

MICHIGAN FARMER

AND LIVE STOCK JOURNAL.
PUBLISHED WEEKLY.
ESTABLISHED 1843.

The Only Weekly Agricultural, Horticultural and Live Stock Journal in the State.

VOL. CXXXIV. No. 7.
Whole Number 3490.

DETROIT MICH., SATURDAY, FEB. 12, 1910.

75 CENTS A YEAR
\$1.50 THREE YEARS

FARM NOTES.

Eradicating Wireworms.

A year ago I bot seventy-five acres of well-drained muck land with a heavy June grass sod. It had been used as a pasture for years. Last June I turned over five acres of it and planted to potatoes. There was a fine yield, all of good size, but they were so completely filled with wire worms I did not dig them, merely dragged the ground over and sowed the field to rye, intending to seed to clover and timothy next spring. I fall plowed five acres more, will it be safe to plant that ground to potatoes next June? I would like to get the whole of this 75 acres seeded to clover and timothy as soon as possible. Think it will be too rich to sow to wheat or oats as they would go down. What can I do to completely eradicate the wire-worms? What is their origin and length of life? Are eggs laid by an insect and at what time of year? Please answer in Farm Notes.

Eaton Co. C. M. BEACH.

Owing to the fact that the larvae of the wireworm lives in the soil for two or three years before completing its life cycle, it is a difficult matter to eradicate them in a single season. Fall plowing is probably as good a remedy as can be applied, since by turning the larvae up to the action of the elements, a good many of them will be destroyed. Applications of salt are also said to be beneficial, but few will claim that the wireworms can be eradicated by this method. Wireworms seem to dislike some crops, and where one is tilling the soil for the two or three years necessary to eradicate them, it is often more profitable to grow some one of the crops for which they do not seem to have a liking, such as buckwheat or rape, which crops are attacked by wireworms but are not generally destroyed by them. The wireworm does not generally become troublesome except on soils which lay in grass for a considerable time, hence ground which is used in a regular crop rotation is, not likely to be infested. It would be better to crop this land for a sufficient length of time to eradicate the worms before seeding it again to permanent meadow or pasture.

The adult form of the wireworm is a click or snapping beetle which, when placed on its back, springs into the air with a clicking sound. These adult beetles may be readily attracted to baits of poisoned clover, poisoned sweet dough, or sliced potatoes. However, it will not be generally necessary to resort to such means after the ground is tilled for two or three seasons, as suggested, to destroy the larvae.

Draining Springy Land.

Will you please tell me thru the columns of your valuable paper, what to do with a piece of ground that is "soaky?" The ground slopes quite a little. As the ground below and above this soaky ground is in good condition, don't you suppose if a person put a lot of straw or other coarse matter on this ground that it would improve it? What is your opinion in regard to putting lime on this ground?

Oceana Co. P. LIPPS.

The best way to improve this land would be to drain it thoroly by tiling from the lower side of the wet ground, which would not be difficult provided there is a sufficient fall and a good outlet. The adding of coarse vegetable matter to this ground would not serve to get rid of the surplus water which must be removed before it can be made available for growing crops. Some lime would probably prove beneficial to it after the draining process, as wet land is sometimes inclined to become sour and the acidity would be corrected by the addition of the lime.

Seeding Clover with a Nurse Crop.

I have a piece of sandy loam on which I have raised two crops of corn in succession. I would like to seed it to June clover in the spring. How would it do to sow oats with it as a nurse crop and then cut the oats for hay, since I will be short of hay? Will oats cut green and cured take the place of hay as horse feed? I would prefer a catch of clover to the oat hay in case I could not have both. How

much oats should be sowed to the acre so as to get a fair crop of oat hay and not injure the clover? How would it do to sow alfalfa with the clover and how much should be sown to the acre with the clover?

Berrien Co.

C. C. V.

Oats to be cut for hay would make a very satisfactory nurse crop with which to seed this land to clover. Where the oats are cut for hay it is ordinarily much better for the stand of clover, as oats will withdraw a good deal of moisture from the soil during the ripening season. Oats cut green make a very good hay, being considerably superior to timothy hay and containing fully one-half more protein as well as a higher percentage of carbohydrates than timothy. It also makes a palatable hay and a clean hay which is suitable for horse feed. The quantity to sow per acre would depend

than the June clover, and be a factor in the hay crop for several years. Some of the most successful alfalfa growers contend that there is no better way in which to seed alfalfa than with a nurse crop of oats or beardless barley, to be cut for hay.

The Cement Granary.

I am a reader of The Farmer and it is getting better every year. I would like some information in regard to how to cement the inside walls of a granary, and how to put the cement in to keep it from frosting thru or sweating, if it can be used at all.

Lenawee Co.

C. G. MILLER.

The idea seems to be prevalent among many farmers that it is impracticable to store grain in a granary with a cement floor or walls. This, however, is not true. There are a good many granaries in the state having cement floors, in which grain

proofed in any way, except by a wash of clear cement on the outside. It would seem to be much more practicable to build a cement granary from the foundation than to put a cement lining in one already built, altho this could be done by the use of metal or patent lathing upon which the cement could be plastered, much as is done in making a cement lined silo.

Ashes as a Fertilizer.

Kindly advise me of the best methods of using wood ashes. When should they be applied, and on what crop?

Gratiot Co.

J. S.

As several times noted in these columns, the best method of using wood ashes is to apply them on the surface and harrow them in when the soil is being fitted for planting or sowing. They are applied at rates varying from 500 lbs. to one ton per acre and will prove of most benefit to soils that are slightly acid, since the lime in the ashes will produce an alkaline reaction. They are also valuable for soils that are deficient in potash, such as sandy or mucky soils, and will benefit almost any crop which they precede. Unleached hard wood ashes have an estimated value of from five to ten dollars per ton, based on the value of the fertilizing ingredient which they contain. After they have been exposed to the weather for any considerable time, their value will be materially reduced. Soft wood ashes are less valuable but are well worth applying to the soil as they contain a goodly portion of lime and some potash and phosphorous as well.

The Fertilizing Value of Common Food-stuffs.

Kindly advise with regard to the fertilizing value of a ton of the following feeds: Clover hay, timothy hay, wheat bran, oats, corn, gluten meal and oil meal.

Van Buren Co.

G. H. G.

The fertilizing constituents in each 1,000 lbs. of the various feeds enumerated in this inquiry are indicated in the following table:

	Fertilizing Constituents in 1,000 Pounds.		
	Nitrogen.	Phosphoric Acid.	Potash.
Red Clover	20.7	3.8	22.
Timothy Hay	12.6	5.3	9.
Wheat Bran	26.7	28.9	16.1
Oats	20.6	8.2	6.2
Corn	18.2	7.	4.
Gluten Meal	50.3	3.3	4.5
Oil Meal	54.3	16.6	13.7

The commercial valuation for these fertilizing substances if purchased in the form of commercial fertilizers, would be about as follows: Nitrogen, 15 cents per lb., phosphoric acid 5 cents per lb., potash 5 cents per lb. This fact should be a sufficient argument against the too common practice of selling grains and hay off the farm. It should always be marketed in the form of live stock or live stock products, in which form only a minimum quantity of the plant food contained in the feeds will be removed from the farm. Far the larger percentage of it will be returned in an available form for the use of future crops and the fertility of the soil thus maintained and, where feeds are purchased outside and fed upon the farm, increased to no small degree.

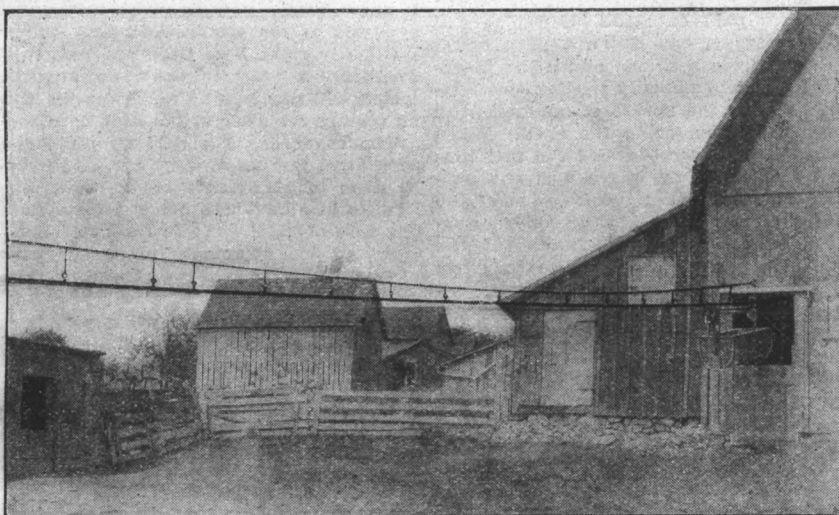
Broom Corn Culture.

Please explain thru the columns of your paper what is the best kind of land for broom corn, how and when to plant it, how it is cultivated, harvested and taken care of.

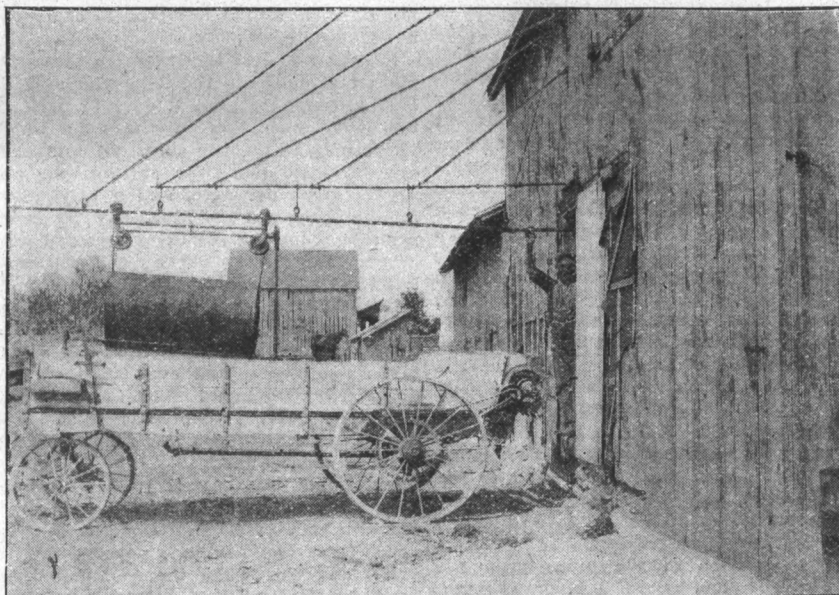
Cass Co.

C. H. S.

The best soil for broom corn culture is a well drained rich loam. A good corn soil would be all right for broom corn. Poor soil should be well fertilized before undertaking to grow it. A good seed bed should be prepared and the seed should be sown at about the time or soon after corn is planted. It is generally sown in drills about 3 or 3½ feet apart and the plants six to eight inches apart in the row. On very rich soils the plants should be twice as thick. About two quarts of seed is required per acre and the crop



A Novel and Satisfactory Way of "Installing a Litter Carrier." (See page 171).



upon the character of the soil, from about 1½ to 2 bushels per acre, would make a fair crop of hay, and should not injure the chance of getting a seeding very materially. It would be a good idea to sow a few pounds of alfalfa seed per acre with your clover if it is desired, to introduce this crop on the farm as a natural inoculation of the soil with the alfalfa bacteria will be secured in this way. If the bacteria is already present, it might pay to sow more alfalfa seed, say four or five pounds with a mixture of June clover and alsike clover. This is said by those who have tried it to make a very good mixture, the June clover yielding best the first year, before the alfalfa is well established while the alsike will last longer

is kept thruout the year just as successfully as in the granaries made of lumber. In fact, cement storage for grain has come to be recognized as the most economical that can be provided by the large milling and elevator companies of the west and northwest. Not long ago the writer had a conversation with a contractor who makes a specialty of putting up these grain pits or "tubs" as he called them. They are simply reinforced concrete tubs very much like a large silo which will hold about 75,000 or more bushels of grain, being built from 30 to 40 feet in diameter and sometimes as much as 80 feet high and circular in shape. Grain is kept in them without any loss from moisture and they are not water

should have early and shallow cultivation. It is generally harvested when the seed is in the dough state. At harvest time the stalks of two rows are bent together diagonally at a point about three feet from the ground, making a kind of platform on which the heads, with about six inches of the stalk attached, are laid after being cut. These are left about a day to dry out. When the drying is finished, they are put in a shed as the brush is injured by rain or heavy dew. After suitably cured, the seed is threshed by a special machine and the brush is baled up. It is a crop which should not be grown on a large scale unless one is assured of a market which will make the crop a paying one. It is not cultivated to any extent in Michigan and would not be a profitable crop to introduce on most farms.

THE BUSINESS SIDE OF FARMING.

Standards of Operations.

One of the very difficult matters to establish is that of a standard of farm operations, i. e., production and cost. Many years ago, during the period of the manufacture of the Jackson wagons at the Jackson state prison, it was believed that the convict workmen were systematically trying to establish a low standard of the product of a day's labor. Outside workmen were brought in for a period to determine this, and a new standard fixing a day's work was made. Often times foreign miners, from Austria particularly, where labor had not been well paid nor well fed, rebel at the standard set by Cornish or American born miners. In the evolution of mine operations the able Anglo-Saxon miners become machine men, foremen and superintendents, but never for a moment do they permit the foreign standard of a day's labor among the miners to prevail. It may be a continuous fight to maintain but the determination is unrelenting. In the various Carnegie blast furnaces there was strife as to output of steel, and the efficiency of labor, with the high standard of output, was made part of the enormous price when absorbed by the U. S. steel corporation. And while contrary to what might be generally supposed a high grade of efficiency and of great quantity of product invariably compels high wages.

What is true in industry in general is or should be true of the business farmer. The perfection of American meats has compelled the production of a different type of animal from the razor back hog, the native cow, or the Spanish merino lamb, with its small carcass and wrinkly skin. The native half wild product has yielded to a new standard, and there is increased cost to produce and finish these meat producing animals. Heavy expenditures have been made for improved sires, in newspaper advertising, and at live stock shows, to secure and advance these new standards. The same improvement in dairy products is also marked. Cheese and butter are made scientifically by trained men, and the return to the ill-flavored product of years past would be an industrial sin as well as an offense against sanitary laws. The delivery of milk with the inspection of the dairy has been found to be a health necessity. These are some of the newer standards which makes the farm products more desirable in every way. Instead of increasing the quantity, betterment has appeared in the quality, and, as the quality has improved, the consumption has increased.

It is a confusion and lack of knowledge of economic laws that would try to change these conditions in the world of industries which must include the source of all production derivative from the soil. It can scarcely be called a crisis in farm matters. At the same time the presumption of the ill-informed who would have the farmer correspond to the peasant class abroad, instead of sharing his rightful equity in the improvements of production he has made, are not a few in numbers. There is good philosophy in the story of the very meek and submissive son whose father left him a minimum of property. In his division was the family Bible, his special award, which contained a note saying, "My dear son John, there are many good things in this world lost by not asking for them." The actual contribution of the farmer to these advanced standards of natural industrial conditions, as in the instances noted above, is only equaled by his patronage of the advanced standards of the manufacturing, merchandising and transportation world. It is estimated that 20 per cent of the annual acreage return is paid

for transportation, i. e., mostly to railroads for hauling the crop to market and the machinery, supplies, etc., connected with its growth. The carrying of coal is an immense traffic, where formerly farmers provided their own fuel. A neighbor recited a case where a half century or more past the total store bill in all goods actually bought was less than twelve dollars in one year for the family. Clothing was spun and woven at home. Socks knitted, hides tanned, etc. These were the conditions that the men who suggest that it would be a wise thing to lower farm product prices would have again if economic law was not as fixed as that of the Medes and Persians in opposition to retrogression.

There was a little band of Mormons came to settle Rabbit Valley and it was an object lesson in several ways. The valley was remote and, both by necessity and interest, the isolation made them self supporting. Meager supplies from the outside were brought with them. Their herds of sheep provided meat and clothing. Their cattle furnished food and the hides leather. Tea, coffee and sugar were not used. Honey, milk, and water took their places. None of the current contributions to the steam laundry, the theatre or for daily papers, made any inroads on their resources. Irrigation ditches were made, roads built, and, in a few years, what had been a waste of sage brush desert was transformed into comfortable homes. Orchards were planted, and lucerne fields abounded. About the only requisitions from the outside world were for guns, ammunition and hardware. What surprised one was the actual increase of wealth within a few years. Analysis showed that everyone worked and the results of their labor was focused in that one place. Another visit a few years later showed an expenditure for pain on some houses, several cottage organs, one piano, a phonograph screamed from a saloon and a life insurance agent had actually written two policies. During the period of incubation all the growth was inside the shell. When the shell no longer bounded the activities the influence of the place was felt outside. In like manner the isolation of the pioneer farmer made him an almost negligible factor in the calculations of the business world. When plenteous crops are harvested the railway manager orders new equipment and the jobber increases his stock. In the role of the new standard that has been created the business farmer will be a dignified and conserving force.

A kangaroo jumps, but not always of necessity at a conclusion, as we often do, in having no well established determination of cost. The few Roman letters seen on the price tag of a garment is the cost price, the figures the selling price, which includes operating expenses and profits. It is doubtful if this determination can be made in the units of the product of the farm so as to fix the cost of a bushel of wheat or a pound of pork, but in the farm aggregate. Figure or calculate the items of farm investment at current rate of interest, losses or cost of upkeep, labor and salary of superintendence, taxes, insurance, etc. Place the earning capacity of the farmer as a superintendent on the same plane with the teacher, physician or any business employe of equal importance, and the problem is not beyond solution. It is not expected that absolute accuracy will always prevail, for it does not anywhere. The operation of the plan will place the farmer in the class his services entitle him to, and will also place farming on a calculable basis. A farm was being offered for sale and the gross income looked satisfactory and the farm worth the price asked but, upon closer examination, the labor of the farmer and his planning and superintendence all appeared included in the gross products. The prospective buyer, a business man, said if that was the case the farmer would have to be thrown in with the farm. One man is quite helpless to effect these changes of custom in calculation or lack of calculation but discussion and keeping at it will effect results in the end. These changes come when people are ready for them and their readiness is a question for themselves.

Shiawassee Co. JAS. N. McBRIDE.

SUBDUING A QUACK GRASS SOD FOR POTATOES.

It is usually considered a hard matter to raise a crop of potatoes on a quack grass sod; but the right method will produce a bumper crop and so destroy the

quack grass that it will be several years before it gets as bad again.

Plow the ground as early in the spring as possible, setting the plow very shallow, not more than three or four inches. Use the disk frequently until planting time, cutting the sod thoroly to pieces. When ready to plant plow again, this time to a good depth and harrow well. Then plant in rows both ways, for you want to be in position to give it a thoro cultivation.

Mecosta Co. L. C. WHEELER.

THE SEED CORN.

Seed corn should be considered of great importance by all farmers. For no matter how good the land to be planted to corn, no matter how good the care, it is impossible to get the best possible yield without well-bred seed which will all grow vigorously.

Granted that the seed corn was saved last fall and properly stored and dried, right now is the time to go over each ear and select out the best for this year's planting. Ears for seed should be of average size for the given variety, well matured and dried, solid and heavy. The rows of kernels should be straight and run clear thru from butt to point of ear. The kernels should fit closely together in the rows; there should be no space between kernels in the same row next to the cob. The kernels from different rows should fit closely together from the cob outward, leaving but little space between the rows. The kernels should be long, have a large germ and show but little starch. Also if they are a little rough on top it is a pretty good indication that they are long.

After we have selected our seed we must know that it will all grow, and there is only one way to determine this and that is to test each individual ear. I know some, yes, a great many, will say this is too much work and bother. I will say right here that, one year with another, a farmer can't do anything which will pay him as much for his time as testing each ear of his seed corn.

The other day I picked up an ear of seed corn, just an average ear, and it had 20 rows of 55 kernels to the row, 1,100 kernels in all. There are 43,560 sq. ft. in one acre of land, or room for 3,241 hills of corn, as we commonly plant our corn, (3 ft. 8 inches each way). Counting three plants to the hill the acre will grow 9,723 plants, and this one ear will plant, three kernels to the hill, over a ninth of the acre. If the kernels from only this one ear fail to grow or grow and produce poor, weak plants, one ninth of what the full crop would be is lost.

Supposing that, with a perfect stand the yield had been 100 bu. to the acre. Not an uncommon yield around here last year, and thru the one ear failing to do its duty, we lose one-ninth of the crop, what will it mean? We will lose over 11 bu. of corn to the acre; at 35 cents per bu. it would be \$3.85.

It does not cost any more to plow, fit, plant and cultivate the field which yields 100 bu. per acre than it does to perform the same operation in the field which yields only 89 bu. per acre. Of course, it costs a little more for cutting, we will say 25 cents per acre, and a little more for husking and cribbing, say 50 cents per acre, counting the extra cost of handling the larger crop but we will still have left \$3.10 as gain over the smaller crop.

It is safe to say that any one can test seed corn enough to plant an acre in one hour. But we will put it high and say it takes two hours, and even then we are doing only two hours work for \$3.10 and the extra fodder. I should say that \$15.50 per day is pretty good pay for a farmer's time in the winter.

But some will say it probably would have all grown if it had not been tested. Sometimes it will and sometimes even more than one ear in nine will fail to grow, and this when the seed has been saved in the fall and stored in a good place. It is too risky to plant corn without first testing each ear, for if seed from every ear grows there are always some ears which produce weak, slow growing plants, which will never give good results, and by testing each ear such ears can be eliminated.

In the corn states the importance of testing each seed ear is now so well understood that it is becoming a common practice and seed testers are manufactured and put upon the market as are the standard farm tools. However, for all ordinary purposes a tester can be made at home at a very low cost, which will do just as well as a boughten one. To make a tester take any box, 1½ to 2½ inches deep, drive small tacks in all of

the edges every 1½ or 2 inches apart, take wrapping twine and string it from tack to tack both ways across the box. We now have a lot of little squares. The tester should be filled with clean sand or sawdust. The corn to be tested should be placed on a corn rack or on the floor in some unused room, anywhere where it will not be disturbed. The ears should lay side by side, and in filling the tester four kernels, one from the butt, one a third of the way up, one from two-thirds of the way up, and one from the tip, should be taken from ear No. 1 and placed in check No. 1, and so on until the tester is filled, each time putting kernels from a certain ear in the check in the tester with the corresponding number. After the kernels are all in place they should be lightly covered and the tester placed where the temperature is about 75 degrees F. and the soil kept moist.

The corn will soon begin to germinate and it will be very interesting to note the difference in the vigor of the different lots. As soon as the little plants are two or three inches high they can be dug up and examined carefully, making a record of any which grew poorly, also of those checks which did not grow at all. The ears which furnished seed for all such checks should be fed out.

It has been my experience that some of the best looking and largest ears are the poorest germinators, therefore to know for sure that ye are planting seed which will all grow, and grow vigorously, we must test each ear.

Eaton Co.

W. C. ECKARD.

THE FENCE PROBLEM.

With the decline of our available timber supply, the problem of a suitable fence became such a pressing one, that the resourcefulness and ingenuity of inventors and manufacturers were called into play to supply this deficiency; and surely competition was keen among them judging from the many kinds of steel wire fencing which have been developed in recent years. The general demand has been for a cheap fence which has compelled the manufacturers generally, to reduce the size of the wire used and to save at every point in the manufacture of the fence to satisfy this demand. As a result, some of the fences manufactured, while worth all they cost, have not proven as durable as some of those using them have desired. This fact has created another demand for a better fence which must, of course, be sold for a higher price. In order to satisfy this demand, fences have been built of large wires, made of better steel, with a heavier coat of galvanizing material on them, thus adding many years to the durability of the fence as well as much strength and stability to its web. Thus there is now available the high grade fence, made of heavy wires, and the cheaper fence, made of lighter material to suit the varying needs for which wire fencing is used upon Michigan farms today. However, some discrimination should be used in making a selection of wire fences for many purposes. Firms who make a specialty of manufacturing high grade fences, and having a reputation along this line to maintain, can be depended upon to furnish the best to be had in this line. Without question, it pays to give a few cents more per rod for a heavy, substantial fence that will last longer before it is attacked by rust. Modern investigation of this subject, carried on by the government as well as the manufacturers themselves, has brought to light some of the causes of the early destruction by rust of wire fencing, and all of the better grades of fencing, regardless of weight, are certain to be improved in this respect over those put out a few years ago when the industry was new and the knowledge of this phase of its was limited. The wire fence is now practically the only available fence for general use and a careful study and comparison of the available kinds and types would be time well spent by many farmers, since all have need of fencing material and desire to exercise real economy in its purchase.

Most of the large and reliable dealers are using space in the Michigan Farmer to advertise their fence and it would be well for those thinking of using it, to write the different firms for samples, prices, etc.

His Banner Year.

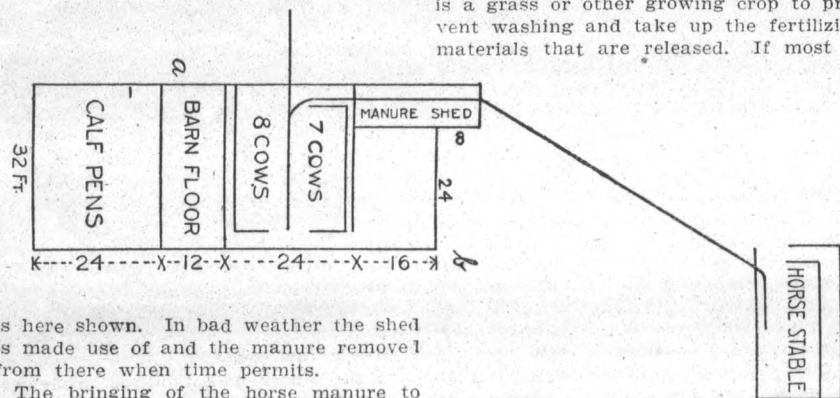
H. C. Cramton, importer and breeder of Shropshires, writes: "I am cleaned out of everything in the sheep line, except four of my best rams, so please change my ad. This has been a banner year for me in the sheep business, and I wish to thank the Michigan Farmer for the good results obtained thru it."

INSTALLING A LITTER CARRIER.

I enclose a diagram and two photographs of the barns and litter-car track on the farm of C. A. Bullock, of Lapeer county, and as the arrangement of the latter is different from anything ordinarily encountered, I will describe it somewhat in detail.

The barn was an old-fashioned barn 32x60 feet and was formerly used entirely for sheep. In 1892 a silo 16 feet square and a feed room 8x16 feet were built on the north end of the barn, the silage being used for cattle in another barn some 50 yards away. In 1907 this old silo became unsatisfactory and practically worn out. The roof was raised, making it 32 feet high, and an up-to-date stave silo 14x30 feet put inside the old one. This leaves the new silo entirely protected from the weather.

Some five years ago it became desirable to convert the sheep barn into a cow stable when a gambrel roof was put on and the present arrangement made with the exception of the manure shed and litter car. Then followed the building of the manure shed and the putting in of the litter car equipment in the stable and shed as well as out into the barnyard and here is the first noteworthy feature of the system. This track is supported, not in the usual way, by planting posts in the yard and using cross-bars from which the track is hung, but by rods and wires fastened to the barn, suspending and bracing it from above as shown in Fig. 1. The ease with which the cow stable can be cleaned and the manure put direct in the spreader



is here shown. In bad weather the shed is made use of and the manure removed from there when time permits.

The bringing of the horse manure to the cow stable, a distance of about 120 feet, was, however, very tiresome work, especially when the snow was deep and it was to make this work easier that the track was continued from the manure shed to the horse barn. In this track we find the second, and so far as I can learn, an entirely new feature in suspending a track of this kind. From the end of the shed to the horse barn is 61 feet and there is not a single post planted in that distance, the track being hung below a 3/4-inch steel wire cable by short pieces of cable wire such as is used for clothes line. (See Fig. 2). The horse barn is on somewhat higher ground than the manure shed but the track has an even slope from the one to the other and by the aid of a small rope the car can be pulled up and also kept in perfect control when returning.

At the horse stable the cable is fastened around the girt but as the manure shed was only lightly built it was necessary to pass the cable thru a hole in the end of the shed, extend it to the opposite end and fasten it to one of the beams of the barn by means of a heavy eye-bolt having some 8 or 10 inches of thread.

Altogether it makes a very cheap, simple, and almost perfect system, as all the manure can be handled and placed just where desired with a minimum amount of labor.

Lapeer Co.

D. S. B.

MANURE HAULING IN WINTER.

The present winter has been less favorable for the hauling of manure than usual on account of the deep snow, drifts, and cold weather which has caused much of the manure left outside to freeze and become mixed with snow and ice. There have been few winters for several years past when the spreader could not be used most of the time, but the present winter is an exception. We have not had the spreader out for about six weeks, but have used the platform box on a bob sled to haul such manure as could be secured without too much difficulty. This included the horse manure from our stables and those of the saw mill company which we secure by exchanging straw, and a few is kept in too badly frozen and mixed with snow to allow of securing economically.

I do not believe it is policy, however, to put off all the manure hauling until spring because the spreader can not be used during a part of the winter. The old saying, "There's more than one way to skin a cat," will apply to manure hauling. While the spreader will distribute the manure much better than it can be done by hand it will not work at its best in the coldest weather as the liquids freeze on the apron and cause it to run harder. This can be overcome if there is plenty of horse power, and is not in itself sufficient excuse for not using the spreader on cold days. The deep snow and crust is the principal objection at present. But where the haul is a half mile or more about as much can be done with the sled or low down wagon with a large platform box in hauling light manure as with the spreader, since much larger loads can be hauled.

We have been cautioned against hauling manure out in winter and spreading on hilly ground, and this objection is valid, but it does not apply to level ground. Most of our ground is so level that there is no appreciable wash, and there is a good hard pan so there is no leaching. The only way that fertilizing materials can be lost on such land is by certain chemical changes by which gases are released into the air, and experiments have shown this loss to be very small where manure is evenly scattered over the ground, in fact it is less than when left in heaps in the yard. On moderately rolling ground I see no objection to spreading manure on the fields, especially if there places in town, but as a rule the manure from places where but one horse or cow is a grass or other growing crop to prevent washing and take up the fertilizing materials that are released. If most of

the manure is spread at or near the tops of the elevations it will gradually wash downward where the slope is quite steep and fertilize the lower parts so it will not be necessary to put much in the hollows.

Calhoun Co.

S. B. H.

THE GASOLINE ENGINE ON THE FARM.

The writer happened to call on a neighbor a short time ago, at just the proper time to see the general utility of the gasoline engine as a power for farm uses nicely illustrated. This neighbor had purchased a small gasoline engine with which to run his cream separator, his grindstone, a saw, emery wheel, etc., in his work shop. He is a stock feeder as well as a dairyman and, owing to calm weather, which had prevailed for two or three days, the supply of water for his stock had become low. Anticipating this trouble, he had secured a pump-jack by which the gasoline engine could be attached to the pump in the well house, in case such a contingency arose. A few minutes labor on the morning of our call sufficed to move the engine from its place in the separator room to the wellhouse across the road and attach it to the pump so that the supply tank could be filled, when it was again removed to furnish power for the separator room and work shop. This incident will illustrate the adaptability of the small gasoline engine as a farm power. There are many little tasks which the ingenious farmer can turn over to his engine with just a little planning, so that even the small gasoline engine may be made very useful, as in shelling corn and running the various small machinery about the farm and shop. Those of larger size are adaptable to as many different kinds of heavier work, and will prove equally or more profitable upon the average farm. They will saw the wood, grind the feed, run the milking machine, spray the orchard, fill the silo, cut or shred the fodder, and save their cost in a short time for any one of these uses. More and more farmers are yearly learning the value of the gasoline engine and it is annually becoming more indispensable in the equipment of an up-to-date farm.

The Victor is first in the hearts of His countrymen



Victor



The American people hail the Victor as the greatest musical instrument the world has ever known. It is first in the hearts of music-lovers East, West, North and South. It is first with rich and poor in city and country. It is first with the greatest opera singers, the most famous bands and orchestras, and the most celebrated instrumentalists—they make records only for the Victor.

No wonder the Victor holds this first place! It perfectly reproduces the melody of voice and instrument! It brings the world's best music, rendered by the world's best talent, within reach of everyone! It helps to make happy homes! It provides unmatched entertainment! It radiates brightness, jollity and good cheer wherever it goes!

Why don't you give the Victor a place in your home?

Why not enjoy the same wonderful Victor music which hundreds of thousands of other good Americans enjoy? If we could only make you realize how much happiness and pleasure the Victor has in store for you! This is no "canned music." It's the real, pure, true melody of living singers and living musicians, reproduced with all its pulsating, vibrating life and harmony. Why, you can even hear some of the artists breathe as they sing!

Surely you want to hear the celebrated bands and orchestras, and the grand opera singers, and great church choirs, and fine male quartettes, and funny minstrels, and Oh, so many other entertainers!

Surely you can afford to have so much enjoyment when it costs so little! You can buy a Victor for \$10 and up.

Go and hear this wonderful Victor

Prove that all this is true! There's a Victor dealer in the town nearest to you, and he'll gladly play, without charge, any Victor record you want to hear. Don't be bashful! Don't put it off! Go to him today and hear for yourself how perfectly the Victor sings and plays. Why, you'll imagine the whole band or the singer herself is right there—you'll have such pleasure as you never dreamed of before.

If you don't know the Victor dealer's name, write us at once and we'll tell you. Don't put off hearing the Victor just because you don't know who sells it.



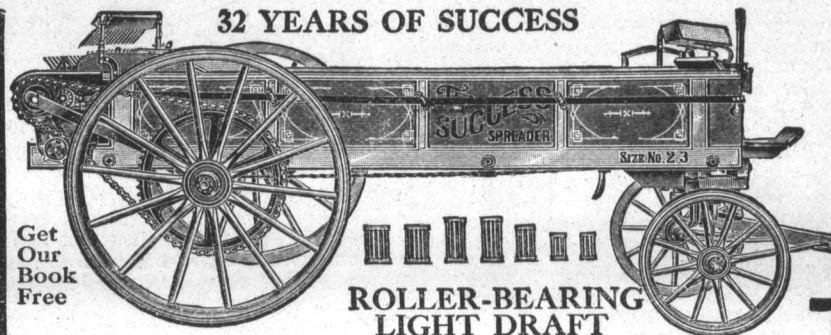
Send us this coupon or postal today and we'll mail you the handsome Victor catalogues, showing pictures of the great musical artists.

Victor Talking Machine Co.
14th and Cooper Sts., Camden, N. J.
Berliner Gramophone Co., Montreal,
Canadian Distributors.

To get best results, use only Victor
Needles on Victor Records.

FILL OUT CUT OFF MAIL TODAY
Victor Talking Machine Co., Camden, N. J.
14th and Cooper Sts., Camden, N. J.
Please send me Victor catalogues free, and full information about the easy-payment plan.
Name Address State

32 YEARS OF SUCCESS



Get Our Book Free

ROLLER-BEARING LIGHT DRAFT

SUCCESS SPREADER

The only spreader with a 32-year record of good work. Simplicity, Durability and Light Draft always foremost. Direct Chain Drive. No Cog Gears. The choice of men who investigate thoroughly. Wood or metal wheels. A generation of experience back of every Success. The leader from the first. Exclusive features all patented. Catalog of facts Free. Write us promptly.

Kemp & Burpee Mfg. Co. SYRACUSE N. Y.

ONCE OVER IS TWICE DISKED

If You Use An Imperial Flexible Frame Double Disc Harrow

A complete Foretruck Disc Harrow (out-throw) with a second pair of disc sections (in-throw) attached by a jointed frame that harrows the ground twice at one operation, saving one-half in time and nearly one-half in horsepower. The forward pair of disc sections cuts the ground and throw it outward; rear pair works it again and throws it back, leaving the surface level and finely pulverized. The soil is put into better condition for seeding than after two workings of an ordinary disc.

Only one more horse required than would be used in a single Disc of the same width cut; four are sufficient for the 6 and 7 foot sizes.

Unequalled for discing corn stubble, plowed ground, or for any purpose for which an ordinary disc harrow could be used.

You can try an Imperial Double Disc at our risk and test our statements. Any dealer who handles our implements is authorized to put them out on trial with intending purchasers. Write us for descriptive circular and full particulars.

THE BUCHER & GIBBS PLOW CO., 806 East Seventh St., CANTON, O.

SIZES:
16-Disc, 4 foot cut.
20-Disc, 5 foot cut.
24-Disc, 6 foot cut.
28-Disc, 7 foot cut.

SIZE OF TILE AND DISTANCE APART OF TILE DRAINS.

I would like to get a little advice on wide. It slopes about three-fourths of it to the north, one quarter to the south, with a slight sag to the west in the lowest place. I wish to tile this right. It is tile drains. I have 13 acres of land 40 rods new ground and has a good fall. It is a black loam with a heavy clay sub-soil, no springs or soft places at all. There is the rain fall from about five acres of my higher land runs in on this land. I have a good outlet; that is, my neighbor has a five-inch tile for me to join on. My idea was to lay my main tile in the low sag, and run the laterals into it. I intend to use four-inch for the laterals. The question is, how far apart should the four-inch drains be. The longest of them would not be over 40 rods long. The main, running a little quartering, may be 50 rods long. I had thought of laying a four-inch drain every five rods, or eight of the four-inch drains on each side of the main. Would a five-inch be large enough for the main? I think that the four-inch will not run full. I thought I could use four-inch tile for a few rods of the upper end of my main drain. This land is very rough, that is where trees have been turned out, but it will soon work down level. Do you think five rods is too close for the four-inch drains? I have not measured the land. I thought it would take about 6,000 in all. How deep in the ground should the tile be laid? It is a stiff clay. My neighbor laid his tile 2 1/2 ft. deep. He says it is too deep in this clay, it takes the water too long to soak down to it. Berrien Co. M. A. NICHOLS.

I think you have the right idea in draining your land. Connect the main drain with your neighbor's five inch tile and extend it up thru a portion of the field and then run lateral drains into this main drain on either side. I am inclined to think that if you use five-inch tile for half the distance on your main drain and four-inch tile the balance of the way, it will be sufficient because the upper end of the main drain does not need as large a tile as the lower end, as all of the water has got to run down thru the five-inch main across your neighbor's land. Then, if a five-inch tile is large enough for the main ditch, I am inclined to believe that three-inch tile will be large enough for the laterals which empty into the main. Drain tile, or hollow cylinders have capacities in proportion to the square of their diameters. The square of five is twenty-five. The square of three is nine. Then a five-inch tile will only have capacity to carry as much as three three-inch tile. Consequently there is no use in having four-inch tile in the laterals when your main drain can only be five inches.

I know from experience that a five-inch drain will carry a lot of water. I have drained twenty acres of land, much the same kind of land as you describe, with only a four-inch main, and it works perfectly. Of course, there is an advantage in laying this large tile and that is that they will not fill up so soon if properly laid, but you don't want to figure on laying them unless they are properly laid. They ought to be laid to a grade line. Have the bottom of the ditch true and of uniform grade so that there will no sediment settle in the tile and a four or five-inch tile will carry the water from a large field; but on the other hand, if the bottom of the ditch is not properly graded, not properly trued to a grade line, so that there are little depressions where sediment can settle, it will be more easily filled up. This, however, should never occur. I am inclined to think that five rods apart in the laterals will be sufficient, but, of course, this depends on the depth of the tile drain. The deeper a tile drain is, the farther on each side of it it will drain the land, because water must run down hill. I do not like to put in drains less than two feet and a half, and three feet is better. In all ordinary soils, even in clay, you can put your drains down two and a half or three feet and they will work sufficiently quick to rid the land of excessive moisture. The philosophy of tile drainage is that the land is never water soaked. The pores of the soil are always drained, holding nothing but the soil moisture, consequently, when a rain comes the pores fill up at first and then gradually drains off thru the tile. Of course, very impervious clay that is of very close texture, we must conclude that you cannot have the drains too deep or else the water will be too slow in getting into them, but for all ordinary land two feet and a half is none too deep, and if you put the tile drains two feet and a half down, it will drain two, or two and a half rods on either side, and your plan will be correct. Your black loamy soil on top will hold quite a rainfall of itself before it is full to the point of saturation. By this time the water begins to percolate down thru the clay and will be gradually drawn off before any harm is done. COLON C. LILLIE.

THE COST OF LIVING.

A timely editorial in your issue of Jan. 8, is one entitled, "The Increased Cost of Living," and to many living upon the farms of our country today, and also to our brothers of the city a simple warning is set forth as to the extravagant way in which many of them are now living. As to just why this condition exists at the present time, I must confess that I do not know. Like many others I have an idea, yet I know that it may be far from right. However, I have noticed in my own community, at least, that the movement of crops to market has been carried on much more gradually than it has in former years, and if this should be the case over the length and breadth of our country, there may be quite large supplies still in the hands of the tillers of the soil.

But be this as it may, there is no getting around the fact that we are living in a fast age, and, as President Taft pertinently says: "Everybody wants the choice cuts of beef," and we believe he might have gone still further and said, the most choice of everything else.

Of course, to the man of money the most choice would not be considered extravagant, but we can not exactly understand why the man who works by the day for a living, should care to dress and live on the same standard as the man of wealth or money.

I presume I would be termed a crank if I would also say that many of us are eating too much, but many with whom I have talked have agreed with me upon this subject, and have gone still farther and said that they also felt better and that their heads were clearer for doing all business when they ate only in moderate quantity.

But if consumption has overtaken production, as many would have us think at the present time, then the only remedy would seem to be in making every acre produce twice as much. I suppose there are many who will smile and say this never can be done, yet facts go to prove that it has been done, and what has been done can be done again, under the right kind of management. I believe with Mr. Lillie, that more live stock should be kept, and I am also a believer in more intensive methods of farming, and upon the most farms the latter can not be done unless less acres are tilled or more help is employed, which is almost impossible to be had at the present time.

My farmer friends, we have a problem before us, and it ought to be made a subject of thought by every tiller of the soil. What can we do to better our own condition and that of our brother of the city? What can we do to cheapen the cost of production and at the same time leave us in a prosperous condition? The workingman of the city must live, but he can not buy so much with the prices too high. And with the prices still soaring he will be able to buy less and less as the months roll by, and it looks to me as if a period of depression were inevitable and then who will suffer?

There are problems for him to solve but of a different nature. He knows at the end of each week if he could in any way cheapen the cost of his living, while we must study the needs of our land and try and figure out where we can make each acre produce more.

Montcalm Co.

J. H. HANKS.

SUBDUING QUACK GRASS AND MILK WEED.

Please advise me thru the columns of your valuable paper how to get rid of quack grass and milkweed. Sanilac Co. S. HAYES.

In another column of this issue will be found a description of a plan which some farmers have found to successfully subdue quack grass. However, very thorough cultivation, using thistle sweeps to cut off these weed pests just below the ground as fast as they sprout is the only method which will insure complete eradication. No plant can long survive if it is not allowed to develop leaves, which are as essential to its life as are its roots.

ANNUAL CEMENT SHOW AT CHICAGO.

The third annual cement show will be held at the Coliseum at Chicago on Feb. 18 to 26, inclusive. The various allied organizations will hold meetings during this period, while the show itself will be one of the greatest industrial shows of the kind ever held, showing many novel uses for cement as well as the more practical and common uses with which the average person is familiar.

POTASH

Profit, not Necessity, is the Test

Why did you buy fine farm machinery, improved live stock and seed, and the best varieties of fruit? Because the man who sold them to you convinced you that they would pay. Proceed on the same basis when you buy fertilizer. Get the improved fertilizer—the kind with enough Potash in it to make a balanced plant ration. Your dealer would get it for you if he knew that you wanted it. For grain, use 6: for corn, 8: and for roots, fruit and truck, 10 per cent. of Potash in the fertilizer. If your dealer has not such brands, get him to buy some Potash salt for you and put it in the goods yourself.

To increase the Potash one per cent. add two pounds of muriate or sulfate of Potash, or eight pounds of Kainit to every 100 pounds of fertilizer.

Potash Pays Urge your fertilizer dealer to carry Potash Salts in stock. He will have no trouble in buying them if he will write to us about it.

Write to Sales Office:

GERMAN KALI WORKS

Continental Building

Baltimore, Md.

Name This Corn and Get \$500. In Gold—FREE

We have been selling you farmers reliable garden and farm seed for 35 years. Now we want you to sell us something—a name for our "Nameless" Seed Corn. And we are willing to pay you liberally for that name.

Let's everybody get together and name this new seed corn. No one can lose a penny and somebody will get \$500 in Gold FREE. It's a valuable offer, the judges are fair and square men—and this wonderful corn certainly deserves a smashing good name. Do not hold back just because your favorite name is not "high-sounding." If it suggests the fine quality of the corn, it is worth sending in. Your opinion is wanted.

Please remember that "Nameless" Corn is not for sale now at any price. There is but a small amount in existence. The best anybody can do this season is to procure a sample packet. You will receive Salzer's big 1910 Seed Book free. Write NOW—to-day—while we still have samples of "Nameless" Corn left. Sample costs 4c, but you need not have sample in order to enter contest and win prize.

SALZER'S Big Seed Book Ready!

Bigger, better, more interesting than ever! Salzer's 1910 Seed Book is now going out at the rate of 30,000 copies a day. Some want Seed Corn—other farmers, Oats; others, Clover—many want garden seed, etc. All of them prefer Salzer's Seed, knowing they will reap a rich harvest. You yourself ought to plant Salzer's reliable seeds this spring and you ought to have Salzer's Seed Book before your eyes right now. Plan to get big crops this year. Plant Salzer's Seeds, cultivate them and note the paying result in full crops, granaries, etc. Let Salzer help you—let him start you right and keep you going right. He has been advising farmers for 35 years. His judgment is keen, his seed reliable. Get your copy of Salzer's Grand Seed, Plant and Tool Catalogue now and begin thinking about planting. Spring will be here before we know it. Send in a corn name while you have our address before you. Big Catalog Free. Should another offer the same (acceptable) name as yours, the \$500 prize will be equally divided.

JOHN A. SALZER SEED CO.

135 S. 8th St., La Crosse, Wisconsin

Largest Growers of Clovers, Oats, Corn, Potatoes, Farm and Vegetable Seeds in the World.

POTATOES PAY

Make them pay by using the machines that really do the work—

CUT, PLANT, SPRAY, DIG and SORT

There's nothing in potato machinery up to

ASPINWALL EQUIPMENT

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

ASPINWALL MFG. CO. 439 Sabin St., Jackson, Mich., U.S.A. Pioneer Makers of Potato Machinery

NATURAL Fine-Grained Phosphate

The Reliable Land Builder INCREASE YOUR CROP YIELD 50 to 75 percent by applying \$1.25 worth per acre to the soil direct. AAD 50 to 75 PERCENT TO THE PRODUCTIVE CAPACITY OF YOUR MANURE by applying only 20c worth to each ton of manure. Write for free Booklet telling how to apply it. Address, Farmers Ground Rock Phosphate Co., Mt. Pleasant, Tenn

Agricultural Lime

Our Crushed Quick Lime and Hydrated Lime is the best for improving the soil. All experimental stations advocate its use. It is the STRONGEST in OHIO. Write or wire for booklet, sample and prices. Address SCIOTO LIME & STONE CO., Delaware, O.

THE LARGEST AND BEST LINE OF WELL DRILLING MACHINERY

in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 14. Send for it now. It is FREE. Austin Manufacturing Co., Chicago

NEW SEED OATS

Big Money in Oats

New Seed Oats. Big money in oats if you raise the right kind. Here's your chance to get them. Imported Canadian Seed Oats for sale; extra fine. Send for free sample. It speaks for itself. This same oats we sold last year in the United States and proved their merit and our statement that the farmers need a change of seed in this country. We make a specialty of growing extra fine seed oats on our big Canadian farm; new, clean land; no weeds. Have best known varieties. Regenerated Swedish Select went 116 bushels to acre this year; Early New Market, Canada's favorite, 110 bushels to acre. Both of these are big early yielders. I believe it will pay you to get a change of seed. Try some of these oats. The average oats are inbred and run out. Canadian Government Grain Inspector graded this grain No. 1 White. Have stiff straw, white berry, thin husk, enormous yielder. It is as easy to put in and harvest a big crop as a small one. The reason your oat crop is not bigger is because your seed is run out. This has been proven. Look at this oat. Taken from photograph of two stalks from Galloway Brothers' field, over 200 kernels to the stalk. Write early for free sample, or, send ten cents for packet. Will also send you free booklet entitled "Big Money in Oats and How to Grow Them," by Galloway Bros. and Prof. M. L. Bowman, former professor of farm crops Iowa Agricultural College. Information in this book is priceless. Get it free. GALLOWAY BROS., 642 Galloway St., Waterloo, Ia.

HENCH'S 20th Century Steel Ball Coupling Pivot Axle

Cultivator with Double Row Corn Planter and Fertilizer Attach Complete in One Machine. Awarded GOLD MEDAL at World's Fair, St. Louis. A wonderful improvement in cultivators, combining every possible movement of gangs and wheels required. Easily changed to different styles. Thousands in use. Mfrs of all kind of Agr'l implements. Agents wanted; write for circular. The Hench & Dromgold Co., Mrs. York, Pa.

LIVE STOCK

FEEDERS' PROBLEMS.

Oil Cake as a Horse Feed.

Will you kindly tell me if linseed meal is good for horses, and what proportion to feed? Would like to feed bran, oats and linseed meal. Do not want to feed more than enough to keep horses in good condition.

Oakland Co.

READER.

Oil cake or oil meal is an excellent feed for horses in combination with other grain. Linseed meal or ground flaxseed would not be a profitable feed as it contains an excess of fat, and the value of the oil meal lies largely in the fact that it contains a relatively large amount of protein to balance up the other feeds in the ration. The pea or grain size of oil cake is better as a horse feed than the finely ground meal as it is more palatable and mixes better with the other feeds in the ration. It would not, however, be needed in a combination of bran and oats to balance up the ration and had much better be used in combination with corn and oats or corn and a little bran. A mixture of say 600 lbs. of corn, 100 lbs. of oil meal, 100 lbs. of bran and as many oats as may be desired to feed in the mixture, will make an excellent feed for horses at work or for a maintenance ration with good mixed hay. Where horses are fed corn in the winter season a pound or so of oil cake per day will prove a profitable addition to the feed, and will give a gloss to their coats which would not be apparent if they were fed corn alone.

Roots for Sheep Feed.

I would like to ask what is the best variety of root crop to grow upon muck land as a feed for sheep. Can roots be profitably fed off the ground, the same as rape?

Lenawee Co.

SUBSCRIBER.

All things considered, probably mangels are as good a variety of roots as can be grown for sheep. They should be fed only in limited quantities, however, to add the element of succulency to the ration. Good crops of roots can be grown upon muck land, especially if fertilizer containing potash and phosphoric acid is used, muck soil being deficient in these elements of plant food but containing an abundance of nitrogen. Where silage is available, it is a much cheaper feed than roots for sheep, but it undoubtedly will pay to grow them where silage is not at hand to feed. Root crops can not be as successfully used as a sheep feed by turning in the sheep and feeding them off the ground as is commonly practiced in England, on account of our more rigorous climate. Sometimes turnips are sown in the corn field for this purpose with success, but ordinarily rape will make a more profitable feed than any other crop for this purpose.

