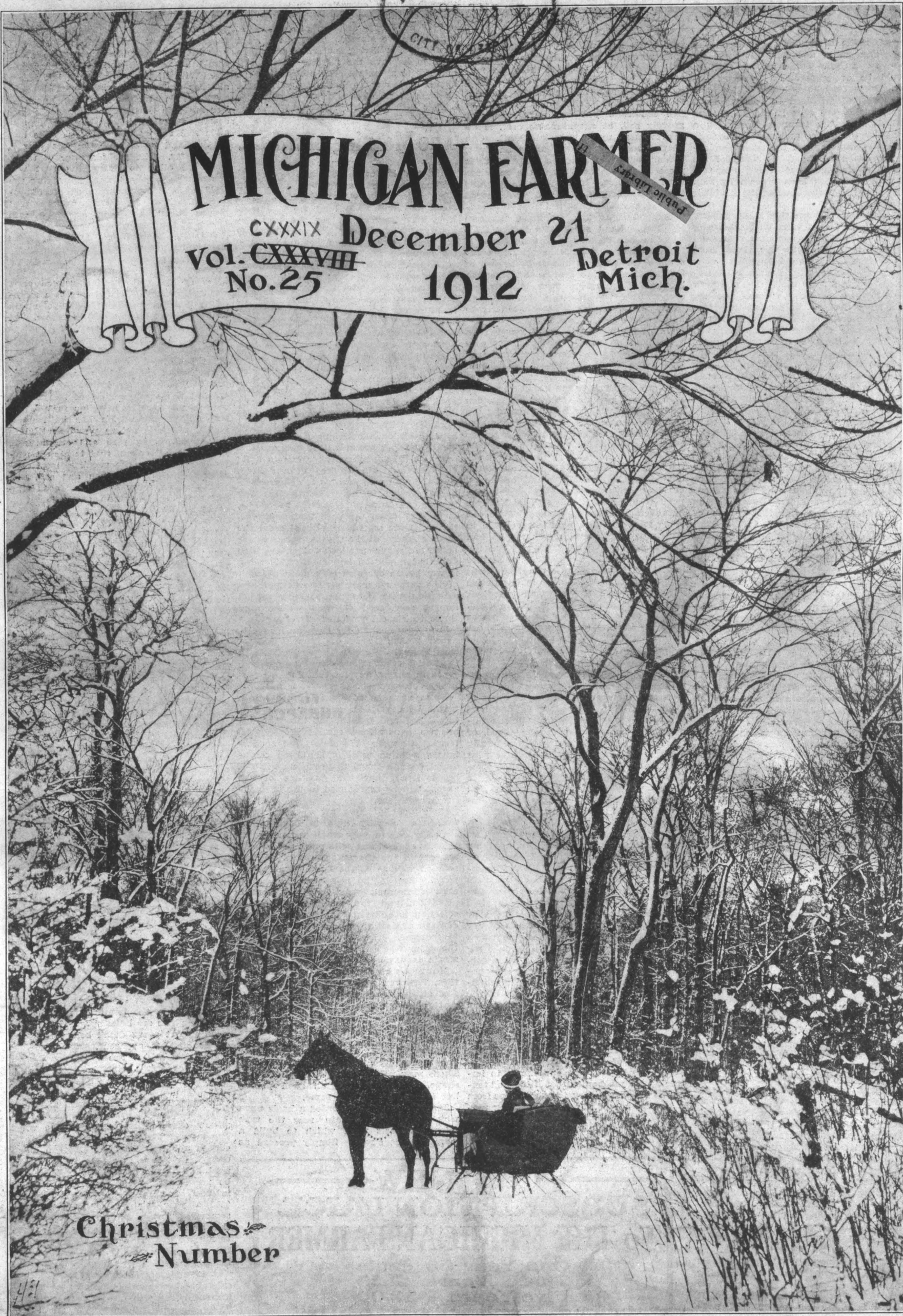


DEC 21 1912



MICHIGAN FARMER

CXXXIX December 21
Vol. ~~CXXXVIII~~ Detroit
No. 25 1912 Mich.



Christmas
Number

Maintaining Farm Fertility.

TO make a reasonable profit on the investment and hold his farm up to a fair standard of fertility should be every farmer's foremost object. It is easy to tell how soil should be fitted and fertilized to produce large crops, but to tell how it can be accomplished while the farm is furnishing a living for the owner and meeting operating expenses is one of the most perplexing questions of the day. Much of the available literature concerning the fertility question has been written by men who have had more scientific training than practical farm experience. Facts and theories furnished by these experts have been of untold value in establishing a basis of soil improvement for farmers to work upon, but how far these facts and theories can safely be applied to his own farm and conditions must be determined by the farmer himself. Each farm presents new problems. Each problem must be worked out by putting the question to the crops and soil. In other words, every farmer must study his soil and find out what is needed to bring about the desired conditions. He must bring the work of the scientist right to his own farm and make his own deductions. Science and practice are tending to a common end. Actual field tests are taking the place of laboratory work. Thus the science of handling the soil is becoming sort of a co-operative work between the scientist and the farmer. As a result all thinking men look upon the scientist as a friend who is willing to lend his aid in working out the problem of what the soil needs and where it may be purchased in the cheapest forms. How much he may profitably use and the system of crop growing best adapted to his farm are problems which must be worked out by the individual himself according to his farm, location, markets and his likes and dislikes.

