Splendid \$5000.00 Dan Patch Stallion if you will write me and

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You may secure this \$5000.00. Dan Patch Stallion Absolutely Free. Forest Patch might make you a fortune of \$25,000 to \$50,000 as a great stock horse in any community because he will make a 1200 lb. stallion with great style and beautiful conformation.

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| 1 Mile in.....1:55 | 30 Miles averaging.....1:57½ |
| 1 Mile in.....1:55½ | 45 Miles averaging.....1:58+ |
| 2 Miles in.....1:56 | 73 Miles averaging.....1:59½ |
| 3 Miles in.....1:56½ | Unpaced Record.....1:58 |
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Dan drew 180,000 people at Two exhibitions and over ONE MILLION PEOPLE have attended his marvelous and thrilling speed exhibitions. The tremendous crowds drawn by Dan Patch have never been equaled.

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ACCIDENT ONLY PREVENTED 1:54 ON OCT. 11, 1908.

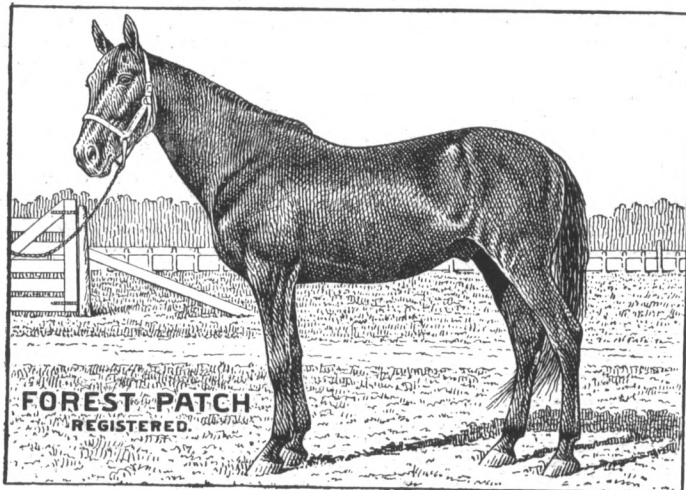
On Oct. 11, 1908, at Lexington, Ky., Dan Patch paced the greatest mile of his life and only an Accident prevented his having a record of 1:54. He paced the first quarter in 29 seconds — the second quarter in 27½ seconds, being a 1:50 clip — was at the half in 56½ seconds, a 1:53 clip — the third quarter in 29 seconds and was at the three quarters in 1:25½ and was finishing strong at the seven-eighths pole when the pace maker broke a blood vessel in his nostril and slackened up at once which crowded Dan in toward the fence and forced him to slacken his tremendous stride of 22 feet and yet Dan Patch finished the mile in 1:56½ which the Horse Papers and all Horsemen admit was the Fastest and Greatest Performance in the life of the World Famous Harness Horse King. This accident is all that prevented Dan from pacing this mile in 1:54. Look Out For Dan in 1909.

After eating "International Stock Food," the Greatest Animal Tonic, for over Six Years Dan Patch 1:55, has paced more Extremely Fast Miles than the Combined similar miles of all the Trotters and Pacers that ever lived. Dan's splendid physical condition after six years of continuous miles under two minutes is the wonder of the entire horse world. This preparation gives Dan purer blood, more strength, better appetite and digestion, more nerve force and speed. I Originated "International Stock Food" over twenty years ago and have constantly used it for my own Horses, and other stock. If it gives such results for Dan Patch 1:55, it will give paying results for your stock. It is sold by Two Hundred and Fifty Thousand Dealers on a "Spot Cash Guarantee" to refund your money if not satisfactory. I Also Own "International Stock Food Farm" of 700 acres, 10 miles from Minneapolis. On the farm I have over 200 head of Stallions, Brood Mares, Colts, Trotters and Pacers. My leading Stallions are Dan Patch 1:55, Minor Heir 1:59½, Directum 2:05½, Arion 2:07½, and Roy Wilkes 2:06½. I will be pleased to have you visit my stables at any time and see the actual every day results of using "International Stock Food" for horses of all ages and conditions. I hereby agree to pay you \$5000. Cash if it is not given to my Stallions, Brood Mares, Colts and speed horses every day. "International Stock Food" has stood the great test of over twenty years constant use by over Two Million Farmers and Stock Owners. Its sale has reached around the world until the stock owners of Japan, China, Australia, South Africa, etc., join with the stock owners of European Countries and America in pronouncing "International Stock Food" the Greatest Blood Purifying Tonic and aid to digestion that has ever been placed on the market. These Indisputable Facts absolutely prove that my world famous #3 FEEDS FOR ONE CENT is a "Trade Mark" No. [52791] for Highest Quality, combined with remarkable cheapness to use. It Purifies the Blood, Strengthens the System and Greatly Aids Digestion and Assimilation so that each animal obtains More Nutrition from all grain eaten. I guarantee it equally as good for all kinds of stock and perfectly harmless even if taken into the human system. On my new label you will find the English names of every ingredient used and your own judgment will tell you that it is the safest and best Blood Purifying Tonic in the world. One tablespoonful mixed with the regular grain feed will Save You at least THREE QUARTS OF OATS, for each horse Every Day and the same proportion in feeding all other kinds of stock. I am simply asking you to use "International Stock Food" on my positive guarantee that it will save you money, over its cost, and keep your stock healthy and vigorous. "International Stock Food" has been the Standard Of The World For Over Twenty Years as a purely vegetable, cheap, medicinal tonic to use in small amounts mixed with the regular grain feed.

Do you realize that a large majority of the Leading Live Stock Breeders of the United States always use "International Stock Food" as a great health tonic and aid to digestion in preparing their animals for the fairs and live stock shows? Ask them the results. Do you realize what a tremendous and indisputable endorsement for "International Stock Food" is the fact that over two million of the best farmers and breeders have been constant, every day users for over twenty years? Would they continue the use for twenty years if it did not pay? Do you realize that "International Stock Food" must have very superior, money making qualities for Farmers, Breeders and Stock Owners in order to stand such a practical test for over twenty years? Do you realize that you are losing money by not using International Stock Food every day for your stock? Actual test on your own stock will prove superior, paying merits. I offer to let you test it entirely at my own risk. Is my offer fair? If you desire any special information in regard to its use I will be pleased to have you write me. Its use is endorsed by every High Class Horse or Farm Paper, 250,000 Dealers and 2,000,000 Stockmen throughout the world. Merit Alone Brings Such A Universal Endorsement From All The Different Countries Of The World.

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THIS \$5000. DAN PATCH STALLION FREE

Mr. Savage has mailed us a large photograph of "Forest Patch" the young Dan Patch Stallion he will give away in his novel counting contest. We can assure you that This Small Engraving is an exact reproduction of this fine, young, registered stallion that weighs 1400 pounds as a three year old. This indicates that he will weigh over 1200 and have the size and conformation to command a large breeding patronage in any community. You can see from this photo-engraving exactly what Mr. Savage is offering and people who know him are not surprised that he makes this great offer from his World Famous Horse Breeding Farm. He is vitally interested in the live stock industry. His offer will awaken new interest in every locality in the breeding of better horses.