Potatoes for Hog Feed.

I have been cooking some frosted potatoes for my hogs but do not dare to put the water in which I boil them into the swill. I always discard it as I have heard it said that such water is poisonous. Now as all the water for cooking and swill has to be pumped and carried ten rods I would like to know if I am losing or gaining anything by doing so. I have also heard that potatoes when fed to hogs to any great extent, raw, will cause piles.

Calhoun Co.

I. R. B.

Cooked potatoes make a very good feed for hogs where fed in connection with a grain ration. In cooking in the ordinary feed cooker or large kettle, only a small amount of water should be used as it takes much less fuel to cook them with a small rather than a large amount of water. The water will be converted into steam and, with the kettle covered over, this will effectually cook all the tubers, so that there will not be any large amount of water in the kettle when cooking is finished. This will not prove injurious to the pigs with sound potatoes. Frosted potatoes, however, would not seem to be a wholesome feed for pigs, since a frosted potato soon decays and there is no more unhealthful food for man or beast than decayed vegetables.

WATERING, FEEDING AND CONDITIONING HORSES.

Perhaps it may seem odd but the most important item in the welfare of the horse, his digestion and his general condition, is not food at all, but the provision of a plentiful supply of good fresh water, either always at hand in the stall, or frequently offered during the day, and as late at night as the man in charge can be induced to do it. No horse is given water half often enough; no horse will drink enough to injure him at any time, unless his stomach is terribly overloaded with

dry and bulky food; no horse can do well, assimilate his food properly, thrive in condition as he should or perform all of the work of which he is capable, unless he is a deep and consistent drinker; no food, be it the best in the world, and most solicitously combined and fed, will ever nourish, or properly fatten, or condition any horse who does not or cannot drink copiously, early, late, and often. Therefore this detail demands consistent and persistent attention. Let him drink every time he has the chance, indoors or out, and all he wants; nor will he, if treated in this common sense way, ever take enough at any time to do him any harm. Of course, if he had been kept on short allowance, and you then ride or drive him hard and far and suddenly remember to give him "all he wants" it may not be for his best interests naturally.

Hay, in a way, is the equine staff of life. We are disposed to attach far too much importance to that made of timothy. Clover mixed hay is achieving the recognition it long has merited, and already the fancy grade is bringing the top market prices in all the eastern cities. Hays of many grades are just as useful as the best when properly treated. Pure clover hay has every advantage for horses laid by, or on slow work. Corn blades, nicely cured, are excellent eating and most nutritious. Alfalfa has many merits but it is not yet obtainable in the market in any quantity. In any event all hay should be moistened to lay any dust that is in it.

To fatten a horse, one that is thin, hide bound and generally out of condition, we must first mash him well in his food for two days; then give a ball of five or six drachms aloes; follow this in twelve hours with a pint of raw linseed oil; see that his teeth are not sharp, and have him treated if they are. Follow in two days with another pint of oil; see that he is kept warm and out of any drafts during this period; and take the chill off all of his water. For the next two days feed him bran mash of three quarts of bran, one quart of oats at each feed, and little hay only at night. Keep on about half rations for the two days. Next day, lessen the bran by a quart and increase the oats, and double the small hay allowance. From this time on for about two weeks feed (for the first two meals), two quarts of oats, two quarts of bran, about four quarts of cut hay; all moistened. You want to distend his stomach, and get it working to its full digestive capacity. At noon, throw him a carrot or two with his feed. The warm feed comes at night and on this much dependence is placed, and in warm weather it should be left out about every third day, and a feed like the other given. This warm feed is: Four quarts of bruised oats, three quarts of bran, three quarts of cut hay, one pint of flaxseed jelly; mix the whole together with boiling water, letting stand covered for an hour. If he is feeling strong, you may in two weeks give him this feed at morning as well as night. Occasionally give this morning food uncooked and after two or three weeks throw two or three ears of corn and a few carrots to him if he has eaten his dinner clean. Always promptly clear out every bit of food where it has been before him for about an hour, or when he seems to begin to hesitate over it. Try him with various kinds of hay, he will probably prefer clover, give him the kind he likes best. Horses forced on this moist feed will not drink so much water as when worked and fed dry food, and must be kept well protected.

Thirty to sixty days will, with good care, make a horse over so far as flesh and outward appearance go. Of course, thorough grooming must not be neglected any more during this period than at other times, and this process has much to do with securing perfect bodily condition. All sorts of artifices must be employed to induce "shy feeders to eat," and such horses are always a fascinating study. What will tempt one will by no means attract all, either in the way of flavors, quantity, quality, or mode of offering. Most high-bred animals are very "finicky." Some eat only at night; some prefer their grain hidden about the box; others only feed heartily from the manger of another whom they jealously fancy they are robbing, some prefer it dry, others fancy it moist—and ours the duty and pleasure to discover and humor these freaks of taste if we would achieve best results. The greedy horse demands some care that he does not over-gorge himself, and this he is more likely to do with hay and bedding than with grain. Such an animal should never stand on straw, but on other bedding materials, that his al-

lowance of "roughage" may be exactly measured out to him. By various devices his grain appetite may be kept in check, the simplest being to keep two or more fair sized stones in his manger, from amidst which he must slowly glean his provender. For him, as for the dainty beast, "little and often" is the safest method to pursue. Salt should always, like water, be at hand in the stall, that the occupant may help himself.

Feeding stock of any kind is a most attractive study to those who fancy the particular variety they keep; and where the horse is the creature at issue, one's self interest, if not one's humanity should prompt him to see that even as his property is warmly housed, so it is plentifully, wisely, and economically fed.

Berrien Co.

J. W. GRAND.

VALUE OF SALT FOR STOCK.

All animals naturally possess a craving for salt. During winter when confined to a dry ration they consume a larger quantity of salt than thruout the summer season when pasturing on succulent forage. As a matter of fact, salt is a powerful agent in assisting digestion of food that, when taken into the stomach in a dry condition, necessitates an increase in the secretion of digestive juices. Some authorities proclaim that salt is necessary to keep the blood in the required state of fluidity for active circulation and also to aid in transforming different foods into available forms to supply nourishment for the various parts of the body. Whatever science has been able to discover in this regard it remains no less a fact that salt is greedily consumed by our stock at all seasons of the year and consequently serves an indispensable purpose in the sustenance of health and body activity.

Animals supplied with an abundance of salt are less likely to become diseased. Active circulation of the blood is absolutely essential to carrying off waste products accumulating in the system and maintaining vigor and strength. When plenty of salt is provided, the blood never becomes thick and sluggish. Many females, especially during pregnancy, are troubled with poor circulation of blood caused largely from the lack of sufficient salt to keep the blood in a proper condition.

Gastric juice is one of the powerful agents of the stomach which acts upon all food taken into the digestive system. In order that this secretion be of the proper quality to work upon food it must possess a high per cent of hydrochloric acid. To make this hydrochloric acid there must be some source of chlorine. Salt contains a large amount of this essential element and therefore gives reason why it is so important in the daily ration of all kinds of live stock. In winter when farm animals are confined to a dry ration the chlorine from the sale combines very readily with potassium salts instead of uniting with the hydrogen to produce hydrochloric acid. The chlorine that unites with the potassium salts passes off very rapidly and consequently a much larger supply must be taken into the system to furnish material for the process of digestion.

Salt also performs another vital purpose. When sheep eat plenty of salt they drink large quantities of water which greatly assists digestion by softening the food and increasing the quantity of secretion in the digestive system. When food of any kind is acted upon by water it is made more soluble and is more readily absorbed by the blood. It is also a fact that water assists in carrying off waste products thru the kidneys.

In consideration of the numerous benefits received from the feeding of plenty of salt to stock no flock owner should overlook the importance of keeping a constant supply before his animals. Salt is a very inexpensive product and a barrel will last a small flock or herd nearly a year. In view of the fact that animals constantly demand small quantities of salt it is inadvisable to follow the practice of many farmers of salting their flocks and herds once each week. While confined to dry feed animals consume more salt than when on pasture, consequently should have a regular supply constantly before them.

The most prudent manner of furnishing the flock or herd with salt is to have a salt box in the barn where the animals can get to it at will. This method reduces that labor and also eliminates danger of not supplying the salt at all times. Not infrequently when animals have not had salt regularly they eat more than they actually need and cause a derangement

PLEASE MENTION THE MICHIGAN FARMER when you are writing to advertisers.

THE CORN PLANTER QUESTION.

The seeding conditions in the corn-growing states are not all alike. Some sections require the use of artificial fertilizers—other sections do not. Some soil requires a runner or shoe furrow opener; other land seems to demand a single or double disk for that purpose. Some growers "check" the corn in hills and other men plant the corn in drills. This has forced upon the manufacturers of corn planters the making of many different styles. The Hoosier Corn Planter line is admittedly one of the most complete in the world. Many of the most prominent corn growers go still further and openly declare the Hoosier Planter to be the most accurate and up-to-date planter on the market. There must be a great deal of truth in it, because the demand is constantly increasing and the words of commendation received show that the Hoosier is everything claimed by the manufacturers. At any rate, The American Seeding-Machine Co., Incorporated, Richmond, Indiana, fully guarantees every Hoosier Corn Planter to do all that they claim for it. They simply must do the work right. Send to the makers for a copy of their Hoosier Corn Planter catalogue. Read it carefully, and then go to your implement dealer and insist on seeing the Hoosier.

Horse Owners Should Use GOMBAULT'S CAUSTIC BALSAM

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

Prepared exclusively by J. E. Gombault, ex-Veterinary Surgeon to the French Government Stud.



SUPERSEDES ALL CAUTERY OR FIRING.

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

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

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

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

DEATH TO HEAVES

Coughs, Distemper, Indigestion Guaranteed or Money Refunded

NEWTON'S



The Standard Veterinary Remedy Makes the Horse Strong and Willing to Work.

CURES HEAVES BY CORRECTING THE CAUSE

which is Indigestion. Send for Booklet "Horse Troubles." Explains fully about the Wind, Throat, Stomach and Blood. Newton's is safe for colic, adult or mare in foal.

A GRAND CONDITIONER AND WORM EXPELLER. \$1 a can at dealers or express prepaid.

THE NEWTON REMEDY CO., Toledo, Ohio

MINERAL HEAVE REMEDY



MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburg, Pa.

LAMENESS from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone or similar trouble can be stopped with

ABSORBINE

Full directions in pamphlet with each bottle. \$2.00 a bottle at dealers or delivered. Horse Book 9 D free.

ABSORBINE, JR., for mankind, \$1 a bottle, removes Painful Swellings, Enlarged Glands, Goitre, Wens, Bruises, Varicose Veins, Varicocles, Old Sores, Allays Pain.

W. F. YOUNG, P.O.F., 268 Temple St., Springfield, Mass.

Better Farming

A John Deere Book



—Just Out—
A Farmer Can
Get It Free

IF interested in farming, get our FREE book called "BETTER FARMING." It tells all about—

Alfalfa	Making Hay
Dairying	Fighting Frost
Seed Wheat	Silos
Corn Crops	Cultivation
Stock Feeding	Cotton Crops
Art of Plowing	Soil Fertility
Boll Weevil	Gasoline Engines
Controlling Weeds	Adjusting Plows

Hired Help Costs Big Money

Your land is high priced and hired help expensive. There is only one way to make big money—use implements that cut down the cost of your crops. Isn't it true that when you break something on a plow it is nearly always a cast part? Wherever strain comes on a John Deere Plow there you will find steel—tool steel. Take any plow that has had hard work for five years, put it along side of a John Deere which has been in service that long—and see the difference. Then there is no paint to cover up poor material. You can see the wear and the defects. The John Deere will be solid, staunch and ready for the hardest job. Then you begin to know that quality counts.

You can take pride in owning a John Deere—the standard plow of the world for two generations.



We will send you the 80-page, illustrated book free if you write and ask for

Package No. 5

Mention the package number sure, then you will get exactly the right stuff.

DEERE & COMPANY, MOLINE, ILL.

Symptoms of Worms



Your horse has worms if he has any of these symptoms: Nervousness, itching, rubbing tail, rough coat, hunched hindquarters, dandruff, untidy condition, bloating, dusty rectum and passing worms.

DR. FAIR'S NEW WORM REMEDY

Is given in feed—it kills worms in two ways: by suffocation or absorption, but never hurts the horse or brood mare.

60 Horse Doses Delivered \$1.00

DR. FAIR VETERINARY REMEDY CO., W. C. FAIR, V. S.

5712-14 Carnegie Ave., Cleveland, O.



"Cow Troubles"

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

"Cows Relief"

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



JACKS AND MULES.

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

KENTUCKY MAMMOTH JACKS.

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

FOR SALE, CHEAP—Three registered Percheron Stallions. Two black and one dapple gray. A bargain if taken at once. Dr. N. A. Williams, Evergreen Farm, Bangor, Mich.

PERCHERON STALLIONS. One 4 and one 2 years, recorded. Short horn cattle, both sexes, reasonable prices. T. M. Southworth & Son, R. 13, Allen, Mich.

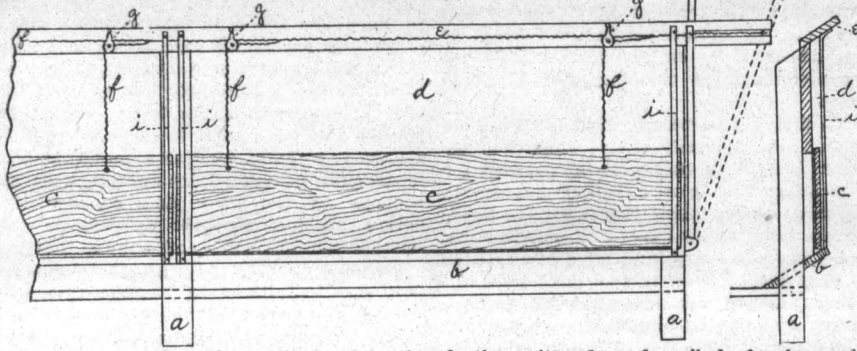
FOR SALE—The Percheron Stallion, Harold No. 18580. Sire King of Perche Jr. 8219. Dam Fan. Vette 8803. Write GEO. L. RICH, Paw Paw, Mich.

WHEN writing to advertisers just say "Saw your ad. in the Michigan Farmer."

of the functions of the digestive system. They instinctively know about the quantity of salt they need and it is much better for them to eat a little frequently than a large quantity once or twice a week. LEO C. REYNOLDS.

PLAN OF A CONVENIENT SHEEP RACK.

There are some readers who keep files of the Michigan Farmer, as I have just been requested by several readers to describe more fully by means of a drawing, the sheep rack described on page 4 of The Farmer of Jan. 2, 1909. The rack described is such as is used by most of the large sheep feeders of Eckford township, Calhoun county, the one mentioned being on the farm of Herman Mahrle. The racks in this barn are 90 feet long, there being a row down each side about midway from the side to the center, leaving space enough between to drive thru with the spreader in cleaning the barn. The ends of the mangers are open to a feed alley at each end, and the feeding is done by walking thru the mangers and scattering the grain, and from hay chutes which open to the mangers. The feeder never steps into the part where the sheep are confined, so there is no contamination from walking in the mangers. The sides of the mangers are dropped while the



grain is being fed, then raised while the lambs eat it, dropped again while the hay is being placed, and raised again to allow the lambs to eat it.

I presume the plan by which a stretch of 90 ft. of gates is raised in an instant from end of manger is the principal thing desired. I think the illustration will make this plain. It is done by means of an iron lever, (h), and sash cord, (f), fastened to the sliding board, (c). A pull on the lever raises the board, (c), to a position by the side of the stationary board, (d), and a catch holds the lever in position, thus holding the sliding board up until the lever is released and the board drops down. Strap iron guides, (i), hold the boards in position, and as will be seen from the illustration the boards, (c), work independently of each other and are separated a little at the ends to prevent binding. Should any do so and not drop down to place, a little working of the lever will start them.

I do not remember the exact construction of the rack, but it is somewhat like the illustration, Fig. 1 showing a side view and Fig. 2 the end view of one half of the manger. The other half is similar. (a) is a post, (b) a slanting board which forms the side of the grain bottom, and (e) the slanting top to facilitate putting in the hay and help to keep chaff from falling on the necks of the lambs. Calhoun Co. S. B. H.

HOT WATER AS AN EMERGENCY REMEDY.

Living on a farm where large numbers of valuable stock were kept before the days of telephones, with 8 miles between us and a competent veterinarian, and the man of the house sometimes away, it often happened that either the mistress had to look after the sick stock or help the master do so, or trust to careless and incompetent help.

Early in our experience we procured a stock book containing prescriptions for various diseases with symptoms of the same. A little later a case of homeopathic remedies was added to our outfit, but required much study to deal with internal diseases. We had been using in the household a gallon fountain syringe for diseases of the digestive organs, and found quick relief, so when a valuable gelding was given up by the Vet. to die of enteritis, or inflammation of the bowels, we tried the fountain syringe, with four pails of water at a temperature of from 90 to 100 degrees. We hung up the syringe above the stall, one holding the syringe nozzle in place and the other adding water keeping up the temperature by adding hot from a kettle. If it was expelled we tried again and again until

we had four pailsful in at one time. Then we blistered the entire abdomen with mustard and vinegar, the clear stuff well rubbed in, and soon had the satisfaction of seeing improvement. Excepting a sore stomach, he was practically well the next day.

The next case was the hardest of all. The most valuable brood mare on the farm, with a 10 days' old colt at her side, was attacked with spasmodic colic for the first time in her life. The head of the ranch had taken a trip across country 20 miles, four miles from a telegraph station. I heard the sound of a terrible struggle at the barn and found the mare on the floor in a spasm, with bloody froth on her lips. Before she got to her feet I administered a dose of the homeopathic remedy and ran for help. The new hired man, on beginning work that day brot his brother and an extra lantern. At my direction they tied the mare on the barn floor from each side, then commenced to rub in the mustard and vinegar. I had the fountain syringe and plenty of hot water ready, and we soon cleansed the bowels of fecal matter and started up action of the kidneys, but we put in five hours of steady work before she was per-

fectly relieved and called for her colt. We washed off the mustard and rubbed on vaseline and had no further trouble. The colt sold for a sum of four figures and our confidence in the hot water treatment increased.

In all cases where the digestive organs are involved it can do no harm and if tried in time will effect a cure. In all cases of recent injury, such as sprains, strains and lameness that is hard to locate, with a half hour's application of hot water, adding hot water as often as possible and either pouring the water on with a dipper or bathing with a large sponge, I have had wonderful success in giving relief.

Hillsdale Co. PRISCILLA PLUM.

THE BEST BREED OF SWINE.

In the last issue we answered, in a general way, the inquiries of a number of subscribers who asked for information as to the best breed of sheep to keep on the farm. Others have asked for like information with regard to swine. What is true of sheep is equally true of swine, except that in the latter case the problem is simplified because but one end is served in the growing of the animal, viz., the production of a meat carcass. Here it is probable that the fancy of the individual can be still more safely taken as the guide in selecting the breed to be kept upon the farm. As with sheep, however, there are different types which may be roughly divided into the lard type, the bacon type, and the type intermediate between the two extremes. In the corn belt the lard type is naturally more popular, because corn is the greatest of fat producing foods. In sections where peas or other foods containing more protein are available, the bacon type will generally be found and where a variety of feeds are used and pasture is made a factor in production, the intermediate types will be found to predominate. This is partly a natural consequence because any one of the breeds kept long under the various conditions named will assume a character classing with the several types as mentioned. Thus it will depend somewhat upon the methods found most desirable in growing the pigs, what type should be chosen, yet it will be found that there is no wide difference in the cost of production of a given weight in the different breeds. More depends upon the skill of the feeder than upon the breed selected. All of the breeds are good under some conditions. Most of them are suitable to general conditions, and there is little chance of going astray in the selection of good individuals of any of the improved breeds for foundation stock to establish a herd.



Away with mystery!

You have a right to know what your roofing is made of. That's the real way to make sure it will last.

Genasco Ready Roofing

is made of Trinidad Lake asphalt—Nature's everlasting waterproofer. You know this natural asphalt will last in a roof. And with this Company's thirty-years' knowledge and use of asphalt, you have double assurance that Genasco endures.

Look for the trade-mark at your dealer's. Mineral and smooth surface. Insist on Genasco. A written guarantee—if you want it. Write for samples and the Good Roof Guide Book.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

Cross-section, Genasco Smooth-surface Roofing
Trinidad Lake Asphalt
Asphalt-saturated Wool Felt
Trinidad Lake Asphalt

KEKIONGA STOCK FARM DECATUR, IND.,

Importers and breeders of

Belgian & Percheron Stallions and Mares.



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

Write, or better—come and see us. Address FRISINGER & SPRUNGER, Decatur, Indiana.

Prairie Stock Farm

The Leading Horse Importers in the State of Michigan. We have opened the eyes of all Michigan horsemen by our large exhibit at the State Fair. In the previous issue of the Michigan Farmer they gave the startling news of our wonderful success, not alone over our Michigan exhibitors, but over all exhibitors of the several States that were represented in competition. We won every prize in the stallion and mare classes except the 4th prize in the 2-year-old stallion class. All our horses are now at our Barns ready for sale for less money than a good horse can be bought elsewhere with a guarantee that has stood the test for the past 33 years. Come and be convinced. Terms to suit purchaser. E. Metz Horse Importing Co., Niles, Mich.

DUNHAMS' PERCHERONS

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

100 Percheron Stallions 100 and Mares

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

Write for Art Blotter.

BURTON & CO., Kenton, Ohio.

LIVE STOCK NOTES.

Packers' predictions of greatly increased marketings of hogs this winter are not fulfilled, and their hopes of seeing prices placed on a much lower basis have not been realized, the November and December receipts in the western markets having fallen far short of normal supplies. For the first time on record, the highest prices of the whole year were seen in December, and January has seen continued high prices, with limited offerings and an active demand. In the Chicago market the past year's average price paid for hogs was the highest chronicled since 1882, and converting high-priced corn into pork was found to be as profitable as anything farmers could engage in. Provisions have been too dear to export as freely as usual, and the shipments from our shores have undergone a marked falling off, but domestic consumption has been so large since the return to industrial activity that extremely high prices have prevailed, stocks being far below those of recent years. On the first day of this month the stocks of provisions in Chicago warehouses were reported as 67,304,664 lbs., compared with 43,006,725 lbs. a month ago and 121,225,904 lbs. a year ago. Of course, there must be some limit to the advances in hog prices, and of late the packers have operated in a manner that showed they were averse to manufacturing provisions from swine at ruling values, while buying freely for the insatiable fresh pork trade requirements. At times activity did not extend beyond purchases made by the local speculators and eastern shippers, and then large numbers of hogs were left unsold at night to swell offerings the following days. Still there is nothing in the present situation that is calculated to discourage stockmen from finishing off their shotes with the utmost care, and this is what a majority of them are doing. Strong weight pigs are commanding fancy prices for the fresh meat trade, but much the largest profits are derived from heavy weight hogs.

The wool clip of the United States in 1909 is shown by a report of the National Association of Wool Manufacturers to have been 287,000,000 pounds of washed and unwashed wool and 41,000,000 pounds of pulled wool, making a total of 328,110,000 pounds, compared with 311,138,000 pounds for 1908, and an annual average of 296,000,000 pounds for ten years prior to 1909. Wool prices last year were generally 25 per cent higher than in 1908, altho clips in the west were unusually large. The high price of wool adds greatly to profits derived from the sheep industry, and it is no wonder that there is such a large demand for breeding ewes, as well as for feeding flocks, yearling breeding ewes having sold in the Chicago market during the past year as high as \$6.50 per 100 pounds. Wool prices in the west were the highest on record, and yet the clips in many districts were larger than ever before, but growers were more closely banded together than in former years.

The average prices paid in the Chicago market for steers in 1909 were the highest on record, with the top figure, \$9.50, the highest since June, 1870. High corn worried the feeders, yet feeding operations turned out to be profitable except in the closing weeks of the year, when many "warmed-up" cattle were dumped on the market and sold so low that profits were lacking in numerous instances. During the fall short-fed cattle brot the highest prices recorded in years, with forty to sixty days fed steers going as high as \$7.50 per 100 lbs. The tendency these times is wholly towards short feeding, and a great deal of money has been made in the production of fat little yearlings, "baby beef" being highly regarded. Light cuts of beef are particularly popular with consumers, as beef is dear, and there is less waste than in heavy cuts.

High record prices for lambs were seen last year, with Colorado lambs selling in the Chicago market at \$9.90 per 100 lbs.

Hides are selling high, despite the removal of the duty, and packers can afford to pay good prices for steers when the hides are worth 15½¢ to 16½¢ per pound.

The Chicago horse market last year showed marked improvement over the preceding year, but country shippers complained a good deal about the high cost of horses, farmers insisting upon such good prices that there was in numerous cases but slender margin of profit when the animals were sold in the market. Fewer carefully finished horses were marketed owing to the high cost of feed, and fancy draft horses on the show order sold extremely high. The demand from far western points reflected the agricultural development of the northwest, and there were increased orders for horses and mules for shipment to the Canadian northwest, while many fancy pairs of show drafters were bot to ship to the Pacific coast of the United States. Many show draft horses were marketed at \$400 to \$500, and breeding horses of this type is exceedingly profitable, as the output is never excessive. The best matched pairs brot \$750 to \$1,000, and new high records were seen at the 1909 International Live Stock Exposition for draft stallions, Carnot, the champion Percheron, and Riche-lieu, the champion Belgian, bringing \$10,000 and \$8,500, respectively, for breeding purposes.

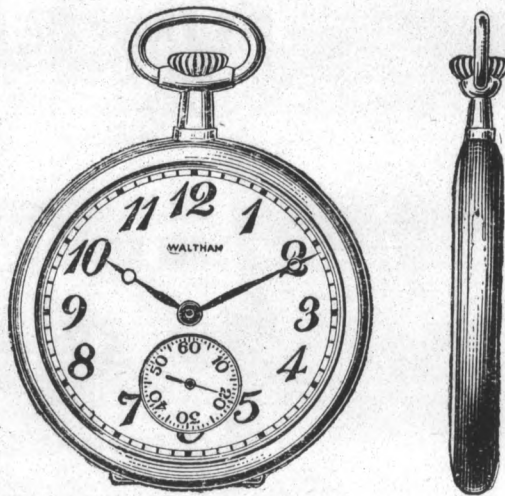
L. L. Richardson, of Iowa, bot some time ago a string of western range feeding lambs on the Omaha market averaging 48 lbs. at \$5.50 per 100 lbs. Instead of adhering to the usual practice of feeding them with corn, he tried barley, the flock for the last six weeks having nothing but barley and alfalfa hay. When marketed they showed average gains of 25 lbs. and sold for \$7.65 in the Omaha market, the price being extremely satisfactory to the owner.

In a recent week Bruington & Son, prominent cattle feeders of Illinois, marketed in Chicago 15 fancy steers that averaged in weight 1,513 lbs. and brot \$8.40 per 100 lbs., topping the market that day by 25¢. These cattle were bot last January, when they averaged 940 lbs., and

(Continued on page 177).

WALTHAM WATCHES

The Authentic American Watch



There was a time when the term "American Watch" was one of contempt at home and abroad. To-day Waltham Watches are the standard pocket time piece from Christiania to Cape Town, from Melbourne to New York.

Peary used them in discovering the North Pole and the whole world pays respect and good will to their accuracy and honesty.

Beginning with the exposition of the Massachusetts Charitable Mechanic Association held in Boston in 1856, and up to the present time Waltham Watches, wherever exhibited, have taken the first prize and highest award at all the national and international expositions, including that at Seattle in 1909.

WALTHAM WATCH COMPANY,

WALTHAM, MASS.

Send for the "Perfected American Watch," our book about watches.

Agricultural Chemicals and Lime.

AGENTS WANTED

Buffalo Brands Drill Perfectly.

Responsible men in every community in Michigan to handle a well-known reliable brand of fertilizers. Liberal terms. Write

The Buffalo Fertilizer Co., Sta. A, Buffalo, N. Y.



STAR GRINDERS STRONG

A plain, practical mill; constructed along simple lines and does its work right. A grinder built to cover the farmer's needs. We make other styles—Sweep and Belt—and all have STAR quality.

Write today for Free booklet and prices.
THE STAR MANUFACTURING COMPANY
11 Depot Street
New Lexington, Ohio



Stop Your Lamb Losses!

Haven't you lost sheep and lambs from worms? What do you do to prevent it? Some breeders consider these enormous yearly losses unavoidable, but now those most prominent and successful—those who know—have either eliminated these losses entirely, or reduced them to a minimum—with Sal-Vet.

SAL-VET DESTROYS WORMS

Lambs become infected with stomach and intestinal worms by grazing on the pastures with older sheep.

When these animals move with heavy, dragging steps, drooping ears and dull eyes, when they have colic and later scour, when their skin is pale instead of pink,

look out!—they are infested.

But you can have healthy lambs. First rid your ewes of these parasites, **but do it now** before they have a chance to re-infect your pastures this spring. The time to begin is **now**. They will doctor themselves when they have access to Sal-Vet, the highly medicated salt, and so destroy and expel the worms prevent further infection, and tone the digestive organs, so that the greatest gains possible will result, from what you feed. If you have sheep, hogs, horses or cattle, Sal-Vet will surely save you more than the slight cost of feeding it.

SEND NO MONEY—But Send Us the Coupon NOW

The coupon explains; fill it out and send to us. Don't delay; the sooner you send the more you save.

Prices—100 lbs., \$5; 200 lbs., \$9; 300 lbs., \$13; 500 lbs., \$21.

THE S. R. FEIL CO. Dept. MF Cleveland, O.

WHAT GEO. ALLEN, LEXINGTON, NEB., SAYS OF SAL-VET.

From one of the most prominent live-stock authorities.

"I have used 'SAL-VET' for over a year, and ever since then my lambs have been absolutely free from worms. I attribute their satisfactory condition to the 'SAL-VET' which I keep before them all the time. I heartily recommend 'SAL-VET' to all sheep and hog men."

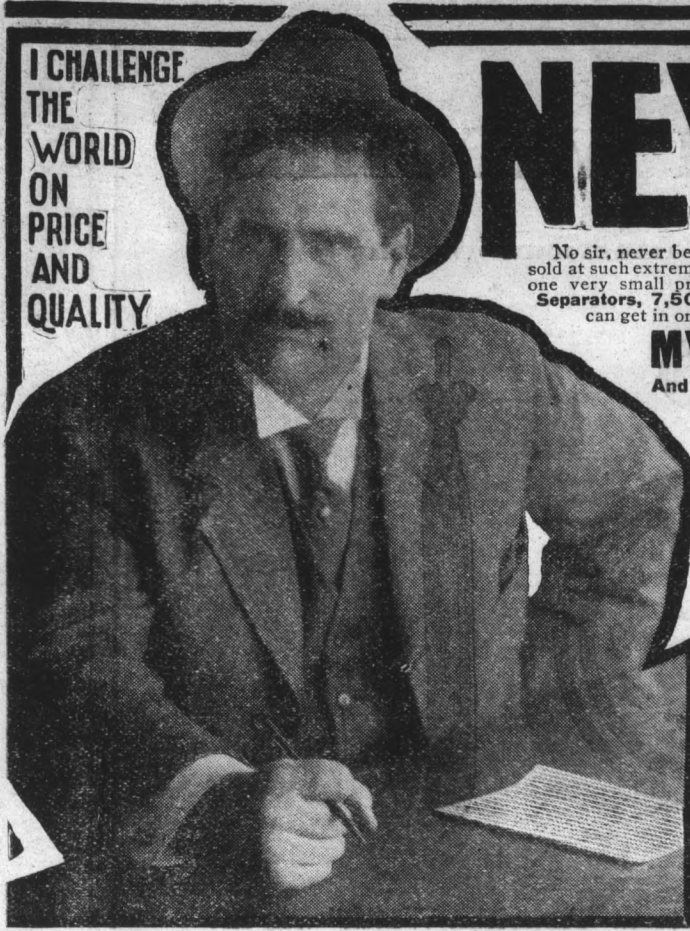
(Signed) GEO. ALLEN
Lexington, Neb.

CUT OUT—MAIL TODAY

S. R. Feil Co., Cleveland, O. Send me enough Sal-Vet to feed my stock 60 days. If it does what you claim I will remit. If not you are to cancel the charge—M. F. Feb. 12, 1910.

Name.....
P. O.
State.....
Shipping Station.....
No. of Sheep.....
Cattle.....
Horses.....

I CHALLENGE
THE
WORLD
ON
PRICE
AND
QUALITY



NEVER SINCE CHRISTOPHER COLUMBUS DISCOVERED AMERICA!!!

No sir, never before in all history was such standard, high quality, superior manure spreaders, gasoline engines and cream separators sold at such extremely low wholesale quantity prices. Better machines, mind you in every way at only actual cost of material, labor and one very small profit based on these tremendous quantities: **30,000 Galloway Manure Spreaders, 14,500 Galloway Cream Separators, 7,500 Galloway Gasoline Engines** for this year. Anybody might just as well have one or all of these machines when they can get in on a wholesale deal of this kind. Be your own dealer, buyer and agent.

MY PROOF

On the Galloway Spreader is the O. K. of 40,000 farmers.
On my Gasoline Engine, the O. K. of 20,000 farmers.
On my Cream Separator, the O. K. of 25,000 farmers.
And 15,000 on my other machines, making over 100,000 farmers who have O. K'd the Galloway Goods of all Kinds.

THINK OF IT!

98 per cent of all my customers who buy once buy from me every year.

My business has grown from \$100,000 a year to millions of dollars annually.

Why does every farmer who buys a machine of any kind from us, sell from one to a dozen more to his neighbors?

Why has Prof. Holden and the members of the Corn Growers' Association of Iowa, unsolicited, O. K'd and recommended our great proposition to the farmers of this country after personally looking it all over?

NET RESULTS

Are what count with you and every farmer in the corn crib, at the threshing machine, in the dairy, and at the bank.

Get your name in to me for which one of these machines you want and I'll guarantee you'll be satisfied with the big net results each machine will give you.

Remember I make a better manure spreader than any spreader made in the United States at any price, and sell it to you for a half less.

I make a better gasoline engine than is sold by so-called standard companies—better, mind you, absolutely—and sell it to you for a half less.

Same way on Cream Separators.

GET MY PROPOSITION FIRST

Send me your name now, and join our big crowd—over 100,000 strong—of satisfied customers, 98 per cent of which stay right by us year in and year out, which is the real proof of the merit of my way of doing business.

A farmer wrote in the other day and said that an agent told him if he sent his money in to Galloway and the stuff did not satisfy, he wouldn't get his money back.

This is a deliberate lie, absolutely.

You can get your money back as soon as you want it, if the goods don't please you.

Could I have ever built up a business of millions of dollars annually on any other plan?

Never in the world.

Get your name in to me now. I can do you a lot of good for 1910.

President THE WILLIAM GALLOWAY COMPANY OF AMERICA

649 Galloway Station, Waterloo, Iowa

Positively only successful Wagon Box Spreader on the market today. Drive chains will not stay on others.

Sell your poorest horse and buy a 5 H. P. Engine Only \$119.50

New Matchless Roller Feed makes light draft

I save you one-half and give you better spreader

Revolving Tank

Low Down Sanitary Perfect Construction Close Skimmer

\$33.50 and up Freight Paid

The GALLOWAY

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

W. Galloway

CAUTION! LOOK OUT!

I just want to caution you at this point against my tremendous success, say things that are absolutely false.

Some manufacturers who sell through dealers claim they are selling the Galloway under a different name.

This is an absolute lie.

The Galloway machines of all kinds are sold no other way than direct.

Also look out for concerns who call themselves manufacturing companies who are not manufacturers at all. This I can prove, absolutely.

There are two different institutions of this kind advertising in the Farm Papers, who are nothing but supply houses and merchants.

Don't get fooled by them.

Fill out and mail this coupon to me this very day.

FREE TO YOU WM. GALLOWAY CO. 649 Galloway Station, Waterloo, Ia.

Here's my name and address—Send me FREE the catalogues I have checked.

☐ Manure Spreader ☐ Separator ☐ Gas Engine

Name _____

Address _____

Town _____ State _____

AUCTION SALE of STOCK

at CLOVER LEAF STOCK FARM, 2½ miles West of FLUSHING, on

Wednesday, Feb. 16th, at 1 p. m.

1 Blk. Reg. Percheron Stallion 9 yrs. old, wt. 1850 lbs., one of the best foal getters in state; also 9 of his colts coming 1, 2 and 3 years old, all good ones; 1 extra fine 1,500 lb. gray mare, 10 yrs. old; 1 12-yr. old gray mare in foal; 1 Reg. Shorthorn bull 3 yrs. old; 3 Reg. Shorthorn cows, 4 to 10 yrs. old; 4 pure-bred bulls 1 & 2 yrs. old; 3 do. under 1 yr. 3 pure-bred yearling heifers; 3 grade dairy cows; 22-yr. old Durham steers; 4 brood sows, due in April; 8 choice young Berkshire sows, due in April and May; 1 choice young Berk. boar; 1 pure-bred P. C. boar, 3 yrs. old; 32 shoats; 45 breeding ewes; 3 Shrop. rams. Terms: \$10 and under, cash; over that amount 9 months time on approved, indorsed, bankable, 6% notes. Free conveyances from trains. Lunch provided for all from a distance. FREEMAN & RANSOM, Props. Col. Carlton, Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

Hub. Freeman, } Auctioneers. Flushing, Mich.

ABERDEEN-ANGUS.

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

WOODCOTE STOCK FARM, Ionia, Mich.

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

LONG BEACH FARM. 40 HEAD HOLSTEINS All Registered.

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

Holsteins—Bull calves for sale from A. R. O. dam, at \$25 to \$50 each. E. COLLIER, R. F. D. 5, Fowlerville, Mich.

TOP NOTCH HOLSTEINS.

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

McPHERSON FARMS CO., Howell, Mich.

HOLSTEINS—Bull calves, sired by grandson of World's Champion 4-yr. old at \$25 to \$50. E. R. CORNELL, Howell, Mich.

BOARDMAN STOCK FARM, Holstein Cattle. JACKSON, MICH.

Has more imported Holstein-Friesian Cows than any farm in the Middle West. Registered BULL CALVES of the most fashionable breeding.

Holstein Service Bulls.

Bull Calves. Yearling, two-year-old Heifers, bred, and cows, due to freshen in spring for sale. 50 head in herd. L. E. CONNELL, Fayette, Ohio.

HOLSTEIN FRIESIANS—Bull calves. Herd headed by Canary Mercedes Royal King. W. B. Jones, Oak Grove, Mich.

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

Northern Crown Jerseys. ROYCROFT FARM, Sidaav, Mich.

BUTTER BRED JERSEY BULLS FOR SALE. CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

Pure St. Lambert JERSEYS and some nearly pure CLARENCE BRISTOL, Fenton, Mich. R. F. D. No. 5.

Jersey Bulls, Cows and Heifers

Island and St. Lambert breeding. Also some choice grade heifers.

DUROC JERSEY SOWS

Choice individuals and popular blood lines. Inspection invited. Full information cheerfully furnished. If you cannot visit our farm at once write

BROOKWATER FARM, Ann Arbor, Mich. A. W. MUMFORD, Manager.

LILLIE FARMSTEAD JERSEYS

We have some splendid young bulls for sale. Some of them are old enough for service. They are from cows with records of 300 to 425 pounds of butter last year. Write for description and prices.

COLON C. LILLIE, Coopersville, Mich.

BLACK MEADOW FARM JERSEYS. ROTAL OAK, MICH.

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

DAIRY BRED SHORTHORNS—Two bull calves 5 months old for sale, price \$50 each if taken soon. J. B. HUMMEL, Mason, Mich.

SHEEP.

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

PARSONS OXFORDDOWNS

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

OXFORD DOWNS A few good field rams for sale. H. J. De GARMO, R. No. 1, Clyde, Mich.

OXFORD DOWN EWES

bred to imported rams for sale at farmers prices. B. F. MILLER, Flint, Michigan.

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

130 Reg. Rambollet Ewes for sale, descended from the best flocks and bred to a pure Van Homeyer and a ram sired by a Gilbert ram and imported dam. All in perfect health. In lots to suit buyers—none reserved. J. Q. A. Cook, Morrice, Mich.

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

SHROPSHIRE HALL STOCK FARM.

Will make special prices for thirty days, on ewes from 1 to 3 years old, all bred to imported Cooper and Mansell rams to lamb in March and April, also on very choice ewelams, this is to make room for an importation that is going to arrive this spring.

L. S. DUNHAM & SONS, Concord, Michigan.

HOGS.

BERKSHIRE BOAR FOR SALE—Sire Dorothy's Ideal 2nd, dam, Oak Grove Princess. Also Jersey Bull calf, born Aug. 19th, 1909, sired by Hood Farm Toronto. FISHERTON FARMS, Pontiac, Mich.

LARGE ENGLISH BERKSHIRES.

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

F. A. BYWATER, Memphis, Mich.

FOR SALE—BERKSHIRES—Two choice Sept. boar pigs, and a few fall gilts, sired by Handsome Prince. A. A. PATTULLO, Deckerville, Mich.

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

BERKSHIRES of the most fashionable type and strains. C. S. BARTLETT, Pontiac, Mich.

NORTHERN GROWN BERKSHIRES. ROYCROFT FARM, Sidaav, Mich.

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

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

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

DUROC JERSEYS CAREY U. EDMONDS, Hastings, Mich.

DUROC JERSEY SWINE, Shepherd Dogs. B. for 15. J. E. BANGHART, Lansing, Mich.

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

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

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

POLAND-CHINAS—Spring and yearling sows bred for spring farrow. They are right and priced right. WM. WAFFLE, Coldwater, Mich.

Poland-Chinas—A good two-year-old boar at a bargain. Aged sows, in pig. Also Shorthorn cattle. ROBERT NEVE, Pierson,

(Continued from page 175).
were roughed thru until about 110 days before marketing, when they tipped the beams at around 1,240 lbs. They were pastured all summer, and about September 1 they were furnished a small ration of ear corn and clover hay, having the run of a blue grass pasture. They were on full feed only about a month. These cattle showed a gain of 533 lbs. from their original weight and 273 lbs. gain during the 110 days they were given feed.

The Retail Butchers' Association of Milwaukee, has decided that the foreign population of this country is directly responsible because of its appetite for young meat, for the scarcity of matured live stock, as it prevents cattle and pigs from growing to maturity.

The meat agitation comes at a period of unusual scarcity of live stock, especially of hogs, and should it cause stockmen to sacrifice their immature stock, there would be a rebound in all probability that would put prices higher than ever, even admitting that consumption of meats was materially lessened. Manifestly there will always be many people who will eat meats no matter how high prices may go, and this has been amply demonstrated in the case of fresh pork products and cured hog meats, which have soared to war prices at a time when exports of provisions were greatly reduced on account of their unusual dearthness.

Short-fed cattle are being marketed freely at Chicago and other places, and it is this class that finds most favor with buyers, owing to the clamor for cheap beef everywhere. Later on the eastern feeding districts will have longer fed cattle ready for the markets of the country, and Kansas and Nebraska are expected to furnish fair numbers, but just now any considerable supplies of choice beefs would result in glutted markets and starting drops in prices. Later on market conditions will probably become normal.

VETERINARY

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

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else.

Colt Forges.—Can you tell me how to prevent a colt from over-reaching and cutting her fore feet. L. C. Allegan, Mich.—Increase the weight of fore shoes, set toe calk back in order to give shoe some rolling motion; light shoes behind lowering the heel some and lengthening the toe will retard the action of hind legs. It is always a good plan to use a toe calk set well forward. In gaiting young colts I have often found it necessary to wear quarter boots to protect front heels from being cut, but later the colt changes his gait and never strikes or over-reaches.

Hide-bound.—I have a 7-year-old mare that is hide-bound. She is in foal and raised a colt last season. D. J. C., Mt. Pleasant, Mich.—Feed her some well salted bran mash or vegetables to keep her bowels open and increase her food supply; also give a tablespoonful of ground gentian, a tablespoonful quassia and two tablespoonfuls of bi-carbonate soda at a dose in feed twice a day.

Scratches (Cracked Heel).—My horse had scratches last winter and I gave him Fowler's solution. He broke out with a rash and our Vet. said I gave him too much Fowler's solution, as it was too strong for him. His heels are now sore; our Vet. tells me that driving him in the snow is better for him than being in a dry stable and not exercised. A. W., Portland, Mich.—Dissolve ¼ lb. acetate lead in a gallon of water, adding 2 ozs. carbolic acid and apply to sore heels three times a day. Also give 1 dr. Donovan's solution at a dose in feed two or three times a day. The dose of arsenic for horses is from 1 to 6 grs. Fowler's solution contains 4.56 grs. arsenic to each ounce and it is very often given in ½ oz. doses two or three times a day, therefore you can readily understand your local Vet. was mistaken when he said you gave your horse too much.

Acidity of Stomach.—My cows and heifers are inclined to gnaw boards and eat rubbish; have given them wood ashes and salt, but they grow worse. W. E. D., Armada, Mich.—Give two tablespoonfuls bi-carbonate soda, two tablespoonfuls ginger and four tablespoonfuls powdered charcoal at a dose in feed three times a day to each cow.

Cow Keeps in Heat Continually.—I have a cow that calved on Dec. 12; since then she has been in heat almost continually and fails to get in calf. D. G., Coral, Mich.—Your cow may not have cleaned properly and she now suffers from a catarrhal condition of the genital organs. Dissolve 1 oz. acetate lead in two quarts tepid water and wash out vagina thru a rubber tube once a day; give ½ oz. nitrate potash at a dose in feed twice a day.

Sore Tooth.—We have a cow that seems to be perfectly healthy but when chewing food slavers some and when eating hay she pulls it in carefully. What ails her? G. E., Prosper, Mich.—If you will examine her teeth I believe you will discover a diseased tooth and when it is pulled out she will get all right, or you may find a small splinter of wood which, when removed she will soon be well.

Cows Fail to Come in Heat.—One of my cows came fresh last August, the other in September; neither of them have been in heat yet; can you suggest a tonic or stimulant that will hasten matters? W. F., Newport, Mich.—Give each cow 15 grs. of powdered cantharides at a dose in feed two or three times a day and it may perhaps bring her in season.

Indigestion.—My four-year-old mare is fed eight ears corn twice daily and all the hay she will eat, but remains thin.

No matter how much she is groomed her coat is rough. J. V., Doster, Mich.—The caps of grinder teeth may need pulling off to make way for the permanent teeth; by an examination you can easily tell. Feed some well salted bran mash or vegetables to keep the bowels open and give a teaspoonful of fenugreek, a tablespoonful gentian and two of baking soda at a dose in feed three times a day.

Air Under Skin—About Goats.—Air gathered under the skin of my horse, commencing at root of tail and extending forward; what can be done for this trouble? How long do goats carry their young and will it be necessary to change the male? W. J. B., Otia, Mich.—Handrub the parts and you can squeeze the air out. Goats carry their young five months and it will be necessary to change goats every two years unless you breed the kids to some other male.

Bog Spavin—Thoropin.—Horse 16 years old has either a bog spavin or thoropin, or both. The joint is quite large. O. M., Hooper, Mich.—Blister hock joint with cerate of cantharides once every ten days or you can safely use any of the blisters that are regularly advertised in this paper.

Sprained Fore Leg.—My 12-year-old mare sprained her fore leg three weeks ago. It is not hot or tender and the swelling leaves when she is exercised. M. J., Kent City, Mich.—Give her 1 oz. fluid extract buchu at a dose in feed two or three times a day. Bandage leg in cotton.

Indigestion.—I have a four-year-old colt that is thin and has passed a few small worms. H. S., Ingalls, Mich.—Feed him some well salted bran mash, some carrots and mixed hay, if you have any, and give a teaspoonful powdered sulphate iron and two tablespoonfuls ginger at a dose in feed three times a day, also groom him well.

Calked—Swollen Leg.—About a year ago one of my horses calked himself; with treatment he got over his lameness, but the limb was left swollen. I applied a blister, the leg has remained thick ever since. The wound is covered with a hard dry crust. Have had him examined by two of our local Vets.; one of them says nothing can be done, the other advised using bandages. J. W., Utica, Mich.—Give your horse one dr. iodide potassium at a dose twice a day for fifteen days and once a day for twenty more. Bandage over cotton, but don't apply the bandage too tight. Blisters will do harm. Perhaps two or three applications a week of iodine ointment would help reduce the leg.

Feeding Carrots to Horses.—For many years I have been interested in the veterinary questions and answers of the Michigan Farmer and would like to know how many carrots or pounds of carrots can be safely fed to a horse daily. My horses weigh 1,300 lbs. each and are working every day, except Sunday. S. P., Almont, Mich.—I regard carrots as being the best vegetable food that a horse can be fed during the winter. For many years when I was breeding horses on my farm I raised from twelve to fifteen hundred bushels of carrots every year and fed them all to my hundred and fifty mares and colts. The mares and work horses were never fed more than a peck, once a day, and so far as I could tell they never proved harmful. Carrots have a laxative effect; besides, they have a tendency to destroy parasitic life and stimulate the kidneys into action; furthermore they produce a good effect on the blood. Four quarts at a feed is too much for horses that are inclined to be loose in the bowels, or that have kidney trouble. You can safely feed three or four quarts to each of your horses once a day. I might add that I feed carrots to horses that I keep in my veterinary hospital and here I have an excellent opportunity to discover if they were harmful, but I have never noticed any bad results from feeding them.

Suppurative Shoulder.—I recently purchased a nine-year-old mare that has a running sore on shoulder. The man I bot her of tells me she was wounded by rubbing against a nail in stall; others tell me it is a collar jam. M. F. S., Saranac, Mich.—I am still inclined to believe that there is some foreign body in the shoulder that is causing the discharge. Cut it open, go to bottom of sinuse and there you will find the whole trouble. Some time ago a two-year-old colt was brot to my hospital for treatment after being treated more than a year to heal his shoulder. I removed a piece of wood three inches long from under the shoulder blade, caused by lightning striking an apple tree when the colt stood under it, forcing this large piece of dead limb in between the shoulder blade and ribs. He got well in two weeks.

Tumor on Udder.—My cow has a growth on udder which, when rubbed or irritated, bleeds easily. Have applied carbolized water. M. B. W., Paw Paw, Mich.—The bunch should be cut off, then apply equal parts powdered alum, oxide of zinc and tannic acid.

Liver Disease.—I am anxious to know the cause of my sheep's death. She died after a three days' illness. I gave her Glauber's salts, castor oil and injections of warm soap suds. On opening her we found the gall as large as a bologna sausage—six inches long. The stomach seemed normal, but the intestines were empty. C. D. W., Evart, Mich.—There was perhaps a stoppage of the gall duct or else a diseased condition of the liver caused the death of your sheep.