Manure and fertilizers are precious things, that cost us either money outright, or else labor, live stock food, and care, in abundant measure. Of first importance is to have the soil, so far as possible, profitably prepared for the reception and economy of fertilizing materials. It is easy to throw away plant food, or to waste it upon ill-conditioned land, and there is no doubt that the great want of our agriculture is not so much more plant food as the proper use of what we have.

If we have a farm on which we are contemplating to apply manure and fertilizers for a long series of years to come, it is obviously a matter of first consequence that the soil on which that fertilizing material goes shall be such as to make it tell directly and every time upon the crops. We do not pay enough attention to bringing the land into proper condition. If we have land that is sandy, gravelly or cold tough clay, and we leave it just as we find it, year after year, putting manures and fertilizers on it, and taking crops off from it, in a great many cases a large portion of the value of the fertilizing materials is wasted. This idea is one which every farmer understands, yet it is one which is not acted upon so thoroughly as it should be.

What kind of soil produces the best crops? It is not a coarse gravel, mere sand, nor a deposit of heavy clay, by any means; it is what we commonly call a good, rich loam, something with qualities between the extremes of sand on the one hand and clay on the other. There is something in the texture of the soil which indicates its quality, its adaptedness to crop growing. If we have a soil which is porous and open, with coarse sand and gravel below through which water runs away as fast as it falls upon it, we will lose more fertilizing materials during a term of years than the land is worth; and yet, such soil, if one does not have too much of it, he can, by a proper course of treatment, a course which is not expensive, considering its good materials, make it over so that the proper application of fertilizing materials to it will always be profitable. On such land it is wrong to continue using costly manure, without seeing what can be done to improve its moisture holding capacity. If one could incorporate a quantity of swamp muck with such land it would be a great improvement but it might cost more than the value of the land, a thing always to be considered. If one can grow green manuring crops on such land, it probably is one of the quickest methods of improving its water holding capacity. If we incorporate green manure crops

with such soil, we not only fill the too open pores with absorbent material, but at the same time we put there the material which through decay dissolves the grit of the soil, and gradually make it into fine earth. Ashes, clay and similar fine materials put on coarse sandy or gravelly soil, at a reasonable cost, is an improvement up to a certain limit. One of the benefits of wood ashes on light, porous soil consists in the fact that their presence in the soil keeps the moisture from being lost. If one has land of this sort he should devote his energies to putting any fine material that is available upon it, in order to make it retain moisture. Land of this kind should always be occupied by a growing crop. If for example, a crop is harvested in the summer or early in the fall, instead of leaving the land to bleach and waste, a crop of winter rye, or some other cover crop which would occupy the soil may be sowed to furnish vegetable matter to be plowed under the following spring.

On the other hand, if the soil is a tough and compact clay, one must correct this condition before plants can penetrate the soil in search of plant food. On such soils thorough drainage although it may cost nearly as much as the value of the land, is the cheapest thing one can do to prepare the land for tillage and the economical reception of fertilizing materials. Many farmers are not situated so that they can do what would be the best thing for them. That is the great trouble with our farming. We have not the capital to invest in these improvements, or if we have we are not willing to expend it upon them. But to make these improvements is true economy if we can bring it about. If a man lacks capital to put into condition a large farm he had better sell half of his farm and use the money to prepare and fertilize the other half. We have generally an insufficient amount of capital invested in our active agriculture, and if we would take half the amount we have invested in land, instead of letting it lie dead, or worse than dead, if we would concentrate our means upon a smaller area, we should produce more products, and make more money instead of just holding our own.

Thousands of acres of land cannot be made profitable for farming purposes. However, there are thousands of acres of moderately good or moderately bad land which only needs a little judicious improvement to make them very good, or at least not bad. Allowing this naturally productive land to stay year after year in a half-productive state when a comparatively small outlay would double its value, and prepare it to show the full benefit of fertilizing materials, is a reproach to our ability and intelligence as farmers.

The prairies of the western states owe their fertility not so much to anything which an analysis of the soil can reveal, for those soils do not contain more potash, phosphoric acid and lime than soils in the eastern states which require manuring and fertilizing material to yield good crops, but to the fact that they hold moisture during long periods of dry weather. They present a medium which the roots of plants delight to be in. They are always moist, and have great depth. Now if we could make some of the run-down soils of the east into the mechanical condition of the prairie soils of the west, so that they would have the same loamy, retentive character, the proper texture, then we would have a sure basis to work upon in carrying on further improvement. It is a great deal better at the outset of our treatment of unproductive land to devote our efforts to improving its mechanical condition and texture, than it is to try to exact crops from it by the use of valuable fertilizing materials. There are many instances in which high-priced fertilizers will produce good crops in favorable seasons for a

few years, but when we have gone through that operation for a certain length of time we find ourselves at the end of our rope, and we are worse off than when we started. That is not good farming. Fertilizing materials should be used to improve the fertility of the soil and not to stimulate crop production. We should endeavor to build up permanent systems of farming.