Brain Disease.—I would like to know what ailed my sheep. She first became dumpy, held head low, went almost blind, and refused to eat or drink. I gave her a little whiskey, turpentine and sweet milk, but it made her worse, and some time later I killed her, cut her open, but could see no trace of disease. W. E. M., Clare, Mich.—Your sheep died of congestion of the brain. Had you given bromide of potash it might have relieved her. However, I doubt if she could have been cured.



I'll Send You Three Horse Books FREE

HOW TO CURE Distemper in a few Days Coughs & Colds

They tell how to cure all the common diseases of horses, sheep and dogs. They tell you what to do and when to do it. "Dr. Crafts' Advice" tells the causes, symptoms and how to treat Distemper, Influenza, Epizootic, Shipping Fever, Coughs and Colds, Etc. "Veterinary Pointers" is full of valuable hints. "The Horse, His Diseases and Treatment" starts with Bots and ends with Shoeing—a book you'll always preserve. They also tell how

CRAFTS DISTEMPER CURE

is saving thousands of dollars for farmers. Contain proof that it is the safest, quickest cure for Distemper, Coughs, Colds, Fevers, Etc., on the market. We'll prove it for you, at our expense if it fails. Get a bottle and try it on our money back guarantee. Just read this letter.

G. A. Sumner, Montague, Mich., writes: "I had a horse that coughed for two years. I tried everything without success. Finally I heard of Crafts. Before one-half of a 50c bottle was used he stopped and is now perfectly well."

If your dealer can't supply you send to us. 50c and \$1.00. Large size three times small size. Endorsed by leading horsemen. Write for 3 free books today.

WELLS MEDICINE CO.
11 Third Street
LaFayette, Ind.



Plow and Harrow at Same Time

This plow attachment pulverizes and levels the soil as it is fresh turned and moist, thereby making a perfect seed bed before the ground gets lumpy and dries out. It is light running and requires no more horses than for ordinary plowing. Made for sulky and gang plows.

The cutting blades are made of the best plow steel, with plenty of curve to the blade so that it produces a draw cut. These blades are self-cleaning and cornstalks or trash cannot lodge.

THE NATIONAL ROTARY HARROW ATTACHMENT is destined to become the greatest farm labor-saver of the age! It does the work far better and easier than the old drag, because of the draw cut blades, and also because the ground is easiest pulverized and leveled when it is fresh turned. When your plowing is done, your harrowing is done! By all means SEE this great machine attachment. It will save you dollars, time and trouble. Ask your dealer to show it to you today. If he hasn't it, write us today and we will see that you are supplied. [1]

NATIONAL HARROW COMPANY, Box 121, LEROY, ILL.

FOR ALFALFA

This is the implement to use in your alfalfa field. Farmers who have used it say it is the best implement made.

The Naylor Combination Spring and Spike-Tooth Harrow

is ideal for producing a perfect seed bed. The spring teeth stir and cultivate—the spikes pulverize and level. Once over does the work better than two or three times over with other harrows. Spring and spike teeth set at any angle—to work deep or shallow—or raised so harrow can be transported on frame. All-Steel—Strong—Durable.

Write for Free Book and Testimonials.

You cannot afford to farm without this implement. You will want this tool some day—might as well be first as second. Dealers wanted everywhere.

THE NAYLOR MFG. CO., Box 54 LA GRANGE, ILL.

We will give \$100.00 for the 9 best ears of seed corn

sent us before Dec. 1st, 1910 by users of

THE APPLETON MANURE SPREADER



bought in 1910. Write today for full particulars, and ask for our FREE SPREADER BOOK, which proves that the Appleton Manure Spreader is as strong as steel and oak can make it; so simple that any boy who can drive a team can run it as well as any man; and so effective in operation that it never bunches the manure, but pulverizes thoroughly and distributes evenly from the beginning to the end of the load.

APPLETON MFG. CO.
20 Fargo St. Batavia, Ill., U. S. A.

FRESH IMPORTATION ARRIVED SEPT 8, 1909.

BLACK PERCHERONS AND ENGLISH HACKNEYS

These Horses are all Prize-Winners

from the leading shows in Europe; ages from two to four years old; terms to suit the purchaser. Byron is located on the Toledo & Ann Arbor R. R., 44 miles north of Ann Arbor and seven miles south of Durand, immediate connections off the Grand Trunk R. R.

Every horse guaranteed, and all at low prices.

CALKINS & AUGSBURY Props., BYRON, MICH.

57 Imported Stallions & Mares

WITH PRACTICAL HORSEMEN

A short statement of facts will have more weight than a whole page of MUSH. I have a stable full of SHIRES first-class in every respect. They combine weight, quality, good conformation and the best blood. I will sell as low as legitimate business will permit. Also WELSH MOUNTAIN PONIES OF HIGHEST TYPE. Write for particulars.

GEORGE E. BROWN, Aurora, Illinois.

Thirty-seven miles from Chicago by C., B. & Q. and N. W.; also trolley trains every hour.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

MEETING OF MICHIGAN DAIRYMEN'S ASSOCIATION.

President Marston, of Bay county, opened the 26th annual convention of the Michigan Dairymen's Association at Detroit at 2:00 p. m., February 1, by introducing Mayor Breitmeyer, of the city, who gave the address of welcome. A good attendance was on hand for the opening session, and from the start the program and show promised to be one of the most successful meetings of the organization, as Mayor Breitmeyer gave a most cordial welcome to the dairymen, invited them to make themselves at home in the city, and stated that if anything is found wrong to report same to him and he would see that it was remedied the next time the dairymen gathered here. The cordial welcome of the mayor was to have been responded to by N. P. Hull, of Eaton county who, however, was not present and in his stead the president made a brief response to the mayor's welcoming words.

President's Address.

The next on the program was the president's address by Hon. T. F. Marston. In his review of dairy conditions in Michigan, Mr. Marston pointed out how the activities in this state were marking it as a leader among the commonwealths of the country, in dairy education. Among the things which stand out particularly strong in this regard are the cow testing associations and the bull associations, the first organization of each class on the continent having been formed in this state. Now many of the states of the union are enjoying the benefits to be derived from these associations. In spite of this progressiveness, the president lamented the fact of there being so large a number of poor producing cows in Michigan. While there are many cows that produce 400 pounds of butter per year and more, yet the number that do are but a very small fraction of a percent of the cow population of the state. In order to overcome the loss from keeping so many poor cows, it will be necessary for dairymen to become better acquainted with the requirements of their business and he believed that in order to hasten this day, the organization of smaller associations which would require perhaps only a portion of a man's time to do the testing, would greatly aid in multiplying the number of profitable cows and it was his further opinion that these smaller associations would rapidly grow into larger ones until sufficient cows were had to require the full time of a tester. Another suggestion was the scheme of holding cow contests, basing the rewards upon the net profits rather than upon conformation and type of the cows. Some states are now conducting such contests with good results. He next brot attention to the question of marketing milk where he felt that a general plan for educating consumers as to quality in milk should be carried out by the association. In this regard it was remarked that every case where inspectors find cows kept under poor conditions is reported in dairy papers and consumers are coming to believe that no good milk is produced. To counteract that sentiment, he believed that effort should be made to get before the public accounts of high-class dairy plantations which would aid them in getting a correct understanding of the situation. He believed that since the re-organization of the state dairy and food department a very general improvement has been made in the quality of dairy products put upon the market, but this improvement is more largely due to the enforcement of those laws than to educational programs. The food laws of Michigan were commended as working benefits to dairy interests, especial mention being made of the statute providing for the use of at least 12 percent of butter-fat in ice cream, which he held was a splendid measure for preventing fraud upon the public by ice cream vendors. The attempt on the part of the packers and others to take off the present tax on colored oleo, was censured, it being the president's opinion that the general public would suffer far more from the removal of this tax, than would the dairymen. Commenting upon present prices, Mr. Marston believes that the dairymen are today receiving no more for their products than they should, considering the cost of labor and feeds. The address was closed by a reference to the

auxiliary meetings which apparently had not been so popular during the past year as in previous winters, the reason apparently being that the local interests were required to pay a larger amount of the expenses than they had heretofore. The president felt that if this rule was in any way interfering with the usefulness of these meetings a change should be made.

The secretary and treasurer's report was next given by S. J. Wilson, of Genesee county. This report showed the organization to be in a thriving condition. The legislature during its last session reduced the allowance of the association from \$500 to \$300. The secretary believed that \$1,000 could be spent by the organization to the advantage of the dairy interests of the state. His business relations having become of such a nature as to make it impossible to again become a candidate for re-election, Mr. Wilson took this occasion to thank the members of the association for their loyal support of his work and the honor bestowed upon him by retaining him as their secretary continuously for 14 years.

Some Problems of the Milk Producers.

This topic was assigned to Dr. Geo. A. Waterman, formerly of the Agricultural College and now a dairyman of Washtenaw county, and in his clear and interesting style the Doctor aroused his hearers to take an exceedingly interesting attitude toward the topic. He believes that the consumers of milk should be educated to know that there are a large number of excellent dairies throughout the state. As the press is the best medium for presenting this knowledge to the inhabitants of our towns and cities, a liberal use thereof should instruct milk users of some of the good things about Michigan dairy farms. Following this, the Doctor confined his remarks to the sanitary side of milk production. Milk must be kept clean from the time it is drawn from the cow until it is consumed. If at any time during its voyage from the cow to consumer it becomes contaminated, it is impossible to make that milk clean thereafter. The first essential is a healthy cow. A diseased cow should not be used for producing milk. Another essential is a clean stable and in this regard the Doctor mentioned that cleanliness did not always mean expensiveness. The cow must also be kept clean. Light and ventilation are important factors in accomplishing this end. One of the points pressed home was the fact that a large amount of dirt can be kept from the milk by simply clipping the hair from the cow's udder. A vote of the audience showed that five dairymen present practiced clipping as stated by the Doctor. A computation of costs showed that \$2.00 would cover the cost of clipping the udders of 20 cows. This is done but once a year and usually in the fall when the cows are placed in the stable. It can readily be reasoned out how this small expense would be scarcely a consideration as compared with the yearly output of the cows. The next point was with regard to grooming cows daily and a vote showed that six dairymen present practiced it. The Doctor found that he could give his 20 cows a fairly good grooming in a half hour. While the job done would not be such as would satisfy many fancy breeders, yet the good derived therefrom was worth while. Washing the udders before milking was another point made and, from practical observation, the Doctor found that the udders of 20 cows could be gone over with a damp cloth in 15 minutes, twice each day, or 36 minutes. Figuring on a basis of 7,000 pound cows, this grooming and washing cost about one-eighth of a cent for each quart of milk produced. He believed, however, that the cow gave a slightly larger amount of milk for the grooming and felt that she will repay him for time devoted to this operation. The better quality of milk brings in better prices to the producer and thereby makes these sacrifices profitable. Other things mentioned were covered milk pails, the removal of the milk to the milk room as quickly as possible after drawn, and keeping the milkers tidy and neat so that every possible avenue of dirt is either entirely cut off or reduced to a minimum. He finds in working in such a dairy, one is many times repaid by the increased pleasure that is associated with such conditions.

The discussion of this paper was opened by Geo. A. True, of Macomb county. He stated that dirt was the curse of the dairy business, and every precaution to eliminate it should be faithfully considered by the dairyman. Where it is impossible to provide the milkers with full white suits, he advised the use of white

aprons. The general discussion brot out the fact that where stables are warm, the washing does not chafe the udders. The water should be used at a temperature comfortable to the hands of the washer. Dr. Waterman does not believe that cement floors increase garget in the cows. A number recommended that the cows be washed immediately before milking and not all at one time, since washing encourages the cows to give down their milk and if not drawn at that time, some of it is likely to be lost.

The Consumer's Part in Solving the Milk Problem.

The above was the first topic taken up at the evening session. It had been assigned to Mr. Ivan C. Weld, Assistant in Market Milk Investigations, of the Department of Agriculture. Mr. Weld was unable to be present and Mr. Geo. M. Whittaker, of the Dairy Division of the Bureau of Animal Industry, took his place upon the program. One of the first duties of the consumer who would aid in solving the so-called milk problem, Mr. Whittaker said, is to inform himself as to the real value of milk as a food. He will find that it has a very high food value and low money value as compared with other food products. This latter statement he undertook to prove by comparing it with sirloin steak and chicken. From the analysis of milk he showed that at present prices it will furnish a pound of food nutrients at a cost of about 29 cents. In sirloin steak a pound of the same food nutrients costs in the neighborhood of 75 cents, and in the form of chicken he found it to cost about \$1. He, therefore, declared that in times of high prices it is really economy to use more milk rather than to curtail the supply.

However, it is also the duty of the consumer to know that while milk is a cheap and nutritious food, it may also be a dangerous one. He held that the consumer should understand the dangers from tuberculosis, typhoid fever, and other ailments which lurk in milk, but he deprecated the sensational methods frequently employed by the daily press in bringing these dangers to the attention of the consuming public. It is a part of the consumer's duty to look into the source of his milk supply and to demand that it come from healthy animals. To this end the consumer should make it a point to learn whether or not his milk comes from tuberculin tested cows. He should also know something about how it is handled, and the conditions under which it is produced, since all milk becomes more or less germ laden, almost at once after being drawn. This is due to the fact that the air, even in apparently clear and pure atmospheres, is continually filled with dust. This dust, in descending, gets into the milk and the germs at once begin to multiply. As they multiply rapidly in warm milk, the importance of prompt cooling was emphasized. While one should guard against becoming fanatical in this matter, he declared that the consumer is justified in insisting upon reasonably clean conditions in the dairy from which he buys milk, and that by thus insisting he materially assists those who are so earnestly striving to improve the quality of the product.

Then the consumer has another duty to perform in connection with this problem, and that relates to the care of the milk in his own home. In the large cities it is now required that milk be delivered cold and in bottles. If the consumer has looked into the conditions upon the farm where it is produced and the conditions under which it is bottled, he is reasonably sure of having the product a pure and wholesome one when it comes to his door. It is then up to him to keep it in that condition until consumed. In order to do this he must keep it at a reasonably low temperature. He must keep the bottles closed, or keep it in covered vessels, and away from vegetables and such products and odors as are likely to taint it. The consumer should also return the bottles in good condition. That is, they should be washed, or at least thoroly rinsed, as soon as emptied, and they should not be used for any other purpose in the kitchen or about the house before being returned. Exceptional care must be taken in regard to this where there is sickness in the house, especially typhoid fever or other contagious diseases. The high mortality among infants in large cities is charged to unclean milk. In many cases, however, the milk is really not at fault, the trouble being due to carelessness on the part of the consumer. He emphasized strongly the importance of keeping the nursing bottle sweet and clean, declaring it absolutely necessary that the bottle be

Choke Him On Facts

When you get tired hearing agents or makers of common cream separators excuse the needless disks or other contraptions they use, just choke them on facts that disprove their claims.

If contraptions were necessary, how do Sharples Dairy Tubulars, which have none, produce twice the skimming force, skim faster and several times cleaner than common separators? Why do Tubulars probably replace more common separators than any one maker of such machines sells?

Why do Tubular sales easily exceed most, if not all, others combined? Why is the Tubular factory the world's biggest separator works? Why have we branch factories in Canada and Germany? These facts are invincible proofs that Tubulars are The World's Best.

Write for New Catalogue No. 152

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
Chicago, Ill., San Francisco, Cal., Portland, Ore.
Toronto, Can., Winnipeg, Can.

Farmer Agents Wanted

You can earn your own Cream Separator by giving a little time and effort to telling your friends and neighbors about the most wonderful invention in Cream Separator History—

THE CHICAGO SPECIAL
Its low Supply Can, easy cleaning, easy turning, few parts, dust and oil proof frame, enclosed gearing, high quality construction, and long life are fitting accompaniments of this wonderful new patented Skimming Device.

We make an attractive offer on the first machine in a community. Write at once for particulars. Do It Now. Address Kurtz & Company, 626 Monadnock Bldg., Chicago

Do You Feed Your Stock?

Certainly, and it costs you money. Why not save on your feed bill, and secure better results? Have the effect of June pasture in mid winter, more milk, butter, flesh, etc., and better health for the animals. Will give better results than bran and cost less money.

DRIED BEET PULP.

Forty minutes from the clean-washed sugar beet to the perfectly dry sacked Beet Pulp. No weed seeds. Roots are great for all classes of live stock. Dried Beet Pulp is better, and costs less money and labor. Dairy cows will gain in their milk flow. Animals will do better. You save money and that is what you are interested in.

Try it in place of bran, you cannot lose and you will gain by trying it.

Supply will soon be exhausted for this year so order of your dealer at once, if he cannot supply you, write

T. F. MARSTON,
BAY CITY, MICH.
Sales Agent for Michigan Sugar Co.



THE ROSS SILO

The only thoroughly manufactured Silo on the market. Full length stave. Continuous door frame complete with ladder. Triple beveled silo door with hinges. Equipped with extra heavy hoops at bottom.

AIR TIGHT

Makes winter feed equal to June grass. THE ROSS will more than pay for itself in one season. Write today for catalog which gives facts that will save you money. Agents wanted.

The E. W. Ross Co. (Est. 1850)
Box 14 SPRINGFIELD, OHIO



SILOS

EARLY BUYERS SAVE MONEY
EARN ITS COST BEFORE PAID

HOW? KALAMAZOO TANK CO. MICHIGAN

CALVES RAISE THEM WITHOUT MILK
BOOKLET FREE.
J. E. Bartlett Co., Jackson, Mich.

Just Say "Saw your ad. in the Michigan Farmer" when writing advertisers

thoroly cleaned and scalded each time it is used.

In the larger cities it is a practical impossibility for many of the milk consumers to personally investigate the source of their milk supply, and where such is the case it is one of their duties to insist upon having a good health officer and to back him up in any stand he may take in his efforts to keep the supply up to the required standard. In doing this, they are performing what is an important duty to themselves and their families, and also their duty toward the honest milk producer who makes an earnest effort to place his product upon the market in a clean and wholesome condition, but it is manifestly unfair that he should be obliged to compete, on even terms, with the man who markets a low-grade milk. In other words, they should fully understand and appreciate the difference between a dairy which scores 30 on condition, and one which scores 80. The milk from the former may be much the cheaper, so far as first cost is concerned, but the consumer should understand that because of the dirt and disease germs which it may carry, it may prove much dearer in the end than the higher priced product.

The Comparative Value of Different Foods.

The next number on the program was an address by Dr. Floyd W. Robison, State Analyst. Before taking up his subject proper, Dr. Robison took occasion to comment upon the educational exhibit which he has prepared and put in place for the State Dairy and Food Department, with which he is identified. This exhibit has to do with the comparative value of food products, animal food products only being represented in the results which are illustrated in the striking manner which Dr. Robison described and which is shown in the exhibit. For purposes of comparison, the Doctor stated that foods served the same purposes in the human body, in the production of energy, that coal serves in an engine and as a means of illustrating in a simple, yet forcible manner, the relative amount of energy furnished by different food products, several tow trains have been placed on a large exhibit table, the length of which is divided into ten equal spaces which he has designated as caloric miles. In this illustration, a caloric mile simply means a unit by which the energy produced by a given food may be measured. For the purpose of this illustration, the Doctor has sought to show the number of caloric miles that a dollar's worth of given food product would furnish energy to drive the train which represents the human body.

The interesting feature of the exhibit lies in the fact that the three principal dairy products are shown to lead all animal products in energy producing power. A dollar's worth of cheese at 20 cents per lb. furnishing energy to drive the train nearly across the table, or almost 10 caloric miles. A dollar's worth of butter at 30 cents per lb. would furnish the energy to drive it nearly as far, while a dollar's worth of milk at 7 cents per quart was shown to furnish nearly the same amount of energy as the first mentioned dairy products. Next in order came a dollar's worth of smoked ham at 22 cents per pound, which would furnish energy to drive the train only about three-quarters as far as would a dollar's worth of cheese at 20 cents per pound. A dollar's worth of sirloin steak at 16 cents per lb. followed next in order, while a dollar's worth of round steak at 15 cents per lb. came next and a dollar's worth of leg of mutton at 16 cents per lb. followed closely, but in comparison would drive the train only about one-half as far as a dollar's worth of cheese at 20 cents per lb., while a dollar's worth of eggs at 30 cents per dozen would carry the train less than one-third the distance represented by a dollar's worth of cheese at 20 cents per lb., and a dollar's worth of oysters at 50 cents per quart, just nicely started it from the home station, making less than two caloric miles.

The point which the Doctor made from this exhibit is that, notwithstanding the agitation of high prices, there is no reason to assume that dairy products are high as compared with the price of other food-stuffs; that, for instance, cheese would not be high, food value considered, at 30 cents per lb., in comparison with sirloin steak at 16 cents per lb., and that butter would not be out of proportion at close to 50 cents per lb., or milk at 10 cents per quart as compared with meat foods at the prices noted. The Doctor stated that the value of dairy products are generally very much underestimated and the value of eggs very much overestimated as human foods.

In closing his remarks upon this educa-

tional exhibit, the Doctor emphasized the fact that the purpose of exhibit was not to lead people to abandon the consumption of eggs, for instance, in favor of butter or cheese, but rather that they should not abandon the normal consumption of dairy products with the idea that they are relatively high in price. A proper variety and a proper balance in the dietary is essential, but having that variety and balance, it is good economy to know the relative food value of different foods in order that the best economy may be practiced in making up the menu for our tables. The Doctor stated that while the exhibit, illustrated in the novel manner described, referred only to animal foods that charts included in the exhibits showed also the relative food value of other foods in a way to be readily understood and invited all present to take occasion to look over the exhibit carefully while at the convention.

City Milk Inspection and Its Problems.

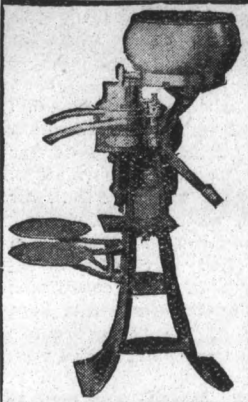
The Doctor stated that in its work, the state department had looked at the problem from a somewhat broader standpoint than that of the city health officers, altho he did not cast any reflection upon the works of the city health department, for the department was working with them in every possible way. The ideal, from the health department standpoint, is certified milk or a grade of milk approaching it, which, under present conditions it is not practicable to produce in sufficient quantities to anywhere near satisfy the demand for milk for family consumption. The Doctor believes, however, that the poor quality of the milk is not always the fault of the producer, and stated that in a great many cases the city milk dealer was a man who knew less about the requirements of handling the product from a sanitary point of view than the milk producer, and that the same might also be said of a good many housewives who handle the product improperly after it is received. He emphasized the importance of cleanliness not only in the handling the milk, but in the handling of the bottles as well. He touched upon the benefits of thoro inspection and closed his address with valuable hints regarding the handling of the milk from a sanitary standpoint after it leaves the producer's hands.

In discussing this address, Dr. Price, of the City Health Department, of Detroit, expressed his regret that Dr. Kiefer, the head of the department, could not be present. He related something of his experience as a city milk inspector and told how the city health department tried to remedy conditions as they found them when he became identified with the department. At that time milk was commonly sold from stores from an open pail, and about 25 per cent was either adulterated with water or had been partially skimmed. An effort was made to regulate the sale of milk on this basis, but came to no avail and finally an ordinance was passed requiring all milk to be delivered in bottles, Detroit being one of the first cities of the country to adopt such an ordinance. The greatest trouble has been experienced with small milk producers or dealers, but these have gradually been forced to provide a proper place in which to bottle the milk and proper equipment for putting it up in a sanitary condition. The city inspection extends to the source of supply, and in a few cases the inspectors have found it necessary to dump the product into the sewers, where producers did not comply with the regulations. It has never been necessary to do this a second time, however, and little trouble of this kind has been experienced.

The subject was further discussed by others, and on account of the lateness of the hour, the meeting was adjourned, part of the program going over until the Wednesday morning session.

The Wednesday forenoon session of the convention opened with W. F. Raven, of Jackson county, in the chair. After announcements of committees by President Marston, and other preliminary business, the first speaker of the afternoon session, N. P. Hull, of Eaton county, was called to the floor to speak upon the topic, **Building Up the Dairy Herd.**

Mr. Hull, who is president of the national dairy farmers' association, took occasion to mention the purpose of that organization and urged those who could and had a desire to foster the interests of the dairy farmers, to become actively interested therein. In taking up his topic, Mr. Hull commented upon the quality of Michigan herds, believing that the efforts of dairymen should be directed to increase that quality. He referred to an experiment conducted at the recent national dairy show at Milwaukee, where 16 cows



NOT "MAIL ORDER" CREAM SEPARATORS

The World's Standard DE LAVAL Cream Separators are not sold in the "mail order" way, and therefore not advertised with the big newspaper space and big "word claims" used to sell second and third grade separators in this manner.

Part of the money spent in the sale of inferior separators in the "mail order" way is put into commissions to local agents in the case of DE LAVAL machines, and the buyer of the separator for use gets the benefit of it instead of the newspaper, through the setting up of the machine and the instruction of the buyer in its proper use by the agent, as well as in its occasional looking over and the prompt supplying of any needed parts for it in the years to come.

That's the difference in the method of sale between the DE LAVAL and most other makes of cream separators, which means, almost as much to the buyer-for-use as the superior efficiency and durability of DE LAVAL machines.

The difference of merit and method of sale save the cost of the DE LAVAL over other separators in a comparatively short time and make a DE LAVAL machine last an average twenty years while other separators last on an average from six months to five years, according to their grade.

If you don't know the nearest DE LAVAL agent to you send for a catalogue and his name and address.

THE DE LAVAL SEPARATOR CO.

165-167 BROADWAY
NEW YORK

42 E. MADISON STREET
CHICAGO

DRUMM & SACRAMENTO STS.
SAN FRANCISCO

178-177 WILLIAM STREET
MONTREAL

14 & 16 PRINCESS STREET
WINNIPEG

1016 WESTERN AVENUE
SEATTLE

EARLY BUYERS ARE LUCKY BUYERS



Six thousand in use is absolute proof that Indiana Silos are the best in the world. "Ask the man who uses one." The patented mechanical features make them better. Our self-dRAINING mortised joint doubles the life of the silo.

Our combination steel step and continuous door frame is most substantial and convenient.

The best materials make Indiana Silos by far the best. We own saw mills and timber lands, and thereby get stock selected, seasoned and prepared exclusively for our silos.

We now have ready an enormous stock of the finest silo material, and we are now booking orders for 1910 delivery.

Indiana one-piece stave silos have never been equalled.

An Indiana Silo saves half your feed, it pays for itself in one season. High priced feed makes it imperative that you investigate and decide upon your silo now.

Write for the reasons why "Early Buyers Are Lucky Buyers."

We are in a position to give exceptional service, minimum freight, prompt delivery, etc., from our factories at Anderson, Ind., Des Moines, Iowa, and Kansas City, Mo.

Write for **THE SILO ADVOCATE FREE!**
Today AND OUR SILO BOOK FREE!

These contain much valuable information you should have.

Address all communications to the General Offices of the **INDIANA SILO CO., 382 Union Bldg., Anderson, Ind.**

NOTICE—We are the largest Silo Manufacturers in the World.

Keep It Off The Cows Put It On The Fields

No matter how hard you try you can't make an old stable with dirt floors and wood partitions sanitary—you can't keep it clean and sweet. Wood partitions gather dust and disease germs. Dirt floors with their tramped-in filth should never come within a stone's throw of your milk pail. When a cow gets off her feed and her milk yield falls below normal, look to your stable. It may be as clean as you can make it; but that may not be clean enough. Equip your stables

The Louden Way

then profits will not fall off. The cow that is best treated gives the most milk—the best milk—the richest milk. She has a heap of cow sense. She appreciates light and air, and she will see that you get your money back for making her home modern. If you will put a Louden Litter Carrier to work behind her, your boys or your man will clean the barns in less time and with less labor. We have been fitting up barns for 50 years. We will be glad to give you the benefit of this experience by suggesting what you need for yours, without any expense to you. Send for catalog, tell number of cows you have and submit rough sketch of stable. **LOUDEN MACHINERY COMPANY, 603 Broadway, Fairfield, Iowa.**



H. R. CENTRE, STEWARD OF WORCESTER INSANE HOSPITAL, WORCESTER, MASS., WRITES:—I have given

UNICORN DAIRY RATION

a test and find it to be a superior feed for making milk. Send for booklet and prices to **CHAPIN & CO., Inc., Milwaukee, Wis.**

**When you are Writing to Advertisers
please Mention the Michigan Farmer**



Better Throw That Saw Away!

A poor saw may save you a dollar when you buy it, but you earn that dollar, with the sweat of your brow, every time you use it. If your time, your strength and your comfort are worth anything, it will pay you to throw away your poor saw and buy an Atkins.

Atkins Cross-Cut Saws

Will do the work twice as easily and twice as quickly. The blade is segment-ground, and tapers so that it cannot bind or stick in the wood. No wedges needed. Wherever the teeth go, the rest of the blade follows without a struggle. The teeth cut the wood, instead of tearing it into saw-dust. Every stroke cuts a clean, thin ribbon of wood. Made of the finest steel ever used in saws.

Try an Atkins—be sure our name is on the blade. If it doesn't hold its edge better, cut faster and run easier than any other saw you ever used, take it back to the dealer and get your money back.

Our best saws have "Silver Steel" marked on the blade. Our cheaper saws are the best value at their price, but are not marked "Silver Steel." Silver Steel is better steel than you'll find in most razors. Before buying, see how the blade is marked.

FREE—An attractive silver tie pin and our interesting book, "The Care of the Saw." A postal brings them free.

E. C. Atkins & Co., Inc.

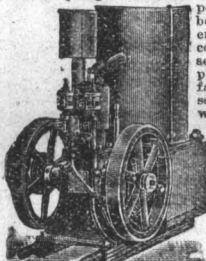
401 Illinois St., Indianapolis, Ind.
Largest Exclusive Saw Manufacturers in the World.

We make all types of Saws—Hand Saws, Cross-Cut, Wood, Rip, Panel, Band, Circular, Meat, Metal, Etc.

Try Kerosene Engine 30 Days Free

Gasoline Prices Rising.

You can't run a farm engine profitably on gasoline much longer. Price of gasoline going sky high. Oil Companies have sounded the warning. Kerosene is the future fuel and is now 6c to 10c a gallon cheaper than gasoline. The amazing "Detroit" is the only engine that uses kerosene (or coal oil) perfectly. Burns on gasoline, too, better than any other. Basic patent. Only 3 moving parts. Comes complete ready to run. We will send a "Detroit" on free trial to prove all claims. Runs all kinds of farm machinery, pumps, saws, separators, churning, feed grinders, washing machines, silo fillers and electric lights. Money back and freight paid both ways if it does not meet every claim that we have made for it. Don't buy till you get our free catalog. 2 to 24 h. p. in stock. Prices \$20.50 up. Special demonstrator agency price on first outfit sold in each community. 5000 satisfied users. We have a stack of testimonials. Write quick. (20)



The Amazing "DETROIT"

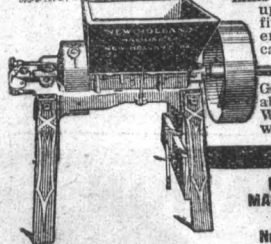
Detroit Engine Works, 149 Bellevue Ave., Detroit, Mich.

Just a Word About New Holland Feed Mills

Do not let the low price asked by dealers for NEW HOLLAND Feed Mills prejudice you against them. The price is low only because NEW HOLLANDS are in great and increasing demand.

Countless farmers are daily proving by free trial the great money-making possibilities of grinding their grain before using it. They grind up their corn cobs with grain.

Have your dealer lend you a NEW HOLLAND and put it to test. If he hasn't one, write us to supply you. Our mills run easy. Never fill up; grind coarse or fine; any kind of power, 5 sizes. Send for catalogue and free book, "The Right Way to Feed Grain." Also facts about NEW HOLLAND Wood Saws, if you want them.



NEW HOLLAND MACHINE COMPANY
Box 11
New Holland, Pa.

Always mention the Michigan Farmer when writing to advertisers.

that were considered by a number of competent judges to be on about a par with the average cows to be found in dairy sections, were fed for the purpose of determining the net profits that each animal would give. It was found that one cow which attracted very much attention from the general public because of her smoothness and general conformation, produced only 80 cents worth of milk for \$1.00 worth of feed, whereas another cow that was entirely overlooked by people in passing, produced \$2.00 worth of milk for every dollar's worth of feed consumed; and it was found that if from this herd of 16 head, seven of the poorest cattle were taken out and their places filled with seven cows like the other nine, then in one year these cows would have brot to the owner the same profits that the 16 cows used in the test would have given in two years and a half. This experiment was convincing that the dairy farmer must know his business better in order to attain the greatest success with his cows. This can only be done by learning what each cow is doing for, as was the result in the above experiment, the cow that attracts the most attention is often the poorest producing animal. His first point toward reaching a better standard was to select a dairy breed of cows. In attempting to build up a good dairy cow from some of the so-called dual purpose breeds, one not only loses valuable time that he might otherwise be getting good results from, but when he has once accomplished his end, then he has an animal that conforms very closely to the present dairy breeds. Then it must be understood that there are good and poor cows in every breed. The best cow is the one that will give the largest profit, not necessarily the largest amount of butter-fat. The next step in building up the herd is the selection of the best calves from the best producing cows. At this point Mr. Hull referred to an Ohio herd which he thot was unique in this regard, the owner starting 20 years ago with a single cow, and his present herd consisting of 10 cows, but the amount of milk produced by each of these cows ranges from 10,000 to 14,000 lbs. per year. The gross income varies from \$160 to \$219 per head per annum and the average feed bill is around \$55.00 per head. In order to get so remarkable a showing from his herd, this man has kept a record of what these cows and their ancestors have done all thru the 20 years of his experience as a dairyman. He bred his cows to the best sires and always looked rather to the performance of the cow than her type or conformation. Thru this means, he was able to attain these results. If every farmer of the state would start out with such a purpose in view, it would not be long before the average production of Michigan cows could be nearly doubled.

It appeared to be the opinion of a majority of those who took part in the general discussion that weighing every milking once or twice each month, as the milkers are almost certain to get a personal interest in each cow and should she on any occasion fall below her normal amount, a note will be made of this and possibly some threatening trouble avoided thereby. Mr. Lillie advocated the idea of community breeding, as a factor in building up the dairy herd. Since, by growing a large number of one breed of cattle in a single community, it is possible to develop the breed on a much broader basis than where an isolated farmer is attempting that end. Sires can be exchanged and, because of the large number needed, it is possible to discover good ones and their usefulness can be prolonged by exchanging from one group of cows in the community to another. Following this splendid address and the interesting discussion, Mr. W. F. Raven took the floor and considered the work of the

Co-Operative Bull Associations.

The last census showed that in Michigan there was 27,000 bulls and valuation placed upon these animals by the farmers was around \$28.00 per head. While the same census showed that the average valuation of the two-year-old steers in the state was about \$5.00 higher. This is deplorable, to say the least, and when the matter was placed before our legislature, an appropriation of \$20,000 was made for the improvement of live stock in Michigan. Mr. Raven explained clearly how this money is being used and showed results which convinced his hearers that the appropriation was being used to a very good advantage. One of the ends desired by the state board in the use of this money is to form organizations for pro-

moting a community breeding, the idea being the same as expressed by Mr. Lillie above. The sires can be used to far better advantage in the community breeding plan. In organizing, the parties choose the breed of cattle they desire. They are incorporated for a period of 30 years and when a community has bred a single line of stock for 30 years, it is quite certain that that breed will have such a hold on the locality that the work will be continued. It is up to the discretion of the member whether they shall have all cows tested for tuberculosis, but it is imperative upon them to have the sires tested. The parties breeding alone one line in a particular community are divided into different sections, each section securing a sire and when one section has used him as long as they can without in-and-in breeding, the sire is transferred to another section and his place filled by one from a third section, and so on. This enables the greatest economy in the way of using animals and also provides the means of securing the very best individuals possible.

The spirit of the talks from a large number of the breeders present showed that this service of the state is getting the hearty support of the breeders at large. The point was several times emphasized that where a certain community becomes generally known as a place for breeding a particular kind of stock that the general advertising resulting is of much advantage to the individual breeders. Howell was pointed out as a splendid example of what can be done along this line. The business men and bankers of that city are even enthusiastic over the work and would deprecate any attempt to discourage it.

Buttermakers' Session.

Both the Wednesday afternoon and Thursday morning sessions were devoted to the interest of the buttermakers, much of the information given pertained largely to the mechanical and scientific part of the buttermaker's business, altho some light was thrown upon the relation of the producer of milk to the buttermaker, which would likely be valuable to the former. In his paper on "pasteurizing gathered cream for butter making," E. S. Powers stated that it is essential to have a good commercial starter in order to produce a good quality of butter by this system. While it is generally conceded that a better butter can be made where the whole milk is delivered at the factory because the product arrives in a much better condition than where simply the cream is sent, farmers have learned that by separating the cream at home, it is a much smaller task to deliver the product than it is to take all to the factory and draw home the skim-milk again. For this reason, buttermakers must prepare to handle the cream; and the experience of those present indicated that pasteurizing was the best system for doing this. This was the tenor of Mr. Powers and Mr. Hagedorn's papers and the discussions which followed them. Emphasis was laid upon the point that where sweet cream is delivered at the factory, it is possible for the buttermakers to make a product that will sell at higher figures and thereby enable them to offer farmers better prices for the cream. Following these discussions, Dr. Marshall, of the Agricultural College, was called upon to speak of

The Keeping Quality of Butter.

In a clear manner the Doctor pointed out the complex nature of butter. To emphasize this complexity he drew attention to how impure lard kept in a warm place will soon decompose and become rancid, and to the decomposition of lean meat, how that, if it is placed in a warm room it first begins to smell, then breaks down and forms gas and mineral salts. Next he pointed out how apple juice is first transformed by yeast plant into alcohol and then by the acetic acid germs into acetic acid or in what is more commonly called vinegar. These three kinds of fermentation takes place in milk, that is, the proteids, fats and sugars are all acted upon in different ways and the combination of effects from these different changes have not yet been thoroly understood. The next point was that salt when used in sufficient quantities checks decomposition. However, some kinds of bacteria are less affected by salt than others. A chart giving the different lengths of time required for fresh meat to decompose with different amounts of salt added was shown. Temperature is another factor that influences decomposition in butter. Salt combined with low temperature gives the best results. However, there are organisms that will grow

The Best Cough Syrup is Easily Made at Home

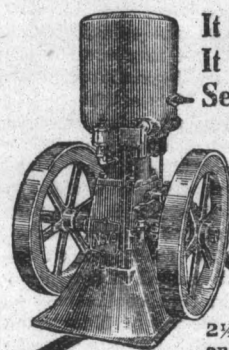
You can make a full pint of cough syrup in five minutes by this recipe—enough to last a family a long time—at a cost of only 54 cents. It is not only cheaper, but better than the cough medicines you buy. Its taste is pleasant—children like it. It stops obstinate coughs in a hurry, and is splendid for other throat troubles.

Granulated Sugar Syrup... 13 1/2 oz.
Pinex 2 1/2 oz.

Put 2 1/2 oz. of Pinex in a pint bottle and fill up with granulated sugar syrup made as follows: Take a pint of granulated sugar, add 1/2 pint of warm water and stir about 2 minutes. Take a teaspoonful every one, two or three hours.

This recipe will not work with any of the weaker pine preparations. Use the real Pinex itself, which is the most valuable concentrated compound of Norway White Pine Extract. All druggists have it, or can get it easily on request.

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



It Pumps Water
It Saws Wood
Separates Cream
Grinds Feed
Sprays Trees
Washes
Churns

Does any such thing for you.

2 1/2, 3 1/2 and 5 H. P.

THE FARMER'S HELP

But there is something beside the right amount of horse power to look up in buying a gasoline engine. There are a number of very important improvements (not in other engines) which have been made in the

NOVO Gasoline Engines

For instance, you get all the advantages of a water cooled engine but don't have the nuisance of a separate tank.

The Novo is frost-proof—guaranteed against injury by freezing. Every working part of the engine is heavy, but by keeping unnecessary pig iron out of the base the Novo is lighter and easier to move.

The Novo always pulls more than promised. It picks up quickly under a load.

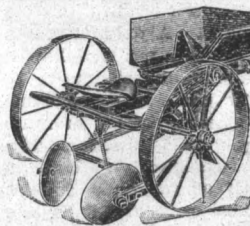
Send for the

NOVO BOOKLET

(it's free) and full of engine information

Hildreth Mfg. Co., 12 Willow Street, Lansing, Mich.

Our 1910 Planter



Is better than ever after 13 years'

SUCCESS.

You can afford to buy the

SCHOFIELD POTATO PLANTER

Thousands of satisfied customers. Sold from factory at special prices. Satisfaction Guaranteed. Write today for catalog M.

SCHOFIELD & CO., Mfrs., Freeport, Ill.



HARRIS

STEEL CHAIN HANGING

Woodlined Stanchions

And Sanitary Pipe Stalls make the most sanitary, strongest and neatest appearing barn equipment. Send for descriptive circulars and get our prices before you equip your barn.

THE HARRIS MFG. COMPANY, 316 Cleveland Ave., Salem, Ohio

BOWSER SWEEP MILLS

Different from all others. 4 or 2 horses. Geared 16 to 1 or 1 to 1. Grind Oats with or without. And all small grains including Oats and Wheat. (Also make 8 other bolt mills.) D. N. P. Bowser Co., South Bend, Ind.

in salty material and the butter might decompose in spite of this salt. He then mentioned that scorers in judging butter use descriptive terms very loosely, such as fishy, rancid, greasy, etc., so there is no standard upon which to base fine calculations. These terms generally speaking, suggest certain conditions but the same scorer will often use different terms synonymously on different occasions. He hoped that this fault would be overcome. Decomposition is due to the incorporation of casein, curd, albumin, and other substances in the butter all of which hasten the time when it would be unfit for use. He closed by stating that quality should be the aim of every buttermaker, both quality in the man and in the butter.

Churning, Working and Packing Butter.

In considering this topic, Mr. Frank Shaw, of Genesee county, in a condensed paper specified that he churned in the winter time at a temperature of 58 degs. with the cream testing as nearly 30 per cent as possible. He endeavored to color his butter the same each churning and thereby gain advantages with his commission men. The churns are first rinsed with hot then cold water after, which the cream is put in and the churn started. He cautioned about giving attention to the proper speed of the churn. Churning takes about 45 minutes. Do not over-churn. When the granules are about the size of wheat kernels, the process should stop. He washes the butter in two waters which are brot to the same temperature as the butter. The water and buttermilk are drained off, salt is evenly spread over the butter, 10 lbs. of water is added to every 1,000 lbs. of butter and working begins. The amount of working will depend upon conditions. It should continue until the salt is evenly distributed, and dissolved. The tubs in which the butter is to be packed should be washed and some 15 or 20 lbs. of the butter put in at a time, and then thoroly packed, especially about the sides of the tub. A little salt should be sprinkled over the top after the tub is filled, then paper put over and the top and fasteners secured.

The last subject of this session was a consideration of "How to Resurrect a Run-down Creamery," by L. C. Waite, of Branch county. The audience thoroly enjoyed Mr. Waite's humor, which was filled with much common sense, the chief point of which was that the creamery manager must gain the confidence of his patrons and since it is for the benefit of the whole community, to have a live creamery, it would seem well that patrons do what is in their power to foster the interest of the concern.

The Thursday afternoon section of the buttermakers' session was opened by a consideration of the question whether "cream should be sampled and weighed at the farmer's door by the driver." It appeared to be the opinion of the speaker, W. H. Bechtel, of Tuscola county, that the practice is not the most satisfactory way, in that a sample taken at the creamery is much fairer as the milk is better mixed there than at the house. Many others agreed with Mr. Bechtel's conclusions. An obstacle with which nearly every buttermaker is confronted, being that good drivers who will be careful about taking samples and weighing, cannot be readily secured. There were others, however, who defended the system as a desirable one as it aided in gaining the confidence of the patrons.

In discussing the subject, "Gathered Cream System of Buttermaking," Mr. R. F. Frary, of Lapeer county, contended that the buttermakers should do everything possible to encourage those using cream separators to do their work right. The regular and frequent collection of cream should also be fostered as it is certain the business will suffer unless improvements are made along this line, for a much smaller per cent of the cream from the country is now being received at the whole milk factories than formerly. He has a canvass for his wagons to protect the milk from heat in summer and cold in winter. Small supplies are sampled at the door and weighed while those who produce a larger amount are provided with individual cans. These are sampled at the factory. As to pasteurization, he believes that bad cream can be improved thereby, especially during the winter season, but the improvement in the quality of cream is of more concern. Where bad lots of cream are received, he would make it into butter separately and not sell with his other product. In the discussion, the point was made that scores on butter from the gathered cream plants averaged better than those from the whole milk plants.

(Continued next week).



H. C. PHELPS
Manufacturer of Celebrated Split Hickory Vehicles

WAIT! To Buyers of Buggies Everywhere—Before Buying Any Vehicle Get My 1910 Free Book of Styles and Prices



THERE are all kinds of general mail-order houses filling orders with buggies of unknown brand. There are all kinds of local dealers selling buggies at high-profit prices. I am the actual manufacturer of the celebrated Split Hickory Vehicles. Mine is a personal, man-to-man business. I make to your order just the vehicle you want (out of 125 styles) and sell it to you direct at factory prices. The actual dollars-and-cents saving I make you runs from \$26.50 and up on a vehicle. I give

30-Day Road Test On Any Split Hickory

All the papers and all manufacturers know me to be responsible and know my work to be the highest quality and prices the lowest. I have saved buggy buyers three million dollars in the last ten years. My big volume of business permits me to offer greater saving prices for 1910. I want to hear personally from anyone wanting a high-grade vehicle or harness. I issue this challenge to buggy dealers everywhere—I will duplicate the quality of any high-grade buggy they offer to any buyer at 25% or more off their price. If you are going to buy a vehicle, don't you want to save that 25% or more?

Let me prove this claim by sending you my 1910 190-page book quoting you direct factory prices. The \$26.50 to \$40 I save you is worth as much to you as to a buggy dealer, even though he's your brother-in-law or favorite friend. Then, why not find out about my proposition before you give away this money. I offer more than any dealer—30-day road test.

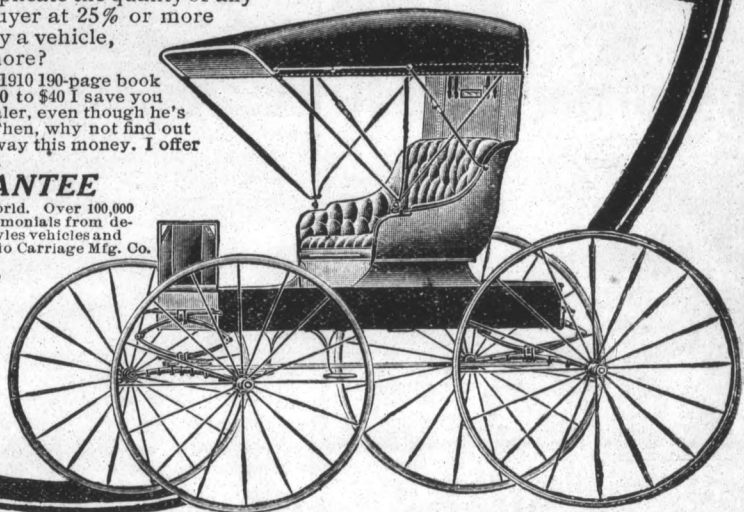
2 YEARS' GUARANTEE

I have the largest direct factory in the world. Over 100,000 Split Hickorys in use. Thousands of testimonials from delighted users. Write for book today. 125 styles vehicles and harness to choose from. H. C. PHELPS, Ohio Carriage Mfg. Co.

Ohio Carriage Mfg. Co., Sta. 32,
Columbus, Ohio.

As to my standing and responsibility, I refer to any agricultural paper, any commercial agency, any bank or express company and to over 100,000 satisfied customers

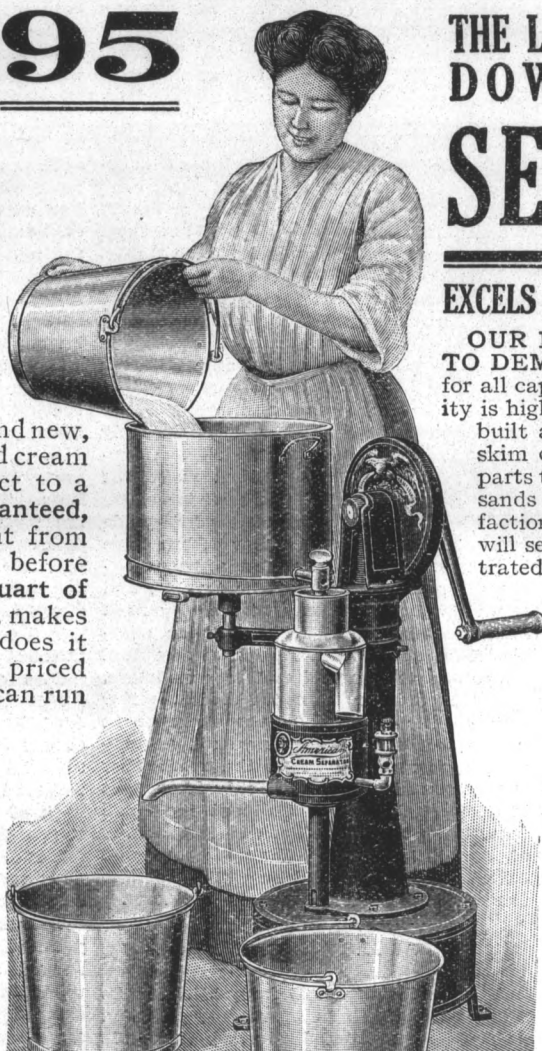
25%
Saving
Guaranteed
On Retail Price
Of Any Vehicle



\$15⁹⁵
AND UPWARD

THIS OFFER IS NO CATCH.

It is a solid, fair and square proposition to furnish a brand new, well made and well finished cream separator complete, subject to a long trial and fully guaranteed, for \$15.95. It is different from anything that has ever before been offered. Skims 1 quart of milk a minute, hot or cold, makes thick or thin cream and does it just as well as any higher priced machine. Any boy or girl can run it sitting down. The crank is only 5 inches long. Just think of that! The bowl is a sanitary marvel; easily cleaned, and embodies all our latest improvements. Gears run in anti-friction bearings and thoroughly protected. Before you decide on a cream separator of any capacity whatever, obtain our \$15.95 proposition.