New York.

W. MILTON KELLY.

The Meaning of Strain.

Its Value to the Grain Grower.

Type and strain are two big words in the grain grower's vocabulary. Live stock breeders have long made use of both type and strain for the improvement of their stock, but only recently has the average farmer come to realize the supreme importance of such things.

We hear much talk now-a-days about the adaptation of crops to soil, and to other conditions. But when corn, for example, is well adaptable, there may be types many of which are still better adapted to all conditions. And it is just possible that with some considerable attention to seed selection and such things a strain might be developed which would be almost perfectly adapted to the soil and climatic conditions.

Many of our high yielding, new kinds of corn are nothing more than perfectly developed strains of some of the older varieties. They often fail to produce high yields outside the pale of their natural breeding grounds. Of course, it is quite an accomplishment for one to build up such a strain of seed of any kind. And the man who does so is doing a valuable service to his fellows. But any farmer can do much along the same line. It is very often the case that a prolific, thrifty strain may be developed from the seed already at hand that will thrive better in your particular locality than any that might be imported. This thing is worthy, in our own estimation at least, of the farmer's most serious thought and attention who does not for any reason import new seed to give vitality and thrift to his old varieties of seed.

It is easy enough for even an inexperienced person to select from a pile of corn several different types of ears, and to notice that there are innumerable types in almost any lot that comes within his observation.

From any one of these types a strain might be developed. For strain is type intensified and fixed. But the first one or two generations cannot properly be termed a strain. We should not so designate a thing until it has been reproduced enough times to prove that it will breed true; that the qualities of the parent will be reproduced in the succeeding generations.

It is doubly important then that we select a worthy type to begin with. Probably only a very small percentage of the first generations will produce as well and retain the characteristics of the parent as well as might have been anticipated. But if the selection of seed for each succeeding year is given careful attention, and the original method of selection is adhered to strictly, the percentage of desirable ears will soon begin to increase. Then it is a short step to the time when it breeds true, and the strain is developed.

Many of us will want to go a step farther, however, and develop a more perfect strain. Now, type is never lost no matter how perfect the seed is. But the great variety of type of a good strain is materially less than in seed of inferior quality. Let the seed corn be what is called pure-bred, pedigreed or whatever you please, the type is still evident. There may not be any great variation in shape, size, color and all such points, but it's there just the same.

Just as type once afforded a basis upon which to build a strain, now the type affords a basis upon which to build a more perfect strain. Simply proceed as

before, being more careful and more particular if possible in seed selection and cultivation.

It is a fortunate thing for us that type cannot be lost. Without it, the improvement of our seeds and live stock would be very difficult, if not impossible. With it, there is no limit but man's abilities and endeavors.

This is undoubtedly a big question. For methods that proved immensely successful a generation ago are now impossible and out of the question. The law of the land of 25 years ago is now a dead letter. The grain grower of today must be alive to everything that will contribute its mite toward increasing the yield without increasing the cost of production. And we firmly believe that proper attention to the supply of seeds is one of the best of ways to do this.

We have in mind two particular cases that will serve to illustrate the thing we are trying to drive home.

One of our good neighbors, who has ideas of his own concerning seed corn, selected according to his infallible method until he has produced a distinct strain that is not at all profitable to grow. And now he wonders why corn "runs out" so quickly. In selecting his seed he forgot to consider the one all-important point of production.

Another of our neighbors, who we happen to know rather intimately, has increased the average yield of his corn 10 bushels per acre by selection for productive ability alone. He has built up a strain, which is not so very beautiful to look upon, being pied and striped and just about all colors, that is almost perfectly adapted to the peculiar, local conditions of climate, season and soil, and will produce more bushels of good corn per acre for him than any other that could be obtained.

He once used several kinds of corn, most of it being mixed varieties, and noticed that one of these kinds always did better than any other, no matter where planted or how cultivated. Planted side by side with other kinds on thin land or rich and cultivated much or little it outdone all others with the same chance.

He began by selecting an arm load of the most desirable ears of this corn, planting in a small isolated patch—not a breeding block—and giving it every possible attention. Each year the fields were planted with the best of the corn from this patch. A few ears of the very best being retained each time for planting in the seed corn patch. The patch is always, of late years, planted an ear to the row and seed saved from those that produce best. But this seed is not running out. It seems to be running the other way so fast that we believe that 100 bushels per acre as a general thing is not impossible after all.

Indiana.

E. P. H. GREGORY.

FARM BUILDINGS.

Modern farm buildings constitute at present a comparatively large and increasing investment. This is desirable as it marks progress and development. However, it adds to the problem of the farm manager, who is confronted with the necessity of making the farm pay on all investments put into it.

When a building is being erected to serve for from 40 to 100 years, and when one stops to consider that a door, an alley, a window, or hay chute improperly placed may add each year many of those unnecessary steps to the work of caring for the stock, the importance of making suitable plans for buildings, and carefully working out every detail before they are constructed, is apparent.