THE LOW DOWN AMERICAN SEPARATOR

EXCELS ANY SEPARATOR IN THE WORLD

OUR LIBERAL TRIAL ENABLES YOU TO DEMONSTRATE THIS. While our prices for all capacities are astonishingly low, the quality is high. Our machines are up to date, well built and handsomely finished. Run easier, skim closer, have a simpler bowl with fewer parts than any other cream separator. Thousands of machines in use giving splendid satisfaction. Write for our 1910 catalog. We will send it free, postpaid. It is richly illustrated, shows the machine in detail and tells all about the American Separator. Our surprisingly liberal long time trial proposition, generous terms of purchase and the low prices quoted will astonish you. We are the oldest exclusive manufacturers of hand separators in America and the first to sell direct to the user. We cannot afford to sell an article that is not absolutely first class. You save agent's, dealer's and even catalog house's profits by dealing with us and at the same time obtain the finest and highest quality machine on the market. Our own (manufacturer's) guarantee protects you on every American Separator. We ship immediately. Western orders filled from Western points. Write us and get our great offer and handsome free catalog. ADDRESS,

AMERICAN SEPARATOR CO., BOX 1061, BAINBRIDGE, N. Y.

THE LANKFORD COLLAR



The "LANKFORD" is made of Duck and stuffed with Cotton; adapted to heavy dray, wagon and general farm use. Guaranteed to Cure Galls and Sore Shoulders, and prevents Sweeney, tender Shoulders and balking in young stock. Does its work while the animal does his. Try one five days, if it fails to prove the most humane collar you ever used, return it and get your money. They are guaranteed to all good dealers who sell them.

Write for booklet that tells all about our Cotton Collar Family.
COUCH BROS. MFG. Co., Dept. 102, Cincinnati, Ohio.

When writing to Advertisers mention the Michigan Farmer.

Convenience and Profit.

Our Buhr Stone Mill grinds equally well the very best stock feed of all kinds and the highest grade cornmeal, rye, graham, whole wheat and buckwheat flours. Profitable trade from neighbors, if desired. Requires little power and no experience. Genuine old fashioned mill stones, easily kept good as new. Sold extensively for 40 years; repairs or breakdowns unheard of. First cost is the only cost. Low prices. Fully guaranteed. Write for "Book on Mills."

Nordyke & Marmon Co. (Estab. 1851)
1284 Kentucky Av., Indianapolis, Ind.
America's Leading Flour Mill Builders.

Quaker Oats

is the world's food

Eaten in every country; eaten by infants, athletes, young and old.

Recognized as the great strength builder.

Delicious and economical.

Regular 10c packages; also family size packages, 25c.

52

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

\$4.50 Buys the Best Brooder
Both Incubator and Brooder, ordered together, cost but \$11.50. Freight prepaid. The Belle City Incubator has double walls and dead air space all over, copper tank, hot-water heat, self-regulator, thermometer, egg tester, safety lamp, nursery, high legs, double door. The Belle City Brooder is the only double-walled brooder made, hot-water heat, platform, metal lamp. No machines at any price are better. Write for our book today, or send the price now under our guarantee and save waiting. Satisfaction Guaranteed. Box 14, Racine, Wis.

Hatch With the Least Cost Per Chick
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 incubator, regardless of price, send it back. 50-Egg Size Only \$4.50. Same low prices on larger Hatchers, Brooders and Supplies. Write for 176-page FREE catalogue. The United Factories Co., Dept. X22, Cleveland, O.

The Western Plow Attachment
Makes a **SULKY PLOW** OF ANY WALKING PLOW. Steadies the plow, saves the horse. Does away with hard work. Right hand—wood or steel beam. Absolute control of plow however hard the ground. Address: **WESTERN IMPLEMENT CO.,** 250 Park St., Ft. Washington, Wis. "A Boy can run it as well as a Man" Agents Wanted.

Practical Shorthand By Mail

The System that is **WORLD STANDARD**. Planned and taught by reporter and teacher of 20 years' experience. Interesting and thorough, yet inexpensive. Write today.

PRACTICAL SHORTHAND SCHOOL
Clinton Bldg., Columbus, Ohio.

Malt Coffee

Malted from choicest Montana Barley, shipped in strong air-tight drums, at **6c per lb.**

Samples and Circulars Free
MILWAUKEE IMPORTING CO.
506 37th Street Milwaukee, Wis.

A FLOOD OF LIGHT FROM KEROSENE (Coal Oil)

Burning common kerosene the ALADDIN MANTLE LAMP generates gas that gives light more brilliant than city gas, gasoline or electricity. Simple, odorless, clean, safe and durable. **AGENTS MAKE BIG MONEY** in revolutionizing lighting everywhere. Needed in every home. Every lamp guaranteed. Sells itself. Our Sunbeam Burners fit other lamps. Ask our nearest office how you can get a lamp free or apply for Agency Proposition. **THE MANTLE LAMP CO. of America, Desk 438** Chicago, Portland, Ore.; Waterbury, Conn.; Winnipeg, Montreal, Canada.

TRAPPER, HUNTER, SEND US YOUR FURS!
WE POSITIVELY give you MORE MONEY than any other House. With New York, Canadian and European Buyers and Manufacturers coming to us, our own connections in London, Leipzig, Paris, Berlin, and Russia, located in our own buildings in a small town, with expenses moderate, WE OUT-DO EVERY COMPETITOR. Deal with the Fur-Gatherers Friends, Est. 40 years. Send for Price-List. RUSH YOUR SHIPMENTS TO US. The demand is strong. **WEIL BROS. & CO.,** Ft. Wayne, Ind. CAPITAL \$500,000 PAID. "AMERICA'S GREATEST FUR HOUSE"

WANTED—FURS and HIDES.
We pay you the price on our list. No more. No less! Write for price list and tags. H. M. PETZOLD, 1033 S. Claremont Ave., Chicago, Ill.

POULTRY AND BEES

MARKETING EGGS TO BEST ADVANTAGE.

Since not only the newspapers but prominent magazines are taking up that serious problem, the cost of living, and since it is recognized that the poultry yard and dairy furnish the necessities—now considered the luxuries—of life, it is well worth considering seriously the best methods of handling eggs, both for ourselves and for the consumer.

Never have prices been persistently higher. The working man in the city who once found a dish of toast and eggs one of the cheapest and most nourishing of the restaurant fares, now finds it has moved up with meat and is too high-priced for him to consider. He is forced to take a substitute as much cheaper in amount of nutrition as in retail price.

The effect of this exorbitant price on the working classes will react sooner or later to the deterioration of the race. No one can work well when physically starved, and the prohibitory prices of what were once acknowledged as the necessities of life are bound to work serious havoc with our industrial classes.

However, while we get good prices for our eggs, the consumer is forced to pay a very much greater one. We are accustomed to hearing that "the farmer feeds them all," and while he is ever willing and prepared to do this, it is not just fair for the middleman to grab the larger share of the profits. Despite the high price of grain, the farmer will still furnish the city with eggs, providing he is allowed to do it on terms in the least fair. In fact, he has more than done this, if we are to believe the statement that there are now many thousand dozen of eggs held in storage. Evidently it is the corporations, and not the hens or their owners, who are responsible for the abnormal increase, the farmers' prices have clambered up 40 or 50 per cent from the 11@15c per dozen which was the average price a decade ago.

There is no necessity for rural products to thus fill the coffers of speculators. There are plenty of methods for marketing eggs without the assistance of grafters. Many farmers have friends in the city who would be glad to handle a crate of eggs for the sake of having fresh ones assured for family use. Many a family which now uses very few would use them freely if obtained at a reasonable figure.

Interdependence of acquaintances is not always advisable, however. It is always better, when possible, to make exchanges on a strictly business basis. Suppose you write to your city friend and tell him what you can furnish the fresh product for in quantity, naming a price a few cents above local prices, yet considerably below the retail ones in the city. Guarantee your product, and then make the goods fully worthy of the guarantee.

We have been too shy of this independence of speculators thru fear of breakage in transportation. But with modern methods of packing there is little trouble, and one within a few hours of the city need have no apprehension. A regular shipping day once a week will prove a mutual advantage to yourself and to consumers, and will prove an incentive toward better care of the poultry as the increase in profits is noted. But, above all, accentuate your right to be in the market by superiority of goods. Sell only fresh eggs of at least fair size. Cull out the small ones, those that have been chilled, or any of doubtful quality. Stamp name and date on every egg, and be willing to take the credit.

BESSIE L. PUTNAM.

TO PREVENT EGG EATING.

A subscriber from Deford, Mich., asks what he shall do to prevent egg eating. It can be prevented by having the nests in the darkest part of the poultry house where the hens are not likely to frequent them except when desiring to lay; also by taking precautions to keep the hens busy during daylight hours; it is also necessary that their ration contain certain food elements which can best be supplied in the form of meat scrap or green cut bone. It is undoubtedly the lack of such food that creates the craving, and if by accident they learn that eggs supply something that seems to be lacking in the ration, the habit is quickly formed. Once contracted it is a difficult matter to break them of it. If it is possible to pick out the egg eaters it is a good plan to remove them from the flock, giving them quar-

ters where they can have plenty of exercise. The changed conditions and a system of feeding which keeps them hungry and scratching for food will often prove sufficient to break up the habit. If not, try doctoring some eggs with cayenne pepper or with some nauseous concoction, keeping them well supplied with these. Meanwhile the main flock must be closely watched to see that no others develop the habit. Clean up the nests and remove any eggs that are accidentally broken as promptly as possible. If the table scraps which may form a part of the ration contain egg shells they should be finely crushed before being given to the hens.

A LIVING FROM POULTRY.

The latter part of November I visited a poultry establishment in the village of Coshocton, Steuben Co., N. Y., and found the owner doing a paying business, with 413 White Leghorns, old and young, on hand. The main poultry house is 16x80 ft., comprising five pens, each about 16 ft. square. Each of these accommodates 50 laying hens. The building is a well built one, having novelty siding outside and matched hemlock inside, with an air space of four inches between. It is covered with a good quality of prepared roofing and under the roof is a loft containing a foot or more of straw which rests upon slats. This is intended to absorb moisture from the room and to give it up on fair days when the small gable door at each end of the building is opened. There is one window of fair size in each apartment, but the owner declares that the light is insufficient. The foundation and floor are of concrete.

The perches are arranged over a drop-pings board, under which are the nests, elevated about a foot from the floor. The hens enter the nests from the back, while the eggs are removed from the nests from the front. This leaves the floor space free as scratch room. Part of one side is occupied by a little trough containing, in form of dry feed, the following mixture: 200 lbs. wheat bran, 100 lbs. corn meal, 100 lbs. chopped oats, 100 lbs. wheat middlings, and 25 lbs. linseed meal. Beef scrap is also kept before them, as well as crushed oyster shells, grit and charcoal. The hens receive no moist feed. Each morning they have whole grain scattered in the litter consisting of wheat, oats, and buckwheat. In summer they have wheat at night, and in winter corn. For green feed, in winter, they receive cabbage, and beets after the cabbage is fed up. In summer, they have lawn clippings. This would indicate that they do not run at large in summer. The lawn is kept in as good shape as any village lawn.

Beginning Oct. 1, 1907, the income from 250 hens for one year was \$526.60, and the outlay for grain, etc., was \$225.32, leaving \$301.28 as the net gain. From Jan. 1, 1909, to Dec. 1, 1909, the total income was \$554 from the same number of hens. The owner was receiving eggs at the time of my visit, mainly from early pullets, and the last case of eggs shipped sold for 55 cents a dozen. They are shipped to the New York market as strictly fresh all white eggs and bring 3 to 5 cents per dozen in advance of quotations.

Two of the apartments produce eggs for hatching in their season. One hundred hens are thus employed, and six cockerels. One male is placed with each fifty hens one day. At night they are removed and replaced by fresh ones on each of the two succeeding days, so that the cockerels return to the hens each third day. Thus they have service one day and rest two. Very good results come from this method.

This man is obtaining a living from his poultry, and, with everything nicely arranged as he has it, the work is not unpleasant. Of course, it is confining and exacting, but there is abundant leisure at any time of year and none of the work is heavy. Anyone having a small capital of strength would find the work suitable.

New York. CLARKE M. DRAKE.

FREE TO FARMERS.

By special arrangement, Ratekin's big 1910 seed catalogue, with a sample of "Diamond Joe's Big White" seed corn that made 153 bushels per acre, will be mailed free to every reader of this paper who is interested in the crop he grows. This big book tells how to make the farm and garden pay. It's worth dollars to all who plant or sow. Write for it and mention this paper. The address is Ratekin's Seed House, Shenandoah, Iowa.



Lice and Parasites Cost \$175,000,000 a Year

according to the report of the United States Department of Agriculture. What the death loss is, due to poisonous germs of disease, can hardly be estimated.

The cry everywhere is clean up, disinfect, destroy all forms of parasites.

Dr. Hess Dip and Disinfectant

Deodorizes, purifies the air, kills all forms of disease germs in barns, hog pens, cow stables, chicken yards, sinks, drains, etc., simply by sprinkling it everywhere. One gallon diluted makes from 70 to 100 gallons. It also kills lice, mites, sheep ticks, fleas, also sheep scab, mange, eczema and other parasitic skin diseases. Meets the United States Government requirements for official dipping for sheep scab. If your dealer can't supply you, we will. Write for circular.

DR. HESS & CLARK
Ashland, Ohio.



WRITE YOUR NAME ON A POSTAL

and get this big book on Poultry Raising, free, post-paid. It tells how successful poultrymen feed, breed, rear, hatch and house. Full of valuable hints and helps you'll be pleased to know. **80 PAGES** Practical Poultry Raising Experiences. Secrets of others' success. Plans for Poultry Houses—how to make a first-class brooder out of a piano box. Describes the 1910 Sand Tray Prairie State Incubators. **Prairie State Incubator Co.** 413 Main St., Homer City, Pa.

125 Egg Incubator and Brooder Both \$10
If ordered together we send both for \$10. Freight paid east of Rockford. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. **Wisconsin Incubator Co.,** Box 111, Racine, Wis.

LARGE, VIGOROUS BARRED PLYMOUTH ROCKS. White and Silver Wyandottes, Rhode Island Reds, Rose and Single Comb Brown Leghorns, S. C. White and Buff Leghorns, African Geese, Muscovy Ducks, Buff & Black Turkeys, White & Pearl Guinea \$2 per pair. E. J. HASKINS, Pittsford, Mich.

Buff Rock Cockerels Good size, color, healthy, farm raised. Price from \$1.50 up. **WILLIS S. MEADE,** Holly, Mich. R. No. 3.

Thorobred Choice Barred Rock Cockerels for sale \$2, each \$3.50 a pair. **C. S. LAYTON,** R. D. No. 3, Ypsilanti, Michigan.

LIGHT BRAHMA, White Wyandotte and L. Barred Plymouth Rock Cockerels for sale, good stock. E. D. BISHOP, Route 38, Lake Odessa, Mich.

PRIZE-WINNING BIRDS 1909-10 Detroit, Ft. Huron, S. C. B. Leghorn Cockerels, 50 good laying hens. Eggs for hatching. **CHAS. W. RUFF,** Dept. M. F., St. Clair, Mich.

HURRY!—You will have to hurry if you want any of these: S. C. Brown Leghorn Cockerels, Only about 25 left now. Egg orders looked for spring delivery. **LEWIS T. OFFENLANDER,** successor to FRED MOTT, Lansing, Mich.

R. C. B. I. Reds for sale. Cockerels \$2 to \$5, pullets \$1 to \$3, 5 pullets and one cockerel \$10. All good stock. Eggs in season. B. A. Fraser, Dept. M. F. Fountain Farm, Rosebush, Mich.

BUFF & White Orpingtons, S. C. Bk. & R. C. W. Minorcas, W. C. B. Polish, Houdans, B. Rocks, S. C. W. Leghorns, Buff Orpington Ducks & Japanese Bantam eggs \$1.50 per setting. H. H. KING, Willis, Mich.

WHITE WYANDOTTE cockerels \$2.50, \$3, \$3.50, from heavy layers and State Fair prize winners. **A. FRANKLIN SMITH,** Ann Arbor, Mich.

DOGS.

TRAINED FOX HOUNDS and Hound Pups for hunting fox and coons. Also Cockerels. Inquire 2-cent stamp. **W. E. LECKY,** Holmesville, Ohio.

Collie Puppies sable with white markings thirty to-day for prices. **W. J. ROSS,** Rochester, Mich.

FOR SALE—Bred in the Purple, two fine female Collie Puppies, at farmers' prices, also a few Buff Cochins Bantams \$1 each, single comb Brown and White Leghorn Cockerels; fine pair of Homing Pigeons \$2. **Faverdale Collie Kennels, Schoolcraft, Mich.**

NEXT WINTER'S LAYERS.

Experience has shown that early hatched pullets make the best winter layers, but in order to bring the heavier breeds to maturity before cold weather sets in the chicks must be hatched very early. Last spring I hatched some Plymouth Rocks late in April, hoping that by crowding them along I would have them laying in December; but, altho they received good care thruout the season, I have not yet—the middle of January—had an egg from them. White Leghorns hatched about the same time have been laying since December. This year I shall start the incubators early in February with Plymouth Rock and Buff Orpington eggs, leaving the hatches of Leghorns until later, thus giving time for all to mature.

March weather is usually quite changeable, with some quite cold days, so the early-hatched chicks must be housed and cared for carefully. As there is usually difficulty in getting broody hens so early in the season, the chicks may be raised successfully in brooders, as is being demonstrated by many, but it requires experience. The beginner must expect some disappointments. Many of the leading makes of incubators and brooders are as near self-regulating as it is possible to make them, but all require intelligent handling.

Ucleanliness is responsible for much loss of brooder chicks. Cleaning up regularly every day should be the rule. Even strong young chicks are very susceptible to disease, and if filth is allowed to accumulate on the brooder floor for even a few days, it is sure to cause trouble. The air is made impure, the floor damp, and very likely some filth will be picked up with food and taken into the chick's stomach. Sand or dry earth spread on the floor keeps it dry, makes cleaning easy, and the chicks like to scratch in it. Instead of throwing feed on the floor, shallow troughs should be used, and all food not eaten in fifteen minutes should be removed, except when mixed grain is kept before the chicks all the time. There should be ample floor space provided outside the brooder for the chicks to run about; they will be much healthier than if cooped up in the brooder all day. Keep the room comfortably warm and have the floor covered with short straw or leaves in which some small grain may be scattered to encourage scratching.

Chicks intended for layers require different treatment from those that are to be marketed. The latter must be forced to marketable size as quickly as possible, therefore they must be fed heavily. I feed all chicks alike the first three weeks, giving corn and bran bread at the start, gradually changing to a prepared chick feed composed of mixed grains. Thereafter chicks destined for the laying pen are given a separate run where they have a wide range and can get plenty of green food. They are fed three times a day, grain, mash and meat scraps being used. I do not stick to any hard and fast rule in making up the rations of these pullets, but aim to give them a great variety in quantity sufficient to keep them growing steadily.

Whether the egg basket is full next winter will be determined largely by how well we do our part during the next few months. Not only must the chicks be hatched early but they must be looked after carefully, especially during the first few weeks. Feeding must be done intelligently, and cleanliness should be the watchword in houses, coops and yards. Keep the chicks growing and healthy. Give them room for exercise. Don't force them, neither allow anything to check their progress. By next December they should be well matured and ready to repay us for our season's work.

Ohio. N. S. GREEN.

FOUL BROOD, AND THE BEE-KEEPER'S DUTY REGARDING IT.

Destructive in the extreme, and so contagious that only the most careful of bee-keepers can handle it without spreading contagion to other colonies, foul brood is indeed a disease to be dreaded. Yet strange to say, hundreds, yes thousands, of bee-keepers have had it in their yards and never knew it. Their bees have died, but they thought it was only because of spring dwindling or from the severe winter, and so they bot more and put them on the disease-laden combs, only to lose them again. Finally they became discouraged and gave up the business, leaving their old combs to be robbed out by their neighbors' bees. So the disease has been spread from apiary to apiary, and

finally from one state to another, until today it may be found in almost, if not quite, every state in the Union.

As the contagion is carried in the honey these same bee-keepers, ignorant of the fact that they have the disease, are spreading contagion wherever they sell honey. As it does not hurt the honey for human consumption no one is the wiser, altho many are the losers.

Then some fail to take care of the disease when they know of it, because of the heavy expense of buying new hives and foundation. The consequences are they lose what they already have and many times cause their neighbors to lose also.

There are two distinct forms of foul brood, American, and black or European foul brood. Of these the American is usually considered much the worse. Either is a serious menace to the prosperity of the apiarist and proceedings should immediately be started toward their eradication, for each day it is left makes the cure more expensive and difficult.

Some Diagnosis Tests and Methods of Treatment.

The symptoms or signs are, of course, the first thing to learn. On examination, of the affected brood, irregular perforations will be seen in the cappings, and if the disease is very far advanced a disagreeable smell emanates from the hive, described by some writers as a glue-pot smell, which perhaps describes it as nearly as possible.

Do not mistake the regular perforations in the cappings, which will be round and smooth in comparison to the ragged, irregular cappings of the diseased brood. In case of disease some of the brood fails to hatch and upon examination the larvae will be found lying on one side of the cell. The color of the larvae will vary, all the way from a light coffee color to dark brown, according to the stage of the disease, etc. In the first stage it has been described as the color of coffee greatly diluted with milk, which is a very good comparison.

Take a toothpick and run it into the larvae. Then withdraw it slowly and the mass will adhere to the pick about like spittle, stretching out in a thin ropy string to the length of a quarter to a whole inch. This ropiness is the sure test for American foul brood, as no other disease of the brood has this characteristic. European foul brood will sometimes rope an eighth of an inch or less.

The McEvoy treatment is considered the best treatment for this disease, and it is also a safe cure for European foul brood. Snake the diseased bees onto frames containing only foundation starters, and leave them on these frames four days. During this time they will use up the honey they carried with them into the hive, in comb building, and another shaking, also onto comb foundation, will make the cure complete.

Mr. McEvoy does not consider it necessary to disinfect the hive body which he uses to shake the bees back into. Others think it necessary to disinfect or burn these bodies out before using them again. Personally I never disinfect them unless I find them smeared with honey or with the excretions from the bees, in which case I clean them thoroly and put them thru a solution of naphthol beta, made by dissolving the crystals in wood alcohol and mixing with water, one ounce being sufficient to mix with 12 to 15 gallons of water. Lesser amounts of the solution are made in the same proportion. Carbolic acid will also make a good disinfectant but should not be used too freely where bees are desired to work, as they object to the smell.

A Much Cheaper Plan, and, in my estimation, fully as safe, is to treat the colonies during the early dandelion or apple blossom flow, or when the honey is coming in very small quantities. Simply shake them once onto foundation. The flow will be so light they will be obliged to use up what they have in comb building. This will save the one set of foundation starts.

Some advocate the starvation plan to save the one set of starts. That is, they fasten the bees in the hive after shaking on foundation and keep them there till they begin to fall from the combs from starvation, when they are given their liberty. In my experience, however, this plan has been far from satisfactory, for the bees so confined are weak and discouraged and, in many instances, they flee to the woods as soon as they are liberated. Again, I have had colonies so treated which, at the end of the first day's confinement, were half dead, when three days is usually considered as short a time as it is safe to give them in confinement.

(Concluded next week).

WHEN you buy a pair of rubber boots you expect to get something that will keep your feet dry and warm; but that isn't all.



You expect good, long service; durability as well as comfort. You'll get more of it than usual if you buy

Selz "Irrigation"

rubber boot; it's made of the best materials known; more crude rubber than usual; and fortified where the wear comes.

If your dealer doesn't sell Selz "Irrigation," write to us.

My New Fairfield Incubator

Will give you the largest hatches and healthiest chicks. It's the "World's Best Hatcher."

That's what my customers call it. Their experience has proven it to be all that for them and you too. Now isn't that the kind of incubator you want in your poultry business? Just let me send you a Fairfield to try for two full hatches free in your own home. I guarantee it to give you bigger hatches and better chicks than any other incubator made, or your money back and I will pay the freight. You can't beat this offer anywhere. You can't beat the Fairfield Incubators and Brooders at any price. Let me prove it to you at my risk. Write for catalog and special free trial offer today.

Sam Thompson

No Incubator on the Market Like Mine. The Fairfield is made out of California Redwood, Copper Steam and water patented heating system. Perfect regulator. Best lamp in any incubator made. Large roomy nursery and egg chamber. Double doors. Unobstructed top. In every way as good an incubator as you can buy at any price. Our direct-to-you-price saves you one-third to one-half. Write for new catalog and special offer today. Address

Sam Thompson, Pres., Nebraska Incubator Co., 524 Main Street, Fairfield, Nebraska.

Don't Kill The Hen That Lays The Golden Egg
By setting her to hatching chicks. You can't afford it. Keep your hens busy laying and let the Fairfield Incubator and Brooder hatch and raise your chicks for you. They will do it a lot better, easier and cheaper. The Fairfield never leaves the nest in the middle of the hatch like your hens and some inferior incubators do. It's the world's best hatcher—my customers say so. Let me prove it to you at my risk.

I Want You To Try My Incubator Two Hatches FREE

Try the Fairfield first before you buy any other style or make. You can do it if you wish for two hatches free at my risk, in your own home with the money in your own pocket. It's the safest way to test our Incubator. The sure way to get what you want.

Write Today For Catalog and FREE TRIAL PROPOSITION—Don't Buy Until You Get It.

Victor Incubators and Brooders

Quality tells in the hatches. Right principles, right materials, right building, right ventilation, right regulation, means more chicks and greater profit. Victor quality costs but little more and the difference on one or two hatches more than pays it. Write us first. Our book "About Incubators" will be sent free. It has important information for incubator buyers.

GEO. ERTEL CO., 194 Kentucky St., Quincy, Ill.

.90% Hatches

from the Cyphers—in every country and climate—for old-timers and beginners. For you: **CYPHERS INCUBATORS** and Brooders are non-moisture, self-regulating, self-ventilating. Write for 160-page Catalog. Address Nearest City.

Cyphers Incubator Co., Department 35, Buffalo, N. Y.; New York City; Chicago, Ill.; Boston, Mass.; Kansas City, Mo.; Oakland, Cal.

Send Us a Postal for Our Price

Just your name and address on a postal brings book and low price on

Racine Incubators and Brooders

guaranteed to hatch highest percent of eggs, liberal trial plan, all improvements worth having. Best incubator proposition ever offered. Write today.

RACINE HATCHER COMPANY
Box 54, Racine, Wis.

SHOEMAKER'S BOOK OR POULTRY

and Almanac for 1910 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c. C. C. SHOEMAKER, Box 694, Freeport, Ill.

Know My Incubator—Know My PLAN.

My plan is so liberal that you will enjoy dealing with me, and my "QUEEN" incubator is such a good, substantial money maker for your farm that you and I will both be more than satisfied to become poultry friends.

I Pay the Freight.

Just drop me a line, so I can explain my proposition and let you see pictures and letters of my farm friends who use "QUEEN" Incubators. Please do it to-day. I am still including one of my handy Poultry Record Books with my Catalog. It enables you to keep exact figures on hatching and to know how much you are making. I want you to know these facts when you try out a "QUEEN" because it will prove conclusively that you are getting all the poultry profit that can be made.

Pick out from my catalog the size you want and I will just fix you up to your entire satisfaction—make you a low price, a long time guarantee and allow you an extended trial. Write me to-day or you may forget it.

Wickstrum, The Queen Incubator Man, Box 22, Lincoln, Neb.

THIS 120-EGG \$7.50 SAFE HATCHER

FREIGHT PREPAID

BIGGEST value of the year. Get new lot, delivered prices on all sizes of famous

Ideal

Incubators. Metal-covered all round, self-regulating and ventilating. Safest and surest. Delivered free east of Missouri River and north of Tennessee. Write for delivered prices to points beyond. Lowest prices on Brooders, too. Send for free book today.

J. W. MILLER CO., Box 300, FREEPORT, ILL.

The Michigan Farmer

ESTABLISHED 1843.

THE LAWRENCE PUBLISHING CO.,

EDITORS AND PROPRIETORS.

39 to 45 Congress Street West, Detroit, Michigan.

TELEPHONE MAIN 4525.

NEW YORK OFFICE—725 Temple Court Building.
CHICAGO OFFICE—1736 First Nat'l Bank Building.
CLEVELAND OFFICE—1611-1615 Oregon Ave., N. E.M. J. LAWRENCE President.
M. L. LAWRENCE Vice-President.
P. T. LAWRENCE Sec. Treas.I. R. WATERBURY Associate
O. E. YOUNG Editors.
B. T. WERMUTH Editors.

E. H. HOUGHTON Business Manager.

TERMS OF SUBSCRIPTION:

Five Years 260 Copies Postpaid \$2.00
Three Years 156 Copies, Postpaid,..... \$1.50
 One Year, 52 Copies, postpaid..... 75 cts.
 Six Months, 26 copies, postpaid..... 40 cts.
 Canadian subscriptions 50 cents a year extra for postage

Always send money by draft, postoffice money order, registered letter, or by express. We will not be responsible for money sent in letters. Address all communications to, and make all drafts, checks, and postoffice orders payable to, the Lawrence Publishing Co.

RATES OF ADVERTISING:

40 cents per line agate measurement, or \$5.60 per inch, each insertion, with a reasonable discount on orders amounting to \$20 or over. No adv't inserted for less than \$1.20 per insertion.
 No lottery, quack doctor or swindling advertisements inserted at any price.
 Entered as second class matter at the Detroit, Michigan, postoffice.

COPYRIGHT 1910

by the Lawrence Pub. Co. All persons are warned against reprinting any portion of the contents of this issue without our written permission.

WE GUARANTEE to stop THE MICHIGAN FARMER immediately upon expiration of time subscribed for, and we will pay all expenses for defending any suit, brought against any subscriber to The Michigan Farmer by the publisher of any farm paper, which has been sent after the time ordered has expired, providing due notice is sent to us, before suit is started.

Avoid further trouble, by refusing to subscribe for any farm paper which does not print, in each issue, a definite guarantee to stop on expiration of subscription.
 The Lawrence Pub. Co.,
 Detroit, Mich.

DETROIT, FEB. 12, 1910.

LEADING ARTICLES OF THE WEEK.

- The Business Side of Farming.—Dealing with a standard of operations, or fixing the cost price of farm products170
- Installing a Litter Carrier.—Describing and illustrating a practical, but unusual method of installing this convenience171
- Watering, Feeding and Conditioning Horses.—Methods of feeding and care which have given success with an experienced horseman173
- Plan of a Convenient Sheep Rack.—An illustrated and detailed description of a popular type of sheep rack.174
- Michigan Dairymen's Association.—A report of the proceedings of the 26th annual meeting held in Detroit last week178
- Winter Pruning.—Why the farmer should make good use of the warmer winter days by pruning his fruit trees186
- Marketing Eggs to Best Advantage.—Producers may increase their returns by marketing only such eggs as they are willing to guarantee182
- Foul Brood and the Bee-keeper's Duty Regarding It.—How to diagnose this disease and to prevent its spread.....183
- Lime-Sulphur, the Fruit Grower's Friend.—Shows how a slight change in the formula has made this spray cheaper, more convenient and just as efficient as the old mixture.....188
- Eat Plentifully and Well.—The second of a series of articles by Mrs. Littell in which she contends that the family should have all they want to eat.190
- A Wonderful Tree.—Interesting description of the cocoanut palm and the many useful products derived from it194
- The Cup and Saucer Tree.—Another of Grandmother's stories of pioneer days, thrilling and instructive to the young readers197

CURRENT COMMENT.

In our issue of January The New Oat 29, under the heading, "Graft." "A New Swindle," we commented on a get-rich-quick scheme which a correspondent living in North Central Michigan reported as being worked on the farmers of some of the northern counties of the state by southern Michigan operators.

The reader will remember that this scheme, as outlined by our correspondent, was to sell a new kind of oats, claimed to be a superior yielding variety, for four dollars per bushel, no one farmer being offered more than four bushels or enough to sow two acres, the parties furnishing the seed contracting to take all the oats grown and for sale at the "market price," and also further agreeing to give one standard grain binder, of any make preferred, to the farmer in the district getting the largest yield of this new variety of oats, the size of the district not being prescribed. Our correspondent had it figured out that in a "district" embracing 100 farmers who could be induced to go into the deal the promoters would make, after allowing the cost of the seed, cost of the binder to be given as a prize, freight and similar expenses, a net profit of \$1,105.00. Certainly this would be "easy money" to the promoters if the scheme could be successfully worked out as outlined by our correspondent.

Perhaps our correspondent may have been in error touching the practical details of this scheme. Perhaps some fertile brain that might have been better employed has improved upon it from the promoter's standpoint. Be that as it may, a Bay county correspondent has described to us a similar scheme which is being worked in that section of the state, and which, while apparently even more profitable to the promoters, has the advantage of requiring no cash investment on the part of the farmers who can be induced to go into it. This last mentioned correspondent has forwarded to The Farmer a blank contract, in which it appears that the promoting "Company" agrees with whomsoever may enter into the agreement with it to deliver to the party of the second part, on or before some date to be specified, four bushels of seed oats. In consideration thereof the contracting farmer agrees to sow the seed on two acres of fertile land, suitable for such crop and properly prepared therefor, harvest them when ripe, keep them separate from other oats to prevent mixing and deliver to the party of the first part, or its representative, one-half of the number of bushels of oats so raised, on or before a date to be specified, without further remuneration, excepting, that in consideration of the faithful performance of the contract, the first party agrees to form a district of not more than fifty farmers in a township, to which it will furnish seed under this contract, and further agrees after all contracts in said district are fulfilled, to give absolutely free to the farmer who raises the best crop from said seed, his choice of "The Standard Harvester Binder."

Now The Farmer knows nothing whatever about the merits of the variety of oats which are furnished. Let us grant, for the sake of argument, that they are all that may be claimed for them. The fact remains that under the terms of the contract as it reads in blank the farmer receives four bushels of oats and must return therefor one-half of all he grows on two acres of land. If he gets 40 bushels per acre, which would seem to be a moderate yield for a variety so highly recommended, he would be giving just ten bushels for one, which would make them figure a pretty big price per bushel. On the other hand, the promoters would receive, with the yield above indicated, 2,000 bu. of oats from the fifty farmers in a district, which would be worth about \$1,000 at present prices. This comfortable sum would be secured at a cost of 200 bu. of seed oats, and one "Standard Harvester Binder." (?) provided all contracts in the district are fulfilled.

It would seem that a little figuring would convince any farmer that it would be better for him to consult the advertising columns of his farm paper and buy some one of the improved varieties of seed oats that are there offered by reputable farmers or well known seedsmen, any of which can be secured at a cost which will not be ten times the market value of oats, nor anywhere near it.

Whether such a contract as is above described can be enforced is a matter of grave doubt. It is cleverly calculated to avoid litigation in that but four bushels of seed are offered to any farmer, and as the product of but one acre of land is involved it is a reasonable assumption that no farmer who would enter into it would fight its enforcement. While this point could be determined by a test case, the object of this article is to put our readers on their guard against smooth promoters who offer seed oats for which nothing is claimed in the contract, but which are highly recommended by word of mouth, under such terms as are out-

lined above, rather than to inspire those already "seen," to litigation.

The Live Stock Situation.

Some interesting figures are to be found in a report made public by the Bureau of Statistics of the United States Department of Agriculture relating to the number and value of farm animals on farms and ranges in the United States on Jan. 1 of the present year, with comparisons for the same date last year and averages for previous years. This estimate illuminates the live stock situation and has an important bearing upon the present agitation with regard to the high price of meats. This estimate shows that there has been a reduction in the number of cattle, other than milch cows of 2,100,000 head as compared with the same date last year, yet the advance in value of nearly \$2 per head raises the aggregate value of the beef cattle in the United States by nearly \$55,000,000. In the case of swine, the estimated reduction has been 6,365,000 head, but again the advance in value of more than \$2.50 per head has increased the aggregate value of swine in the country by nearly \$82,000,000. These figures also show that while there has been a slight increase in the number of sheep on farms and ranges since the same date last year, the increased value has been about proportionate with that of other classes of meat-producing live stock.

These figures become more interesting for our consideration when we review the statistics relating to the number of meat-producing animals upon the farms and ranges of the country in previous years. As noted in our editorial comment last week, there has been a gradual decline in the number of cattle, other than milch cows, maintained on the farms and ranges of the United States for some years, due to the breaking up of the great ranges and a consequently free marketing of range cattle. Referring to these statistics, we find that in 1907 there were estimated to be 51,565,731 meat-producing cattle upon farms and ranges of the country as compared with 47,279,000 on Jan. 1 of the present year, thus showing that there has not been an increase in the number of cattle maintained upon the farms of the country which would offset the reduced number of range cattle produced. As far back as 1901 there were over 45,500,000 cattle, other than milch cows, maintained upon the farms and ranges of the country, a number which was apparently in excess of the demand, since up to and including the year 1906 the average price per head gradually declined until within the period it dropped nearly \$3.00. For the five-year period previous to 1901 there was a marked falling off in the number of cattle maintained, with a total reduction of more than 7,000,000, and an increase in the average price per head of nearly \$11, a fact which was accountable for the increased number of cattle and the corresponding drop in the average price per head as noted above for the succeeding five years. Thus it will be seen that the average market price for meat-producing cattle has shown a natural increase as the available supply has been reduced in former years, or periods of years, which increase in price naturally stimulated production to an extent which increased the supply and caused marked declines.

The same argument will hold good with other live stock. Thus we find that in 1901 there were nearly 60,000,000 sheep upon the farms of the country and the average price was not as high as at present into something over \$1.00 per head, and a like relation between number and price will be noted for periods preceding that date. A like review of the statistics relating to the number and value of swine upon the farms of the country shows that during the last decade hog values have averaged high, with the production staying comparatively close around the number noted for the present year, and that high values have obtained for most of the period. However, whenever production has increased, as it did for the five-year period previous to 1908, there has been a corresponding reduction in values, the estimated total of hogs for 1908 being more than 8,000,000 greater than for the present year, while the average price per head was more than \$3.00 lower.

These statistics are quoted in substantiation of the argument advanced in our comment last week, that any agitation of the question which becomes sufficiently general to cause a drop in the farm value of live stock will only aggravate the situation, as permanent relief can only come thru increased production, and such agitation is not a reassuring factor for the

breeder or feeder who is planning for the future. However, as prophesied in these columns at the outset, such agitation as has occurred has not produced any marked effect upon the live stock market. The best grades of beef cattle have been most affected, but other departments of the trade have shown a quick reaction and promise well for the future.

HAPPENINGS OF THE WEEK.

Foreign.

King Gustave, of Sweden, was operated upon Monday for appendicitis from which he has been suffering for several days. The last bulletin stated that the operation was successful.

Last week the streams of France subsided to nearly their normal level but on Monday of this week heavy rains again swelled the tributaries and it is feared that another flood, similar to the one just over, may occur.

Ninety-eight per cent of the conductors and engineers of the National railways of Mexico voted to go on a strike when the roads failed to grant their demands. However, it now appears that strong influence is being brought to bear in such a manner as to make it probable that an amicable settlement might be made.

The British government is sending a fleet of vessels to the Mediterranean waters, the exact purpose of which is not published. The boats will make for Athens, Greece.

There will be two changes in the new British cabinet at least, due to the resignation of Vis-Count Wolverhampton and the transfer of Earl Carrington, president of the board of agriculture to the governor generalship of Canada. It is stated that a movement is on to amalgamate the admiralty and the war office in order to secure better co-ordination between the two services.

Turkey is prepared for war with Greece and her troops are now being given special training along the Greek frontier. Should the Greek national assembly accept the representatives from Crete, there is little doubt but a conflict between Greece and Turkey will take place. However, the powers are likely to interfere to prevent the representatives being recognized at Athens.

It is reported that an agreement has been reached between the German and American representatives on the tariff issue.

Former Vice-President Fairbanks has been with King Victor Emmanuel, of Italy, the past week.

The final result of the English elections gives the Liberals one more member in the new parliament than the Unionists, the number being 274 and 273 respectively.

Storms have ceased thruout Italy and the rivers are now rapidly subsiding.

National.

Sixty persons were entombed in a mine in Kentucky, on Feb. 1, by an explosion. Nineteen persons were taken out dead, and 10 were rescued alive. It is not known how many of the remaining men may be alive as there is no fire in the mine.

Fire practically wiped out the town of Marysville, a mining village 20 miles northwest of Helena, Montana, which has a record of mining \$50,000,000 of gold.

A schooner went ashore off the treacherous Hatteras coast last week and her entire crew of 10 men perished.

Because no one was on hand to furnish bail or pay the fines of girl shirtwaist strikers in Philadelphia, they were sent to prison to serve sentences.

Dr. James B. Angell, president emeritus of the University of Michigan, has been ordered south by his physician, and leaves for Florida this week.

The federal grand jury at Chicago is reported to have discovered startling revelations with regard to the methods of packers in handling meats. Ex-employees are the source of the testimony.

Sixty-eight bodies have been taken from a mine at Las Esperanzas, Mexico, where an explosion caused the greatest disaster in Mexican mining history. The explosion was caused by the ignition of gas from a miner's cigarette who was smoking contrary to rules.

The circuit judge of Van Buren county turned down the petition for a re-submission of the local option proposition at the spring election. The failure of petitioners to comply with the statute was the ground for the decision.

The rescuing of victims in the ill-fated mine at Cherry, Ill., is progressing very slowly, due to falling rock and excessive gases which have collected in the shafts and levels.

Frank P. Glazier, ex-treasurer of Michigan, whose misuse of state funds brought him into the Ingham county circuit court, was sentenced to Jackson prison for a term of from five to ten years at hard labor, with a recommendation for the latter term, by Judge Weist, last Saturday.

Different organizations are organizing separate expositions to seek the south pole under American flags, and should the preparations be hastened, as is expected, all three will be on their way within a year.

Forty-six lives were saved thru the use of wireless communication on the Steamer Kentucky off the South Carolina coast last Friday. A boat went to the rescue and the captain and full crew were taken off the sinking ship.

The meteorites brot from Greenland by Commander Peary on his return from the North Pole, were sold in New York to the American museum of natural history for \$40,000.

The United States steel corporation has decided to do away with jobbers and sell its product direct to users. Large hardware houses will be built to carry out this plan.

A race war is on at Chattanooga, Tenn., where a contractor building a government dam appointed negro foremen over white laborers, the latter refusing to work under the arrangement. Three

FARMS AND FARM LANDS FOR SALE OR EXCHANGE

WEST MICH. FRUIT & STOCK FARMS
over 100 to select from. Write for price list.
Van Ness Bros., Newaygo Co., Fremont, Mich.

FOR SALE—137 acres, 2 houses, 2 barns,
three Orchards, 500 Sugar
Maples. A Harvey, R. F. D. 38, Maple Rapids, Mich.

FOR SALE—\$9,000 farm for \$6,000. South
Central Michigan. Must sell.
Address W. A. WHITEHEAD, Ionia, Michigan.

So E. Z. To Get a Nice FARM HOME
in the mild climate of Virginia. May we tell you how?
CASSELMAN & CO., Est. 20 years, Richmond, Va.

Chance to Get Partly Improved Stock Farm. Owner
sick. 200 acres \$4,800. R. G. STONEMAN, Ashley, Mich.

FRUIT GRAB AND STOCK FARM For
Sale in Oceana County. Write
C. W. MORGAN, Shelby, Michigan, for lists.

5000 Money-Making Farms
throughout 16 states. One acre to a thousand. \$500
to \$15000. Stock and tools included with many to
settle estates quickly. Ills. catalog "Guide No. 28"
free. We pay buyers' car fare. E. A. STROUT Co.,
Dept. 101, Union Bank Bldg., Pittsburg, Pa.

MICHIGAN FARMS—Fruit,
Grain and Stock Farms; big bargains; splendid climate,
water, roads and schools. Write for list No. 4.
BISHOP & BUCKLES, Hastings, Michigan.

SOUTHERN MICHIGAN FARMS. farm list.
Juo. D. Kay & Company, Charlotte, Eaton Co., Mich.

FOR SALE—Select corn and other lands in South
ern Michigan. Write now for list
The Ypsilanti Agency Co., Inc., Ypsilanti, Mich.

TEXAS! TEXAS! TEXAS!
If you wish to get any kind, or all kinds of infor-
mation, absolutely reliable, about Texas, every
phase of it, including detailed description of each
county, send for a copy of the "Texas Almanac and
State Industrial Guide" to The Dallas News, Dallas,
Tex. Price 30c a copy, postpaid, including late
map of Texas.

Michigan Farm for Sale—170 acres land, 200-
ton brick silo, bank barn
117x34, complete water system in barn, cement
floors, good house, mile from center of village 1800
inhabitants on two railroads, 47 miles from Detroit,
21 miles from Pontiac, 16 miles from Flint. Now
controls supply of milk to village at 14c. per gallon
at the farm. Fine lake on farm. Reasonable price.
Would consider sale of farm with or without stock
and tools with suitable payment down. Balance
long time at 5 percent. Address owner.
C. J. LANE, 1230 E. 55th St. Cleveland, Ohio
or G. J. SMITH, Holly, Michigan.

FLORIDA

MARION COUNTY COMMISSIONERS
have issued a beautiful
booklet of official conservative information for
Northern farmers. Diversified farming, stock
raising, trucking, citrus fruits; good roads, ideal
climate and fine markets reached by six rail-
roads. Address
Board Of County Commissioners, Ocala, Fla.

Irrigated Land

The Greatest Fruit and Alfalfa
Valley in America

is now open for settlement at Fort Stockton, Tex.
rich alluvial, natural flow of pure spring water ex-
ceeding 55,000,000 gallons per day for irrigation and
domestic use; water on land now; assured profits
of from \$100 to \$1,000 per acre; no drought; no crop
failures; finest all year round climate in the United
States; altitude 3,050 feet above sea level. Fort
Stockton is county seat of Pecos County and impor-
tant division point on the Kansas City, Mexico and
Orient Railway, now under construction; population
now 1,000; will soon be a city of from 10,000 to
15,000. Greater opportunities for homeseekers and
investors than were ever offered in the older ir-
rigated districts, where orchards are valued at from
\$2,000 to \$5,000 per acre. Choice locations open to
those who investigate now. Low rate excursions
First and Third Tuesdays of Each Month. You
cannot afford to buy land anywhere without seeing
Fort Stockton. For full information address

Fort Stockton Irrigated Lands Co.,
315 Fidelity Trust Bldg., Kansas City, MO.

Fertile Farms in Tennessee

\$5 to \$10 per acre

Fortunes are being made on fertile Tennes-
see farms. They raise big crops of Canta-
looupes, Cabbage, Tomatoes, String Beans,
Green Corn, etc., also Horses, Cattle, Sheep, Swine,
Poultry and Eggs. Write me at once for Free
Literature. I'll tell you how to get one of these
splendid farms for \$5 to \$10 per acre. Act quickly!
H. F. Smith, Trsf. Mgr., N. C. & St. L. Ry., Dept. F, Nashville, Tenn.

FOR INFORMATION AS TO LANDS IN

The Nation's Garden Spot—

THAT GREAT FRUIT and TRUCK
GROWING SECTION—

along the

Atlantic Coast Line RAILROAD

in Virginia, North and South Carolina,
Georgia, Alabama and Florida, write to

WILBUR McCOY,

Agricultural and Immigration Agent,
Atlantic Coast Line, - - Jacksonville, Fla.

hundred of the blacks armed themselves
with rifles and threatened to exterminate
the camp unless the white laborers obeyed
the order.

Major General Wood, of the United
States army, is undergoing treatment in
a Baltimore hospital.

Commencing February 15, rural letter
carriers will not be required to collect
loose coins from rural mail boxes. In
view of the extent to which the practice
of placing loose coins in boxes by rural
patrons has grown and the delay in the
delivery and collection of mail, and the
hardship imposed on rural carriers inci-
dent thereto, especially during cold or
stormy weather, the post office depart-
ment has promulgated the above regula-
tion. In order to aid the carrier, patrons
should enclose coins in an envelope,
wrap them securely in a piece of paper,
or deposit them in a coin-holding recep-
tacle, so they can be easily and quickly
taken from boxes, and when thus pre-
pared carriers will be required to take
up such coins and, where accompanied
by mail for dispatch, attach the requisite
stamps.

Secretary Ballinger announces that ap-
proximately 769,000 acres of land in Wy-
oming, Montana, and New Mexico are
now open for entry under the enlarged
homestead act.

CROP AND MARKET NOTES.

Kalkaska Co., Feb. 2.—Farming opera-
tions are very quiet in this locality; but
very little stock fattened in the winter.
So much snow that drawing out manure
is out of the question and getting up a
wood pile is a tedious job. Have not had
a warm enough spell to settle snow suffi-
ciently to pack good yet. Milch cows sell
at \$35@45; dressed beef 7c; dressed pork
9@10c; apples 75c per bu; potatoes 25c;
butter 25c per lb; eggs 28c doz; corn 70c
per bu; oats 50c; hay \$14.50@16.50 per
ton.

Eastern Oceana Co., Jan. 31.—Since the
morning of Dec. 6 the ground has been
covered with a good coat of snow and as
it came after 24 hours of rain the ground
has not been frozen at any time this
winter. For that reason wheat, rye and
grass, including alfalfa, are in excellent
condition up to the present time with
good prospects for the future, as the snow
is from 2 to 2½ ft. deep. Thru January
it has been quite windy and, as a conse-
quence, the north and south roads have
been badly drifted. The farmers have
kept the road open so that our rural
carrier has been able to make his trips
very regularly, only missing one or two
trips. Potatoes are being moved slowly
as the price is so low, only 25c, that
farmers are loth to sell. Wheat, \$1.10;
oats, 50c; rye, 72c; ear corn, 45c per
crate; apples, 25@50c; butter, 25c; eggs,
25c; beef, by the quarter, 6@7c; pork
out of market as the hogs were nearly
all sold in December.

Branch Co.—The usual January thaw
came on Jan. 1 this year but remained
only one day. Two other thaws of about
equal duration came during the month
but none of them destroyed the sleighing,
which has been with us since Dec. 25,
but the sledding has been poor in places
much of the time. Wheat well covered
with snow most of the month, but be-
neath the snow is a coat of ice and sleet
that can hardly be of benefit to the plant.
Less stock than usual being marketed
and there seems to be but a small sup-
ply left among the farmers. Lots of corn
still unhusked in the fields and much less
than usual in the cribs. Hay scarce and
high. The mill yards are full of logs,
but they are mostly the private property
of lumbermen who have bot tracts of
timber and cut and hauled the logs. Few
farmers seem to be getting out timber
for new buildings. Many farms changing
hands at prices above what have pre-
vailed in recent years.

Clinton Co., Feb. 5.—We are enjoying
the finest winter in years. The first
snow came Dec. 7 and we have not had
bare ground since, with nine weeks of
the very best of sleighing and an even
temperature. Wheat went into winter
in good shape and with the blanket of
snow we are expecting it to come out
looking well. Hay is high and very
scarce; dealers are paying \$13@14 for
No. 1 timothy, and do the baling. Good
horses are also very scarce and high.
\$175@225 being paid for good heavy horses
and the supply is not equal to the de-
mand. Notwithstanding the high price
of live hogs, \$8.25 per cwt., very few are
being wintered. Grain is very high; ear
corn, 40c; wheat, \$1.22; beans, \$2. Stock
is wintering well, but everything in the
way of feed will be cleaned up.

Gratiot Co., Jan. 27.—At this date we
report a relief from the steady cold which
has prevailed during the month. Two
days soft weather, with considerable rain
have made the sleighing thin but suffi-
cient is left for ordinary loads. This week
witnessed a good shipment of hogs and
sheep from southwest Gratiot. Hogs at
8¼c; lambs 7c; old sheep at 3c and up.
There seems to be few of the hog kind
in this locality. Beans are selling at
\$1.95, tho some are still expecting higher
prices. Oats 45c; butter 20@25c; eggs,
28c. Wheat has had a good protection
since early December.

Genesee Co., Jan. 31.—Snow still covers
the ground. Soil not deeply frozen un-
derneath. Sleighing continues since about
Thanksgiving, altho not always the best.
Business good and farm products high.
Agitation on high prices has not yet af-
fected the market perceptibly. Horses
remain high. An eastern buyer is here
buying Belgians. Few offered at less
than \$500 a pair, some higher. Milch cows
more plentiful. Dressed meats still com-
ing to market, showing farmers did not
dispose of all at the holidays. Market
quotations as follows: Wheat \$1.23; bar-
ley \$1.30; corn 68c; beans \$2.05; oats, 48c;
butter, 28@35c; eggs 30c; potatoes 35@
45c; dressed hogs \$10.25 cwt.; dressed
beef \$6.50@7.50; veal 11c; baled hay \$12@
13; loose hay \$13@14; baled straw, \$6.50.
New milch cows \$50@60; horses \$200 and
upward.

"The Blood is The Life"

Science has never gone beyond the above simple
statement of scripture. But it has illuminated that
statement and given it a meaning ever broadening
with the increasing breadth of knowledge. When
the blood is "bad" or impure it is not alone the
body which suffers through disease. The brain is
also clouded, the mind and judgement are effected,
and many an evil deed or impure thought may be
directly traced to the impurity of the blood.

**Foul, impure blood can be made pure by the
use of Dr. Pierce's Golden Medical Discovery.**

It enriches and purifies the blood thereby

**curing, pimples, blotches, eruptions and other cutaneous affec-
tions, as eczema, tetter, or salt-rheum, hives and other manifes-
tations of impure blood.**



In the cure of scrofulous swellings, enlarged glands, open eating
ulcers, or old sores, the "Golden Medical Discovery" has per-
formed the most marvelous cures. In cases of old sores, or open
eating ulcers, it is well to apply to the open sores Dr. Pierce's All-
Healing Salve, which possesses wonderful healing potency when
used as an application to the sores in conjunction with the use of
"Golden Medical Discovery" as a blood cleansing constitutional
treatment. If your druggist don't happen to have the "All-Heal-
ing Salve" in stock, you can easily procure it by inclosing fifty
cents in postage stamps to Dr. R.V. Pierce, 663 Main St., Buffalo,
N. Y., and it will come to you by return post. Most druggists
keep it as well as the "Golden Medical Discovery."

You can't afford to accept any medicine of *unknown composition* as a sub-
stitute for "Golden Medical Discovery," which is a medicine of *known com-
position*, having a complete list of ingredients in plain English on its bottle-
wrapper, the same being attested as correct under oath.

Dr. Pierce's Pleasant Pellets regulate and invigorate stomach, liver and bowels.



Let Us Tell You How to Select a Silo

It means a great deal to a farmer to
have the **RIGHT SILO**—it means the
difference between *big profits* or severe loss—
it means *Satisfaction* or *Disgust*. The purchase
should be made carefully, thoughtfully, *intelli-
gently*. Let us help you select. Let us tell you
what makes one silo good and another poor,
and what makes the time tested and proved
**Saginaw Silo the Best Silo—Because
Most Efficient and Most Durable.**

We have spent thousands of dollars and have put in years in study and experi-
ment in bringing it to its present state of supreme perfection.

There is no comparison and never can be between the Saginaw Silo and so-
called silos made by carpenters or cistern makers, who have no knowledge of the
conditions the silo must meet to give *long and satisfactory service*. And who would
not know how to meet such conditions if they *did* know them. Money comes too hard
to waste it on something entirely unsuited for the purpose—so investigate carefully
and decide cautiously. We will gladly help you.

Don't think of making up your mind until you have read our *Silo Book*. It will
open your eyes on the silo question, and will be of great help to you in deciding on
ANY silo. Better write for it now while you think of it. It's **FREE**.

When you write ask for our **SPECIAL PRICE** on the

Whirlwind Silo Filler

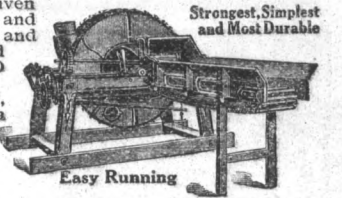
—the drive is direct on the big, heavy fly wheel, which acts as cutter, blower and shredder (where
required). Combined fly wheel, cutter and blower are driven
direct, not through gearing—**EASY RUNNING**. Mounted and
"down" machines same height—**NO DIGGING**. Simplest and
sturdiest cutter on the market—**NO REPAIRS**. Knives and
Shear Plate adjustable without taking anything apart—**NO
DELAYS**.

Ask for *Special Price* and full particulars on the finest,
easiest running and most durable cutter ever offered to a
farmer.

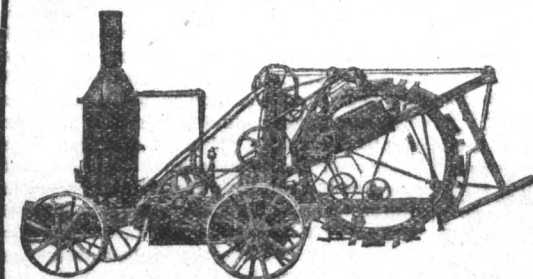
FARMERS HANDY WAGON CO.

Main Office and Factory: Station 64, Saginaw, Mich.
Branches: Lock Box 64, Des Moines, Iowa; Box 64, Minneapolis, Minn.

a wonderful machine—so framed
and braced that there is practi-
cally no vibration when running
Strongest, Simplest
and Most Durable



THE NEW BUCKEYE TRACTION DITCHER



This type expressly for
farm tile drainage. Cuts
to perfect grade at the
rate of 100 to 150 rods
per day.

Big money for anyone
desiring to do contract
work for the farmer.

Sold on five days' trial. Write us today for Drainage Catalog "F."

Address all inquiries "Sales Dept."

THE BUCKEYE TRACTION DITCHER COMPANY,
FINDLAY, OHIO.

When writing to Advertisers mention the Michigan Farmer.

FOOD FOR A YEAR

Meat.....	300 lbs.
Milk.....	240 qts.
Butter.....	100 lbs.
Eggs.....	27 doz.
Vegetables.....	500 lbs.

This represents a fair ration for a man for a year.

But some people eat and eat and grow thinner. This means a defective digestion and unsuitable food. A large size bottle of

Scott's Emulsion

equals in nourishing properties ten pounds of meat. Your Physician can tell you how it does it.

FOR SALE BY ALL DRUGGISTS

Send 10c., name of paper and this ad. for our beautiful Savings Bank and Child's Sketch-Book. Each bank contains a Good Luck Penny.

SCOTT & BOWNE, 409 Pearl St., New York

Peach Trees

Fine stocky, hardy, grown on the banks of Lake Erie; free of borers and all peach diseases. Everything of the best for Orchard, Vineyard, Lawn, Park, Street, Garden and Greenhouse. An immense stock of Superb Canas, the queen of summer flowering plants. Catalogue No. 1, 112 pages. Free to buyers of Fruit or Ornamental Trees and Shrubs. No. 2, 168 pages. Free to buyers of Seeds, Roses, Canas, Ferns, Ficus, Paeonies, Geraniums and Greenhouse and Bedding plants in general. Mail size postpaid. Safe arrival and satisfaction guaranteed. Direct deal will insure you the best at first cost, 66 years, 44 greenhouses, 1200 acres.

THE STORRS & HARRISON CO.
Box 202, PAINEVILLE, OHIO

GOOD SEEDS

BEST IN THE WORLD
PRICES BELOW ALL OTHERS

I give a lot of new sorts for trial with every order I fill. A Grand Big Catalog FREE illustrated with over 700 engravings of vegetables and flowers. Send yours and your neighbors' addresses.

R. H. SHUMWAY, Rockford, Illinois

Only 8 Lbs. Cob to the Bushel!

Men, here's Corn! It's nearer all Corn and no Cob than I ever saw before, and I've been in the agricultural game 25 years. Shells 62 lbs. from 70 lbs. of ears. Just look at it! Great, long, deep yellow grains; cob as small as pop corn. Large ear, well filled at butt and tip ends. Great corn for feeding!

"Scarff's New Cash" it's called. Fill up your cribs this year with the "corn that's all corn." It is the best in existence for fattening hogs and cattle. My grand Combination Catalog is ready and you are mighty welcome to it. Shows Seed Corn, Seed Potatoes, Oats, Small Fruit Plants and Orchard Trees in many varieties. Sample growing Fruit Plant, FREE. Write for it and my catalog Now.

W. N. SCARFF, New Carlisle, Ohio

Apples, Peaches, Pears, and Plums; Currants, Gooseberries and other small fruits; vegetables of all kinds—all yield better and more profitable returns each year if sprayed properly. Insects and fungi cannot exist on properly sprayed trees and plants. We'll prove to you as we have to hundreds of others, that when used right

Orchard Brand Tested Spray Mixtures Will More Than Double Your Fruit Crops

These products include Arsenate of Lead, Bordeaux Mixture and Bordeaux-Arsenate-Lead, Soluble Oil and Lime-Sulphur Solution; Bluestone and Sulphur. Ready to use by adding cold water. Our Booklet E is full of interesting spray facts. We'll send it on request. Write today.

Thomson Chemical Co.
Baltimore, Md.

ALFALFA All Northern Grown and guaranteed to be 99 per cent pure. Should produce hay at \$40.00 per acre annually. Write for Free Sample and instructions on growing.

GRAIN AND GRASS SEED Northern Grown and of strongest vitality. We invite you to get Government Tests on our samples. They will interest you.

SOY BEANS U. S. govt. tests show that the grain analyzes richer than linseed meal and the hay nearly as nutritious as Alfalfa; will grow on poor soil—and improve it. Well worth a fair trial. Write for Catalog No. 42

WING SEED CO., Box 342 MECHANICSBURG, OHIO

ALFALFA SEED \$16.00 per cwt. on board cars at Dietz, Wyo. Bank ref. given. TOM ROGERS, Pearl, Mont.

Alfalfa Highest Quality. Samples free. Write for prices. Vick's Garden and Floral Guide describing Quality Farm Seeds, free, James Vick's Sons, 438 Main St., Rochester, N. Y.

FREE—"How Fruit Crops Are Saved From Frost in Blooming Time." 56,000 used last year, saving millions of dollars worth of fruit. Write to-day. THE IDEAL ORCHARD HEATER COMPANY, Grand Junction, Colorado

HORTICULTURE

WINTER PRUNING.

Owing to the excessive snow and cold stormy weather we have done little pruning since the middle of December, but we are planning on a more active campaign in the tree tops soon. The peach trees and small apple trees will be left until the weather is warmer, but we will try to get the older apple trees, especially those that are in a rented orchard and have not been pruned, cleaned up in time to get them well sprayed with lime sulphur.

In the course of a two weeks trip thru our county attending a series of one-day institutes I have taken particular notice of the old orchards that have been carefully pruned and sprayed, and I can count them on my fingers. I do not mean to say that this is all there are in the county, but it is all I have seen on a trip thru eighteen townships of the county. This shows that the work of renovating old orchards is still in its infancy in this section. I further observed that the orchards that were well cared for were generally in groups, there being several in a locality under charge of one person, or a neighborhood had observed that one of their number had made a success of caring for his orchard and had followed the example of his neighbor because the neighbor had demonstrated that it had paid. This is only another proof that what the farmer needs to convince him that there is money in caring for his orchard is example and not precept. In almost every case the pioneer has been scoffed at and considered a visionary and crank until he has demonstrated that his theory is practical and will work out profitably; then the very ones who scoffed most will be ready to listen and profit by the example and teaching. From these facts it would seem that the policy recently adopted by the horticultural department of the experiment station of having a field agent to establish and look after experiments in various parts of the state is a desirable one. These experiments will be located where the neighboring farmers can see them and follow the results, and they will be much more forcible than they would if conducted at the College or sub-stations.

In several places we found orchards of considerable size, and in their prime as to age, that were yielding their owners practically nothing. One such orchard consisted of some three hundred trees about thirty years of age, mostly Spy, Baldwin, and Steele's Red. It was on a large farm in charge of a son whose father had died a few years ago, and the son stated that he had no time or disposition to care for the orchard. Any argument to the effect that the orchard could be made to yield a larger income than the rest of the farm fell on heedless ears. It will require some one with a little faith and a lot of energy to demonstrate to the owner the possibilities of the orchard; in other words, it should be leased to some one who will care for it and help solve the problem of insufficient food production.

To return to the question of winter pruning, I have seldom advocated it for neglected orchards without some one replying that he would not have his trees pruned in the winter if some one would do it for nothing. This style of argument is all very well for the specialist or the few farmers who will take the time to prune in the spring, but for the average farmer who will not work at the orchard when there is anything else pressing, it is ruinous to the orchard. It is very consoling to a class of orchard owners as it furnishes a good excuse for inactivity until it is too late to clean up the orchard this year, and the excuse will keep over until next year and serve the purpose beautifully again. If some writer wishes to discuss the infinitesimal damage that may result from pruning old apple trees in winter let him do it thru a fruit journal where the fellows who will prune anyway can read it, but not try to discourage the general farmer from cleaning up the old orchard when he has time to do it. Experiments conducted by Prof. Bailey, our highest horticultural authority, show that wounds made during every month in winter healed almost as readily as those made during the spring and summer months, and I can cite many orchardists who have habitually pruned in winter and their trees are healthy and are bringing the returns, which is what we are after.

I believe the tendency in pruning old neglected trees is to bring them down

lower than formerly, so the entire tree can be reached with the spray and to make picking easier and lessen the loss from drops. So many have the impression that since the best apples in a neglected orchard are found in the top of the tree, the tree should be trained upward. Suppose we cut off the tops of these trees. The best apples may still be in the top but the top is lower. The sunlight can now get to the lower parts of the tree instead of all being absorbed by what was the top. Now thin out the remaining portions so the light and air can simmer thru the entire tree, and as good apples can be grown near the ground as anywhere else. Of course, there are some orchards where there is no room for the trees to grow except upward. I have in mind such an orchard not far away where there is not space enough between the trees to get the brush down or set up a ladder, and spraying is entirely out of the question. If three-fourths of these trees were removed the trees would still be too close if they had the proper spread. This orchard is now dying from the outside with the scale. I say from the outside, for it seems to be so thick that the scale can not penetrate to its center. But laying joking aside, it is absolutely impossible for trees that are crowded in this way to do anything, and to save any of them we must sacrifice some of them for the good of others. The man who sets out to clean up an old orchard must do so with a determination to carry out the ideal in his mind no matter what the sacrifice may be. He must not spare the ax and spoil the orchard. One tree with plenty of room will do better than two or three crowded ones, and be less than one-half the care; and reasoning from the same basis, a tree well thinned out so the light and air can penetrate it and all parts of its framework can be sprayed is worth more than two or three that are too thick to bear except on the outside, and too dense to spray with effect.

Calhoun Co. S. B. HARTMAN.

THE ART OF TRANSPLANTING.

In setting out fruit trees and transplanting in the garden, one ounce of intelligent observation will prove more valuable than a ton of theoretical literature. The nurseryman and gardener will transplant thousands of plants and cuttings without the loss of a single specimen, while the average farmer will so bungle the work that after purchasing the best fruit trees that have excellent root systems he does well if he succeeds in making one-half of the trees reach maturity. The successful market gardener will transplant acres of vegetable plants with the loss of scarcely a single plant.

It is a simple truth that an experienced fruit grower or gardener will make a willow stake grow in a place where the average man cannot successfully transplant a willow tree.

It is the same with blackberries and raspberries; few things are as tenacious of life as these plants, yet how many farmers succeed in making them grow?

Why is it that a mere cutting or a willow stake should be more successful in the hands of an experienced person than a well rooted tree in the hands of a bungler? The answer is that the tree is simply a vessel full of water and in order to be kept in such condition it must have an adequate supply of water. When the water goes out faster than the supply comes in, the tree dies.

The gardener grows his plants under glass and starts his cuttings in the same manner to prevent evaporation until such a time as they develop root systems that will provide water for the portion above ground.

This requires but a comparatively short time and when he transplants he takes off a portion of the vegetable leaves to balance the amount of the root system that is destroyed by resetting in order that the water lost thru the tops will not exceed the water supply from below. We may safely say that whenever a tree or plant dies, it is the fault of the planter, unless it is practically dead when it is operated on.

Many times when a tree is half dead and has but scarcely any roots, a judicious system of pruning and packing of the roots around the tree would save it.

How much to prune plants and trees will depend upon the locality, soil, climate and other conditions and the intelligence of the planter. In a dry climate where the trees are exposed to the hot or drying winds or a hot sun the top of the tree must be thinned out to meet the short supply of water or the undue evaporation. If the tree has become partly dried

MENTION THE MICHIGAN FARMER when writing to advertisers.

IS THE POTATO A PAYING CROP?

The man who has good potato ground should be happy. Potatoes are unquestionably one of the most profitable crops that the farmer can grow. Improved potato machinery has made great profits possible. Chief among potato planters is the Evans, manufactured by The American Seeding-Machine Co., Incorporated, Springfield, Ohio. This machine opens the furrow, plants and covers the seed in the best possible manner—far more accurately than can be done by hand. It has adjustable pickers that will handle all sized seed. Where artificial fertilizers are to be used, an accurate fertilizer attachment can be furnished, which is guaranteed to sow any and all brands. The Evans Potato Planter will pay for itself in a single season where the acreage is sufficient. One man or boy can operate the Evans under all conditions of seeding. It is light draft, simple and strong. Send to the manufacturers for a copy of their Evans Potato Planter catalogue. If you want special information they will be pleased to answer your questions. After you have read this catalogue, go to your implement dealer and insist on seeing the Evans—the machine that must and will do all the manufacturers claim. Take no substitute. Get the Evans—the machine that "makes good."

Seeds Wanted

Clover Seed, Soy Beans, Michigan Favorite Cow Peas, Millet, Late Petoskey Potatoes.

Growers wanted for Soy and Cow Peas. EDW. E. EVANS, West Branch, Michigan.

FOR ALL KINDS OF
Grass Seeds
Clover and Field Seeds, ALSO A FULL LINE OF Garden Seeds & Implements. Write this old Reliable House. Catalog Free and Price List of Grass and Field Seeds mailed you on application.

THE HENRY PHILIPPS SEED & IMPLEMENT CO., TOLEDO, OHIO.

NEW SEED OATS—I have the genuine Regenerated Swedish Select Oats for sale. Soft straw, white berry and big yielder. My seed direct from Garton Seed Co. No better oats grown. Price \$1.00 per bu. Bags free with orders of 10 bu. or more. F. A. BYWATER, Memphis, Mich.

Regenerated Swedish Select Oats. This oat has no competitor. It is in a class by itself. My seed is perfect, never wet. CURED UNDER HAY CAPS. Write for samples and prices. COLON C. LILLIE, Coopersville, Mich.

800,000 Carolina Poplar 2 to 3 ft. \$12 per 1000. 3 to 4 ft. \$18. 4 to 5 ft. \$22. 6 to 8 ft. \$35. 10 to 15 ft. \$55. Box free. Fruit, Shade, Ornamental and Nut bearing trees of every description. Our catalog will save you money. Free to everybody. Sheerin's Wholesale Nurseries, Dansville, N. Y.

SEED CATALOG—Send us your name and address, and we will mail you free our new 1910 catalog of seed potatoes, seed oats, seed corn, alfalfa seed, in fact everything in seeds. MACE & MANSFIELD, Greenville, Ohio.

WHOLESALE PRICES On Strawberry, Raspberry, Blackberry, Currant and Grape Plants. 18th annual descriptive and illustrated wholesale and retail catalog FREE. A. R. WESTON & CO., R. D. 1, Bridgman, Mich.

Seed for Sale Swedish Select Oats, Pedigreed Manchuria and Oderbrucker Barley, Golden Glow Corn, Rural New Yorker and White Victor Potatoes. Clover and Timothy Seed. Write for prices. J. P. BONZELET, Eden, Wis., Fond du Lac Co.

APPLE TREES—50,000 fine, straight, healthy, stocky, well-rooted trees. Standard varieties. Free catalog. Prices reasonable. Freight prepaid. Salesmen Wanted. Write at once. MITCHELL'S NURSERY, Beverly, Ohio.

PEACH TREES 4 and 5c, orchard size, Elberta, etc. Kansas Raspberries, \$8 per 1000. Catalog free. Woburn Nurseries, W. A. ALLEN & SONS, Geneva, Ohio.

STRAWBERRY PLANTS at \$1 per 1000 and up. Catalog free. ALLEN BROS., Paw Paw, Mich.


"Strawberry Plants That Grow." All Standard varieties. Also Raspberry, Blackberry, Currant and Grape Plants and Asparagus Roots in Assortment. Warranted True-to-name, and of Grade represented. Catalog with Cultural Instructions Free. C. E. WHITTEN, Box 14, BRIDGMAN, MICHIGAN.

Peach Trees 3c, Cherry 12c and up. Apple, Pear, Plum, Quince, and all kinds of Trees and Berry Plants. Peach Blow Potatoes, B. P. R. Chickens and Eggs. Ct. Free. ERNST NURSERIES, Moscow, Ohio.

FRUIT TREES Michigan Grown are the best for Michigan Planters. Healthy, finely rooted. Direct to you at great Money-Saving Prices. Handsome 1910 Catalog and price list FREE. Write to-day. CELERY CITY NURSERIES, Kalamazoo, Mich.

5 Strong, Hardy Two-year-old GRAPEVINES 50 cts. Sent postpaid. Best varieties—red, white and black. We also offer Five Three-Year-Old Vines for \$1.00. Will bear year after planting. Our valuable book how to plant, cultivate and prune free with every order. Grapes are easily grown and should be in every garden. T. S. Hubbard Co., Grapevine Specialists, 362 Central Ave., Fredonia, N. Y. Established 42 Years.

Hardy Alfalfa



IN its bulletin on Alfalfa the U. S. Dept. of Agriculture says:—"In addition to the hay crop, Alfalfa at two years adds \$100 to the value of every acre on which it grows."


"There is no state in the Union in which Alfalfa cannot be successfully grown." Three or four cuttings may be made every season. Alfalfa is one of the finest and richest of all pasture and hay crops for cattle, sheep, hogs and all live stock. A very valuable clover; greatly enriches the soil and prepares it for other crops. All varieties, Montana Grown, Turkestan, Grimm and Dry Land Alfalfa are fully described and priced in our

26TH ANNUAL CATALOGUE

Considered the most informing and complete, as well as the handsomest, seed catalogue published in America. Every one of the 140 pages is filled with information valuable to the seed planter. Entirely free from exaggeration both in descriptions and illustrations. No farm or garden is so large or so small that this book will not assist to greater profits. It is expensive and we cannot distribute them indiscriminately, but we send it free to those who wish to buy seeds. Write for it today.

Northrup, King & Co., Seedsmen,
403 Bridge St., Minneapolis, Minn.

Quick-Bearing Trees Nursery to Orchard



Your orchard land doesn't do you much good till the trees come into bearing; how important, then, that you select such as will take right hold when you plant them and begin fruiting just as quickly as possible. That's the best feature of the many good features of

FRUIT TREES FROM NORTH-WESTERN NURSERIES

They are grown in a soil and climate just like yours. We save you time and money, reducing transportation charges and delivering the trees just when you want them. Write for copy of our free book, "How to Grow Fruit and Flowers."

Northwestern Nursery Co.,
Box 178 S., Boone, Iowa

GREGORY'S SEEDS

Guaranteed fresh and pure, and sold at a reasonable price. Try them this year.

Gregory's Improved Crosby Egyptian Beet the darkest and earliest beet ever introduced. A great favorite among market gardeners.

Gregory's Improved Danvers Carrot is a rich, dark orange in color, and a great favorite. The largest and best English houses are purchasing quantities of this seed from us.

Write for a copy of our beautiful new catalogue, the most valuable book for farmers and market gardeners ever given away.

J. H. Gregory & Son, Marblehead, Mass.

35 YEARS GROWING EVERGREENS



and Forest trees. Over 35 tested hardy varieties. All Nursery grown. We have over 50 millions and ship safely to all parts of the country. Our trees live and grow, because they have good roots. Large as well as small trees supplied. \$1.00 and up per thousand.

Our new catalogue is a mine of information. You can have a beautiful Windbreak, Hedge, Shelterbelt or Screen with the hardest of Evergreens at a very low cost. Our Bargain sheet describes 50 bargain lots from \$1.00 per 100 and up. Millions of Nursery grown Forest trees, Shrubs and Ornamentals, Shrubs, Roses and Vines. Send today for free Catalog and Bargain sheet.

D. HILL Evergreen Specialist
Box 230, Dundee, Illinois

HENDERSON'S SEEDS FREE

To get our new 1910 catalogue, "Everything for the Garden" (200 pages, 700 engravings devoted to vegetables and flowers), send us ten cents in stamps and mention this magazine, and we will send you free in addition, our famous 50c Henderson Collection of Flower and Vegetable Seeds, and will also send our new booklet, "Garden Guide and Record," a condensed, comprehensive booklet of cultural directions and general garden information.

PETER HENDERSON & CO.
35-37 Cortlandt Street New York City

SEEDS THAT GROW

Best quality Vegetable, Flower and Farm Seeds, Alfalfa, Clover, Seed Potatoes, etc. We will send free with catalog a packet of our New Coreless Tomato, the best of all tomatoes.

GERMAN NURSERIES & SEEDHOUSE
CARL SONDEREGGER, Prop.

Do not fail to try our beautiful Collection of Vegetable Seeds, the best 5 varieties on earth, postpaid for 40c. We also carry full line of Nursery stock.

German Nurseries,
Box 127, Beatrice, Neb.

Just Say "Saw your ad. in the Michigan Farmer" when writing advertisers

out before planting the wood must be thinned out to meet the short supply of moisture.

Here again the intelligence of the planter is made manifest. The inexperienced planter cuts all the branches back alike, while the experienced planter bears in mind that his purpose is to check evaporation.

He knows that the smaller, thin branches make the heaviest demands and that the vigorous ones are more sappy. He cuts out the smaller thin branches and leaves the more vigorous ones. He can give the tree a severe pruning without injuring its form.

The roots should be pruned so that they will contain no bruised roots and so that they will correspond with the size of the top.

The top and the roots should be evenly balanced. Many trees die because they have too many roots, that is, they form a thick mass that prevents the soil from packing around the stronger roots and the tree is unable to make moisture connections with the soil.

New York. W. MILTON KELLY.

TO THOSE WHO FAILED WITH SPRAYING.

We feel it an obligation upon ourselves to speak a word to those who failed with spraying this past season. Just now, with results before them and the time at hand to secure materials for the coming season the value of the application of chemicals to the trees is an important consideration. Those disappointed in the outcome from the venture should not be hasty in drawing conclusions. Spraying is a complicated procedure and many places are open for committing mistakes that will almost if not entirely nullify the use of the chemicals.

You may have secured a poor grade of lime, or Paris green that had been adulterated. These possibilities are as possible in purchasing chemicals for spraying as deceit in buying paint, a new kind of oats, a registered sire or in trading horses. The vendee must be there with his wits and with all the knowledge he can have of the subject he is purchasing. These poor materials will give poor results, even where all the operations have been perfectly performed.

A popular mistake in spraying is applying the wrong mixture. The writer has talked with men who have been discouraged with spraying. Upon inquiry it was found that arsenates were used for the control of the scab, or Bordeaux mixture for keeping down codlin moth. It is impossible for the sprays to do any benefit when they have been applied for purposes which they are not calculated to attain. So we would advise those who may be ready to give up spraying to inquire into the nature of the pest and the kind of mixture used. This might in itself reveal the whole fault.

Still another feature of the work is the manner in which the spray has been applied. This work is quite an art in itself. Not every person seems fitted to do it. One who cannot think when performing his labor should be sent to some other duty and confine the holding of the hose to that person or persons who can use his hands intelligently. One who is addicted to laziness or carelessness can easily apply the allotted amount of spray to a portion of the tree and leave the remainder to fight with the insects and other enemies unaided. Every part of the plant should be covered with a thin layer of the solution and unless this is done the disease can attach to the tree or leaves and do its damaging work. While this is essentially true in the application of arsenates, it is imperatively so in the use of Bordeaux for fungous diseases and lime and sulfur for the control of the scale. With the former mixture the insects travel about and are pretty apt to run into the poison if it has been at all well applied, but with the last two quite different conditions prevail. The fungous diseases can only be controlled by preventing their getting established on the plant. If the surface of the plant is covered with the mixture the fungus cannot get to the tissue without coming in contact with the chemical. So with the scale.

We bring this matter to the attention of the readers that they might understand that care must be taken in this operation. It cannot be done in a haphazard way; it must be done thoroughly. But spraying is not beyond the powers of any person who has natural ability to perform the common duties about the farm. A man who can operate a mowing machine,

a binder, make good hay, pack pork or manufacture a high grade of sauerkraut, can offer no excuse for not spraying with chances far in his favor if he uses the same grade of care as is necessary for the successful accomplishment of the things above referred to.

So coming to our first premise we would urge upon those who may have become discouraged with spraying from the season's work, to consider the conditions that prevailed. Learn if it was the inherent fault of the spray and if so there is good reason for "quitting," or, if the manner in which the work was performed or the quality of the materials used is to blame, then there would be no justification for giving up the practice. Good orchardists have proven beyond experimentation that the practice brings large dividends upon the cost and expense invested.

SOME REASONS FOR LOW-HEADED TREES.

An exposition touching upon the advantages of low-headed trees recently reached this office from the pen of Prof. R. S. Herrick, of the Colorado Agricultural College. While the matter was written for the growers of that state it has even a deeper significance to Michigan orchardists since here men are growing trees who had their orchard training during a period that high headed trees were advocated because it was easier to get about the orchard with a wagon and rack. He defends his position in the following words:

"By a high headed tree we mean one whose branches come out of the main trunk four or five feet above the ground, or, as the writer heard one man say, 'high enough so that you can get a horse close to the tree in cultivating.' By low headed trees we mean trees headed near the ground, depending somewhat upon the variety. Peaches in one of our best peach growing sections are headed practically at the ground, while apples are headed from 12 to 18 inches above. It is, of course, possible to allow the fruit bearing wood on what was at first a low headed tree to be several feet from the original head, but with proper pruning from the start this trouble can be easily overcome.

"An apple tree that is headed high is, in some respects for practical purposes, anything but high, for example, the chances are that such a tree will have the lower branches, at least, growing at almost right angles to the trunk, or in other words, in a horizontal position. When such a tree is bearing a heavy load of fruit, these limbs will bend down and are very likely to break unless props are used. The use of props in an orchard is at least a sign of very poor orchard management in the past, and should be avoided. It is possible to train the high headed tree so that the branches will have more of an upward growth, but it is a recognized fact that work done several feet from the ground is never as satisfactory as when done from a short ladder, or while standing on the ground.

"In a low headed, well trained, and pruned tree we have all the essentials for a profitable one, other things being right. We have a tree that is easily managed in regard to pruning, spraying, thinning, and picking. Good labor for doing these things is always at a premium, and it goes without saying that the amount of time it takes for such an orchard is less than for a high headed one. In the second place it is a well-known fact that low headed trees are far less subject to sun scald than high headed ones. And the third reason is that when orchard heaters are used the low headed trees receive more benefit than the high headed ones. Especially is this true when a strong, cold wind is blowing. The writer has seen a notable example of this in a peach orchard where orchard heaters were used. During the coldest nights there was a heavy, cold wind, the consequence of which was that scarcely any fruit was borne above the 4½ foot mark, and just a little above this point a thermometer was located which showed a temperature many degrees below the danger point. Below the 4½ foot mark there were plenty of peaches, in fact, some of them had to be thinned."

SEES PROMISING FUTURE FOR APPLES.

One of the most insidious evils confronting apple growers at the present time is the utterly neglected farm orchard that will exist from year to year and bear partial crops of scabby, half developed, worm

Thorburn's Seeds

Absolutely Reliable

Not like the Ordinary Kind.

CATALOGUE MAILED FREE.

Don't place your order until you have secured a copy. Our catalogue differs from other catalogues just as Our Seeds differ from other seeds.

Besides being an invaluable guide to the planter, it is a work of art. Write for it.

J. M. THORBURN & CO.
DEPT. M,
33 Barclay St., NEW YORK.
108 Years in Business in New York City

VICK'S RELIABLE ASTER SEED

FREE I would like every flower lover to give my Aster Seed a trial. There is no better. A packet of VICK'S LAVENDER BRANCHING free to all who apply. Also beautiful illustrated price list.

E. H. VICK, - Rochester, N. Y.

FARM SEEDS

Choicest varieties of Seed Oats, Wheat, Spring Rye, Speltz, Barley, Cane, Seed Corn, Dwarf Essex Rape, Clover Seed, Potatoes and all kinds of field, grass and garden seeds. Large illustrated catalog of great value to farmers free. Mention this paper.

Iowa Seed Co., Dept. 48, Des Moines, Iowa.

12 FRUIT TREES
Value \$1.90 for 98c

1 Roosevelt, 2 Lombard, 1 Bradshaw Plum, 1 Montmorency, 1 Windsor Cherry, 1 Niagara, 1 Elberta Peach, 1 Baldwin, 1 Dutchess Apple, 1 Orange Quince and 1 Bartlett Pear. All 12 trees first class, 4 feet high for 98 cts.

Send us a list of your wants for wholesale prices, freight paid. Write for free illustrated catalogue.

MALONEY BROS. & WELLS, Box 35, DANVILLE, N. Y.

SPRAYING FRUIT TREES



is no longer an experiment, but a necessity. Prevents wormy fruit by destroying all insect pests and fungous diseases. Every farmer, gardener, fruit or flower grower should write for our free catalogue, describing 21 styles of Spraying Outfits, and containing a full treatise on spraying fruit and vegetable crops, and much valuable information.

WM. STAHL SPRAYER CO., Box 108 Quincy, Ill.

SPRAY FRUITS AND FIELD CROPS

and do whitewashing in most efficient, economical, rapid way. Satisfaction guaranteed if you use

HAND OR POWER Auto-Sprays

No. 1, shown here, is fitted with Auto-Pop Nozzle—does work of 3 ordinary sprayers. Endorsed by Experiment Stations and 30,000 others. 40 styles, sizes and prices in our FREE BOOK—also valuable spraying guide. Write postal now.

THE E. C. BROWN COMPANY
39 Jay St., Rochester, N. Y.

"KANT-KLOG" SPRAYERS

Something New Gets twice the results with same labor and fluid. Flat or round, fine or coarse sprays from same nozzle. Ten styles. For trees, potatoes, gardens, whitewashing, etc. Agents Wanted. Booklet Free.

Rochester Spray Pump Co. 9 East Ave. Rochester, N. Y.

All Purses are open to Sprayed Fruit

Sprayed fruit in a market is a regular magnet for buyers. They demand it because they know it's perfect fruit—it sells for more, but they're glad to pay the difference. Get a

DEMING SPRAY PUMP

now, give the trees a chance and the result will make you a "spraying enthusiast." More than 20 styles—hand and power. Catalogue free. Pumps for all purposes. Leading dealers.

THE DEMING COMPANY, 754 Depot St., Salem, O.

The Berlin Quart Our Specialty

A WHITE package which insures highest prices for your fruit. Write for 1910 catalog showing our complete line, and secure your BASKETS, CRATES, ETC., at WINTER DISCOUNTS.

The BERLIN FRUIT BOX CO.,
Berlin Heights, Ohio.

infested apples to flood the markets during the fall and early winter. This inferior, cull stuff knocks the bottom out of the prices of superior quality fruit and lessens the demand for better grade fruit produced by the painstaking orchardists.

With windfalls, that no self-respecting farmer would make into cider for his own family use, being retailed to city consumers at thirty cents a peck and choice apples (a large proportion of the supply coming from 3,000 miles away), selling by the dozen for as much as the best oranges, the writer can see no immediate danger of commercial apple growing being overdone, if conducted along rational, common sense, business lines.

W. M. K.

LIME-SULPHUR, THE FRUIT GROWERS' FRIEND.

First used on sheep as a dip with success, then on account of its efficiency in controlling the ticks, the suckers of the sheep, it was tried on the fruit trees for the control of scale, the suckers of the sap. As a scale destroyer it was first tried in the west with success. The eastern authorities immediately claimed that it might do in the west but it would never do in the east. This disagreeable, caustic, vile smelling, bothersome mixture, however, killed the scale and is now, by far, the best remedy for that trouble.

The formulas at the start were crude and disagreeable to handle. They contained large amounts of lime and sulphur and also salt or blue vitriol. The boiling was crude and offensive and the mixture was applied hot. But now the lime sulphur is almost pleasant to handle.

The latest formula is 15 lbs. sulphur, 8 lbs. lime (fresh) and 50 gals. water. The lime and the sulphur can be boiled in about 8 gals. of water and you can boil as many 50 gal. lots at one time as your tank or kettle will conveniently hold 8 gals. For large lots a convenient formula would be to use as much water as you do lime, and twice as much sulphur. After boiling for an hour to an hour and a half the mixture can be strained into a barrel or tank and measured so as to get the proper amount for each 50 gal. barrel of diluted spray. Or, it can be diluted so that there will be 10 gals. for each 15 lbs. of sulphur used in the mixture. Then for spraying, 10 gals. of the concentrated mixture will be used for each 50 gals. of spray. This formula will keep for any length of time, provided it is kept from evaporation. If it is to be kept, it should be put into an air-tight barrel or if not air-tight, the top of the mixture should be covered with a coating of paraffine.

The new formula has great advantages over the old in that it does not crystallize when it gets cold and therefore can be applied cold to the trees. It can be boiled up at times when the weather is not suitable for spraying and will be ready, with proper dilution, for use at any time. It also requires less time and fuel in boiling because several lots can be boiled in the same kettle at the same time that one was boiled in before. It is easier to apply to the trees and not as hard on the pump.

Since this new formula has come into vogue, lime sulphur has made itself much more valuable to the fruit-growers because it does very good work as a summer fungicide, a substitute for the Bordeaux mixture. In view of the fact the Bordeaux mixture generally russets the fruit, thus depreciating its value, summer spraying of lime sulphur is especially welcome. It is less expensive, is just as effective against apple fungus troubles as the Bordeaux and does not russet the fruit. It has not been thoroly tested on other fruits yet. For summer spray it is diluted five times the winter strength or a convenient formula would be: 3 lbs. sulphur, 2 lbs. lime to 50 gals. of water. Enough can be boiled up in spring for both the scale and summer spraying if it is desired.

The lime sulphur as a fungicide should be used in place of Bordeaux and at the same times, which are: Just before the blossoms open, immediately after the blossoms drop, 10 days later and about August 1.

Results of tests at the South Haven Experiment Station this year show that it is safe to use the winter strength of lime sulphur just before the blossoms open. If so used it will do for both the scale and the first application as a fungicide. The summer strength is very effective against the newly born scale and will greatly help to keep the scale in check.

Poisons usually used with the Bordeaux can be used with lime-sulphur but the mixture should not be left to stand for

any length of time as the lime-sulphur has a deleterious effect, especially on the arsenate of lead if kept together for a long time. The length of time it takes to spray out a tank full of spray after being mixed is not long enough to cause any bad effect on the poison.

With the present usefulness and its increasing popularity, due to the eradication of its disagreeable qualities, and the bringing out of its good, lime-sulphur can be truly called the fruit grower's friend.

So. Haven Exp. Sta. F. A. WILKEN.

SOME POTATO NOTES.

As time goes on, and new experiences come to us we are more and more convinced that early blight of potatoes, at least, if not the late disease, is largely induced by soil rather than climatic conditions. And we believe that investigation along these lines will ere long place the trouble in the former rather than the latter cause. Be this as it may, I think the suggestion worthy of investigation and while under no conditions would I ignore spraying, I believe that, supplemented with liberal supplies of sulphur at planting time, it is far more efficacious. It seems pretty clear to me that experiments upon my own grounds, at least, bear out this statement, and an instance in point may prove helpful to some of our readers. Last spring I had several varieties under culture, and either most of them were practically immune to blight or else the sulphur treatment saved them.

My principal variety was Early Michigan, but in addition there were several new sorts as yet unnamed and one very old variety which will be mentioned later on. The culture was identical with all, as was the spraying which was started before many of them were up, and was continued thru the season. All varieties except Early Michigan were treated liberally with sulphur, but otherwise conditions were identical. This sort was attacked when in blossom and regardless of oft repeated sprayings was a total failure, not one-twentieth of a crop being realized. Other sorts standing side by side were very little affected and the suffering seriously from drouth made a fair crop.

The above results may and doubtless are not proof positive that my conclusions are correct, but to me they offer sufficient data that until otherwise enlightened I shall adhere strenuously to the practice of supplementing the spraying with liberal applications of sulphur at planting time.

Another argument in its favor, I do not recall finding a scabby tuber among the sorts treated thus and that fact is worth bearing in mind.

New Sorts.

Thru the courtesy of an originator who has sent out many valuable potatoes we got four or five kinds only the third year from the seed ball. Two late and two early sorts give promise of high value and while there was not opportunity of testing the latter as to extreme earliness or otherwise, we hope next season to be able to place them with other well known sorts and learn something as to their merits in this direction. As to form and quality, they appear to be fully up to the desired standard and if they prove quick growers as they now promise, we believe they will make valuable additions to the list of desirable sorts.

An Old Variety Reclaimed.

Years ago, I remember to have heard much and seen something of the Pink Eye potato. Doubtless some readers may recall the time when it was one of the leading sorts and deservedly ranked high both as to table and cropping qualities. We had supposed that it was a thing of the past and was extinct, as it long ago went out of general cultivation. It was the fortune of this same originator to get hold of a few tubers of the old potato some four or five year ago. They were scabby and unpromising, but he succeeded in getting a few good specimens by treating the seed. They were let out to a party to grow, but thru some chance he lost the crop, excepting a very few, and these were placed in the cellar two years ago last fall. Last spring the writer got hold of the remains of the box which had lain in the cellar for eighteen months and all that was left was a few little potatoes, grown out from the old ones, from the size of a pea to a robin's egg. I planted them and by much pains got quite a nice lot and to me, at least, they are of much interest and I hope will prove the means of reviving an old and highly valuable sort.

Wayne Co.

J. E. MORSE.

LARGE HAY CROPS

or for that matter any size crop are easily and perfectly handled with the Johnston Mower. You not only get more Mower quality with a Johnston, but you get more hay—for they "cut all the hay." The Johnston Mowers are made to cut any kind of grass—every kind, on either level or uneven ground. They are easy to operate, no side draft—thus easy on man and team.

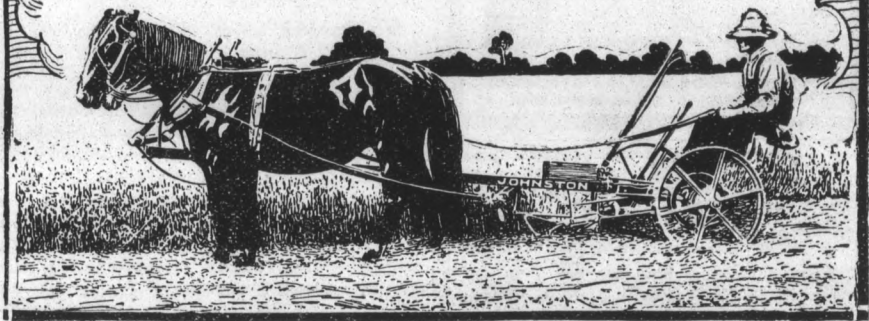
The Lever-Fold Mower enables the operator to lift the cutting-bar to a full or partially vertical position, and to lower again without leaving his seat, by the use of the foot or hand levers. Is thrown in or out of gear automatically or at will of the operator.

Other features: High, broad rimmed wheels; wide, light, yet strong main frame; dust-proof roller bearings; horizontal crank shaft; gearing, which is always in mesh, is back of main axle—gives balance. The fact is, space prevents giving all exclusive features, but you should send for our special Mower booklet and catalog.

We also make a one-horse Mower (No. 11) for small farms, orchards, lawns, and parks. Special booklet sent on request.

The name Johnston, remember, stands for independence—it has no trust or monopoly connections. "Be an independent farmer." Drop postal today for 1910 illustrated catalog. It's FREE.

THE JOHNSTON HARVESTER COMPANY
Box 105-M BATAVIA, NEW YORK



Planet Jr.



Planet Jr Farm and Garden Implements do more and better work, and last longer than any other farm implements made. They are fully guaranteed. Over 35 years' actual farming and manufacturing experience is put into every Planet Jr.

No. 6. The newest Planet Jr Combination Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow, opens the furrow, sows seed in drills or hills covers, rolls down, and marks out the next row—all at one operation. Also a perfect Wheel-Hoe, Cultivator and Plow.

Planet Jr 12-tooth Harrow, Cultivator and Pulverizer is a wonderful tool for berry-growers and market-gardeners. Works deep or shallow, without throwing earth on the plants, and pulverizes the soil thoroughly. Invaluable wherever fine close work is needed.

Write today for the 1910 illustrated Planet Jr catalogue. It is free.

S L Allen & Co Box 1107M Philada Pa

May's Perfect Pickling Onion

MINNESOTA GROWN—The best of all for Pickling purposes either for Market or Home use. The wide popularity of Onions grown from this seed is well proved by the largely increased sales with which we are favored year after year.

It grows rapidly, but remains small and is of the mildest possible flavor. The onion is white, slightly flattened and exceedingly handsome, making it valuable for bunching. Pkt., 10c, oz. 20c, 1/4 lb. 50c, lb. \$1.75.

Free Book—"NORTHERN GROWN SEEDS"

Plants, Bulbs, Fruits and Trees. Contains all the good things for the Garden and Farm worth growing at the right prices. Don't fail to secure the book. Write today.

L. L. MAY & CO., ST. PAUL, MINN.

Seeds That Grow!

If you want the Best it is possible to grow—such as you can rely upon to produce the Choicest Vegetables and Most Beautiful Flowers, you should try BURPEE'S SEEDS! We shall be pleased to mail you, upon application, Burpee's New Annual for 1910,—long known as "The Leading American Seed Catalog." The first edition is more than four hundred thousand copies, and yet it is too expensive a book of 178 pages to mail unsolicited except to our regular customers. With elegant colored plates and hundreds of illustrations from nature it tells plain truth and is a Safe Guide to success in the garden. Do you want a copy? If so, send your address to-day to

W. ATLEE BURPEE & CO.
Philadelphia, Pa.

RATEKIN'S 100 BU. OATS

Ratekin's Big Banner 100 Bushel White Oats—The biggest, prettiest, plumpest oat in existence. Side by side with common sorts they yield 100 bushels per acre where other sorts make but 25 to 35 bushels. Strong, stiff straw; sprangled heads; ripens early; never rusts, blights or lodges. There is none like them, and when our stock is exhausted there is no more to be had. Samples mailed free. Also our Big Illustrated Catalog of farm, field, grass and garden seeds. A postal card will bring them to your door. Address,

RATEKIN SEED HOUSE, SHENANDOAH, IOWA.

Get Wholesale Price on this Ball-Bearing Pitless Scale

A postal gets all facts to prove how much you need this scale on your place every day. Don't let them rob you on weights any longer. You'll save enough in one season to make this scale more than pay for itself. Our book shows how to

Save \$25 to \$50 Cash

right at the start. Tells about the ball-bearing feature, which gives freedom of movement and prevents binding and clogging. 60 days' free trial and full 10 years' guaranty. No pit to dig—no wood needed except for floor. Write to nearest address today for information and low, direct wholesale price.



INDIANA PITLESS SCALE CO.
Box 10, A New Castle, Ind.
Department 70, Kansas City, Mo., Station A.

WOMAN AND HER NEEDS

A LITTLE TALK ON HAPPINESS.

It is a long time since our childhood search for the pot of gold at the end of the rainbow. So long ago is that day that we smile now at the thought of it; smile pityingly, longingly, contemptuously or happily, according as the years have brought us happiness, sorrow or disillusion. Yet that day of actual search is gone forever, we have been all our lives on the search for a fleeing treasure, and that treasure is happiness.

Everyone is looking for happiness, and everyone is looking for it in a different way. The sordid capitalist is looking for it as he plans another way of wresting power and fortune from his rivals and making himself ruler of the world of trade. Happiness to him means power, and when he has gained power to some extent and is still unsatisfied, he plans to gain more power, thinking in this way to find the treasure he is seeking.

The miser looks for his happiness in the hoarding of gold; the politician seeks for his in fame and power; the artist seeks for it in his endeavors to paint a picture which shall be the greatest of his day, if not of all time; the actor and musician look for happiness in the plaudits of the people; the scholar searches for it in books, while the mass of folk who have no special ambitions look for it in the pleasures of life.

Many housekeepers look for their happiness in the possession of household treasures. To them happiness may mean the possession of a brass bed, a rosewood table, a Princess dresser, a Haviland dinner set, or a cut glass bowl. It means happiness to them because none of their neighbors have any of these things and the possession of them would put the fortunate woman at the head of her set. Or possibly it is because everyone else has these treasures that she wants them.

Whatever the reason it is probable that their possession is the more desirable because she can not afford them. It is an invariable trait of human nature that the thing we can't have is the only thing in the world that will make us happy, and when we get it, we find a fly in the ointment every time. I remember when I was a child I insisted once upon the biggest apple in the dish. My mother recommended a smaller one, but I insisted

and got the prize. The first bite went thru the thin shell of sound fruit into a decayed center. My sister who took a small apple ate even the core.

Most of us insist on the big apple, however, and we always find an unsatisfactory center. One bride insisted on the brass bed because her chum had one. Her friend had twice the money but the bride did not think of that. She got the brass bed and then hadn't money enough to buy a second bed. When friends came she had to make a shakedown on the floor. I believe I should have preferred two iron beds at \$2.98 each.

Those women are happiest who cut their garments according to their cloth. If you have married a poor man, and you knew he was poor when you married him, why make your life and his miserable by fretting for things which people in better circumstances have? Poverty isn't at all comfortable nor pleasant, but it is endurable if you make the best of it. It is the fretting that makes it ugly. The woman who takes life as it comes and doesn't bother about what she can't have is the most sensible and happy.

Such women get oceans of pleasure out of life without spending much money. If a friend comes unexpectedly they enjoy her and do not fuss about the food. They do not begin to wish audibly that Mary had come when strawberries were ripe, or in maple sugar season, or in summer when the house didn't need to be kept warm, or in winter when there was good sleighing. They think, and rightly, that the friend came to visit with the family and renew old times and not for what she would get to eat or the parties that would be given for her. So they extract all the pleasure they can from the visit, and do not fret because things are not different.