Materials which are quite permanent, such as concrete, stone, brick, and steel, are now being used for building and at prices not greatly in excess of the cost of wooden buildings, the problem of deciding whether to use permanent or temporary construction confronts one when any type of farm building is to be erected. If a building costing \$100 can be so erected that it will be practically permanent, the annual cost of the building will be represented by a reasonable rate of interest, or from \$5 to \$6 per year. If \$100, a year is invested in a building somewhat temporary in character, so that an annual depreciation of from three to four or five per cent must be provided for each year, the annual cost of the building must be from \$10 to \$12 or more.

It is apparent, therefore, that a considerably larger original expense in permanent construction may be more profitable than a comparatively small expense in temporary work.

Univ. of Minnesota. A. D. WILSON.

→ THE NEW ←
SUBSCRIPTION PRICE
To THE MICHIGAN FARMER
 One Year 50 cents
 Three Years \$1.25
 Five Years - \$2.00
 or for convenience send a \$1 bill
 → for Two Years. ←

SOFT VS. GLAZED TILE.

Will you kindly give me your opinion as to the durability of soft tile as compared with the glazed tile? I am just starting to tile and would like to start right. Any information on the subject will be gladly received. My soil is very level with plenty of fall. Would you consider 3-in. tile large enough and how close should they be laid?

Shiawassee Co.

G. L. K.

After the tile are laid and laid below the action of frost where they should be I don't think there is any difference in the value of the tile; that is, I think the soft burned tile will last just as long as the glazed tile and will answer every purpose just as well, with the exception, however, of the tile to be used at the outlet of the drain. The soft tile if used at the outlet of the drain will absorb moisture, then when freezing weather comes they will scale off. The moisture or water absorbed freezes and expands and this causes the tile to flake and the end tile will soon crumble and decay. The first winter there will be one or two of them, the next winter there will be more, and they will keep gradually working back until the outlet of your ditch is well nigh ruined. This can be obviated by getting some glazed tile to be used as the last half dozen tile at the mouth of the ditch.

But, on the other hand, you will have less breakage in handling the glazed tile. The soft-burned tile many times are broken in hauling from town and in distributing them along the ditch. They are softer and break more easily, and the breakage is considerably less in handling the glazed tile. Whether it is enough to warrant the extra price you have to pay for glazed tile or not I am unable to figure out, but I can frankly say that I prefer to buy the glazed tile even if they do cost more. Another thing, glazed tile are more uniform in size and shape. They are most always perfect tile. Many times the soft tile are not cut off squarely or they warp when they are being burned or something of that sort, and they don't lay quite as nice as the glazed tile. Taking everything into consideration, personally, I would prefer to pay the extra price of the glazed tile, and yet I am satisfied that they are no more valuable after they are once laid than the soft tile.

Size of Tile to Use.

Three-inch tile are all right for what we call lateral or branch ditches, but they are not large enough for mains. If you have one tile emptying into another one, then from there on you want larger tile if you have any considerable length. Of course, in draining just a small area you can use all three-inch tile, but if you are going to lay out a field of ten acres and have one or two main ditches and then have laterals running to them you want larger tile for your main ditches. Use four, five and six-inch tile for the mains, then use three-inch tile for the lateral ditches. You not only want a tile drain to absorb the water from the surface as soon as possible but you want it to run off and get it out of the way, and if your outlet or your main tile drain is laid with too small tile it can't flow away as fast as it ought to and consequently there will be more or less washing above.

COLON C. LILLIE.

WHEN TO APPLY THE MANURE.

One hears and reads quite often, pro and con, the loss or benefit to land and crops to be derived by distributing freshly made manure directly to the soil. Many contending that on the lighter sand and gravel soils much will be lost by leaching, etc. After an experience of six years in actual practice of applying manure by the three main methods, i. e.: Surface distribution, letting it lay several months or longer, before plowing it under; top-dressing with manure and harrowing it in, and spreading the same and immediately plowing it under, I find in manure, that more fertility is added to the soil and that crops start quicker and maintain growth throughout the season better, ripening up even, by applying manure fresh, directly to the fields and letting it lay through the winter than by either of the other methods. This would not apply to high or extremely rolling soils where loss by washing would result, but to level or comparatively level lands. The experiments were conducted on sand (pine), sandy gravel, and heavy clay soils. Manure on sand soils, tends to solidify them and on heavy clay soils to loosen them.

Everyone familiar with the subject knows that horse manure heats quickly when piled only a very short time. What

results? The vapor arising assails the nostrils, impregnated heavily with ammonia. Now as nitrogen, when purchased commercially, costs twice as much per pound as either of the other two essential elements, (phosphoric acid and potash), we are thus losing the best portion of the manurial elements. Then we find by applying manure freshly made to the soil in an even manner, no heat results, consequently nearly all the ammonia is retained. Phosphoric acid also loses by continued heat in the dung heap. So, comparatively all of the value of manure is retained and saved by a direct application to the soil when freshly made.

Now as to leaching; if manure, or rather, the soil did not permit of leaching, in other words, if the soil were not open, but compacted so that the soluble elements of the manure could not penetrate freely, then there could be no possible benefit by the application of any fertilizer whatever. It is the universal distribution of the three elements throughout all of the soil particles that determine soil fertility. We also learn that nitrogen, phosphoric acid, potash and lime, also other chemical elements, have an affinity for soil particles and while perhaps carried here and there to an extent in the soil by water, still they at once coalesce, fix themselves with the soil grains as constituents of the soil, no matter how applied, while water itself may drain or leach and run freely from or remain in the soil if not drained away by tile or ditches not carrying away to any extent the nutrients of the manure.