The constant habit of wishing for something we do not have is most destructive to happiness. A wiser writer than I has said that "a man's life consisteth not in the abundance of things which he possesseth," and no more does a woman's. A woman's life should consist in doing her duty willingly and cheerfully, in making the most of the little things which come to her hand. It is in this way that she will find contentment is only another name for happiness.

DEBORAH.

SIMPLE YET VALUABLE HOME REMEDIES.

BY PANSY VIOLA VINER.

Every mother should have in store efficacious home remedies to which she can have recourse at a moment's notice. Some of these remedies may be very simple and yet very valuable in their effect if used with knowledge.

In every family medicine chest there should be a bottle of camphor. Two or three drops of camphor on a chunk of sugar will often quiet paroxysms of coughing in children. A cold in the head can nearly always be broken up by inhaling the spirits of camphor. Pour it upon a sponge and hold to the nose, or else put a tablespoonful in a tin cup and pour boiling water over it and inhale the steam. Equal parts of borax, powdered camphor and salt, if snuffed up the nose, is an excellent remedy for catarrh or cold in the head, cleaning and clearing out the passages in a short time. The spirits of camphor combined with borax makes an excellent wash for inflamed eyes. Put one heaping teaspoonful of borax in a pan or bowl and one teaspoonful of spirits of camphor. Pour over all a pint of boiling water and stir together; the eyes should be bathed in this when comfortably warm, and it can be bottled for future use. If the eyes are badly inflamed saturate a cloth with it and lay over the eyes; the soreness will disappear. Then camphor has great value as an external application in bruises, sprains, muscular soreness and for scattering swellings.

A bottle of carroll oil should be kept in every home, since there is no better remedy for burns. To prepare it, mix equal parts of linseed oil—sweet or olive oil can be used instead—and lime water. Bottle and shake well before using. A burn should be dressed with this morning and night. Pour the oil on a piece of lint or old linen and apply to the burn, then bandage securely. Crude petroleum

is another simple remedy; it is especially efficacious in relieving pain of various kinds when applied externally. It is of great value for swellings of all sorts, inflammation, bruises and such like. Let stand exposed to the air for a short time before applying. Saturate a cloth with the oil and apply or rub the painful spot with it, then cover with absorbent cotton and oil silk. This will prevent it from staining the linen.

Kerosene is excellent for rubbing the chest and throat to relieve congestion, and is improved by the addition of a little camphor, turpentine, olive or sweet oil. After rubbing well into the congested parts cover with a hot flannel cloth.

One will find many uses for spirits of turpentine. A half teaspoonful blended with a teaspoonful of lard and rubbed upon a child's throat, breast or abdomen will act as a strong counter-irritant in croup, colds and bowel troubles.

Olive oil is a valuable remedy in the home. It is excellent to build up the system, especially if there are scrofulous or tubercular tendencies. It can be taken in its purity or is excellent if combined with lemon juice and honey, using about the juice of two lemons and a tablespoonful of honey to each ounce of the oil. Shake thoroughly before taking. It is not only a nourishing medicine, but one that will help to clear the blood and help the stomach. Olive oil is excellent in cases of threatened appendicitis, also in chronic cases of this disease, and is often prescribed by doctors for this purpose. Emaciated persons can be rubbed with olive oil; the abdomen and the soles of the feet will absorb it more readily than the rest of the body. It often proves acceptable where the skin is dry from fever. Use only the purest olive oil for medicinal purposes.

Glycerine is indispensable as an application to the skin, especially in cold weather when the skin is apt to become chapped; a few drops of the spirits of

camphor to each teaspoonful of glycerine will add to its beneficial effects on the skin with a little water. A tablespoonful of glycerine added to a cup of hot milk will cure the most severe paroxysms of coughing.

Carbolic acid is such a very excellent remedy for all fresh wounds and cuts that we do not like to omit it from our list of valuable home remedies, yet there have been so many serious accidents thru its careless use that we can only mention it with a warning. Always remember that carbolic acid is a deadly poison, so always keep it out of reach of children and in a place by itself so there may be no mistake made by hurriedly snatching up a bottle which resembles some other you want. Keep it in a distinctive bottle and tie a small bell around the neck as a warning, when lifted, to stop and think before using it. One or two drops, pure, put on a poisoned wound, will burn it without pain. For all fresh wounds use it diluted, one teaspoonful of acid to a cupful of water thoroughly stirred. Keep the wounds covered with cloths constantly wet with this.

The lemon has many medicinal qualities. There is said to be no better remedy for persons who are troubled with biliousness and liver complaints than lemon juice. It is also a good remedy for sick headaches. In such cases it should be used with sugar. Lemon juice and sugar mixed very thick is a good remedy for coughs and sore throats. Lemon juice is a good germ killer, and a little put in the water when traveling on trains is a protection. It is also an excellent wash for the mouth, and a slice of lemon rubbed over the face after being out in the dusty streets will kill any disease germs that may have lodged there.

ST. VALENTINE'S DAY—ITS ORIGIN AND CELEBRATION.

When you open your mail on the fourteenth of February you may be annoyed by receiving an ugly picture with a so-called humorous verse beneath. Or perhaps you will be more fortunate and receive instead a really artistic card with hearts and cupids galore. If you are a girl with a bashful lover, you may be happy enough to receive a proposal by mail, as on this day in the year faint-hearted lovers are bidden to hope.

Whatever you receive you will undoubtedly say: "Sure enough, this is St. Valentine's Day." And then perhaps you will wonder why a "Saint's" day is celebrated only by sending sentimental notes or annoying valentines. Degeneracy of the times I suppose would be the answer.

St. Valentine's day, like Christmas, was originally a heathen festival. The early Christian churches, finding it impossible to stamp out these celebrations, adopted them, gave them a new name and a religious significance and handed them on down thru the ages to us of the twentieth century. The day was first celebrated by the church by having the people draw slips on which were the names of saints, the saint drawn being the patron saint of the person for a year. The custom was modified gradually by the substitution of names of adored ones, until the day came to be looked upon as the proper time to choose a mate instead of a patron saint.

Pre-eminently the day for children and youth, they make the most of it. In many schools the children make, or buy, valentines for one another and the closing hour is devoted to a little talk about the distribution of the valentines.

A merry Valentine party depended on the old idea of a cobweb party for the chief fun. The strings were arranged so that two of the party would end their search together, thus pairing the company. At ends of the strings were valentines, one for each girl and each boy. The hostess, who knew where each string ended, started the searchers and tried to see that each damsel secured the swain she most desired. The couples who met at the end of the search were partners for the rest of the evening.

Of course the place cards were heart-shaped, and there were candy hearts with sentimental mottoes. Heart-shaped cakes were served with the ices and even the sandwiches were cut heart-shaped.

For a part of the merry-making every boy had to write a proposal in rhyme and every girl had to write an acceptance or refusal, also in verse. The best versifiers received heart-shaped boxes of candy, while the poorest were awarded heart-shaped cookies, which had been broken into two pieces and fastened together with frosting.

SHORT CUTS TO HOUSEKEEPING.

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

In turning meat balls, try using your pancake turner. You can slip it under two at a time, and work more quickly than with a knife.—M. E. L., Romulus.

To save time in ironing my sheets I fold them crosswise and iron the upper half only. The lower half is never seen and is made smooth enough by the pressure it gets when the upper half is ironed.—Mrs. B., Ithaca.

When you fill your salt and pepper shakers try filling them by means of the funnel. You can insert the end in the shakers and fill them in one-fourth the time it takes to use a spoon, and without spilling the condiments.—Mrs. W. A., Okemos.

When I make toast and wish to soften the hard crust I take my rolling pin and run over the slices with just enough pressure to crush the crust. This does not take nearly as much time as pounding them with a knife handle.—Mrs. S. J. W., New Lothrop.

How many housekeepers always make French seams in sewing? I always that I must finish my seams that way until a friend showed me a better way. It is simply to put your smallest hemmer on the sewing machine and run all your seams thru it. Or, if you have been in the habit of felling every seam try my new way. You finish your seams neatly and withdraw edges and only take one stitching. If you have never learned to use the attachments of your machine take the time at once to master them. Their right use will shorten perceptibly the time you have been giving to sewing.—W. A. L., Lennon.

Try using glass bottles tightly stoppered for your spices. Then all you need to do is to open the door of the cupboard and look at them and you see at a glance just which one you want. I formerly used tin cans with the names on the outside but the cans were always getting turned with the names out of sight, so I put my spices into some baby-food bottles I had. Any bottles would do.—B. E. D., Corunna.

THE NEW HATS ARE BECOMING.

With the snow white on the fields and the state in the grasp of a hard winter, it seems almost like a joke to begin to talk of summer styles. But those busy individuals who devote their time to thinking up new and queer combinations for women's wear, have been busy for weeks deciding our fate for next summer, and already they are gradually beginning to tell us a little about what we may wear if we wish to be "correct."

Hats are the first consideration, probably because Easter comes early and from time out of memory the new Easter bonnet has been considered a necessity. Advance notes indicate that we are to have really becoming hats once more, instead of the peachbasket and mushroom monstrosities of the past season. The crowns are smaller, and the brims, instead of being a continuation of the crown and resting on the ears, are rolled up jauntily, some in front, some at the side, and some behind.

Leghorn and maline are in high favor, and as womankind is extremely fond of these two materials it would seem that this summer we are to like our hats. There are also many pretty fancy straw braids, and stunning toques and turbans all of flowers and foliage. Speaking of flowers, small ones are preferred to the larger varieties.

For wear from now until Easter, some of the stores are showing smart little turbans of jet and braid. They roll up from the fact and will be a welcome change from the awkward things that have been seen all winter, and which almost conceal the pretty, girlish faces beneath.

EAT PLENTIFULLY AND WELL. No. 2.

BY MRS. ALTA L. LITTELL.

We all know that food is essential to the preservation of health and life, but do we ever stop to think of its manifold uses? We eat when we get hungry because if we do not, we get weak and faint and are unable to work. Thus we see that one of the uses of food is to furnish energy, or working power to the body. We know, too, that we must eat in order to keep the body in repair and in order to grow. And if you recall the comfortable glow you feel after a square meal you will see that food furnishes heat for the body. The three uses of food, then, are to give the body energy, to build it up and to furnish heat. The cook who wishes to do her work thoroly and at the same time with the least expense, must know what foods are best suited to these three ends.

Experts have figured out just how much food, how many calories they say, is necessary to enable a man to do a day's work of ten hours. This amount they set at 62 ounces, or 3,500 calories. But I do not believe the housekeeper should ever confine herself to furnishing just sufficient food to keep her family going. Such a regimen may do very well for exploring parties who can not carry provisions in large quantities, or perhaps in the army and navy, but in the home I am a firm believer in giving the family all they want to eat, and trusting to the common sense of the individuals not to overload the stomach. Of course, this does not hold true of young children who must be carefully watched, but adults can usually be trusted to eat no more than they need. I hold with a doctor who, in a recent magazine article, attacked the principle of light eating advocated by so many faddists, and advised his readers to eat all they could digest properly. As a proof of his assertion he pointed to the lavishness of nature in every other way, the quantity of blossoms that are formed and the many that never mature into fruit, was one illustration. Nature provides more blossoms than she needs and then picks out the best for her finished product. So with eating; furnish nature plenty of material, and leave her to select the best and reject the rest, was his theory.

So I am an enemy of the fad so popular with some, of going without breakfast. Perhaps some can omit the morning meal and keep healthy, but the average person who works is better for three meals a day. And extremely nervous persons are better to eat five times a day instead of three. Of course, these meals would be smaller than if they lived on only three. I know several women who were thin and anaemic on three meals and who became fairly healthy and strong when they changed their way of eating, and had a light lunch in the middle of the morning and afternoon. So it would seem that the housewife's concern should not be to find out how little food she can serve to her family and still keep them going, but to find out what is the best quality of food to serve.

On this latter question of quality too much can not be said. If one wants fine stock, he feeds them the best of food he can obtain. So if we want fine human stock, we must feed the best possible diet. This does not mean fancy dishes, rich pastries, and fruit out of season, which last one writer calls a fad of the vulgar rich, but it means plain, nutritious and easily digested foods, foods rich in those elements which are best to furnish heat, energy and tissues for the body. On this subject I am a faddist of the most extreme type. I firmly believe that if we ate only those foods which are best for us and ate in digestible quantities we would have less need for medicines. An engine which is properly cared for has little need for the repair man. So that human machine, the body, will have little need for the repair man, the doctor, if we give it the right food with which to repair itself, and are watchful of other things, fresh air, bathing and plenty of good water to drink.

I have been frequently criticised for being overcareful in the diet of my children, but I feel repaid for my overcarefulness. When my children go to bed at 7 o'clock every night I know I am thru with them for the night. I am not up every night or so doctoring fits of indigestion or "worms," as are so many mothers whose children "can eat everything." They sleep the sleep of the just and well-fed, and the rest of the family are allowed to sleep in peace.

And the children never feel that they are being stinted as to food. They get

plenty of good bread and butter, beef or mutton in small quantities, eggs, custards, milk and cereals, with a little candy once in a week, and then never more than a couple of pieces. Oranges, apples and peaches and pears in season they enjoy. But pies, fried cakes, greasy gravies, tea, coffee, pancakes and kindred abominations are ruled off their bill of fare. Of course, it makes me more work during the day to cook them an extra dish, but I have my reward in two healthy youngsters who have not seen a sick day all winter.

(Mrs. Littell will gladly answer any question pertaining to foods and dieting.—Eds.)

HOME QUERIES EXCHANGE.

L. F., Caro:—When your sacred Chinese lily has ceased to bloom let it stand unwatered until the green tops dry up. Then remove these tops, take the bulb out of the earth and keep in a dry, dark place until time for potting next season.

Mrs. J. E. S., Rives Junction:—Varnishing the case of your organ will not injure the sound. The varnish should be warmed slightly by setting the vessel containing it in a dish of hot water. Do not place it over the fire. Put on as thinly as possible and rub well when dry; then another thin coat and another rubbing with a soft cloth. The rubbing gives the fine polish.

Dear Editor:—Can you tell me why bread, when taken from the oven should not be covered with a cloth the way our grandmothers used to do?—J. L.

You may cover the bread while it is cooling if you want a soft crust. If you want a crisp crust stand the loaves on end and leave uncovered. Bread should never be wrapped in cloth when it is put away as it takes odors from the cloth. Put it in air-tight tins or crocks.

Dear Editor:—Will some writer of The Farmer please tell me what to do for hams that have not taken salt as fast as they should and have become tainted just enough to damage them? Or isn't there anything that can take it out?—A. H., Laingsburg.

Dear Editor:—Will some one please tell me thru the columns of the Michigan Farmer how to make oatmeal cookies? Can they be made without eggs?—Mrs. G. S., South Branch.

Dear Editor:—I read about the new home-made fireless cooker that Ebenezer's Wife described, and think it is a fine idea, but I do not quite understand how she made it, as I never saw one. Will this lady please let me know what pans she uses in this box and if they have air tight covers? How long would it require to cook beans or meat in this way?—Mrs. H. S., Park Lake.

Dear Editor:—In the Home Queries column I saw a receipt for making sweet milk cheese. I would like to know how much rennet to use to a gallon of milk, and where to get the rennet. I have tried to get it at the butchers and also of the druggist, but could not get it.—Mrs. A. T., Elwell.

Dear Editor:—Can anyone offer any suggestions for new games and charades?—H. L. O., Vassar.

AN IMPORTANT QUESTION.

BY E. E. R.

Whether or not they are able to attain it, the most of women who keep house admire an abode which is free from dust and dirt and where order rules. A few there are, perchance more than that number, who apparently are indifferent, while occasionally there is one who plainly does not care, who makes but the faintest attempt to preserve the maxim that order is heaven's first law and that cleanliness is next of kin to godliness.

Yet to keep the home with its six, eight or ten rooms in the desired condition means work, and that abundantly. To accomplish this where there is plenty of help is not difficult. Where the whole devolves upon one woman it means that everything else must go and all the energies be bent to that single object. It means that she must forego the things she would like to do outside the home. The pleasure of the social world are not for her. Reading likewise must go, for when the endless round of duties is concluded she is too tired to enjoy book or magazine. The immaculate home, under such conditions, is possible only with the loss of much else that renders life worth while. Why is it not better to choose a middle course which shall leave time for something besides the scrubbing, the sweeping, the dusting and washing windows, and at the same time preserve a condition in the home which serves all purposes, hygienic and otherwise?

Better far that something should go undone than that the wife and mother be



Decorate Your Walls at Small Cost



We will send you free of cost, a complete color plan for the walls of your home. We will furnish free stencils to help you make your home beautiful.

Alabastine The Sanitary Wall Coating

comes in all sorts of rich, soft shades of color that enable you to decorate your walls in the same style as the handsome city houses.

Alabastine is a powder made from pure native alabaster, you mix it with clear cold water and apply it with a flat wall brush. Simple directions printed on every package. Anyone can do it. Then when you want to redecorate, just put the new coat over the old.

That saves a lot of work, trouble and money.

People do not like kalsomine, as all kalsomine is mixed with glue to make it stick. The glue rots and the kalsomine comes off—on your clothes and on the floor. Alabastine adheres to the wall of its own cementing qualities. It requires no dirty glue, nor paste, as with kalsomine or wall paper. These always attract insects and disease germs.



Our Free Offer

Send us the coupon (or a postal card) and we will mail you a copy of our FREE book about home decoration, and tell you about our offer of free color plans, and free stencils to help you make your home cheerful, clean and beautiful.

Alabastine Co.,
73 Grandville Ave.,
Grand Rapids,
Mich.

Mail This Coupon Today

Alabastine Company,
73 Grandville Ave., Grand Rapids, Mich.

At no cost to me, please send your Alabastine book and tell me about your free offers.

Name.....

P. O.

County.....

State.....

THE BEST BECAUSE OF SUPERIOR CONSTRUCTION

NEW HOME SEWING MACHINE

Cheapness in price is evidence of INFERIOR quality and poor service. The NEW HOME is built upon honor, in a manner to insure PERFECT SERVICE for a life-time. Have you seen our latest achievement in COMBINATION WOODWORK?



See our No. 1018 Automatic Lift Drop Head

NEW HOME SEWING MACHINE

NO OTHER LIKE IT. NO OTHER AS GOOD. Buy the machine manufactured for long service. Those who used the NEW HOME forty years ago are now doing so. All parts are interchangeable, can be renewed any time. Ball Bearings of quality.

NOT SOLD UNDER ANY OTHER NAME. WARRANTED FOR ALL TIME.

NEEDLES, Superior quality, our own make, for any machine.

If there is no NEW HOME dealer near you write direct to

THE NEW HOME SEWING MACHINE Co., Orange, Mass., for Catalog No. 4.



Here Is Something New From Kalamazoo

Prove for yourself in your own home, that the Kalamazoo is the most perfect—most economical—most satisfactory range for you to use—Your money back if it's not.

Send for Catalog No. 113 with special terms and compare Kalamazoo prices with others

Cash Or Time Payments

We want every housewife to know the comfort and convenience of a Kalamazoo in her home. You can buy on easy time payments or pay cash if you like. Either way—you save \$10 to \$20 on any stove in the catalog. We make it easy for responsible people to own the best stove or range in the world.

We Pay the Freight

Kalamazoo Stove Co.
Kalamazoo, Mich.

"A Kalamazoo Direct to You"

DON'T PAY TWO PRICES

FOR STOVES & RANGES
You Save \$18.00 to \$22.00 on a
Hoosier Stove or Range

Why not buy the best when you can buy them at such low, unheard-of Factory Prices. Hoosier Stoves and Ranges are delivered for you to use in your own home 30 days free before you buy. A written guarantee with each stove backed by a Million Dollars. Our new 1910 improvements on stoves absolutely surpass anything ever produced. Send postal today for free catalog.

HOOSIER STOVE FACTORY
130 State Street, Marion, Indiana

EPILEPSY

If you have epileptic fits or have friends troubled in this way there is a cure. This remedy is prepared by a regular physician of thirty years practice. He will not advertise because it is not "ethical". Write me for particulars.
A. I. HALL, Rochester, N. Hampshire.

Cancer

Treated by Non-Surgical Means

A homelike institution, where the patient has practically the same privileges as at home. Devoid of many of the cold and cheerless features found in hospitals generally. Comfortably heated with steam; excellent table; services of trained nurses.

Facts About Cancer A booklet giving interesting information regarding the Cause of Cancer. Tells what to do for certain distressing symptoms usually found in such cases. Valuable as a guide to the management of many cases. Also contains full information as to rates, etc. Sent free on application, by mentioning this paper. Address

The Leach Sanatorium
Cor. New York and California sts.,
Indianapolis, Indiana.

tired out and dejected. Better far to drop everything and go for the ride proposed by husband than stay at home and spend the hour in scrubbing the cellar stairs. Better far to leave underclothes, and other pieces which really do not require it, unironed than have the children ask for help in their studies that mother cannot give.

Life is short and time is fleeting, at best we cannot hope to realize all we would. Something must be crowded out. What shall it be? This is a question every woman must answer for herself. It is one upon which hinges more than she may imagine, and few subjects are worthy of more thought. Different circumstances and environment call for different answers and what might be best for one would not necessarily be for all.

I admit that it is not easy to decide what shall be done and what left undone, but it is a foregone conclusion that we cannot hope to accomplish all. If we devote every energy to keeping the house immaculate we have our time fully occupied with that alone. If we do our duty by husband and children, provide wholesome food and preserve the spirit of good cheer and comradeship which is their just due, in short, make the home what it ought to be in its atmosphere, an uplift to those who inhabit it, it calls for more energy and better spirits than remain after all else has been done.

How shall we choose? How decide between the essentials and the non-essentials in making up the work of the day? How divide the time between housekeeping and home-making for the best good of all concerned? This is an important question. Will not some who read this tell how they have done it?

THE CHILDREN'S MANNERS.

BY E. J. LENCH.

Everybody appreciates and admires a "mannerly" boy or girl, yet we often fail to give the credit for it where it belongs. I know a woman who habitually, when she takes her children away from home, keeps saying to them, "Now, mind your manners." Those children are about the worst behaved little savages who ever went to visit anywhere. When at home, manners are a negligible quantity. They have no place in the daily life of the home, and while the mother is conscious of her neglect, and of their habitual rudeness, she yet wishes to give others the impression that she is very particular about "manners." Good manners in children never come by accident. They are the result of careful, systematic training, patiently carried on from babyhood. Thousands whose early training in this respect was neglected are able, when they leave home, to shake off some of the bad habits they have unconsciously formed, to copy what they admire in others and conform to the usages of refined people with whom they associate.

The best of all ways to teach children good table manners is to set them a good example. This alone is not sufficient. It needs to be backed up by patient admonitions as to what to do and say, and what not to do and say, but without the example, precepts will fail of the desired effect.

To teach children how to ask for things politely, and express thanks for them in a nice way, is one of the very first lessons in mannerly training, and it can begin in the very first year. It may sound "cute" to hear a child lisp "ta ta," but it is better to teach him to try to say "thank you" from the beginning. Very soon he will notice that he never hears the older folks saying "ta ta" and will drop it with his baby talk and have no substitute words for it which have become a habit. So, in the very beginning teach him to try to say, "thank you," or "I thank you"—a habit which he may profitably carry thru life.

Another good habit which a child cannot too early be taught is to be quiet and gentle when strangers are present, and never to interrupt his elders when they are talking unless it is absolutely necessary. When he must say something, let him preface his remarks with "excuse me" when he interrupts.

Some of the very common bad habits which must be corrected in the very early years, are the crowding of too much food into the mouth, getting the chubby hands or fingers into the food on the plate, and noisy habits of feeding. It may be permissible to give a baby a bone to suck, but when he is old enough to come to the table, it is much better practice not to give bones, or such things to him. He will get very little real food off them, and in a few minutes hands, face, and probably dress and tablecloth will be in a

muss. Bone sucking at the table does not pay for the after trouble. His meat and food should be well cut up for him. His knife, fork and spoon should be of a size suitable for his age, and he should be taught proper habits of feeding from the very beginning. If he is trained to use his right hand and to keep his left hand in his lap when the left hand is not actually needed, it will tend greatly to keep the idle hand out of mischief, and out of the food.

Noiseless habits of eating and drinking are just as easily formed as the opposite. There is no excuse but habit for the very unlovely and often embarrassing noise made in eating and drinking by those who were allowed to grow up with such habits uncorrected.

The habit of chewing slowly and thoroughly every mouthful of food, a habit which means much in the prevention of digestive ailments, can also be begun very soon after a child is brot to the table.

The right use of the knife is another point that should not be neglected. Once a knife or fork has been used, it should not again be laid on the cloth. If the plate has to be passed for a second helping, the knife and fork should be passed with it.

Another bad habit sometimes observed in otherwise refined, careful people, is the habit of sipping the tea or coffee from the spoon instead of from the cup. They keep the spoon standing in the cup constantly, a most inelegant habit which, combined with the sipping from the spoon habit, is most disgusting to well bred people. It is no kindness to a child to leave such bad habits unchecked and many a boy and girl away from home has had to be asked to refrain from this habit, much to their own humiliation. In a certain college it was customary for the lady principal to take an hour on Saturday morning to discuss the improprieties of this kind noticed in students by the teachers who presided over the several tables. It would surprise many mothers to know how often their daughter's rude blunders in table manners had to be called attention to and corrected, because of bad habits, careless little slips that were neglected at home.

We all admire the boy who at once removes his cap when he enters a room, who excuses himself politely when he has to interrupt his mother when she has company; who closes doors quietly; who will not rudely walk immediately in front of visitors or crowd before them; who does not search out the best chair for himself instead of offering it to visitors, and who will not persistently thrust himself into the presence of company when requested to remain in another room, but these desirable features never come by accident to any boy. Back of the habits we admire are years of patient, wise training and correction and admonishing, till such actions become habits. There are few boys who cannot be trained along these lines if the mother begins early and continues the training daily.

The habit also of speaking respectfully to those who are older, has been worth a good deal to a boy when he went out into the world to fight his own battles. No employer wants a saucy, impertinent employe who does not know how to speak respectfully. It pays to give polite, civil replies—pays in dollars and cents, as well as in self respect, and helps to win favor everywhere among refined people. The old-fashioned epithets "Sir" and "Ma'am," are by no means obsolete, even tho Young America often forgets to use them when he should.

The quality of self-restraint which is admired wherever seen is another habit which is the result of years of practice. Unless it is begun in childhood, it is rarely achieved. Nowhere is it more important than in speech. To allow children to discuss people or encourage gossip about them in the home will be a detriment to the child thru life. Children's speech, as well as their food, needs wise supervision. They must early learn not to talk about all that they see, and to leave alone things which do not concern them if they are to accomplish the self-control so desirable, and command the respect of intelligent people.

There are times when a bit of slang may be very expressive, but coarse slang or "Smart Aleck" replies should never be allowed to go unchecked. To hear her child answer "Yep" instead of "Yes sir," when a minister inquired if he had been at school, was enough to make almost any mother blush, but it was her own fault. She allowed him to answer her so, and the habit soon formed. "Company manners" are very likely to be disappointing, and the visitor does not need any great discerning power, to see that it is a very

thin, poor coat of polish put on over habitual rudeness allowed to go unchecked.

However much practical, unpolished people may sneer at the attempt to teach children good manners, those who are out in the world meeting strangers constantly, know that good manners and respectful habits are an asset, a help to advancement and good favor, by no means to be despised.

DECORATING THE HOME.

The art of decorating the home had its origin away back in that remote period when our forbears began to live in the caves provided by nature. The art advanced with the advancement of civilization until in the early days of the ancient Roman Empire, the method in vogue was to mix reddish clays with water and brush them on the walls, giving rise to the Pompeian red which is still used for coloring and from which our most modern decorative methods have been evolved. In the centuries that followed great advances were made, but only the houses of the wealthy and the nobility had any pretentious decorations. During the latter part of the 17th century, the solid colors and fresco effects became popular, walls were often painted, but frescoing became an art and mural decorations frequent. Still greater advances have been made in recent years. The flat effects of coloring which are to be second only with water colors, are most satisfactory for house decorations. These are now available in a variety of colors which have a soft and velvety effect in the decorations of house walls. The better grades of these materials when applied, either in plain, solid colors, or stenciled in fancy or set designs, add not a little to the appearance of the home. With them it is easy to design a colonial room or to blend a general color scheme, which gives an artistic, simple and rich appearance to even the modest home. Without question, with the improved modern materials at hand, this is one of the most satisfactory ways of decorating the walls in the modern home, since it lends itself to color schemes and special designs in a manner which no other form of decoration can approach.

W. E.

AN OLD-TIME LENTEN CAKE.

BY MARY FOSTER SNIDER.

Old-fashioned persons used to call the Sunday in mid-Lent Refreshment, or Mothering Sunday, because in olden times the married sons and daughters used to make special visits to their mothers on that day and carry to her a simnel cake manufactured in their own homes. As made by the old rule this cake was rich and exceedingly delicious and differs from the majority of the cakes of our day in that it must be boiled before baking to ensure the altogether delightful result. An excellent recipe is the following:

Simnel Cake.—Beat six ounces of caster sugar and half a pound of good butter with a wooden spoon until smooth and creamy, then beat in three fresh eggs, one by one. Sift in three-quarters of a pound of flour in which has been sifted a pinch of salt and a teaspoonful of baking powder and two teaspoonfuls of mixed spices, add the grated yellow rind each of one orange and one lemon, half a pound of candied peel cut in thin small strips, half a pound of cleaned currants and one-quarter pound of sweet almonds, blanched and chopped fine. Mix all thoroughly together, then add half a wineglassful of brandy and a little saffron. Mix again very thoroughly, and drop the dough in one lump from the bowl into a round buttered cake tin. Tie tightly over its top a scalded and well-floured pudding cloth, place the tin in a kettle of rapidly boiling water, and let it boil steadily for three hours. The cake must then be carefully taken from the tin. Work the edge of the top up like a little fence and brush it all over with beaten egg. Place it on a well-buttered baking tin and let it bake slowly in a moderate oven until the crust is hard and crisp and nicely colored. Sprinkle powdered sugar thickly over it and let it stand on a sieve until cold. If a handsomer cake is desired cover it with an almond paste and sugar icing and ornament with candied fruits or fancy strips of candied peel and fruit meats, but the cake is delicious without any "frills."

After six months trial of the Michigan Farmer sewing machine we, or my wife, is highly pleased with it and would not part with it for twice the cost, if she could not get another one like it. She enjoys showing it to everyone and several have spoken of buying one and wishing one like it.—G. E. Dwight, Vermontville.

GET POWER

The Supply Comes From Food.

If we get power from food, why not strive to get all the power we can. That is only possible by use of skillfully selected food that exactly fits the requirements of the body.

Poor fuel makes a poor fire and a poor fire is not a good steam producer.

"From not knowing how to select the right food to fit my needs, I suffered grievously for a long time from stomach troubles," writes a lady from a little town in Missouri.

"It seemed as if I would never be able to find out the sort of food that was best for me. Hardly anything that I could eat would stay on my stomach. Every attempt gave me heart-burn and filled my stomach with gas. I got thinner and thinner until I literally became a living skeleton and in time was compelled to keep to my bed.

"A few months ago I was persuaded to try Grape-Nuts food, and it had such good effect from the very beginning that I have kept up its use ever since. I was surprised at the ease with which I digested it. It proved to be just what I needed. "All my unpleasant symptoms, the heart-burn, the inflated feeling which gave me so much pain disappeared. My weight gradually increased from 98 to 116 lbs., my figure rounded out, my strength came back, and I am now able to do my housework and enjoy it. Grape-Nuts did it."

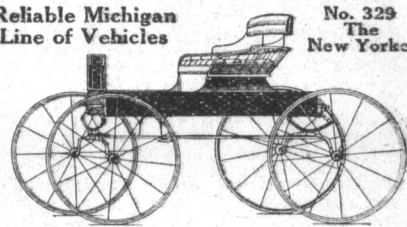
A ten days trial will show anyone some facts about food.

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

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

Reliable Michigan Line of Vehicles

No. 329 The New Yorker



Entire job is constructed of best and most expensive material obtainable. High, square arch axles; special hand-forged wrought-steel braces; special stop circle; oil tempered, open head springs; rubber, with brass bearing, 1 1/4 inch Kelly Springfield tires; hand sewed, hair stuffed cushions; thick velvet padded carpet, grain leather dash.

See the Buggy Before It is Unloaded on You!

People everywhere have been caught by the mail order buggy evil. When you sign your name to a letter agreeing to receive a vehicle, you become responsible for it. Did you ever try to return a mail order vehicle with which you were dissatisfied? If you have you know what trouble it means. Avoid trouble—go to your local dealer. See the

Reliable Michigan Line

Quality for quality your Reliable Michigan dealer will sell you a vehicle as low or lower than you can get any vehicle from a mail order house. And you don't have freight to pay if you buy of the Reliable Michigan dealer.

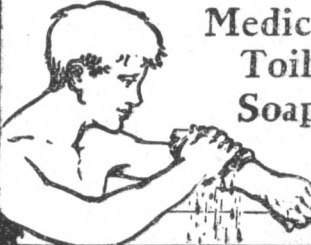
Your Reliable Michigan dealer is there all the time to come back to in case you are ever dissatisfied. Write us, and we will send you our new Catalog "A" showing the pick of 256 Reliable Michigan Pleasure Vehicles.

MICHIGAN BUGGY CO.

89 Office Building Kalamazoo, Mich. We also manufacture the famous Holdfast Storm and Stable Blankets.

HEISKELL'S

Medicinal Toilet Soap



In your daily bath use HEISKELL'S MEDICINAL TOILET SOAP. Keeps the pores open and performing their natural excretory office. Thus no poisons accumulate to form blackheads, pimples and roughness.

For skin diseases like eczema, eczema, salt rheum, scald head and inflammation of all kinds, use

Heiskell's Ointment

Cures the most severe and obstinate cases. HEISKELL'S BLOOD AND LIVER PILLS make pure blood and an active liver.

All druggists sell these preparations—use them.

Write for our new booklet, "Health and Beauty."

JOHNSTON, HOLLOWAY & CO. 531 Commerce St., Philadelphia

MARKETS

DETROIT WHOLESALE MARKETS.

February 9, 1910.
Grains and Seeds.

Wheat.—From the seller's standpoint, the wheat market has not been as satisfactory the last week as for former weeks. The price ruled about 3c lower. The bearish news which caused this change was the heavy receipts in the northwest, a slow foreign trade and accumulation of stocks at large foreign centers. Since Monday, however, a different tone has crept into the trade. Conditions in the southwest indicated that the growing crop has suffered considerable damage by unfavorable weather. The bullish trend was also affected by the continued strong demand from millers. This season has set a new record in the amount of wheat used by domestic manufacturers. In spite of the continued heavy receipts which exceed those of a year ago, the visible supply during the past week has actually fallen off nearly a million bushels and the visible supply a year ago was nearly twice that given out Monday. Large houses in Chicago are also buying wheat and Winnipeg on Tuesday reported an improved foreign trade. One year ago the price for No. 2 red wheat was \$1.12. Quotations for the week are as follows:

	No. 2.	No. 1.	Red.	White.	May.	July.
Thursday	1.25 1/2	1.25 1/2	1.26	1.04 1/2		
Friday	1.24 1/2	1.24 1/2	1.25	1.04 1/2		
Saturday	1.23 1/2	1.23 1/2	1.23 1/2	1.04 1/2		
Monday	1.23 1/2	1.23 1/2	1.23 1/2	1.04 1/2		
Tuesday	1.23 1/2	1.23 1/2	1.23 1/2	1.05 1/2		
Wednesday	1.23 1/2	1.23 1/2	1.23 1/2	1.04 1/2		

Corn.—Continued heavy receipts were a bullish factor in the corn deal the past week. The influence of wheat also favored a declining market. At this season of the year when consumption is as large as any other season, the visible supply only showed a nominal change from a week ago. The local market is steady with prices ruling from two to three cents below the figures of a week ago. One year ago the price for No. 3 corn was 63 1/2c per bushel. Quotations for the week are as follows:

	No. 3.	Yellow.
Thursday	64 1/2	65 1/2
Friday	64	65
Saturday	63 1/2	64 1/2
Monday	63 1/2	64 1/2
Tuesday	63 1/2	64 1/2
Wednesday	63	64

Oats.—In some sections the arrival of oats has been liberal, which, with the decline in wheat and corn, caused a weakening in the tone; it, however, failed to change the local quotation for standard grain. This market is in a stronger position than the other two owing to the limited supply of grain in store. The visible supply shows only a nominal decrease. One year ago the price for No. 3 oats was 54 1/2c per bushel. Quotations for the week are as follows:

	Standard.
Thursday	50
Friday	50
Saturday	50
Monday	50
Tuesday	50
Wednesday	50

Beans.—The bean deal is at a standstill. No trading whatever is being carried on here. The nominal quotations given below were reduced during the week from \$2.18 to \$2.15 for cash and a corresponding change for March. The quotations are:

	Cash.	March.
Thursday	\$2.18	\$2.23
Friday	2.15	2.20
Saturday	2.15	2.20
Monday	2.15	2.20
Tuesday	2.15	2.20
Wednesday	2.15	2.20

Cloverseed.—This trade is assuming normal activity for the season. Just now prices are on a lower basis. It is expected that the activity will continue until the late spring seedling is over. Where prices will go during that time is only a conjecture, for it is believed that farmers have an unusual amount of seed on hand for seeding purposes, because they were aware before disposing of their crop last year, that there was a shortage and prepared for the occasion. Quotations are as follows:

	Prime Spot.	Mar.	Alsike.
Thursday	\$8.50	\$8.50	\$7.50
Friday	8.45	8.45	7.50
Saturday	8.30	8.30	7.50
Monday	8.25	8.25	7.50
Tuesday	8.25	8.25	7.75
Wednesday	8.40	8.40	7.75

Rye.—Market is steady and easy. No. 1 is quoted at 83 1/2c per bu., which is a decline of 1c.

Visible Supply of Grain.

	This week.	Last week.
Wheat	25,255,000	26,483,000
Corn	9,500,000	9,764,000
Oats	8,710,000	8,755,000
Rye	779,000	785,000
Barley	2,802,000	2,602,000

Flour, Feed, Provisions, Etc.

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

Clear	\$6.00
Straight	6.05
Patent Michigan	6.25
Ordinary Patent	6.15

Hay and Straw.—Market advanced. Quotations are: No. 1 timothy, new, \$17.50@18; No. 2 timothy, \$16.50@17; clover, mixed, \$16.50@17; rye straw, \$8.50; wheat and oat straw, \$7 per ton.

Feed.—Bran is higher; other grades are steady. Carlot prices on track: Bran, \$28 per ton; coarse middlings, \$26; fine middlings, \$30; cracked corn, \$28; coarse corn meal, \$28; corn and oat chop, \$25 per ton.

Potatoes.—This deal is easy and dull, the demand being only ordinary and the supply ample. Prices do not vary much from last week. Michigan grown are

selling in car lots at 33@35c per bu. in bulk, and in sacks at 30@40c.

Provisions.—Family pork, \$24.75@25; mess pork, \$24; bacon clear, \$25@26; pure lard, 13 1/2c; bacon, 16 1/2@17c; shoulders, 12 1/2c; smoked hams, 15 1/2c; picnic hams, 12 1/2c.

Hides.—No. 1 cured, 11c; No. 2 cured, 9c; No. 1 bulls, 10c; No. 2 bulls, 8c; No. 1 green calf, 15c; No. 2 green calf, 14c; No. 1 cured calf, 16c; No. 2 cured calf, 14 1/2c; No. 1 horsehides, \$3.50; No. 2 horsehides, \$2.50; sheepskins, as to wool, 50c@52.

Dairy and Poultry Products.
Butter.—The advance made in butter last week, both at the local and Elgin markets, was lost, and more besides. The dealing has been a little slow, but the users of substitutes are gradually becoming consumers of butter again, all of which is improving the demand. The supplies, however, are coming in quite liberally for this season and traders expected the decline which took place. Quotations are: Extra creamery, 29c; first do., 28c; dairy, 25c; packing stock, 22c per lb.

Eggs.—Southern supplies of fresh stock are beginning to appear on the market and prices are off. Storage men are also endeavoring to get rid of their stocks on hand and this has aided in cutting values down. The consumption is improving rapidly. Current offerings, cases included, are quoted at 26 1/2c per dozen.

Poultry.—The trade is enjoying a firm tone due to the light offerings. A fair demand prevails, and prices are advancing. Quotations are as follows: Live—Spring chickens, 16c; hens, 16c; geese, 14c; turkeys, 18c. Dressed—Chickens, 17c; hens, 17c; ducks, 18@19c; geese, 15@16c; turkeys, 20@24c.

Cheese.—Last week's advance has not been sustained and prices are back to their former level. Michigan full cream, 16 1/2@17c; York state, 19c; limburger, 18c.

Calves.—Choice to fancy, 11@11 1/2c; ordinary, 9@10c per lb.

Dressed Hogs.—Light, \$10@11 per cwt.; heavy, \$9@9.50.

Fruits and Vegetables.

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

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

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

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

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

OTHER MARKETS.

Grand Rapids.

Greenhouse people report light cuttings of lettuce, on account of dark weather during January. The price has improved, growers now getting 12@12 1/2c. Radishes and parsley grown under glass remain about the same in price. The average price paid for potatoes is 25c, with movement light. Local buyers believe that the price of potatoes will go still lower. Wheat is off 3c, other grains practically unchanged. Both dairy and creamery butter are off 2c, and eggs have dropped 3c. Dressed hogs have climbed again to 11c, and are very scarce at that price. In live poultry, chickens and ducks are

low. Quotations follow:
Grain.—Wheat, \$1.19; oats, 49c; corn, 67c; buckwheat, 60c per bu; rye, 70c.

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

Butter.—Buying prices, Dairy, No. 1, 24c; creamery in tubs or prints, 28c per lb.

Eggs.—Fresh, 26c.

Apples.—50@75c.

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

Hogs.—Dressed, 11c.

Live Poultry.—Fowls, 13@13 1/2c; roosters, 9@10c; chickens, 13 1/2@14 1/2c; ducks, 16@17c; young geese, 12@13c; young turkeys, 18@20c.

New York.

Butter.—Market weaker, with prices lower. Western factory firsts, 22 1/2@24c; creamery specials, 30c.

Eggs.—Prices have continued toward a lower level following liberal receipts from south. Western firsts, 32c; seconds, 29@29 1/2c; fancy refrigerator stock, 24@26c per doz.

Poultry.—Dressed, steady. Western chickens, broilers, 15@23c; fowls, 14@18c; turkeys, 22@25c.

St. Louis.

Grain.—Wheat No. 2 red, \$1.25@1.26; corn, No. 2, white, 66 1/2c; oats, No. 2, 47 1/2c.

Hay.—Steady. Timothy No. 1 to choice is selling at \$17@18 per ton; No. 2, \$15@16; No. 3, \$13; clover, No. 1, \$17; No. 2, \$16; clover mixed, \$13.50@16; alfalfa quotable at \$18@19 for No. 1 and \$16@17 for No. 2.

Potatoes.—Receipts are coming quite liberally and the trade is weakening with prices below those of last week. Michigan Rurals are quoted at 50@53c per bu.

Chicago.

Wheat.—No. 2 red, \$1.23@1.24; May, \$1.10 1/2; July, \$1.01 1/2.

Corn.—No. 3, 63 1/2c; May, 66 1/2c; July, 66 1/2c per bu.

Oats.—No. 3 white, 47 1/2c; May, 46 1/2c; July, 43 1/2c.

Butter.—Market weak, with prices off several cents from last week. Creameries, 22@26c; dairies, 20@24c.

Eggs.—Trade is weak. Demand good and supplies increasing rapidly. Prices down. Prime firsts, 26c; firsts, 25c; at mark cases included, 17@23c per doz.

Hay and Straw.—Market quiet; nearly all grades of hay and straw are lower.

Quotations: Timothy, choice, \$18.50@19; No. 1, \$17@18; No. 2 and No. 1 mixed, \$16@17; No. 3 and No. 2 mixed, \$13@15.50; rye straw, \$10@11; oat straw, \$9@9.50; wheat straw, \$8@9.

Potatoes.—Supplies are coming fast and

the market is weakening. Prices lower. Choice to fancy quoted at 38@43c per bu; fair to good, 33@35c.

Beans.—Kidney beans are higher, others lower. Choice hand-picked, \$2.23 per bu; fair to good, \$2.18; red kidneys, \$2.70@3.

Boston.

Wool.—Prices are being well maintained in the wool trade. The activity has shifted from the fine wools to the coarser lines, the amount of business in either, however, being small. Most of the trading is with the little manufacturers. The bidding in the west for the new crop continues. The leading domestic quotations range as follows: Ohio and Pennsylvania fleeces—No. 1 washed, 40@41c; delaine washed, 39@40c; XX, 37@38c; 1/2-blood combing, 36@37c; 3/4-blood combing, 35c; delaine unwashed, 32c; fine unwashed, 27@28c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 25@26c; delaine unwashed, 31@32c; 1/2-blood unwashed, 35@36c. Kentucky, Indiana and Missouri—3/4-blood, 34c; 1/2-blood, 32@33c.

Elgin.

Butter.—Market firm at 29c per lb., which is 2c below the quotation of a week ago. The sales for the week amounted to 457,600 lbs., compared with 498,600 for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

February 7, 1910.
(Special report by Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of sale stock here today as follows: Cattle, 75 loads; hogs, 8,000; sheep and lambs, 15,000; calves, 650 head.

With a light run our cattle market today was active and prices generally 25@35c per hundred higher than last Monday. One load of fancy 1,400-lb. cattle sold at \$7.25. There is not much demand yet for stockers and there were but few on the market. Fresh cows and springers were active at strong last week's prices. At the close everything is sold and we are in better shape than we have been for the last three weeks.

We quote: Best export steers, \$6.25@6.50; best 1,200 to 1,300-lb. shipping steers, \$6@6.25; best 1,100 to 1,200-lb. do., \$5.60@6; medium 1,050 to 1,100-lb. butcher steers, \$5.35@5.75; light butcher steers, \$5.25@5.50; best fat cows, \$5@5.25; fair to good do., \$4.25@4.60; trimmers, \$2.75@3; best fat heifers, \$5.25@5.75; fair to good do., \$4.50 to \$5; common do., \$4@4.25; best feeding steers, 950 to 1,000 lbs., \$4.40@4.50; best do., 800 to 900 lbs., \$4@4.25; 700 to 750-lb. dehorned stockers, \$3.75@4; 600 to 650-lb. do., \$3.25@3.50; best bulls, \$5.25@5.50; bologna bulls, \$4@4.25; stock bulls, \$3.50@3.75; best fresh cows and springers, \$5.50@6; fair to good do., \$4@4.50; common do., \$2.50@3.50.

The hog market opened 10@15c higher than Saturday and closed steady with a good clearance for all that arrived in time for the market. Prospects look fair for the near future.

Mixed, medium and heavy (mostly \$9.05), \$9@9.10; best yorkers, \$9@9.05; light yorkers and pigs, \$9@9.05; roughs, \$8.30@8.35; stags, \$7@7.25.

The lamb market opened active, most of the best lambs selling early at \$9.25. Market closed firm with everything sold. Unless the runs are light we may get some lower prices the last of the week. We had a load of lambs today from E. G. Read, of Richland, Mich., of his own feeding, that we sold straight at \$9.40. This is the high price for the season so far. There are a good many half-fat lambs coming now and about half of some lambs have to be sold for culls.

Best lambs, \$9.15@9.25; fair to good, \$8.75@9; culls, \$8@8.50; skin culls, \$6@7; yearlings, \$8@8.50; wethers, \$6.75@7; ewes, \$6.25@6.50; cull sheep, \$3.50@5.50; best calves, \$10@10.50; fair to good do., \$8@9.50; heavy do., \$4@5.

Chicago.

February 7, 1910.
Cattle. Hogs. Sheep.
Received today 18,000 38,000 12,000
Same day last year .. 22,819 43,950 23,710
Received last week .. 47,916 158,933 60,754
Same week last year .. 55,532 203,018 49,434

Cattle owners were greatly helped by the unusually small receipts last week that followed the recent slump in prices, and while the general requirements of the trade were scarcely any greater, enough competition between buyers prevailed to cause steers to sell 40@50c above the recent low level. Beef steers went chiefly at \$5.25@6.60, the poorer light-weights bringing \$4.15@5.15 and the choicer heavy shipping beefs \$6.65@7.65. While there was a scarcity of choice cattle, the demand was mainly for cheap and moderate-priced cattle capable of being converted into a fairly cheap grade of beef. The good rally in prices shows what can be accomplished by stockmen when they send in stock conservatively, and the same holds true of last week's hog and sheep markets. Butcher stock rose largely 25@35c for good lots, with a good demand, cows and heifers selling at \$3.15@6, with not many sales above \$5.50, bulls selling at \$3@5.25 and canners and cutters at \$2@3.10. The little reaction in prices that appeared on Thursday was natural, as buyers had completed their most pressing buying orders. The consumption of beef is still much below normal, and country shippers should not lose sight of this important fact. Calves were active and higher at \$3.50@9.25, and there was a moderate supply and trade in milch cows at \$25@65 per head. The stocker and feeder trade was active at higher prices for the better class of cattle, packers taking many of the best feeders. Stockers sold usually at \$3@4.60 and feeders at \$4.40@5.50, not many feeders selling above \$5.25. The recent government figures show a great falling off in the number of cattle in the United States, and experienced feeders believe that by next summer fat beefs will command high prices, as no surplus is looked for.

Today's cattle receipts were remarkably small for Monday, and there was a good general demand, prices for steers and butcher stock averaging 10@15c higher, and some sales were claimed to be 20c higher. Trains of live stock were very late, and at a late hour they were still arriving. A few choice cattle sales took place at \$7.25@7.60, and really fancy beefs were hard to find. It should be understood, however, that these advances frequently do not extend to either the poorest or the best lots, and last week the top price paid was \$7.65, or 5c lower than the previous week, altho the general market was much higher. The best heifers are now quoted at \$6.25.

Hogs underwent daily sharp advances last week up to Thursday, when the first decline was seen. Chicago packers paid the advances reluctantly, and on some days from 9,000 to 10,000 hogs remained unsold at the close, the eastern shipping demand being the strongest factor. The receipts showed the good results of longer feeding, and the general quality of the offerings was so uniformly good that on Thursday the percentage of sales under \$8.50 was the smallest in many weeks. The bulk of the recent sales took place within a range of 15c, and there was a particularly good sale of strong-weight lard hogs. Provisions have participated in the advance in the raw material, stocks being unusually light everywhere, with a good cash demand for both cured and fresh meats, despite their extreme dearthness. May pork has advanced recently around \$1 per barrel, and other products show similar advances. Evidently high prices for hogs and hog meats are here to stay until a normal "crop" of pigs can be matured. Farmers should go into breeding sows, for the country is growing greatly in population and needs far more hogs.