I am satisfied by my own experiments on soils, personally treated as outlined, that direct applications of freshly made manures to soils, comparatively level, are better for the land and crops than any other method. Many other manures lose even more heavily in the heaps, of nitrogenous compounds, by heating, than horse manure, as hen manure. Sheep manure is slower acting but eventually loses heavily in nitrogen by heating, while hog and cattle manures are the slowest in decomposing. I aim to combine them all as much as possible.

Gratiot Co.

G. A. RANDALL.

A PRODUCTIVE BEAN STALK.

I don't know as it will interest you, but I am going to give you the yield of a single bean stalk that grew in my corn field, probably not over 12 or 18 inches from a hill of corn, and escaped the cultivators and weeder and came to maturity.

The stalk was pulled the 24th of October. There were 114 pods, big and little, on the same. I personally counted them and shelled each pod, except one, which was shelled before pulling, with the following result:

No. beans in each pod.	No. beans shelled.
1 pod shelled, 0	0 beans
5 pods shelled, 1	5 beans
5 pods shelled, 2	10 beans
14 pods shelled, 3	42 beans
28 pods shelled, 4	112 beans
38 pods shelled, 5	190 beans
22 pods shelled, 6	132 beans
1 pod shelled, 7	7 beans

114 498 beans

The land where the bean stalk grew probably had been used for a lane for 40 or more years. No fertilizer was used as we did not consider the virgin strip of land required it.

Oakland Co.

SOLON BURT.

EXPERIENCE THE BEST TEACHER.

I have taken the Michigan Farmer for many years and expect to take it many more. I noticed in a recent issue an article entitled, "Why Young Men Leave the Farm."

I want to say, first, it is through a lack of experience, or not being willing to profit by the other fellow's experience. I have farmed in different counties in Michigan and have been in different kinds of business at different times, in both Michigan and Ohio, and I want to tell young Isabella County Farmer that I saved the most of my capital on two Isabella county farms. As has been said, no farmer that expects to make a success will sell his oats at 27c when he can feed them and grow horses worth \$400 to \$600 a span; neither will he sell his corn for \$25 per acre in shock when he can grow hay at present prices.

But I must say that a young farmer who is dissatisfied with the farmer's lot for the past three or four years has, to my mind, only one way to learn and that is by experience. The proof of the pudding is in eating it.

Ohio.

C. R. HOFFMAN.

Your Wife

and every good housewife, declares war when you tramp mud on the clean kitchen floor. Then why not wear rubber boots in muddy weather and wash them off or change them before going into the house?

WOONSOCKET
ELEPHANT HEAD
RUBBER BOOTS

can be cleaned in a jiffy, and you can always keep clean, no matter what your work may be.

"ELEPHANT HEAD"

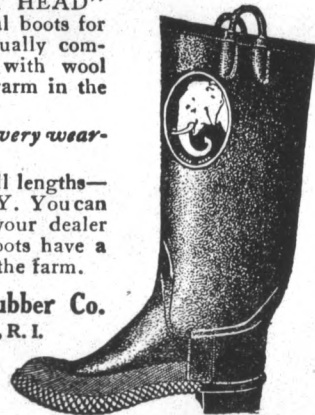
Boots are the ideal boots for farm use. Unusually comfortable. Lined with wool to keep the feet warm in the coldest weather.

Reinforced at every wearing point.

Every style—all lengths—for EVERYBODY. You can buy them from your dealer today. These boots have a hundred uses on the farm.

Woonsocket Rubber Co.
Woonsocket, R. I.

Makers of
high-grade
rubber boots
and shoes.

New Times,
New Things

The old fertilizer formulas are giving way to the new. At every farmers' meeting one subject should be the fertilizer formula

that will furnish a balanced ration to the crop and keep up the fertility of the soil. To do this the fertilizer should contain at least as much

POTASH

as Phosphoric Acid. Our note book has condensed facts essential in farmers' meetings and plenty of space to record the new things that you hear. Let us send one to you before your Institute meets.

A supply of these is furnished by request to every institute held in several states. We will be glad to send a supply delivered free of charge to every Institute, Grange or Farmers' Club Officer on request. It contains no advertising matter.

German Kali Works, Inc., 42 Broadway, New York

Monadnock Block, Chicago

Whitney Bank Bldg., New Orleans

Bank & Trust Bldg., Savannah

Let Me
Send YouThis Great Implement
FREE

Write Me Tonight

A letter or postal brings the greatest money saving opportunity ever offered. I will tell you how to get the famous Detroit-American Farm Implements at factory prices. Your own time to pay, 30 days free trial, without a cent of expense to you, freight paid.

The Famous Detroit-American
Tongueless Disc Harrow

The best you can buy at any price, now offered on the easiest terms in the world and at only a fraction of trust prices. A For-all-time Guarantee protects you.

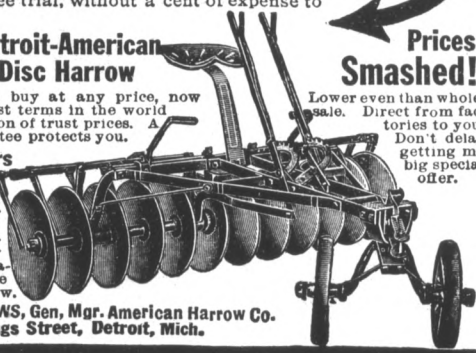
Manure Spreaders
and Cultivators

at proportionately low prices and long, easy payment terms. Big catalog full of interesting, money making farm information, yours for the asking. Write me now.

FRED C. ANDREWS, Gen. Mgr. American Harrow Co.
10 Hastings Street, Detroit, Mich.

Prices
Smashed!

Lower even than whole-sale. Direct from factories to you. Don't delay getting my big special offer.



This Big Book
FREE

\$21.60

The

Marlin Repeating Shotgun

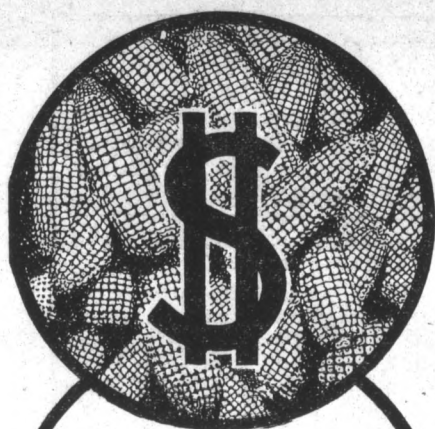
12 or 16 GAUGE

Made famous by its dependability. The solid top and side ejection keep gases and powder away from your eyes; help quick, effective repeat shots. Rain, sleet, snow and foreign matter can't get into the action.

The mechanism is strong, simple, wear-resisting. The double extractors pull any shell instantly; two special safety devices prevent accidental discharge while action is unlocked, and an automatic recoil block makes hang fires harmless. All Marlins are strongly made, finely balanced, accurate, hard hitting guns, and are the quickest and easiest to take down and clean. Illustration shows Model 24 grade "A" 12 gauge; it has all the features that make for a perfect gun.

Send three stamps postage today for our 136 page catalog describing the full Marlin line.

The Marlin Firearms Co.
127 Willow Street New Haven, Conn.



**Make your corn
bring you twice
as many dollars**

Instead of 40 bushels of
corn per acre, get 80 to
100 bushels, by using

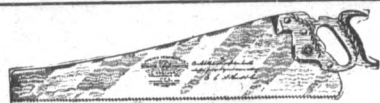
Packer's Brand Fertilizers

The ears will be fuller,
the grain better devel-
oped, too.

Write for this Free Memo-
randum Book. A valuable
pocket note book. Contains
the latest information on sci-
entific fertilization. Get
your copy today.

PACKER'S FERTILIZER CO.

Station P, Cincinnati, O.
Agents wanted.
There's money sel-
ling our Fertil-
izers. Write us.



Like "A Gun in Texas"

You never need a saw at all until you need it badly. If the saw you use then is inferior it will lose its edge or break, causing loss of valuable time, temper and material. Haven't you had that experience? The next time you need a saw get one of our

ATKINS SILVER STEEL SAWS

It is absolutely the best in the market and guaranteed by the largest saw factory in the world. Atkins Saws cut clean and straight in any lumber. The taper grind makes them easy to use even in wet wood. Atkins Silver Steel and the Atkins tempering process makes an Atkins Saw hold its edge long after any other has been broken or discarded. Ask your dealer or have him get one for you. If you are disappointed in the saw, he will gladly refund your money.

We want you to become more familiar with really good saws. Send a postal card request and the return mail will bring you instructive and interesting literature.

E. C. ATKINS & CO. Inc.
Main Factory and Offices—Indianapolis, Indiana.
Branches throughout the civilized world.

Short Courses In Agriculture

Including General Agriculture, Creamery
Management, Fruit Growing, Poultry
Husbandry and Cheesemaking.

Are offered by the

Michigan Agricultural College

For the benefit of

Busy Farmers.

All courses begin January 6, 1913. Nearly
2500 farmers and dairymen have taken this
work in the past.

No Entrance Examinations. Expenses Moderate

Write for circular giving full information to

PRESIDENT J. L. SNYDER,
East Lansing, Michigan.

WANTED—Railway Mail Clerks. Many needed for
Parcels Post. Entrance salary now \$75.,
rapid promotions. Write OZMENT, 17 R., St. Louis.

MY TRIP TO THE STATE FAIR.

BY TED R. ATCHISON.

My trip to the State Fair consisted of a trip from Fremont, my home town, to Grand Rapids over the Pere Marquette railroad and from there to Detroit over the Michigan Central via Jackson. I was gone just a week from, September 16 to 21, and had the best time of my life. Except for a delay of four hours at Grand Rapids, going down, everything was enjoyable and before I arrived in Detroit, which was about ten o'clock p. m., I had succeeded in finding three other boys who displayed green ribbons like myself. As for sightseeing, we saw the Muskegon river, the State Fish Hatchery at Mill Creek, West Michigan State Fair grounds, the Grand River, the furniture city, Grand Rapids, and Jackson prison. Upon reaching Detroit, we experienced no great trouble in reaching the fair grounds, the Grand River, the furniture quarters in the State Fair School tents, of which school we were very proud to be members, and put in a good night of rest.