The best hogs sold last week down to \$8.57 1/2 and up to \$8.80, and today saw a rise of 10@15c over Saturday's figures, with an active Monday trade at \$8.25@8.75, light hogs going at \$8.20@8.65, stags at \$9@9.75, boars at \$5@5.85 and pigs at \$7@8.20. Hogs sold largely at \$8.55@8.70. Western packing since Nov. 1 is 2,465,000 hogs less than a year ago.

Sheep and lambs made great records of high prices last week, sheep and yearlings, which made up but a moderate percentage of the offerings, selling particularly high. Tops were \$8.90 for lambs, \$8.25 for yearlings and \$6.75 for wethers, sheep selling at the best prices since last June. Flocks are largely centered in strong hands, and owners are not disposed to part with their stock except at high prices, as it is known that fewer sheep are being prepared for the market than a year ago. Eastern shippers have operated freely as a rule, and this meant good competition. There was no abatement in the demand for feeders, with lambs of this kind scarce and salable at \$7.25@7.90. It looks bright for the future, and farmers who go into breeding choice sheep stand a good show of coming out well ahead.

Following last week's advance of 50@75c in sheep and lambs, there was a further rise of 15@25c today, with extremely small receipts for Monday. Lambs went at as high prices as have been seen this season, the range being \$6@9.05, Colorado going at the top. Wethers sold at \$5.75@6.85, ewes at \$3.50@6.50, bucks and stags at \$4@5 and yearlings at \$7@8.50. Clipped lambs are now marketed freely and sell well. Feeding lambs are scarce at \$7.25@8.

Horses were in good general demand last week, but country shippers sent in such greatly increased supplies that sellers had to submit in plenty of instances to reductions of as much as \$10 per head from former price. Farm mares were active sellers at \$125@175, and there was a free movement in small southern chunks at \$65@150, while drivers were taken on a basis of \$160@300 for medium to prime grades. Heavy drafters were in active request at \$165@265, and loggers and feeders had a good outlet at \$170@225. The American Ice Company not a number of nicely matched pairs of draft chunks that weighed 3,000 to 3,200 lbs., at \$400@500, and about 1,000 more horses are required. Mules weighing 1,100 to 1,300 lbs. are wanted at \$160@250 for shipment to the Canadian northwestern wheat region.

The packers have coined money out of the recent meat boycott, as they were enabled to fill their coolers with meats at great reductions in cost, while no corresponding cuts were made in their prices. Stock feeders got the worst of it, as they sold their cattle and hogs much lower than before the agitation commenced, and many cattle feeders have been losing money.

KING WEEDER



PATENTED

THE WEEDER IN HARNESS

Changes the ordinary drag weeder into a Weeding Machine that is under positive control—Cuts deep or shallow as directed. Skims lightly over cotton potato and truck ridges—striking tops only. Teeth thrown out of ground in a second prevents trash collections. A boy can ride as he drives it.

LET US RENT YOU A SAMPLE

KING WEEDER CO., Richmond, Va.

HOMESEEKERS

Should write for our 16-page booklet, "Opportunities For The Homeseeker." It tells about the wonderful possibilities now opening up in the different sections of the country. Send 10 cents for a copy of "OPPORTUNITY," our big monthly magazine, and we will mail you "Opportunities For The Homeseeker," free of charge.

THE PROGRESS COMPANY

618-558 Rand-McNally Bldg., Chicago, Illinois

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.
February 10, 1910.
Cattle.

Receipts, 879. Market active and 15¢ higher than last week, or steady with Wednesday. Closed 5¢10¢ lower.

We quote: Best steers and heifers, \$6; steers and heifers, 1,000 to 1,200, \$5.75; steers and heifers, 800 to 1,000, \$4.50 to \$5.25; grass steers and heifers that are fat, 500 to 700, \$3.75 to \$4.25; choice fat cows, \$4.75; good fat cows, \$4.40 to \$4.50; common cows, \$3.25 to \$3.50; canners, \$2.50 to \$3; choice heavy bulls, \$4.50 to \$4.75; fair to good bolognas, \$3.75 to \$4.25; stock bulls, \$3.25 to \$4; choice feeding steers, 800 to 1,000, \$4.50 to \$4.75; fair feeding steers, 800 to 1,000, \$4 to \$4.50; choice stockers, 500 to 700, \$4 to \$4.50; fair stockers, 500 to 700, \$3.75 to \$4.25; stock heifers, \$3.50 to \$3.75; milkers, large, young, medium age, \$4.00 to \$5; common milkers, \$2.00 to \$3.50.

Bishop, B. & H. sold Hammond, S. & Co. 2 cows av 890 at \$2.75, 4 do av 1,017 at \$3.35; to Hopp 3 heifers av 700 at \$4.80; to Austin 4 stockers av 432 at \$4, 2 do av 500 at \$4; to Sullivan P. Co. 18 steers av 1,264 at \$6, 2 do av 875 at \$5; to Kam-B. Co. 1 do weighing 760 at \$4.25, 9 do av 843 at \$5; to Hammond, S. & Co. 3 cows av 1,210 at \$3.60; to Mich. B. Co. 5 do av 964 at \$4, 1 do weighing 1,220 at \$4.75, 15 butchers av 747 at \$4.50, 3 do av 1,173 at \$4.25, 2 do av 1,125 at \$4.25, 5 do av 1,100 at \$4.25; to Sullivan P. Co. 3 bulls av 1,050 at \$4.25, 1 do weighing 1,200 at \$4.40; to Newton B. Co. 9 cows av 821 at \$3.25, 1 do weighing 1,120 at \$4.25, 4 do av 900 at \$3.25, 5 do av 906 at \$4.25, 4 butchers av 847 at \$3.25, 2 cows av 905 at \$3.25, 2 do av 1,150 at \$4.60, 2 do av 985 at \$3.25; to Hupp 7 heifers av 733 at \$4.50; to Burton & E. 6 cows av 1,020 at \$4.50, 8 stockers av 665 at \$4.50; to Kull 1 bull weighing 940 at \$4.15, 1 do weighing 1,370 at \$5; to Sullivan P. Co. 1 cow weighing 1,050 at \$4, 2 do av 1,000 at \$3.50, 13 steers av 951 at \$5.50, 4 do av 832 at \$4.85, 1 cow weighing 1,000 at \$3.50.

Spicer & R. sold Sullivan P. Co. 2 bulls av 955 at \$4.50, 1 do weighing 1,400 at \$4.65, 15 steers av 1,050 at \$5.60, 17 do av 1,012 at \$5.60, 2 cows av 1,015 at \$4.50; to Goose 4 cows av 880 at \$3.25; to Sullivan P. Co. 17 heifers av 740 at \$4.50; to Mich. B. Co. 2 heifers av 590 at \$3.90, 2 cows av 1,020 at \$3.90; to Rattkowsky 3 cows av 386 at \$4.25; to Rattkowsky 3 cows av 970 at \$3.75, 1 bull weighing 550 at \$3.60, 1 bull weighing 1,300 at \$4.75, 1 cow weighing 1,000 at \$4.25; to Breitenback Bros. 9 butchers av 776 at \$4.25, 1 cow weighing 790 at \$3.75; to Sullivan P. Co. 3 do av 873 at \$3.25, 2 do av 910 at \$3, 2 do av 615 at \$3.

Haley & M. sold Sullivan P. Co. 2 cows av 1,000 at \$4.25, 1 do weighing 960 at \$3.75, 1 do weighing 825 at \$3.25; to Mich. B. Co. 2 do av 975 at \$4.25, 1 do weighing 830 at \$3.25; to Kamman B. Co. 5 steers av 900 at \$5.50, 1 cow weighing 930 at \$4, 4 butchers av 792 at \$4.50; to Hammond, S. & Co. 3 cows av 806 at \$3.25, 1 heifer weighing 440 at \$4.25; to Sullivan P. Co. 1 bull weighing 1,020 at \$4.50; to Thompson Bros. 2 cows av 930 at \$4.25, 2 heifers av 870 at \$5, 1 bull weighing 1,510 at \$4.60; to Fitzpatrick Bros. 1 bull weighing 700 at \$4, 3 cows av 870 at \$3, 10 do av 925 at \$4.50, 10 steers av 825 at \$5.25.

Hall sold Sullivan P. Co. 27 butchers av 870 at \$5.10.

Wilson sold same 1 bull weighing 1,990 at \$4.75.

Groff sold same 4 cows av 925 at \$4, 1 bull weighing 1,050 at \$4.25.

Lovewell sold same 6 butchers av 884 at \$4.50.

Groff sold Schurman 3 butchers av 746 at \$4.50.

McAninch sold Hupp 14 steers av 813 at \$4.90.

Lovewell sold Hammond, S. & Co. 1 bull weighing 1,900 at \$5.10.

McAninch sold Regan 3 heifers av 680 at \$4.50.

Veal Calves.

Receipts, 592. Market steady at last week's prices. Best, \$9 to \$9.50; others, \$4 to \$8; milch cows and springers steady.

Bishop, B. & H. sold Nagle P. Co. 8 av 110 at \$8, 1 weighing 280 at \$5, 3 av 175 at \$5, 19 av 125 at \$8.25; to Newton B. Co. 2 av 110 at \$6, 9 av 145 at \$9.25; to Swift & Co. 2 av 140 at \$9, 5 av 130 at \$9.50, 2 av 140 at \$9.

Spicer & R. sold Nagle P. Co. 1 weighing 150 at \$9.50, 2 av 150 at \$9.50, 1 weighing 120 at \$9; to Mich. B. Co. 6 av 155 at \$8.75; to Sullivan P. Co. 2 av 140 at \$9.50; to Goose 5 av 120 at \$6.75; to Breitenback Bros. 5 av 125 at \$7, 4 av 145 at \$6.

Hertler sold Nagle P. Co. 4 av 155 at \$9.50.

Downing sold same 7 av 150 at \$8.

Graff & S. sold same 14 av 125 at \$9, 5 av 125 at \$9.50.

Haley & M. sold Nagle P. Co. 1 weighing 100 at \$9, 12 av 150 at \$9.50, 17 av 160 at \$7.50, 16 av 140 at \$8.75.

McAninch sold Barlage 1 weighing 170 at \$4, 6 av 105 at \$7.25.

Cheney & H. sold Burnstine 6 av 150 at \$8.60.

Sheep and Lambs.

Receipts, 7,167. Market dull at last week's prices, or 25¢30¢ lower than on Wednesday.

Best lambs, \$8.25 to \$8.30; fair to good lambs, \$7.50 to \$8; light to common lambs, \$7 to \$7.25; fair to good sheep, \$4.75 to \$5.75; culls and common, \$3.50 to \$4.

Bishop, B. & H. sold Nagle P. Co. 429 lambs av 88 at \$8.55; to Swift & Co. 44 sheep av 95 at \$5.50; to Nagle P. Co. 224 lambs av 87 at \$8.55; to Sullivan P. Co. 108 lambs av 60 at \$7.50; to Hammond, S. & Co. 44 do av 80 at \$8.50, 19 do av 65 at \$8; to Nagle P. Co. 233 do av 75 at \$8.25, 19 do av 80 at \$8.25, 9 sheep av 100 at \$5.50; to Sullivan P. Co. 9 lambs av 65 at \$8; to Swift & Co. 71 do av 75 at \$7.50, 76 sheep av 110 at \$5.50; to Breitenback Bros. 39 lambs av 60 at \$8; to Newton B. Co. 166 do av 80 at \$8.25; to Hammond, S. & Co. 112 do av 65 at \$7.50; to Breitenback Bros. 48 do av 65 at \$7.60; to Swift & Co. 17 sheep av 85 at \$3.50, 87 do av 90 at \$5.50, 13 do av 110 at \$5.50; to Hammond, S. & Co. 31 lambs av 67 at \$7.75; to Fitzpatrick Bros. 44 do av 60 at \$7.75, 11 sheep av 95 at \$5.25, 6 do av 100 at \$4.50; to Mich. B. Co. 97 lambs av 65 at \$7.40.

Spicer & R. sold Nagle P. Co. 7 sheep av 125 at \$7.50, 75 lambs av 77 at \$8.40; to Hammond, S. & Co. 24 do av 80 at \$8.50, 11 sheep av 78 at \$5.50; to Sullivan P. Co. 2 lambs av 75 at \$8.25; to Mich. B. Co. 25 do av 65 at \$7.30.

Bohm sold Mich. B. Co. 50 lambs av 70 at \$8.10.

Downing sold same 33 do av 70 at \$8.25.

Haley & M. sold Nagle P. Co. 97 lambs av 80 at \$8.50, 15 do av 55 at \$7, 9 sheep av 109 at \$5, 2 lambs av 80 at \$7.50.

Bohm sold Baker 71 lambs av 75 at \$7.50, 76 sheep av 110 at \$5.25.

Bordine sold Nagle P. Co. 210 lambs av 85 at \$8.50.

Hertler sold same 174 do av 85 at \$8.50.

Heaney sold same 101 do av 74 at \$8.25, 6 sheep av 100 at \$4.50.

Bergin & W. sold same 6 sheep av 125 at \$5, 135 lambs av 83 at \$8.30.

Sharp & W. sold Hammond, S. & Co. 37 lambs av 68 at \$7.60, 44 do av 75 at \$8.25.

Johnson sold Swift & Co. 62 sheep av 110 at \$5.50, 36 lambs av 85 at \$8.25.

Roe Com. Co. sold Thompson Bros. 36 lambs av 60 at \$6; to Nagle P. Co. 181 do av 70 at \$8.15.

Groff & S. sold Barlage 12 lambs av 75 at \$8.

Same sold Thompson 29 sheep av 90 at \$5.

Cheney & H. sold Young 6 sheep av 150 at \$5.25, 57 lambs av 78 at \$8.25.

Hogs.

Receipts, 2,233. Market 25¢ higher than last week; steady with Wednesday at opening.

Range of prices: Light to good butchers, \$8.75; pigs, \$8.60 to \$8.70; light yorkers, \$8.75; stags, ½ off.

Spicer & R. sold Hammond, S. & Co. 94 av 200 at \$8.80, 109 av 190 at \$8.75, 21 av 170 at \$8.70.

Haley & M. sold same 225 av 200 at \$8.80, 123 av 190 at \$8.75.

Roe Com. Co. sold Sullivan P. Co. 146 av 210 at \$8.80, 10 av 195 at \$8.75, 76 av 170 at \$8.65, 13 av 160 at \$8.60.

Haley & M. sold same 220 av 200 at \$8.75.

Bishop, B. & H. sold same 330 av 200 at \$8.80, 589 av 170 at \$8.75, 154 av 150 at \$8.70.

Same sold Parker, W. & Co. 285 av 170 at \$8.75, 68 av 200 at \$8.80, 63 av 150 at \$8.70.

Sundry shippers sold same 360 av 170 at \$8.75.

Friday's Market.

February 4, 1910.

Cattle.

The run of cattle at the Michigan Central stock yards Friday was very light and the few on sale sold at about Thursday's prices.

Best steers and heifers, \$5.50 to \$5.75; steers and heifers, 1,000 to 1,200, \$5 to \$5.50; steers and heifers, 800 to 1,000, \$4.75 to \$5.25; grass steers and heifers that are fat, 500 to 700, \$3.75 to \$4; choice fat cows, \$4.50 to \$4.75; good fat cows, \$3.50 to \$4.25; common cows, \$3.25 to \$3.50; canners, \$2.50 to \$3; choice heavy bulls, \$4.50 to \$4.75; fair to good bolognas, \$3.75 to \$4.25; stock bulls, \$3.50 to \$4; choice feeding steers, 800 to 1,000, \$4.50 to \$4.75; fair feeding steers, 800 to 1,000, \$4 to \$4.50; choice stockers, 500 to 700, \$3.75 to \$4.25; fair stockers, 500 to 700, \$3.50 to \$3.75; stock heifers, \$3.50 to \$4; milkers, large, young, medium age, \$4.00 to \$5; common milkers, \$2.00 to \$3.50.

Veal Calves.

The veal calf trade was strong at Thursday's prices, best grades bringing \$9.50 per hundred. Best grades, \$9 to \$9.50; others, \$4 to \$8.50.

Bishop, B. & H. sold Hammond, S. & Co. 9 av 120 at \$8, 5 av 120 at \$9, 12 av 110 at \$8.

Same sold Nagle P. Co. 2 av 135 at \$9.50, 3 av 145 at \$9.50, 1 weighing 170 at \$8.

Lucke sold Mich. B. Co. 13 av 135 at \$9.

Sheep and Lambs.

The sheep and lamb trade was active and, quality considered, prices paid averaged full steady with Thursday.

Best lambs, \$8.25 to \$8.40; fair to good lambs, \$7.50 to \$8; light to common lambs, \$6.50 to \$7; fair to good sheep, \$4.50 to \$5.50; culls and common, \$3 to \$3.50.

Bishop, B. & H. sold Fitzpatrick Bros. 3 lambs av 55 at \$7, 3 sheep av 114 at \$5; to Strauss & A. 21 lambs av 85 at \$8.25, 114 do av 85 at \$8.35; to Hammond, S. & Co. 20 do av 62 at \$7.25, 13 do av 75 at \$8.25, 16 do av 65 at \$7.50, 5 do av 80 at \$8.35; to Nagle P. Co. 21 do av 80 at \$8.15, 13 sheep av 120 at \$5.50; to Barlage 7 do av 80 at \$4.50; to Haise 28 lambs av 77 at \$7.75; to Swift & Co. 9 do av 115 at \$7.50, 192 do av 80 at \$8.30, 30 do av 75 at \$8.30; to Sullivan P. Co. 22 do av 60 at \$7; to Hammond, S. & Co. 9 do av 63 at \$8; to Mich. B. Co. 107 do av 60 at \$7.75; to Nagle P. Co. 39 do av 65 at \$8, 10 do av 61 at \$7.75, 101 do av 80 at \$8.25, 144 do av 85 at \$8.15, 38 do av 80 at \$7.75; to Strauss & A. 199 do av 84 at \$8.40.

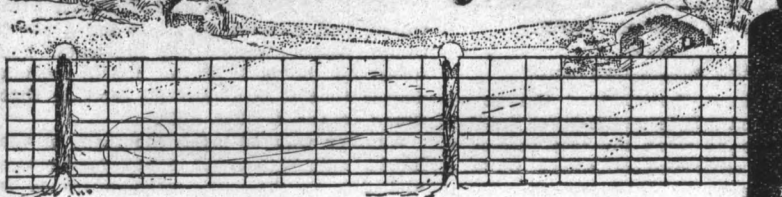
Hogs.

In the hog department the trade was very dull and 15¢20¢ lower than on Thursday. Sullivan had a few extra good ones at \$8.60, but the general market for tops was \$8.50, and every one on sale went to the Sullivan P. Co.

Light to good butchers, \$8.45 to \$8.50; pigs, \$8 to \$8.25; light yorkers, \$8.40; stags, ½ off.

Bishop, B. & H. sold Sullivan P. Co. 159 av 170 at \$8.40, 103 av 210 at \$8.60, 292 av 190 at \$8.50, 149 av 180 at \$8.45.

On the Coldest Day of the Year



Anthony Fence

when properly erected, should draw taut until the line wires fairly sing—but that never budes the tight grip of the Anthony Knot.



NO KINK IN THE LINE WIRE INSIDE THE KNOT



SEE THAT CURVE IN THE STAY WIRE ONLY!

Anthony Fence as an Investment

is as much an improvement to your place as a good barn. It is an investment—not an expense—in the long run.

The labor of erecting a good fence is no more than that of a poor one and the posts cost even less, as they may be set further apart. Why not get the most value for your money by erecting Anthony Fence—the tough steel woven wire fence with the smallest, tightest, most compact knot ever made. See the front view and back view of knot shown here.

Write today for a hand sample of this wonderful fence FREE. Satisfy yourself.

Anthony Fence Co. 19 Michigan Street
TECUMSEH, MICH.



VIRGINIA FARMS

\$10
AND UP
PER ACRE

You can buy fertile farms with timber, fruit and water for \$10.00 per acre and up. Splendid country for fruit growing, dairying, stock raising and general farming. Fine climate, abundant water.

COME TO SUNNY VIRGINIA

convenient market, good neighbors. Full information and valuable booklet upon request. Write for it now.

F. H. LABAUME, Agricultural and Industrial Agent, Norfolk & Western Ry., Dept. D 26, Roanoke, Va.

30 Days Free Trial

A wonderful machine. Every one guaranteed.



Established in 1879

OUR NEW SAW MILLS

Are the Sensation of the Year. The result of the greatest practical and scientific mechanical minds in saw mill construction. A mill without an equal on the globe. The mill that is revolutionizing the entire saw mill business. The simplest, lightest running, fastest cutting, and easiest mill to handle in the world. Original in design, result of over 30 years painstaking experiments, observation and practical tests. Sold on 30 days free trial. Just try the mill—that's all we ask—it costs you nothing—we take all the risk. BIG PROFIT in sawing lumber with our up-to-date Saw Mills. Keep your engine earning money all the year. Now is the time to buy when the price of lumber is going up. Write today for catalog and prices. R. R. HOWELL & CO., Minneapolis, Minn.

PILLING CATTLE INSTRUMENTS

Pilling's Hard Milker Outfit contains: Bistoury, \$1.50; Teat Opener, 75 cents; Teat Expander 50c; Milk Tube 50c., and Teat Soap, 50c. Complete in case with "Easy to Use" directions, sent prepaid on receipt of \$3.00.

Send for Booklet, "Air Treatment for Milk Fever." G. P. PILLING & SON CO. 2237 Arch St., Philadelphia, Pa.

Pilling's Cattle Case No. 2 contains \$3 Milk Fever Outfit and 8 other cattle instruments needed by every dairyman. Complete in case for \$10; regular value \$15. Sent prepaid, with full "Easy to Use" directions, on receipt of \$10. Order today.



You Can Strengthen and improve your horses and cattle by feeding

Buckeye Molasses

Bbls. 15c gal., Detroit, or 10-gal. cans \$2.50, freight prepaid your station.

W. H. EDGAR & SON, DETROIT, MICH.

DRY BATTERIES renewed by anyone for 10

91. Will send it this week for 35 cents. FAIRMOUNT TELEPHONE CO., Leightons Corners, N. H.

HAY & GRAIN

We want to hear from shippers of Hay and Grain—Our direct service to large consumers in this district enables us to get top prices for good shipments. Liberal advances to consignors.

Daniel McCallrey's Sons Co., Pittsburg Pa. Ref.—Washington Nat'l Bank, Duquesne Nat'l Bank.

A Great Heider Invention

Eveners

Made for 2, 3, 4, 5 or 6 horses. The HEIDER 4-horse Pile Evener works four horses abreast on gang, sulky or disc plow. one horse in furrow, three on land. Works free, no side draft, all horses pull equal. We make devices to attach our Eveners to all plows. HEIDER 3-horse Wagon Evener for wagon, manure spreader, grain drill or any other implement with pole. CO TO YOUR DEALER, if he can't supply you don't accept any other. Write us for catalog and we will tell you where to get them. We also make Wagon Doubletrees, Single trees, Neck Yokes, etc. Insist on getting HEIDER'S if you want the best in EVENERS.



HEIDER MFG. CO. Dept. 27 CARROLL - IOWA ASK YOUR DEALER

HOME AND YOUTH

A WONDERFUL TREE.

BY EVA RYMAN-GAILLARD.

Not one in a thousand of the people who eat cocoanuts in one form or another has any idea of what the tree means to the people of countries where it is a "native" fruit, for if every particle of vegetation, except the cocoanut-palm trees, should die they would be able to live in comfort. This tree, alone, would furnish them with houses, furniture, clothing, food and drink.

The people of Ceylon proudly enumerate more than a hundred uses to which the parts of the tree and its fruits are put, and to name even a small part of these uses is to prove the assertion that it will provide all the necessities and some of the luxuries of life.

The tree has a straight trunk averaging from forty to sixty feet in height and six feet in circumference, surmounted by a crown of pinnate leaves varying from twelve to eighteen feet in length. The trunks of these trees furnish a timber that is easily worked when first cut but becomes harder, and finer grained, as it ages, until the grain becomes such that it takes the highest polish. This wood is largely imported by other countries for the manufacture of high-grade furniture, and with such wood available for the cutting it becomes evident that everything that can be made of wood is provided for.

If, however, the people were forbidden to use anything except the leaves they would be able to have the things needed, and for which we cut down forests. The stem and mid-rib of the leaves are large enough to serve as framing timbers for their houses; for fence posts; for firewood and many other uses, the smaller leaves furnishing such things as fish-poles and many of the smaller articles needed.

A glance at the leaf shows how the leaflets are arranged on each side of the mid-rib. These are so large and tough that they are used for thatching roofs, overlapped for "siding," for floors and partitions, and, when piled up evenly, for beds. Sometimes the leaflets are reduced to fibre, the finest of which is used for making cloth, curtains, carpets and rugs, and the coarser parts for brushes, brooms, fodder and fuel.

Having provided the house, its furnishings, clothes, and many other things, there yet remains the task of providing food and drink, but, to the natives who have cocoanut-palms to go to, this is no task at all. At the top of the tree there is a bunch of tender leaves that may be cooked as we do cabbage, or used like lettuce and other salad plants, but this is rarely used because cutting it leaves the pith of the tree exposed and, frequently, causes it to die. Below this growth there are bunches that look like immense leaf-buds, but are, in reality, unexpanded flower spathes which yield a large quantity of sap. At sundown men climb the trees, gash these bunches, hang pails under them to catch the sap, and then gather it early in the morning. While fresh this sap furnishes a delicious drink, but it ferments in a few hours. In the first stages of fermentation it provides the housewife with the finest of yeast, but as the degree of fermentation increases it becomes an intoxicating drink that is worse in its effects than poor whiskey. Boiled down (as we do maple syrup) before fermentation starts the sap furnishes a good sugar, and by certain methods of treating the fermented sap is made into vinegar.

The fruit is borne in long, drooping bunches having from ten to twenty nuts in each, and, growing where there is no frost, there is no particular fruiting season. It takes about a year and a half for the nuts to grow to the stage at which they will drop from the tree, but there are buds, blossoms and fruit in all stages of development on the same tree, at all times, so that fresh nuts are always available.

The nuts we buy would be considered almost worthless, for eating, in the countries where they grow, for there they are eaten from the shell, with a spoon, while not harder than a jelly. The milk in a fresh cocoanut is very rich and nourishing, but by the time it reaches our markets nearly all the nutriment has been absorbed by the meat and it is more like sweet water than like milk.

Where we would churn cow's milk to get butter, the people who have plenty of fresh cocoanuts boil the milk found in

them and then, by skimming it, get the fine oil that they use as we do butter. When the supply of this grade of milk falls short the nuts that are too hard to suit their taste are grated, mixed with water, and allowed to stand for a short time. When strained off, the water has taken up the milk of the nut to such a degree that it is almost as good as that found in the fresher nuts.

Another way of using the meat of the harder nuts is to break it into small pieces and dry in the sun, after which it is known as copra (sometimes spelled copperah). From this material cocoanut-oil is obtained by pressure, or by boiling, and, by certain treatments, the stearine from which candles are made is also produced. With this oil a soap is made that will lather when used with sea-water, as well as many medicinal and toilet articles. Another food product is made by removing the pith from the stems, cutting it into short lengths, pounding and washing several times, after which it makes a good substitute for sago.

Before we find all the useful things obtained from the tree we must examine the coarse, fibrous husk in which the nut



A Lusty Cocoanut Palm—An Indispensable Tree to Inhabitants of the Tropics.

is encased. These outer shells are soaked in salt water for months and then beaten until the fibres separate and form what is known as "coir." From this material ropes and cordage, fish nets, filling for cushions and mattresses, matting of heavy grades, door-mats, brushes and many other things are made.

The hard shell of the nut furnishes many useful articles, as well as ornamental ones, for, in the condition in which the natives use the nuts it is easily cut to any shape, and as the articles harden they can be beautifully polished. Even the roots furnish their share of things needful, for they have narcotic properties that make them valuable as medicine, and as a luxury (?)—the men chew cocoanut root instead of tobacco.

Does a native want a house, furnishings for it, clothing, food, drink, whiskey and tobacco he gets them all from the cocoanut-palm. Does he want a boat and oars, with fish-nets or poles, the same tree furnishes them, and if bow and arrow is needed for the shooting of game or enemies, they, too, are to be had from the same source.

The people of the United States use over 1,000,000 cocoanuts each year that are imported from countries in which they pride themselves on the number of uses that can be made of them, so why should not we know all we can of the ways in which other people use them.

WHAT HE COVETED.

BY HELENA H. THOMAS.

Those who are snow-bound for many months of each year cannot understand how strange it strikes an easterner, after crossing the continent in mid-winter, to find not only flowers galore but vegetables at their best. The hucksters in California are Chinamen, in the main, still there are many American vegetable peddlers.

At first it was difficult to decide among so many which to have for a "steady," but we were not long in settling upon the youth whose musical voice could be heard blocks away, as he sang out: "Nice vegetables, strictly fresh!" for we soon learned that what he carried were "fresh," and not left-overs, as was the case with some not to be relied upon.

So morning after morning for months "our peddler," as we soon learned to call him, has supplied us with both fruit and vegetables, and we have found him to be the soul of honor, too. And so, little by little, we have become interested in the manly young fellow who told us at the start that he lived with his uncle on a ranch, a few miles out of town, and, as

Let Me Send You A Treatment of My Catarrh Cure Free



C. E. GAUSS

I Will Take Any Case of Catarrh, No Matter How Chronic, or What Stage It Is In, and Prove ENTIRELY AT MY OWN EXPENSE, That It Can Be Cured.

Curing catarrh has been my business for years, and during this time over one million people have come to me from all over the land for treatment and advice. My method is original. I cure the disease by first curing the cause. Thus my combined treatment cures where all else fails. I can demonstrate to you in just a few days' time that my method is quick, sure and complete because it rids the system of the poisonous germs that cause catarrh. Send your name and address at once to C. E. Gauss, and he will send you the treatment referred to. Fill out the coupon below.

FREE

This coupon is good for a package of GAUSS COMBINED CATARRH CURE, sent free by mail. Simply fill in name and address on dotted lines below, and mail to C. E. GAUSS, 6969 Main St., Marshall, Mich.



RIDER AGENTS WANTED

In each town to ride and exhibit sample 1910 Bicycle. Write for special offer. We ship on approval without a cent deposit, allow 10 DAYS FREE TRIAL and prepay freight on every bicycle. FACTORY PRICES on bicycles, tires and sundries. Do not buy until you receive our catalog and learn our unheard of prices and marvelous special offer. Tires, coaster brake rear wheels, lamps, sundries, half prices. MEAD CYCLE CO., Dept. L. 77, Chicago, Ill.

BOOKKEEPING TAUGHT BY MAIL

If you wish to earn \$20 to \$40 per week, write us. We teach you bookkeeping at home in a few weeks of your spare time, and give diploma. Our new system is so simple anyone can learn. Free Employment Bureau open to all our pupils. One free scholarship in every town. Write for particulars. Lincoln Commercial School, 947 Ohio Bldg., Toledo, Ohio.

Let Me Start You in Business!

I will furnish the advertising matter and the plans. I want one sincere, earnest man in every town and township. Farmers, Mechanics, Builders, Small business men, anyone anxious to improve his condition. Address Commercial Democracy, Dept. D30, Elyria, Ohio.

Wanted Agents, to sell the Farmers' Account Book, Quick seller. Big inducements. Exclusive territory. Address L. L. Syphers, Fort Wayne, Ind.

LEARN VETERINARY DENTISTRY

and \$2000 a year. We teach you at home in three months of your spare time, by illustrated lectures and grant diploma with degree. Particulars Free. Detroit Veterinary Dental College, Detroit, Mich.

AGENTS—\$33.30 A WEEK

Why not make it? Jack Wood did it! He writes: "Hurry up 100 more—sold first lot in 2 days—best seller I ever saw." Hundreds of agents coming money—\$5.00 worth of tools for the price of one. Wonderful invention—drop forged from finest steel. Nickel Plated all over. Astonishing low price to agents—1.250 ordered by one man. Get our grand confidential proposition quick. Sample free—don't delay—experience not needed—write at once. THOMAS MFG. CO., 2245 Wayne St., DAYTON, OHIO

Young Men Wanted—To prepare for next Railway Mail, Customs and Postoffice Examinations. \$600 to \$1500 yearly. Short hours. Common education sufficient. Political influence unnecessary. Write immediately for Schedule of Spring Examinations. Candidates prepared free. FRANKLIN INSTITUTE, Dept. F51, Rochester, N. Y.

WANTED!

GOOD MAN to take charge of dairy farm, within mile of Agricultural College. Fine house, registered herd, splendid chance for one who has children to educate. Address Box 180, East Lansing, Mich.

for me now, tho, as things turned," he made haste to add, "for, tho uncle keeps me at it early and late, I am learning much."

"Then, too," said he with a hopeful air, there is another bright side to 'all work and no play,' for when night comes I am so dead tired that I am glad to tumble into bed, so you see I haven't a chance to come to town and blow in any of my wages, and so my pile is growing bigger all the time, and some of these days—"

He did not finish, but his face became so radiant, as he came to a sudden pause, that the writer could not resist, "And what then?"

"Why, then I will buy back the old farm!" answered the boyish peddler, in a ringing tone. "When it changed hands, and my sisters were paid off, and every-

thing straightened out, there was a thousand dollars coming to me, for which uncle pays me interest—or rather, adds it to the principal. Then I save all I earn, except what goes for clothes, and, at this rate, I calculate that by the time I am of age I will be in condition to own a ranch of my own, as they call them here, for uncle got it at a low figure and says I can have it for still less."

"Well, well," said I, as the beaming-faced speaker took up the reins, "and so you covet what so many young men are glad to shirk—farm life."

"Yes, the farm, where I was born, is the only thing in the world I really covet," was the retort of the ambitious youth who, an instant later, was singing, "Vegetables—strictly fresh!"

THE DESERT SIREN.

BY H. D. SMILEY.

(Concluded from last week.)

Bruce struggled to his feet and looked dully about him. The lake had indeed vanished from the immediate vicinity, but some distance ahead of him it still glimmered and tossed tantalizingly. With a raucous scream he sprang toward it, reaching out his arms appealingly and clutching at the air in his mad endeavor to reach the life-saving fluid.

But now as he advanced the water seemed to retreat from him and sink into the sand, and the rippling and splashing of the waves changed to mocking laughter.

Then, suddenly the whole mirage vanished. Before him he saw nothing but the fiery vibrating sand, the ashen sage brush and the sombre rocks. The hot rays of the sun struck and shriveled him, so that he sank to his knees with a moan of despair.

"Where did it go?" Oh, where did it go?" he cried, gazing wildly about. "It was all here a moment ago! It—"

His shrunken body became alertly stiff and his ear was directed toward the ground. From beneath the sand he could hear the gurgle, gurgle, gurgle of running water.

"Ah, ha! I've got it this time," he rasped, and began to dig desperately with his hands.

Almost immediately he paused to tear off his coat and cast it from him, and then he continued to madly scoop up handfuls of hot, burning sand, all the time panting and choking and mumbling incoherently.

After an interval he paused and bent his ear over the hollow hole he had excavated. The gurgle of the water had ceased!

For a moment he stared dully down into the hole, and then he raised his burning, bloodshot eyes and looked despairingly toward the cleft in the rocks ahead of him. Instantly his body stiffened again.

"Isabel! Isabel!" he shrieked, stretching out his arms appealingly. "Come to me, dearest, come—"

His arms dropped, his head wobbled from side to side, and slowly he toppled over on the sand and lay there, inert and motionless.

From the cleft in the rocks advanced the bent and grotesque figure of the desert siren. As she reached the huddled figure her wrinkled face broke into a grin and she cackled derisively.

"Ha, ha!" she shrieked. "You're another, ain't you? Didn't you know you couldn't do it? Thousands have tried—ha, ha! Yes, thousands—all dead!"

The figure on the sand did not move. It was apparently lifeless.

The siren glanced at the coat Bruce had flung off. The letter and little leather case had dropped from the pocket and lay on the sand. Slowly she shambled over and picked them up.

First she looked at the picture of Bruce's sweetheart, dully and uncomprehendingly. Then she slowly read the letter.

When she had finished, she reopened the little leather case and gazed a long time at the sweet face pictured therein.

Chapter V.

"There, there, you musn't get excited. You have been very ill and are still quite weak. You musn't try to talk until you are stronger." The desert siren was speaking.

"But where am I, and how do I come here?" Bruce cried weakly, as he lay on a rude bunk, looking bewilderedly around the rough, one room shack.

"This is my home, and I carried you here. You were overcome by the heat, out in the desert. Don't you remember?"

Bruce closed his eyes and tried to recall. Little by little it came back to him. The start from Gila city, the terrible heat and thirst, and each event up to the loss of his burros. What had happened after that was a blank to him.

After an interval the woman came and induced him to drink a cup of bean porridge. Not until then did he notice how thin and white his hands had become, and how weak he was.

"Have I been ill long?" he asked her.

"You have been here three weeks," she told him gently.

"Three weeks! Surely not so long as that!"

"Yes. You have been out of your head and raving most of the time. You are better now, but you must wait until you are stronger before you try to talk."

Her caution was needless, for the young man was already dozing off.

For the next week he did little except lie weakly in his bunk, while the woman ministered to his wants. She nursed him faithfully, but she refused to talk much, replying to his questions in monosyllables or not at all.

He recuperated rapidly on the diet of bean porridge and an occasional bit of bacon. Once the woman brot in two strange looking lizards, which she fried for him in bacon fat. They tasted much like the frog legs he had eaten, back east, and in reply to his query she informed him that they were chuckwallas, and esteemed a great delicacy among the desert folk.

In reply to questions she told him that the shack was situated in a little gulch, leading into the foot hills. Here the rocky walls sheltered them from the heat of the sun to some extent. Several springs bubbled up near the shack, watering the ground thereabout, so the bunch grass and other vegetation grew luxuriously, and furnished food for her burros.

One evening she lit the candle and fastened it to the post at the head of his bunk; then drawing up a bench, she seated herself beside him. Bruce was fingering the little case that held the picture of his sweetheart.

"Are you going back to her when you get better?" the woman asked timidly.

This was the first time she had questioned him and Bruce looked up at her in surprise. He had told her nothing of Isabel, nor of his reasons for coming west. "How did you know?" he asked.

"You talked about her in your delirium," she answered gently. "You told everything, all about her father, and the stake, and the Pegleg, over and over again. I couldn't help hearing you."

Bruce was silent for some minutes. "Then you know the reason I am here?" he said.

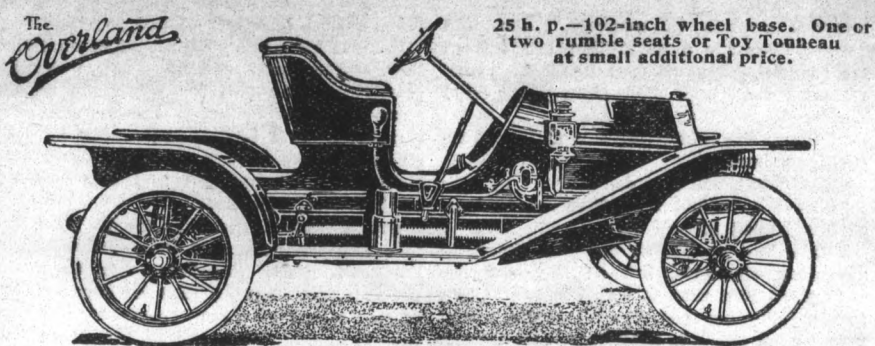
"Yes. But you are going to give it up, aren't you? You are not strong enough, nor have you the knowledge necessary to make a successful prospector. You would only fail in the end. Give it all up and go back to your sweetheart, boy. You know she would tell you to, if she were here."

"But the stake. I've got to find that stake, some way. Her father—"

"I am going to give you the stake," she interrupted him gently.

She rose and took a spade and went to the rear of the shack, where she commenced digging in the sandy floor. Shortly she uncovered two stout canvas sacks, which she dragged to the side of the bunk.

"Each of these sacks contain about one



This Car for \$1,000

This is how an enormous output has cut the cost of Overlands 20 per cent.

In our largest factory—once the great Pope-Toledo plant—we are turning out eighty Overland Models No. 38 per day.

We are making under one roof nearly every part of the car. And every machine in the factory is adapted to this particular model.

In this way we are saving about 20 per cent. We are giving for \$1,000 a better car than the Overland which last year sold for \$1,250.

Yet last year we gave more than anyone else ever attempted to give for the money.

None Can Compete

It is so with all Overland models—with our \$1,250, \$1,400 and \$1,500 cars. Each is the utmost at its price.

All prices include Magneto and full lamp equipment.

Our four factories must this year make \$24,000,000 worth of Overland cars to fill orders already placed.

This enormous output—this specialization—places Overland cars beyond all competition. To sell equal cars at the Overland prices would ruin a smaller maker.

Simplicity

The demand for Overland automobiles has multiplied 500 times over in the past two years. It has made our sales the largest in the world.

The reason lies in the Overland matchless simplicity. A 10-year-old child can master the car in five minutes.

Never was a car so easy to operate—so easy to keep in order. That is why one car has sold others, and the others sold others, until we today employ 4,000 men to meet the demand for Overlands.

A Wonderful Story

Here is a car so amazingly simple—so handsome, so powerful, so cheap—that in two years it has captured a large part of the whole automobile trade. Neither in city or country is there a car that sells like it.

This sensational success forms a fascinating story, and we have told it all in a book. You cannot know the best about automobiles till you read it. Please send us this coupon today for it.

F. A. Barker, Sales Manager,
The Willys-Overland Co.
Toledo, Ohio.

Please mail me the book.

A36

Fifteen Years' Service Without Painting—Or a New Roof—That is Our Guarantee to You—

and the guarantee is stamped right on the roofing itself, with the year you buy it.

It will last you much longer than that, but for 15 years we are responsible. Think of that—lay your roof and forget it for 15 years. No expense—no repairing—no renewing. We don't know the wearing possibilities of our own roofing. Our 25-year-old roofs are as serviceable and look as good now as roofing laid five years ago. We make our guarantee 15 years to be safe, but we know it is good for twenty-five years.

DICKELMAN EXTRA

Galvanized Metal Roofing

is the only metal roofing made which is so scientifically galvanized that it can be guaranteed against rust.

Only the toughest, most pliable, open-hearth stock is ever used. This metal is peculiarly porous and long-fibred, so that when it is put into the galvanizing pots the liquid spelter does not veneer but penetrates this fiber and amalgamates with the metal base, thus protecting it forever.

Dickelman Extra is easily laid. It is already turned and adjusted for end locks. All you have to do is to place together, and you have a perfect double seam.

Try one of our samples, test it and then test some ordinary galvanized roofing. Buy the one which does not flake or crack. It will be Dickelman's. Write today for

Free Samples and Book on Roofing

The book will show you how you can save money on your roofing, how to lay roofing easily, how to avoid repair bills. Your dealer will know about Dickelman's. Ask him. But let us send you this free book and sample. Write today.

THE DICKELMAN MFG. CO.
66 Gormley St., Forest, Ohio

THIS DEVICE WILL SAVE ONE-THIRD YOUR FUEL On Any Gas, Gasoline, Kerosene or Distillate Engine

"The Hotter the Spark the Better the Combustion," is a well known principle of Gas Engineering. Batteries give out quickly. Spark Coils eat up current, and thereby cause endless expense and trouble—just when needed the most. Poor ignition from batteries causes misfires, slow ignition or combustion and thereby increase your fuel expense by one-third to one-half. You can save this wasted fuel, get the maximum power, by installing

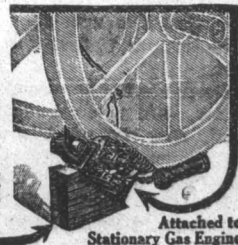
THE MOTSINGER AUTO-SPARKER

No Battery Needed to Start the Engine

Delivers a white-hot spark for a lifetime. This device is a simple, fool-proof dynamo. It will continuously deliver an intensely hot spark with from 3 to 15 volts behind it (adjustable to suit). We don't know how long the Auto-Sparker will last, for those put out ten years ago are still "delivering the juice"—few have required repairs or replacements. See your dealer or write direct for prices and money-saving details. Learn how to run your engine for one-half to one-third your present cost; also how to charge storage batteries for ignition and lights.

TO DEALERS—The demand from those operating internal combustion engines of all kinds is so constant and certain that you can safely stock the Auto-Sparker. We protect you against loss by GUARANTEEING THE SALE. Ask us about it.

MOTSINGER DEVICE MFG. CO., Box 101, Pendleton, Ind.



Attached to Stationary Gas Engine

hundred pounds of nuggets," she told him. "They are a wedding present from me to you and your sweetheart."

"But I can't take them from you," cried Bruce.

"You must. They are a wedding present, you know."

"But, what will you do?"

"I have enough left to last me as long as I will need it."

Bruce had many strong objections to accepting the gift, but in the end she persuaded him that it was the best thing to do. She assured him that she would never need it, and, that unless he took it with him, it would probably never be used.

"And is it Pegleg gold?" he asked her, later in the evening.

"No, boy," she smiled. "The Pegleg is nothing but a myth, I am sure. This gold comes from a pocket that was discovered by a friend of my—by an old prospector. He took out several thousands of dollars worth, and then covered up the find while he ran down to San Francisco to get some friends to help him take out the rest. He was taken ill there and died. He gave me a map locating the pocket before he passed away."

Bruce had not mentioned to her the fact that he knew the story of her being here, and it was evident that she wished to conceal it from him.

"As soon as you are strong enough we will start for Gila City," she told him. "I will go with you so that you won't get lost again. Then you are to take your stake and the first train east, and go straight back to your sweetheart—with my blessings."

Chapter VI.

Two weeks later Bruce and the woman and the two burros, burdened with the gold, drew up at Hidden Springs, about an hour before daylight. They had traveled all night, and Bruce, nearly exhausted, at once flung himself down in the shadow of some mesquite bushes that grew near the springs. The woman, however, began to prepare the morning meal.

This consisted of boiled beans, bacon and tea. The beans and bacon she divided in two equal portions, handing Bruce one of them. The young man was famished and ate ravenously, but the woman barely tasted hers. When they had finished, she slipped her portion back into the kettle, unnoticed by the young man.

During the morning Bruce slept soundly, but the woman wandered about among the rocks for several hours. When she returned to the springs she had two chuckwallas, which she fried for Bruce's dinner, refusing to eat any herself, on the plea that she was not hungry.

At supper the same thing happened. She emptied the kettle of beans and bacon and handed them to Bruce, but, outside of a cup of tea, she took no nourishment herself.

Bruce noticed this and remonstrated strongly.

"You have eaten nothing all day," he expostulated. "We still have a long walk before us, and you need the nourishment to give you strength."

"No," she answered, smiling bravely. "I am not feeling quite well, and couldn't eat. I will be all right, tho. I am used to going hungry."

It could hardly be expected that Bruce should know that she had her food supply once a month, and then only in quantities to last that length of time. Bruce had been in her care for six weeks and during that time they had subsisted on the woman's rations. These should have ordinarily lasted her, alone, but four weeks, but by eating them out with what few chuckwallas she could kill, she had managed to make the supply hold out. For her part she had subsisted, during that period, principally on mesquite beans and a few kangaroo mice she had managed to capture. In consequence the woman had been slowly starving, but this fact she had carefully concealed from her patient.

They started away again at dusk and made good progress for several hours. About midnight Bruce noticed that the woman was staggering. He at once stopped to ascertain the cause.

Once more she smiled bravely, but her voice trembled when she tried to assure him that she was all right. He was not satisfied, and insisted on stopping for rest.

He made her lie down while he brot her water, but when he started to look for food, she struggled to her feet, urging they must proceed if they were to reach Gila City before sunrise.

He still objected, but she put him off by laughing lightly, and assuring him that it had been nothing but a slight attack of

vertigo that had caused her to stagger.

It must have been with a supreme effort that she covered the next few miles as steadily as she did, for when she finally gave out, the collapse was sudden and complete. She had been leaning heavily on one of the burros for some time, and suddenly she stumbled and fell forward on her face, unconscious.

Bruce worked with her for an hour before she revived, and then she was too weak to stand. She urged him to go on without her, arguing that an hour or two of rest would give her the strength to follow him, and, as she was injured to the desert heat, she would not mind traveling in the sun.

But Bruce would not hear of this. Snatching a knife from his pocket he slashed the rope that bound the gold to one of the burros, and lifted the woman to the animal's back. Then, supporting her as best he could and leaving the gold where it had dropped, they proceeded on to Gila City.

They arrived at the hotel about seven o'clock. Bruce called out the landlord, and together they carried the now unconscious woman inside and laid her on a bed. A messenger was quickly dispatched for a doctor, and while they waited, Bruce and the landlord busied themselves applying restoratives to revive the woman.

When the doctor finally arrived, Bruce, himself on the verge of collapse, staggered from the room and entered the lobby of the hotel.

As he did so he was startled by a scream and something came flying across the room and flung itself into his arms.

"Bruce! Oh, Bruce!" it cried. "Oh, I'm so glad!"

"Isabel!" he gasped in astonishment. "How did you get here?"

But the girl was too overcome to tell him.

At this juncture her father, Mr. Jennings, entered the lobby from the dining room. When his eyes fell on the young couple he strode forward and seized Bruce's hand enthusiastically.

"My dear boy," he cried, "where have you been?"

Bruce did not answer immediately, but spent some minutes quieting Isabel, who was sobbing violently.

When she had gotten control of herself Bruce briefly related his adventures of the past six weeks, not leaving out the part the woman had played.

"And, oh, Bruce," cried Isabel, when he had finished, "you don't know how frightened I was. Week after week went by and not one word from you. Papa was sure that you were all right, but I just knew that something terrible was happening to you, and when I could stand it no longer I just made papa bring me out here to find you. We arrived last night, and when they told us that you had gone into the desert six weeks ago, and how your burros with your outfit packed on their backs, came in again, two days after you left, we gave up all hope of ever seeing you again. I—Oh—" and the girl burst into tears once more.

At this point the doctor entered the lobby and Bruce turned to him eagerly.

"How is she?" he asked.

The doctor shook his head gravely. "There is no hope, I fear," he answered.

"She seems to be starved to death and we cannot revive her. I am afraid that she is dying now, and that she has but a few minutes to live."

The tears sprang to Bruce's eyes at this news. He turned to Isabel and took her hand.

"Come," he said quietly, and together they stepped into the death chamber, while Mr. Jennings followed close behind.

As they surrounded the bed the woman's eyes suddenly opened and she looked from one to the other of those standing about, perplexedly. But when her gaze finally rested on Mr. Jennings, it became fixed and staring. With a great effort she raised her hand and held it out to him.

"Jim," she whispered weakly; "Jim."

Mr. Jennings stepped quickly to her side and knelt down.

"Jim," she whispered again, "you—bless—em—too. I did—Jim."

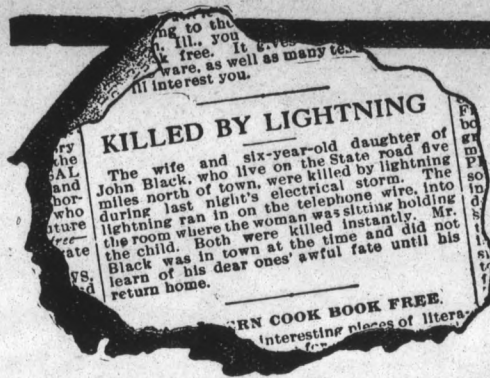
The hand that Mr. Jennings held became suddenly limp and the jaw dropped weakly down. The doctor made a quick examination.

"She's gone," he said simply.

As Mr. Jennings rose to his feet he saw that Isabel was staring at him with wide eyes.

"She seemed to know you, papa," she whispered. "Who was she?"

"She was your mother, child," was all the man replied as he turned quickly away, wiping his eyes.



Prevent Such Accidents In Your Family

You are not doing your duty to your family unless you take every precaution to protect them as well as your buildings. A reliable lightning conductor is the only way. Without it, all that makes life worth living is at the mercy of the most destructive of nature's forces.

NATIONAL FLAT CABLE

(Patent Pending)

fills all the requirements of the U. S. Government, the English War Office, the most learned scientists. Leading investigators in this country and abroad all agree that a flat cable of pure copper has greater conducting power, offers least impedance, least liability to side flashes and induced currents.

National Flat Cable (pure copper) is the only flat cable on the market.

We use pure soft copper only, and guarantee our cable to give positive protection. This guarantee, given in writing, is absolutely binding and our references assure you of reliability. Ask your banker to look up our standing.

Our Men Are Experts

Proper installation is as important as the conductor itself. Seemingly trivial matters, like failure to connect up a nearby pipe, pump, or the telephone, will often result in extensive damage.

The terrible disaster mentioned in the above clipping can never come to the man whose home is rodded with National Cable, in accordance with the National System, which means that the telephone will be protected by the National Lightning

Arrester (patent applied for). This Arrester is entirely automatic—requiring no attention whatever, and is so made that the rain cannot work in and short circuit your telephone.

Let us tell you what it will cost you to rod your buildings with National Cable. Write full particulars so we can make estimate. We will also send interested parties a book worth having, "The Laws of Lightning."

We need a reliable representative in a few open territories.

National Cable & Mfg. Co., 59 Cable Street, Niles, Mich.

Don't Pay Tribute to a Trust

The "Corn Belt" All-Rubber Arctic



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

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

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

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

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

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

If you cannot buy Gold Cross Arctics of your dealer, send us his name. We will see that you are supplied.

The Beacon Falls Rubber Shoe Co.

Chicago, New York, Boston. Look for the Gold Cross



NEW STEEL ROOFING \$1.60 PER 100 SQ. FEET

Most Durable and Economical Known. Easy to put on, requires no tools but a hatchet or a hammer. With ordinary care will outlast any other kind. Thousands of satisfied customers everywhere have proven its virtues. Suitable for covering any building. Also best for ceiling and siding. FIRE-PROOF AND LIGHTNING PROOF. Cheaper and more lasting than shingles. Will not stain rain water. Makes your building cooler in summer and warmer in winter. Absolutely perfect. Brand new. \$1.60 is our price for our No. 10 grade of Flat Semi-Hardened Steel Roofing and Siding, each sheet 24 in. wide and 6 or 8 ft. long. Our price on the Corrugated, like illustration, sheets 22 in. wide and 6 or 8 ft. long, \$1.55. Steel Pressed Brick Siding, PER SQUARE, \$1.85. Fine Steel Beaded Ceiling, PER SQUARE, \$1.85. Also furnish Standing Seam and "V" Crimped Roof. WE PAY THE FREIGHT to all points east of Colorado except Okla., Tex., and Ind. ing. At these prices. Ter. Quotations to other points on application. SATISFACTION GUARANTEED OR MONEY REFUNDED. We ship this roofing to anyone answering this Ad., C. O. D., with privilege of examination if you send us 25 per cent of the amount of your order in cash; balance to be paid after material reaches your station. If not found as represented, we will cheerfully refund your deposit. ASK FOR CATALOG No. K.F.-28 Lowest prices on Roofing, Wire, Pipe, Plumbing, Doors, Household Goods, etc.

Chicago House Wrecking Co., 35th & Iron Sts., Chicago

Not Sisters



Now and again you see two women passing down the street who look like sisters. You are astonished to learn that they are mother and daughter, and you realize that a woman at forty or forty-five ought to be at her finest and fairest. Why isn't it so? The general health of woman is so intimately associated with the local health of the essentially feminine organs that there can be no red cheeks and round form where there is female weakness.

Women who have suffered from this trouble have found prompt relief and cure in the use of Dr. Pierce's Favorite Prescription. It gives vigor and vitality to the organs of womanhood. It clears the complexion, brightens the eyes and reddens the cheeks.

No alcohol, or habit-forming drugs is contained in "Favorite Prescription." Any sick woman may consult Dr. Pierce by letter, free. Every letter is held as sacredly confidential, and answered in a plain envelope. Address: World's Dispensary Medical Association, Dr. R. V. Pierce, Pres., Buffalo, N. Y.

WESTERN CANADA

What J. J. Hill, the Great Railroad Magnate, Says About Its Wheat-Producing Power

60 ACRES
FARMS IN
WESTERN CANADA
FREE

"The greatest need of this country (United States) in another generation or two will be the providing of homes for its people and producing sufficient for them. The days of our prominence as a wheat exporting country are gone. Canada is to be the great wheat country." J. J. HILL.

This great railroad magnate is taking advantage of the situation by extensive railway building to the wheat fields of Western Canada. Upwards of

125 Million Bushels of Wheat were harvested in 1909, and the average of the three provinces of Alberta, Saskatchewan and Manitoba will be upwards of 25 bushels per acre. Free homesteads of 160 acres, and adjoining pre-emption of 160 acres (at \$3 per acre), are to be had in the choicest districts. Schools, convenient, climate excellent, soil the very best, railways close at hand, building lumber cheap, fuel easy to get and reasonable in price, water easily procured, mixed farming a success. Write as to best place for settlement, settlers' low railway rates, descriptive illustrated "Last Best West" to Sup't of Immigration, Ottawa, Canada, or to the Canadian Government Agent.

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

SAVE MONEY ON ROOFING

\$1.00 buys full roll (108 sq. ft.) of strictly high grade roofing, either rubber or flint coat surface, with cement and nails complete.

Most liberal offer ever made on first class roofing. Better than goods that sell at much higher prices. Don't spend a dollar on roofing until you have seen

UNITO ASPHALT ROOFING

You send no money when you order Unito Roofing. Satisfaction Guaranteed. Write today for free samples for test and comparison and our unparalleled selling plan.

UNITED FACTORIES CO., Dept. A22, Cleveland, O.



Tugs Can't Jerk or Work Loose

You are doubly protected by the Fernald Double Trace Holder. Tugs are always held tight by this patented grip. Cheapest accident insurance on earth. You can attach it in five minutes. Mud or snow can't clog it. Costs so little you can't afford to be without it. Best dealers everywhere. Ask your hardware or harness dealer or write us.

FERNALD MFG. CO., North East, Pa.

STUMP PULLER

Warranted the most practical machine made. One man can lift 20 tons. 3 styles. 10 sizes. \$25 and up. Screw, Cable or Hand Power. We make cheapest TILE DITCHER and the best Corn Harvester ever sold. One horse cuts 2 rows. One man. No twine. On trial. Agents wanted. Our new 64-page Catalog FREE. Write Today.

H. M. BENNETT & COMPANY, WESTERVILLE, OHIO

When writing to advertisers please mention the Michigan Farmer.

CHILDHOOD DAYS.

BY ALONZO RICE.

While musing by the fire tonight,
Gay fancies rise before my sight,
Then vanish in the waning light.

Sweet phantoms of the olden days
Their hands in merry signals raise
Along the old and well-known ways.

The thicket-road around the hill,
Near by the crumbling, mossy mill,
Is winding onward, calm and still.

Beneath a shade by alders thrown,
The boat by weeds now overgrown,
Lies tethered to a mossy stone.

The tree the children played around,
Is lying prostrate on the ground,
With ivy tendrils softly bound.

And weary with the constant sweep
Of passers-by, the bridge asleep,
Lies cradled in the tangled deep.

And there beneath the sunny skies,
Where soaring swallows skim and rise,
The vacant homestead dreaming lies.

In lilacs close beside the door,
The wrens as in the days of yore,
Are singing still their airy lore.

And there within the garden-plot,
To call remembrance to the spot,
Still nods one lone forget-me-not.

On high, the noisy weather-vane,
Prophet of sunshine or of rain,
Obeys the fickle wind's refrain.

The rose around the robin's cage,
Once trailing in wild pilgrimage,
Is bending with its weight of age.

Secure in the volume of the past,
And from time's destroying blast,
I fondly fold these fancies fast.

And turn again down trodden ways,
Bearing 'mid life's perplexing maze,
This picture of my childhood days.

GRANDMOTHER'S STORIES.

BY HARRIETTE V. DAVIS.

The Cup and Saucer Tree.

One of the nice things about going to Grandma's is, we never have to take along any playthings. Grandma has a doll for each of us. A blue-eyed, golden-haired Rosabel, a brown-eyed, brown-haired Gertrude, a boy doll dressed as a sailor, and a soft rag doll.

Rosabel and Gertrude we girls share between us, Bennie claiming sailor Dick when he deigns to notice a doll, baby boy being given the rag doll. Oh yes, there is a stuffed cloth kitten that baby boy coos and goes over, pulling its ears and kissing its nose.

It was a rainy afternoon and Grandma told us to bring out the dishes as she thought the dolls were really homesick for a real old-fashioned tea party. The tea-set was not a tiny wee bit affair. The cups held three or, if you did not take too big sips, four swallows of tea.

It is almost as much fun setting the table and getting ready as the party is afterwards. We made some nut sandwiches and cambric tea, and Grandma brot out some of the cutest little caraway seed cakes. Then we cut our cookies into six pieces to make believe pie, because Mamma thinks pie is not good for little folks. Grandpa says "Pshaw, it will make them grow," but Mamma is firm, so we eat cookies instead. Well, we had just the jolliest time, and after the party we cleared up the things, washing and wiping the dishes and putting them away.

Grandma overheard us girls wondering if the dishes were some that Aunt Mary brot to Michigan with her when they moved here. "No, dearies, Mary was too small to play with doll's dishes then. When she became older she often wished for some, until one day she found a perfectly lovely cup and saucer tree; after that she picked them any time she wanted them."

Grandma took up her knitting and began to finish off the heel to Grandpa's sock. Mamma was smiling and looking wise.

"Do tell us what you mean by a cup and saucer tree," we pleaded.

"It was an oak tree that grew a large acorn. It was in the woods on the back part of the farm, where Grandpa had not cleared yet. In the summer the cups and saucers were a lovely green. In the fall they became brown, so you see by gathering them at different seasons, they were different in color. The part that holds the acorn grows flat, and Aunt Mary used those for saucers. John would take his knife and cut the tops off and cut out the acorn meat. The empty shells made very nice cups."

"Would they hold water?" I asked.

"Yes, and Mary enjoyed playing with them as much as you do with the china teaset. It was while at the cup and saucer tree one day that Arthur saw the first bear ever seen on the farm."

"Your Aunt Mary was expecting her little playmate, who lived over the hill on

the next farm, to spend the afternoon with her. She had her table set in the shade of a maple tree east of the house. After the table was set she decided that her cups and saucers were rather shabby looking. The children came running in to tell me they were going down to the 'cup and saucer tree' for a new supply of dishes. I consented, but warned them not to be late for dinner. They promised to be back in a little while and I went to the door and watched them as they went along hand in hand, John, Mary and Arthur. They would have looked odd to you children if you could have seen them today—the boys in their long trousers and little waists, Mary in her sunbonnet and full-skirted dress."

"Here, who is talking about me," interrupted a laughing voice from the doorway.

There stood Aunt Mary. She had come over for a little visit with all of us. After greetings, when wraps were removed, Grandma explained that she was just telling the children a story. Aunt Mary insisted that she should finish it.

Grandma resumed: "I had just begun to think it was time for the children's return when they rushed in wide-eyed, pale and breathless. They all tried to talk at once. All I could make out was the one word, 'Bears!' 'Hush, children,' I commanded. 'Now John, you are the oldest, you tell it.' 'It is Arthur's story; he saw it first,' loyally replied John. 'Well, Arthur, you may tell it.'"

"It was this way, mother; we had picked up a good many acorns, and Mary and John were choosing the largest ones, and I was just throwing the smaller ones around. As I turned to throw in another direction there stood a big bear watching us. I screamed and the others looked. Then we all ran for home." 'Yes,' explained Mary, 'the bear stood right up on his hind feet and looked at us.'"

"The children were thoroly frightened. Arthur had left his cap. So when their father came home at night from his work we told him and the next morning Grandpa took his gun and visited the cup and saucer tree. There were no signs of the bear. He found Arthur's cap and brot it back. A few days later one of the neighbors started to come to our place to spend the afternoon; she had her baby in her arms. When but a short distance from here she saw a big bear come out of the woods and cross the road to the other side, so she went back home again."

"The men organized a search party right away and hunted for the bear for miles thru the woods. All they found however, was the bear's tracks in the soft sand of the road. We always thought it was the bear that Arthur saw."

We children had been too interested listeners to interrupt with questions. Now Dorothy gave a deep sigh and asked, "Did Aunt Mary bring home her acorns?"

"No, Dorothy, and it was quite a while before she went to the tree again. She contented herself with the smaller acorns found nearer home. One day she coaxed her father to go to the back end of the farm where the big acorn tree stood. They went, but the pigs had been there first and had eaten a good share of the nuts. Mary gathered enough to last her all winter for play dishes. At Christmas time a box of things were sent us from the east to Detroit, and in the box was a set of dishes for Mary—the ones you used today."

"That was a nice story," observed Bennie. "But I had rather see the bears thru the park netting where you are expecting to see them," Bennie decided. And we all agreed with him.

MY LADY. (A Valentine).

BY EUGENE C. DOLSON.

Hers is the mystic charm of all things rare;
And peace and joy walk with her up life's way.
She makes an Eden of my world of care,
My February glad with dreams of May.

ABRAHAM LINCOLN.

Safe in Fame's gallery thru all the years,
Our dearest picture hangs, your steadfast face,
Whose eyes hold all the pathos of the race
Redeemed by you from servitude's sad tears.

And how redeemed? With agony of grief;
With ceaseless labor in war's lurid light;
With such deep anguish in each lonely night,
Your soul sweat very blood ere came relief.

What crown have you who bore that cross below?
Oh faithful one, what is your life above?
Is there a higher gift in God's pure love
Than to have lived on earth as Man of Woe?

CUNNING OF RATS.

Rats are too cunning to be caught, more than one or two in the same trap. They instinctively avoid the familiar forms of ready prepared for use devices. Rats are smart but Rough on Rats beats them; fools the Rats and Mice, but never fools the buyer; will keep a thousand years, unchanged in any climate. Being a dry, odorless, tasteless powder, and all, 95% poison, with no cheap, inert admixture, can be mixed each time you use it with a different food, thus disguising it in many ways, completely outwitting them. Being powerful, is better not mixed too strong, about 1 part to 20 of food used. Not poisonous to handle, only so when eaten. Rough on Rats is no experiment, has been used all around the world 40 years by Individuals, Cities, Institutions, States and Governments. Equally effective for Roaches, Beetles, Ants and Bed Bugs. Try it for Roaches and Beetles, mixed 1 to 30 of mashed potatoes.

ROUGH ON RATS IN OUT BUILDINGS.

In setting Rough on Rats in out buildings after mixing it well with any food decided upon, separate into small bits, place on several pieces of boards, and put these here and there under the floors. Close up all openings large enough for Dogs, Cats or Chickens to enter, but leave some small openings for Rats to get in and out. One 25c. box of Rough on Rats, being all poison, will make enough mixture to clear out, in one or two nights' setting, hundreds (two or three thousand) of Rats and Mice. Not poisonous to handle, only so when eaten. It is "the old reliable," the "unbeatable exterminator." "Don't die in the house." Beware of imitations, refuse substitutes upon which dealers may make a greater profit. 15c., 25c., 75c., at Druggists. Economy in the larger sizes.

E. S. WELLS, Chemist, Jersey City, N. J.

APPLETON QUALITY
Wood Saws

SAW your own wood and save time, coal and money; or saw your neighbors' wood and

MAKE \$5 TO \$15 A DAY

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

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

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

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

BREEZE 7 Handsome Models \$275

Travel the worst roads with ease and comfort And Up

Motor Vehicle

SEND FOR CATALOG "5"

The Breeze is strong, simple, speedy and safe. Best motor vehicle built for country roads—mud, deep sand or high hills. 13-18 H.P. engines. Lowest cost of upkeep, least tire trouble. Handsomely finished.

THE JEWEL CARRIAGE CO.
CINCINNATI, OHIO

CIDER PRESSES

The Original Mt. Gilead Hydraulic Press produces more cider from less apples than any other and is a **BIG MONEY MAKER**. Sizes 10 to 400 barrels daily. Also cider evaporators, apple-butter cookers, vinegar generators, etc.

CATALOGUE FREE.
THE HYDRAULIC PRESS MFG. CO.
131 Lincoln Ave., Mt. Gilead, Ohio.

HARVEY BOLSTER SPRINGS

Soon save their cost. Make every wagon a spring wagon, therefore fruit, vegetables, eggs, etc., bring more money. Ask for special proposition.

Harvey Spring Co., 1232 17th St., Racine, Wis.

FREE TRIAL TO YOU

PATENTS WORTH FORTUNES

Inventors: Send 6 cts. for our Valuable Patent Books

R. S. & A. B. LACEY, Dept. 89, WASHINGTON, D. C. Est. 1869

THE HEAT PROBLEM.

A large proportion of the homes, in the country as well as in the city, are heated by stoves. Not only the comfort but the health of the family demands that these stoves should be adequate for the purpose, since a poorly heated house is as well a poorly ventilated house. The air must be first warmed before any provision for ventilation will prove efficient, for often the old stove is one to which the humorous writing of Mr. Dooley on polar observations would apply, when he said that his polar observations had all been taken with his feet on the fender of a stove in a temperature of something like 90 degrees in front and about 17 degrees below zero back of him. This exaggerated statement too nearly describes the condition of the air in many houses heated with stoves. But the better class of modern stoves and ranges do not heat the room in this way. Of course, something depends upon the proper location of the stove as well as upon its proper construction. All of these phases of heating by stoves are brot out in an effective way in many of the modern catalogues published by stove manufacturers, but always the stoves should be of sufficient capacity to warm the rooms adequately without crowding and so placed as to produce the circulation of warm air and to aid the ventilation of the rooms to be heated. The selection of the cooking stove is also an important problem for the housewife, and there are many points to be considered which do not apply to the heating stoves. In this day of improvement the purchaser should be sure that the stove which he is buying is adapted to the need which he has for such an article, and much may be learned by comparing the principles on which different stoves are constructed, and studying the manner in which they may be best installed for effective work.

Wayne Co.

D. D.

SMILE PROVOKERS.

Knicker—Hear you had an accident with your auto.

Bocker—Yes, Miss Prettygirl and I became so absorbed we let it find its own way home. It evidently lived up a telegraph pole.

Caller—"Sir, I am collecting for the Poet's Hospital. Will you contribute anything?"

Editor—"With pleasure. Call tonight with ambulance and I will have some poets ready."

Cinder Charley—I told dat lady I was merely tryin' to keep soul an' body together.

Billy Trucks—What did she say?

Cinder Charley—She gave me a safety pin.

"I never was so happy," said the new benedict. "I tell you, marriage has made a different man of me."

"I'm glad to hear it," said his rival, "for your wife's sake."

"He's quite a star as an after-dinner speaker, isn't he?"

"Star? He's a regular moon. He becomes brighter the fuller he gets."

Bertie—"Are we any kin to chickens?"

Gertie—"Of course not; we're people."

Bertie—"Well, Uncle Harry said papa was a mighty bad egg when he was young."

"Madame, could you spare a handout or cold bite? I was wit' de man dat discovered de Pole."

"Where's your proofs?"

"De proper thing, mum, is to provide de banquet, and den ask for de proofs."

"Pa, kin any little boy git to be President?"

"Yes, Tommy. Do you wish to become President?"

"Not me. I don't want no job that all of the other kids kin have."

"So you want to marry my daughter, do you, young man?"

"Y-e-s, s-s-i-r."

"Well, can you support a family?"

"H-how many are there of you, s-sir?"

"Why," asked the judge, "do you think your husband is dead? You say you haven't heard from him for more than a year. Do you consider that reasonable proof that he has passed out of existence?"

"Yes, your honor. If he was still alive he'd be askin' me to send him money."

Hog Feeding Floor of Concrete

Hogs thrive best on concrete feeding floors because they are clean and sanitary. The hogs can't make a dent in the concrete. Concrete floors can be kept clean because mud holes and stagnant pools are eliminated. Clean feeding quarters mean healthy stock.

When planning to use concrete remember that no matter how careful your construction may be, it is certain to be unsatisfactory unless the cement you use is of the right quality. To expect to make hard and durable concrete from poor cement is like trying to make a good pair of shoes from scrap leather.

ATLAS PORTLAND CEMENT

Makes The Best Concrete

The largest buyer of ATLAS Portland Cement is the United States Government, which recently purchased 4,500,000 barrels for use on the Panama Canal. There is only one grade of ATLAS Portland Cement manufactured—the best that can be made—the same for everyone.

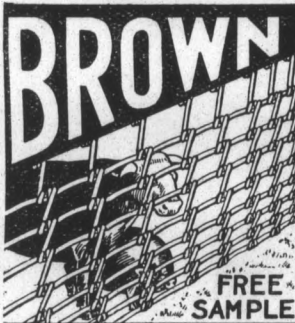
ATLAS Portland Cement is made of genuine Portland Cement Rock. It contains no furnace slag.

Send for Our Free Cement Book "Concrete Construction about the Home and on the Farm." It contains directions for making and handling concrete, and shows how to construct large and small buildings. There are 168 pages and over 150 illustrations, diagrams and plans.

Ask your dealer for ATLAS. If he cannot supply you, write to

The ATLAS Portland CEMENT Co. Dept. 12 30 Broad Street New York

Productive capacity over 50,000 barrels per day—the largest in the world



GET A BROWN RUST PROOF FENCE

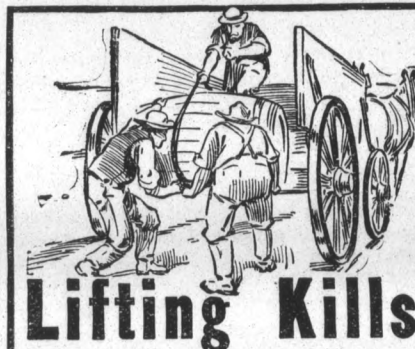
Don't buy wire fencing with thin, cheap galvanizing. Brown Fences with all No. 9 Coiled Spring Double Galvanized Wires stands and wears like a stone wall. Easy to put up—Requires fewer posts—Won't sag or bag down. 160 Styles.

15 TO 35c PER ROD DELIVERED—WE PAY THE FREIGHT.

Fences for Hogs, Sheep, Horses, Cattle, Lawns, etc. Special Poultry, Garden and Rabbit proof fences with extra close 1 inch spacings at the bottom. You save money and get a better fence.

Send for Free Sample and test it with acid, or file it and see how thick the galvanizing, then compare it with any wire fence in your neighborhood. Catalog free

The BROWN FENCE & WIRE CO. DEPT. 49 Cleveland, Ohio.



Lifting Kills

Lifting kills more farmers than pneumonia, consumption and typhoid combined.

End your drudgery. Get a set of

Empire LOW STEEL Wheels

to use when hauling. You can change from wooden to steel wheels in 5 minutes. Empire Steel Wheels cost only one-half the price of wooden wheels. They double the life of your wooden wheels. They save tire and repair expense. They save your team. Send for new free catalog of Empire Wheels and the famous Empire line of Handy Wagons.

EMPIRE MFG. CO., Box 189, QUINCY, ILL.



Ornamental Fence Cheaper than wood for Lawns, Churches, Cemeteries, Public Grounds. Also Wrought Iron Fence. Catalogue free. Write for Special Offer.

THE WARD FENCE CO., Box 441 Decatur, Ind.

FENCE Strongest Made

Made of High Carbon Double Strength Coiled 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.



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.

FUR COATS and ROBES

Send postal for prices on TANNING HIDES and MANUFACTURING COATS and ROBES.

MOTH PROOF TANNING CO., Lansing, Mich.

14 1/2 Cents a Rod

For 22-in. Hog Fence; 15 1/2-c for 26-inch; 13 1/2-c for 31-inch; 32c for 34-inch; 25c for a 47-inch Farm Fence. 50-inch Poultry Fence 33c. Sold on 30 days trial. 80 rod spool Ideal Barb Wire \$1.55 Catalogue free.

KITSELMAN BROS., Box 278 MUNCIE, IND.



I Want to Send You This Free Book

before you buy a rod of fence. Take my word for it, it will pay you to give me the chance. It's a book about

EMPIRE

All-No.-9 Big Wire Fence

I've had my say about fence in this book and I want you to read it. Most profitable fence in the world to buy, as I'll show you.

THERE'S A NEW THING ABOUT IT

It's now sold delivered to fence-buyers everywhere—not just in certain sections, but everywhere in the U. S. Plainly priced in the book (factory prices) and the factory pays the freight to your railroad station.

Send me a card or letter for book right away. I'm going to send out 45,000 of these books to farmers this fall, but I'll get them out promptly. Address FARMER JONES, Fence Man for

BOND STEEL POST CO.

16 E. Maumee St. Adrian, Mich.



LAWN FENCE

Many Styles. Sold on trial at wholesale prices. Save 20 to 30 per cent. Illustrated Catalogue free. Write today.

KITSELMAN BROS. Box 316 Muncie, Indiana.

All other Tongueless Discs Are Imitations—Get the Genuine—Better Than Ever—Same Low Factory Price

YOU won't know what a real tongueless disc is until you see and try the Detroit-American. Others are makeshifts—old-style discs with tongues cut off and trucks stuck under in front. They can't do the work or save the horse or last as long—they can't be worth as much to you—as the improved—

Detroit-American

All-steel frame; Hard maple bearings; Rigid steel adjustable standard; Pipe oilers; Shifter bar and adjustable bumpers; double levers; indestructible steel spools between blades; steel sectors. Nothing to break, loosen, or wobble, and guaranteed for an unlimited time—not 5 years or 10 years, but forever. Try one free a month. If satisfactory, pay—if not, return. We take care of the freight in both cases. Buy on credit if you choose.

Write Us Before You Buy Get our big, money-saving, free book. See the genuine tongueless disc and note the bed-rock, factory price. Prompt delivery is our hobby. Warehouses at many points. Send coupon or postal now for guide to the right disc at the right price. Also shows the famous Detroit-American Manure Spreaders and Cultivators at cut prices. We sell only direct from factory. Don't let a dealer pretend that he is giving you a real tongueless disc. We never sell dealers.

AMERICAN HARROW CO. 1075 Hastings St., Detroit, Mich.

Write for Big Free Book

Name..... Town..... State.....

GRANGE

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

THE FEBRUARY PROGRAMS.

Suggestions for Second Meeting.

Song by the Grange.
Roll call of officers, responded to by favorite quotations from Longfellow.
Drill in Grange Ritual.—1, outer and inner door signals; 2, outer and inner door passwords; 3, signs of four degrees; 4, how enter a Grange in fourth degree.
Instrumental music.
Farm Business.—II. How to keep accounts. 1, with crops; 2, with animals; 3, with the household.
Reading, "Family Accounts."
Exhibition and explanation of account systems by two men and one woman who practice keeping accounts.
Cookery.—II. Fruits and Salads.
Specimens of fruits and salads, attractively served, by five women who call attention to special points in their favor.

IS THIS YOUR GRANGE?

"The Grange must get over thinking itself so good that people need to kneel before it and beg to be admitted!" recently exclaimed a loyal Patron, commenting on that tendency in some localities toward Grange self-satisfaction which results in practical exclusiveness.

Is your subordinate Grange of this sort? Are your members congenial, happy as a family, and contented to allow membership matters to take care of themselves? Are you among those who are satisfied to "let well enough alone?" Do you know the inevitable outcome of such a course if pursued for a term of years? Is your Pomona of the type that accepts dues when they are offered, obligates new members occasionally, and initiates in form only when driven to it by some unusual disturbance of conscience?

A newly elected officer of one of our Pomonas, who is also comparatively new to Grange work and therefore sees things with a less complacent eye than some of us do, confessed this: "My own conversion to the Grange principles was perfect and instantaneous when I first heard its ritual well rendered; but—my, oh—my I have heard those same wonderful passages stumbled thru, simply for the want of reading them over or committing them to memory on the part of the officers. No meaning was conveyed to the candidates, for the officers themselves were not sufficiently familiar with it to give it to another. We cannot expect to impress new members with any sort of a high call of the Grange upon their time and respect while we indulge in such slackness."

"Much less," the speaker continued, "can we attract and win new members without canvassing for them and preparing for their reception as if they honored us and made us glad by joining their forces with ours."

This burst of suppressed opinion was followed by the unfolding of a definite, carefully thought out plan to solicit the co-operation of other Pomona officers in the practice and perfection of the county ritualism, with the ultimate view of reaching and influencing the subordinate Granges of the same county in a similar movement. Are these the plans for progress in your county or neighborhood, my Grange reader?

JENNIE BUELL.

THE PRESENT VS. PIONEER DAYS.

At a recent meeting of an Iowa Grange there was presented, by one of its members, a very interesting paper, which dealt with the opportunities and possibilities open to the young farmer of the present day. The inducements offered the young man who is willing to adopt the honorable calling of farmer, and to make it his life work, were compared with the conditions existing 25 to 35 years ago, very clearly to the advantage of the former.

"The purchasing power of our products at that time," said this Patron, "and the prices we paid for the necessities in the home and on the farm, and the rates of interest on borrowed money, all combined to make life on the farm a most serious problem and indeed caused many a young man to leave the farm and seek the city in hopes that he might secure a paying position with less effort, and shun what to him seemed a life of drudgery."

"Let us now make a comparison of prices of farm products and cost of farm supplies," continued the speaker. "Thirty years ago we could, in Iowa, buy ten yards of calico for \$4, taking 40 pounds of butter; today the same amount of but-

ter will buy 200 yards. Twenty-nine years ago you paid \$17 for 100 lbs. of barbed wire, which took over 100 bushels of oats; today 100 bushels of oats will buy 1,200 lbs. of wire and the staples thrown in. Thirty years ago we paid \$225 for a harvester, taking 300 bushels of good wheat, today the same amount of wheat will buy several self binders. Thirty-five years ago the wife took a trip on the railroad a distance of 400 miles, round trip, which cost \$16, which took 300 dozen of eggs; today the same number of eggs will carry you 3,000 miles, with better accommodations. Twenty-eight years ago a first-class work harness cost \$33, which took 1,000 lbs. of pork; today the same pork will buy two sets of the same quality of harness.

"Shoes are some higher, but you can buy today, from the products of the farm, three pairs where you could buy one pair thirty years ago."

"Thirty years ago you paid for shoeing a pair of horses \$4, which took sixteen bushels of corn; today the same corn will shoe five horses."

Thirty years ago a bill of lumber for \$1,000 took 4,000 bushels of corn. The same bill, which today is \$1,500, will take 2,500 bushels of corn, leaving 1,500 bushels of corn to sell, bringing \$900, which you still have left after being robbed of the \$500 advance. Now, this you can donate to the poor to buy more land.

"Thirty years ago you paid \$100 interest on \$1,000 for one year, which took 400 bushels of corn; today the same corn will pay interest on \$4,800 for one year."

"I contend, all things considered, that you can buy a farm at the advanced price of today and pay for it easier than you could thirty years ago."

AMONG THE LIVE GRANGES.

East Brookfield Grange Organized.—State Deputy John Wilde organized a Grange at the Booddy school in Brookfield township, Eaton Co., Tuesday evening, Feb. 1, with the following officers: Master, B. E. Shetenhelm; overseer, Tyler Holbrook; lecturer, Frank Cashar; steward, Cecil Swan; asst. steward, Joel Walworth; lady asst. steward, Lucretia Swan; chaplain, R. C. Reese; treasurer, Harry Walworth; secretary, Hugh Swan; gate keeper, C. H. Roger.

Observed McKinley's Birthday.—The last regular meeting of Harmony Grange, of Wayne Co., was held in the Grange hall at Romulus, on Saturday, Jan. 29. One of the unusual features was the presentation by the secretary of an artistic birthday book containing the Grange birth roster. This was ordered hung in a convenient place for ready reference. The following varied program was listened to with interest: No. 62 in Grange Melodies; Forward, Chas. E. Downing; recitation, Ella E. Wood; reading, Geo. Shook; violin solo, Fred Buckberry; talk, David Wood. January 29 being the anniversary of McKinley's birth, F. A. McBride concluded with a splendid eulogy on the life of Wm. McKinley. Rev. R. J. Chase sang most effectively, "Lead, Kindly Light," the McKinley hymn, following which the little flower girl distributed a bunch of carnations among the old soldiers and their wives.

Deputy Wilde Busy in Eaton County.

Eaton county is organizing a number of new Granges under the direction of Deputy John F. Wilde, who took the Grange into every Upper Peninsula county last summer. Some results of his efforts are the following:

Because of misunderstanding of date, attendance at Pottersville was small, sixteen members of Charlotte and Windsor Granges being present.

On Tuesday evening, Jan. 25, a good list of signers was secured at district No. 10, Benton. J. F. Lipsey was made temporary master and H. J. Halgh temporary secretary.

At the Smith district, No. 14, in North Chester, Samuel Rogers was elected temporary master and Walter Randall temporary secretary.

A complete organization was effected at Chester village, Jan. 27, with following named officers: Master, F. C. Lamont; overseer, Lyle E. Ryan; lecturer, Edith Ryan; steward, Floyd Case; assistant steward, Wilber Lear; L. A. S. Louise Wright; chaplain, Ella Case; treasurer, W. H. Holmes; secretary, Fred Wright; gate keeper, Clarence Claus.

At Mason district (No. 1) Kalamay, after securing several signers, Hayes Tieche was elected temporary master and C. N. Leedy temporary secretary. Another meeting will be held Monday evening, February 14.

At the Evans school, in North Bellevue, on Saturday, Jan. 29, A. Hamilton was chosen temporary master and the next meeting was set for Wednesday evening, Feb. 16.

At Mahan school in West Brookfield a complete organization was effected under the name of Emma Grange, with the following officers: Master, J. E. Sherman; overseer, L. A. Parr; lecturer, H. C. Lown; steward, Jason Frost; asst. steward, Ira Auxter; lady asst. steward, Rena Frost; chaplain, Mabel Lown; treasurer, Samuel Williams; secretary, G. S. Croup; gate keeper, Geo. McDonald. The next meeting will be held Thursday evening, Feb. 17.

COMING EVENTS.

Pomona Meetings.
Charlevoix Co., with Wilson Grange, Thursday, Feb. 17.
Genesee Co., with Flint Grange at its hall in Flint township, Friday, Feb. 25.

FARMERS' CLUBS

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

Associational Motto.

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

Associational Sentiment.

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

THE ANNUAL PROGRAM.

Washington Center Club.

The first of the annual programs for 1910 to be received at our office, is issued by the Washington Center Farmers' Club of Gratiot county. On the cover page appears the name and location of the club, the date of the program and the Club's motto and sentiment which appears in the Farmers' Club Department from time to time, also the brief announcement that the regular meeting occurs on the second Thursday of each month. One page is devoted to the program of the meeting for each month, the place of meeting being announced, the name of the host being accompanied in each place by the farm name, all the farms in the Club membership apparently being named. A regular order of business is published, to be followed before the dinner hour, and quite a complete program is prepared for the afternoon session in each case. Quotations appear at the foot of each program, each having an important moral. Roll call is responded to by quotations in some cases and in an appropriate manner for each meeting. At the February meeting, for instance, roll call is responded to by "Things George Washington Never Saw," that of the March meeting by "Temperance Sentiments." At the April meeting provided for is, "Our Favorite Work." The May meeting, "Eminent Men of Michigan," and so on thruout the year. All-day meetings are held until May when afternoon meetings prevail until October, with the exception of the August meeting which is a basket picnic. A Club fair is held in October and the program for the entire year is well calculated to keep the things in Club work up to a point which will insure the prosperity of the organization. The Washington Center Club is one of the first in the state to adopt the yearly printed program, and their long experience has enabled them to determine the features best calculated to make this feature a profitable and beneficial one in their Club.

Looking Glass Valley Farmers' Club.

The annual program of this Farmers' Club for 1909-1910, recently received, is certainly an innovation in its line. It is very simple, yet of a comprehensive nature, as will be noted from the following description. It is a simple folder of four pages, the first of which is devoted to the announcement of the meetings which are held semi-monthly from November until April, inclusive. Simply the topics are given after the date of each meeting, and the names of the principal speakers so far as practicable. For instance, for the meeting of Nov. 4, the topic was "Care of Poultry," the speaker was from M. A. C., followed by a "Report of Garden" by three members of the Club, whose names are given. This idea of a committee giving reports on different phases of farm production is outlined in the review of the year's work of this Club, which appears in this issue, and is an interesting diversion as well as a profitable line of work for the Club. So on thru the various meetings appears these reports on different departments of farm production. For instance, the November 18 meeting was devoted to the question of Oats, the one word, followed by the names of those who discuss and report upon the oat crop, served to make clear this announcement to the Club members. Then followed the discussion of newspapers, with provisions for the presentation of editors' views and readers' views. For the December 2 meeting, Cows was the subject for discussion and report, the Club's history also figured at this meeting. At the December 16 meeting corn was the topic discussed, while at the December 30 meeting, potatoes and barley were the crops reported upon, and rural schools was the topic discussed, with both teachers' views and parents' views provided for upon the program. At the first January meeting the bean crop was reported upon and bees were taken up, while "The Prohibition Out-

look," was discussed. So on thru all the meetings of the year the different crops were reported upon and different departments of live stock production were included, some of the subjects being, hogs, sheep, clover seed, hay, wheat, etc., while the subjects of roads and their construction, farm implements, co-operation, and like general topics were taken up at the various meetings. The one special feature for the season is an annual sugar social and woman's day held in April, for which the committees are announced in the program. On the back page appears the announcement of the dinner hour, the hour for opening the program, a general invitation to all to attend the meetings, and a note stating that each member is asked to keep account of some crop or branch of live stock production and report the cost and the profit or loss from such production as a part of each program which, with the statement of the annual dues, completes this very novel and ingenious program which is something new at this department of Club work.

A REVIEW OF THE YEAR.

Looking-Glass Valley Club.

This Club, only six years old, is enjoying a busy and prosperous year. We have a membership of 100, with an average attendance of 80. Meetings began Nov. 4 and are held every two weeks until the first of April. This year a new plan is being followed, each member is assigned some crop or branch of live stock, of which he is to keep an account for the year, reporting profit or loss of same at a meeting given over to this subject. Interesting reports have been given on the garden and poultry. Reports on oats show a profit of about \$15 per acre, corn \$17, beans \$16, and potatoes \$39. A report on seven hogs gave a profit of \$50. One of the most interesting reports of the year was that of the president, A. B. Niles, on his herd of seven Holstein cows. These were fed at a cost of \$410, and produced 63,456 lbs. of milk, valued at \$728.51 at Lansing condensed factory prices.

Other topics of interest have been "Care of Poultry," by speaker from M. A. C.; "Newspapers," discussed by three live editors invited for the occasion; "Rural Schools," by a principal, commissioner and ex-commissioner; "The Prohibition Outlook," and "Farm Implements," also a corn show in connection with the corn meeting. Much interest is being aroused and members are asking for subjects for next year.

At the annual meeting Jan. 27, the following officers were elected: President, A. B. Niles; vice-president, H. S. Bliss; secretary, Fred Openlander; treasurer, C. N. Plowman.—Mrs. J. J. Maier, Sec.

CLUB DISCUSSIONS.

A Flourishing Club.—The January meeting of the Dundee Farmers' Club was held at the pleasant home of Mr. and Mrs. Alfred Wright. The icy condition of the roads kept several away, still a goodly number were present to partake of the bounteous dinner, enjoy the social part and to enter into the spirit of the program. It was a farewell meeting with Mr. and Mrs. Wright before removing to their new home, near Tecumseh. Our Club is in a good flourishing condition, having a membership of about one hundred. We have recently been bereft of one of our most efficient members, Mr. Richard Ingraham. He fell on the ice, sustaining injuries which resulted in his death two weeks later.—Ava E. Lautenschlager, Cor. Sec.

Hold "Gentleman's" Meeting.—The first meeting in the new year of the Indianfields Farmers' Club was held at the hospitable home of Mr. and Mrs. Fred Slocum, Thursday, and right royally were the members of the Club and many visitors entertained by host and hostess. It was "Gentleman's Day." Charles Smith was refreshment committee and the sumptuous dinner was served on the "self-served plan." President B. H. Smith opened the program. A humorous reading, "The Downfall of Dennis," was given by J. M. Miller. A paper concerning the Panama Canal, by Castle Taggett, followed, which was very interesting as well as instructive. M. Anger responded and that he did not see much while in the canal zone, as he did not stay long on account of the mosquitoes. "Advantages of the New Highway Law," was ably discussed by W. Eldridge, who thinks it is, as a general thing, better than the old way. Discussion led by I. N. Taggett, who thinks it can be improved. M. Anger likes the old way best. D. Van Buren gave a humorous recital, "Trouble Everywhere with a Scolding Wife." "Put on Your Old Gray Bonnet," was sung by Dewey Smith and Claire Andrews, and at the right moment little Lucy Andrews appeared in her old gray bonnet and helped them sing. A paper, "My Neighbor's Dog," was read by M. H. Oakley, completing a very pleasant meeting. The February meeting will be held at the home of Mr. and Mrs. W. Eldridge.—Mrs. J. M. Miller, Cor. Sec.

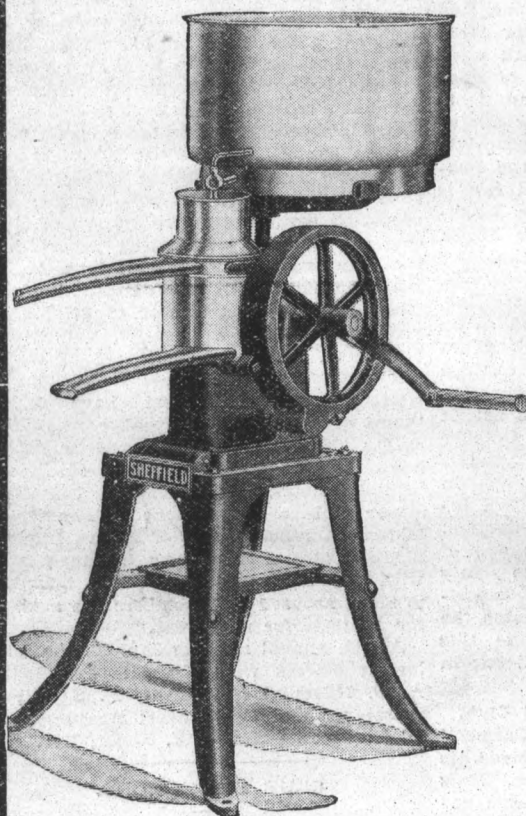
A Self-Balancing Bowl Cream Separator Guaranteed for 15 Years

Fifteen-year guarantee! Yes, an actual 15-year guarantee on the Sheffield Cream Separator, A genuine, legal, hard and fast, absolutely binding guarantee for the full legal term of fifteen years of actual, everyday service and use on your farm or in your dairy. Think of it. This is the most sensational guarantee ever made on any cream separator. It is the only cream separator on which there is a fifteen-year guarantee—it is the **only** cream separator on which a fifteen-year guarantee **can** be given.

This 15-year guarantee is made possible by the Severin C. Anker-Holth self-balancing bowl, which practically eliminates wear and tear. It is a perfect self-balance, because it balances automatically. There is no possible opportunity for it to get out of balance. The Sheffield is the only self-balancing cream separator made in America. The others are balanced with lead or solder. For proof of this look inside the bowl and see. We guarantee the Sheffield for fifteen

years—it will last a lifetime. The reason why we can afford to bind ourselves to you in this unparalleled guarantee is because the Sheffield Cream Separator is made with the most astounding mechanical accuracy. We know there can be no defects in material or workmanship.

Caution— The few splashes of lead dropped inside the bowls of other manufacturers to make the bowl balance may work for a little while—for a year perhaps—but such a separator cannot be truthfully guaranteed for even six months. No one can tell when these splashes of lead may fly off.



30 Days Free Trial You Pay Nothing Down— No Note, No Mortgage, No C. O. D.

DON'T PAY US A CENT until you have tried the Sheffield Cream Separator—until you have given it a full, complete, prolonged examination, trial and actual continued working test—the actual test—the test that cannot leave any room for doubt. **Don't send us a dollar** or pay us anything whatever until you have fully and freely tried the Sheffield Cream Separator as you think a cream separator ought to be tried—in your own way—on your own farm.

Your simple word that you would like to see this cream separator on your farm, in your dairy or wherever you want to use a cream separator brings it to you instantly. We send you the Sheffield Separator without a bit of quibbling or hesitancy. Some firms pretend to give you a free trial, but they ask you to give them your money first. We are entirely satisfied to let our cream separator speak for itself. The Sheffield Cream Separator sells itself. It is sold in no other way. **That is the way you ought to buy a cream separator.**

We send the Sheffield Separator to you on **FREE** trial. If it does not sell itself to you by its excellent and superior work in every way, send it right back to us at our expense, and no questions asked. Test the Sheffield Cream Separator in every way, watch your profits go up, watch the increase in the amount of your cream. Then if you do not believe you want a cream separator just send it back at our expense. If, however, you decide to keep this genuine self-balancing bowl Sheffield—the unrivaled separator—the separator that gives you greater profits and less work and care than any other—that makes every cow you have give 100% greater value, and insures you greater profits than you ever made on cream before, we will allow you to keep it on extremely easy

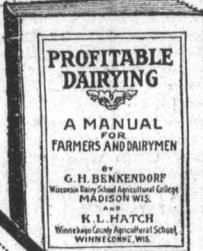
MONTHLY PAYMENTS!

These payments are so small you will hardly notice them. You pay out of your increased profits on cream. The separator always more than pays for itself.

Valuable Book "Profitable Dairying"

Sent FREE!

Send Free
Coupon
NOW.



Sent FREE!

Clip Out Coupon OR WRITE
A LETTER
OR POSTAL

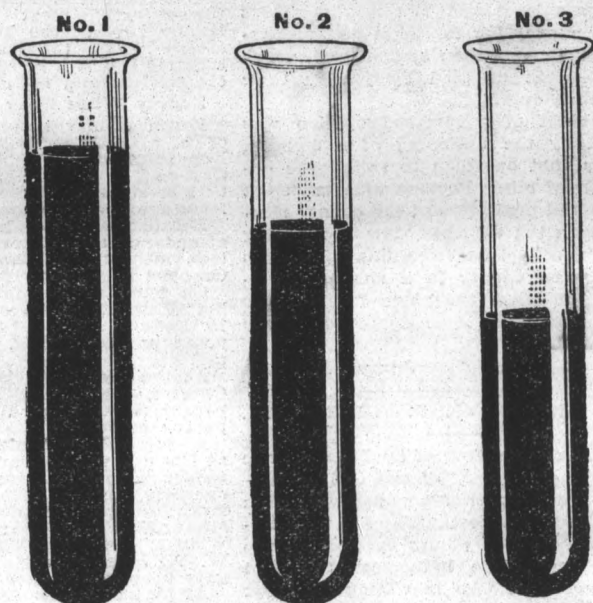
Send Today, Your Name and Address Brings the Free Book

Just ask for this book and it will be sent to you. It is free. Place your name on the coupon, cut it out and mail it at once. Then we will send you our great free book, "Profitable Dairying," telling you everything about cows and dairying, butter and cream—how to feed and care for cattle, how to make them twice as valuable as they are now, how to make more money than ever before out of your cows. This book is written by two of the best known dairy scientists in the country—Prof. G. H. Benkenhoff, Wisconsin Dairy School Agricultural College, Madison, Wis., and K. L. Hatch, Winnebago County Agricultural School, Winneconne, Wis.

We Will Also Send You Our FREE CATALOG—

describing fully the great Sheffield Cream Separator and telling all about our liberal terms. Find out about these terms, anyway, even if you don't expect to buy a cream separator just now. Remember—no money down, free trial and easy payments—and we let the separator tell its own story. The most sensational offer ever made in connection with a cream separator. Our catalog tells all about it. Don't delay. Sign the coupon right now.

SHEFFIELD SEPARATOR CO.
19th and Marshall Blvd., Dept. 3632 Chicago



We give you here positive proof of the superiority of the Sheffield Cream Separator over two other cream separators of acknowledged high-grade. There can be no more convincing proof than this—the proof no other separator manufacturer would dare let you make if a Sheffield were around. We show you here three test tubes, all of the very same size. Three portions of milk, each portion the very same in quantity were taken from the same cows. One portion of this milk was run through the Sheffield Cream Separator and the other two quantities were run through the other two well-known cream separators referred to in Figure No. 1 illustrates the amount of cream extracted by the Sheffield. You can see for yourself that it is at least 25% more than that extracted by the separator whose product in cream is shown in figure No. 2. This separator cost \$35.00 more than the Sheffield, and yet you can see that only three-fourths as much cream was extracted from the same amount of milk. This test was made not only once, but over and over

again until there was absolutely no doubt in the minds of the judges of the superiority of the Sheffield.

In figure No. 3 we show you the amount of cream extracted by a separator well known to the trade, and looked upon as a "good" machine. This separator costs 20% less than the Sheffield, but it extracted 50% less cream. No proof could be more positive—more SURE than this. Nothing could be more convincing. The Sheffield is the peer of all cream separators, and we are willing to PROVE this by sending the Sheffield to you without ALLOWING you to pay any money for it. We want to give you the proof in reality—the proof before your very eyes—that we show you here on this page. Sign the coupon and get the free book, "Profitable Dairying." This book regularly sells for 25 cents. But we offer it FREE. And besides we send our free catalog telling all about the Sheffield machine and all about the great Free Trial, No-Money-Down, Easy Payment Offer. Send the Coupon Today.

SEND THIS COUPON OR A LETTER OR POSTAL
without obligation on me, please send me free, prepaid, your FREE BOOK, "Profitable Dairying," and your free catalog in explanation of your free trial, No-Money-Down, Easy Payment Offer. Separators guaranteed for 15 years.
NAME.....
ADDRESS.....
No letter necessary; just sign & mail the coupon today.