Tuesday morning we awoke about five o'clock and were surprised to see a large number of boys at work. You can imagine how quickly we dressed for we did not want to be anywhere but with the crowd. After making our toilet and picking up the papers about our tent, we joined the "Broom Brigade." Some were stationed on the grand stand, some were sent to the Michigan building and for about an hour, it being then 6:30 o'clock, we swept various buildings about the grounds. Then all the seventy-five boys formed a straight line in front of the tents numbered and marched to breakfast in groups of two. We took our meals at a big eating hall about twenty rods away. After breakfast we all assembled in a big tent nearby, put up for the purpose, and listened to short talks by our captains, Messrs. Sattler and Fields, of Jackson, and Swift, of Eden. They gave us many directions and good advice. Then, after dressing up in street attire, getting acquainted with the Y. M. C. A. boys who acted as our squad masters, we visited the fair for about three hours.

First we visited the display of agricultural products underneath the grandstand. There were products from all over the United States, chiefly the north and west, and showed very nicely what could be accomplished by irrigation. Passing on we came to the great Agricultural Building. Here were exhibits of the three great development bureaus, a number of county exhibits and scores of exhibits by individuals. The Western Michigan Bureau boasted of their fruit, and certainly had the nicest packed and most attractively arranged display of that product on the ground.

The Northeastern and Upper Peninsula Bureaus showed a variety of products which were neatly arranged and deserved attention. Next in order was the Main Building and here we saw the building of automobiles actually going on, the manufacturing of cigars, letter paper and letter envelopes, the knitting of stockings, exhibits of stoves, watches, a famous launch, motors, pianos, etc. This certainly was as much of an educational building as the education building itself, which we also visited. Here were a large number of attractive exhibits showing the progress attained by kindergarten and the manual training and drawing departments of our schools of today.

It was now noon and again we lined up, learned some new orders and marched to dinner in groups of four. After dinner it began to rain and continued more or less throughout the week with the exception of Friday. So, on this afternoon, we went where we pleased. As for my partner and I, we visited the Horticultural Building and the live stock and poultry exhibits. In spite of the many unfavorable conditions existing this summer for growing prize fruit, the mammoth Horticultural Building was full of fine exhibits. Every display was so wonderfully arranged that it was hard to tell which county had the best, but finally decided that Oceana's was best. The live stock exposition was also large and we spent much time here. A separate barn, so far as possible, was given to each particular breed of cattle, and among the beef breeds were Shorthorns, Polled Durhams, Aberdeen Angus and Red Polls while in the dairy class were Jerseys, Holstein-Friesians, Guernseys, and Ayrshires. The sheep were next and we saw the finest of Southdowns, Rambouillets, Hampshires, Horned Dorsets, American Merinos and Delaine Merinos. Of course, you probably would like to know the number of entries in each ex-

hibit or the number of people attending the fair but we must leave something for you to find out when you come down next year. We will tell you this much, the attendance, if put in figures, would startle you, the exhibits are of gigantic proportions, as well as the quality, and let you come down and verify our statements.

The exhibition of hogs did by no means depart from the general high standard of exhibits and consisted of all the leading kinds, such as Berkshires, Victorias, Chester Whites, Poland Chinas, Duroc Jerseys and many others. The record breaking poultry exhibit was reached at last and the number of entries we were told was close to 2,500. There were excellent Rhode Island Reds, Plymouth Rock, Wyandotte, Orphingtons, Leghorns, besides Minorcas, Brahmas, and others. Also, we saw at least eight breeds of ducks, several breeds of turkeys, and exhibits of Bantams, pigeons, and Belgian Hares, but what surprised us most was the lop-eared rabbit.

We then went to supper, after which the most of us went to our tents and spent the evening visiting, or writing home to relatives.

Wednesday morning as usual, we arose, dressed, helped sweep the grand stand and other buildings, and ate our breakfast. Assembling in the big tent after this meal we listened to Mr. Hull, Master of the State Grange, and a lady officer, who gave us short talks. The rest of the time that morning I spent at the horse-judging ring. This is what I gained. Points of a good draft horse are:

Good shoulders; large feet, rather than small; large around the waist and flanks; short legs; good action; not too long a body; quite a round body; legs that bow a little back, not straight under them.

The points of a good trotting horse are: Not too big feet; straight legs; fair length of legs; fair length of body; good heart girth, which shows constitution; good action; some width between front legs.

After dinner we viewed the Boys' Model Farms and declared they were good, considering the season and the dampness of the ground. The remainder of the afternoon we spent among the mammoth machinery exhibits, or watching the races, which were exceptionally good considering the wet track. Again, in the evening we all marched to the grand stand to watch the night horse show and fireworks, as we also did on Friday night. The horse show for Wednesday evening consisted of a display of Shetland Ponies under saddle, ponies hitched to buggies, police mount, roadsters, high steppers, and saddle horses. Of course, we enjoyed it all, but the police mount certainly took the prize in our eyes. Then came the fireworks display. Listen! Did you ever have the privilege of seeing a city built before your eyes, a volcano formed, see the capture of a fort by our own American troops, the eruption of a volcano and hence the destroying of that city? Well, that is what we saw in the Fall of Old Mexico. Again we saw Roosevelt shoot a bear, a rose bloom, an acrobat perform, all in fire. This constituted the night fireworks display but those in the day were fully as good. At that time we saw the discharge of a shell and behold, there was an elephant floating in air, a flock of doves, another a cow, a cloud with a silver lining, and do you wonder why we say, "Great is the invention of man."

Thursday morning, after the usual program, we again took up the march with our squad masters. We began our trip by visiting the Auto Building where we saw a grand display of autos on the first floor and buggies on the second. Here were the 1913 models of most of the automobiles. Next we went to the Dairy Barn, where the cows were fed silage, milked by milking machines, the milk separated, and the cream churned and worked into butter. There also we heard addresses by prominent dairymen. Then we went to the new Dairy Building. Here were all kinds of modern dairy machinery, a lecture department on tuberculosis, and a display of honey and bees. This was all excellent and one thing I will always remember in connection with this building is what the bee-man told us, "You will never have rheumatism if you become a bee-man."

Thursday after dinner we boys all assembled in the big tent to listen to Professor W. H. French, of the Agricultural College. The thing I shall remember him for is the definition of success he gave us. He said success was "Persistent, consistent, systematic application to something worth while."

Then the rest of the afternoon was

spent among the machinery, or watching the stone road building. Again at five o'clock we listened to a lecture by Professor Sanford, of the Forestry Department of Agricultural College, followed by an actual demonstration among trees planted on the grounds by that institution. Among other things, he said that the locust and catalpa trees were not a success and proved it by showing us trees planted six years ago.

Thursday evening was spent around a camp fire for the boys and we enjoyed ourselves telling stories and eating marshmallows.

Friday morning we were released from the sweeping duty and went up to the city with our squad masters and captains. From there we went to the beautiful spot of Belle Isle, going by boat up the river and coming back to the fair grounds at one o'clock. On the island we viewed the many, many animals, including bear, deer and bison, the birds, including the eagle and huge ostrich and the fish, which was the largest collection we had ever seen.

Friday afternoon after we had all got back from our trip, we went to a plowing contest on a nearby farm. Among all the plows drawn by engines, none did better work than the Emerson, drawn by a Reo automobile. Coming back we visited the cattle-judging ring, where they were judging for the best breeders' herd among the Polled Durham breed. We learned these points in connection with the head of the herd:

He must be square built; not too long a body; have short legs; have a good-sized head and neck; must have a large heart girth.

Friday evening was spent watching the fireworks, which were about the same as the display Wednesday evening.

Saturday morning was the time we had to say good-bye. To say what I thought of the State Fair, I say this: The man or boy who goes on year after year without seeing this magnificent fair, which is right within his reach, has indeed missed a golden opportunity.

We left for home on the Michigan Central train at 8:25 o'clock, which gave us a fine chance to see the country.

Nothing happened in the way of delays and we sped onward toward "Home Sweet Home." A few things we noticed in regard to farm crops, that there is a pretty good crop of apples, no peaches, a fair corn crop, and a great acreage of poor beans.

I reached Grand Rapids about one o'clock, changed cars and by four o'clock was at White Cloud, my county seat. Then I waited for the evening train to Fremont, my home town, arriving there about eleven o'clock.

So I am home again from a trip which, if I had the privilege to again choose between this and other trips in Michigan, I would say, give me a trip to the State Fair.

In the last issue appeared the first prize essay written in competition for prizes offered to members of the Boys' State Fair School. The above essay, written by Ted R. Atchison, State Fair School representative from Newaygo Co., was awarded second prize, a \$50 gold piece, given by Thos. Newton, President of the State Agricultural Society, in this competition, as attested by Superintendent Sattler. The other essays will be published in these columns as space permits. These essays should prove of interest to the older as well as the younger readers of the Michigan Farmer, showing as they do the educational advantages of a systematic study of an agricultural show.—Eds.

BOOK NOTICES.

Forge Work. By William L. Ilgen, Forging Instructor, Crane Technical High School, Chicago, Ill. With Editorial Revision by Charles F. Moore, Head of Mechanical Department, Central Commercial and Manual Training High School, Newark, N. J. Presents a simple but comprehensive course, which is accompanied by full directions, ample explanations, and abundant exercises for practice. Cloth, 12mo, 222 pages. Price, 80c. American Book Co., Chicago.

Essentials of French. By Victor E. Francois, Ph.D., Associate Professor of French, College of the City of New York. The development proceeds from the known English form to the unknown French form, with constant comparison and contrast of the two languages. Cloth, 12mo, 426 pages. Price, 90c. American Book Co., Chicago.

English Grammar. By Lillian G. Kimball, formerly Head of English Department, State Normal School, Oshkosh, Wis. A textbook in grammar, distinguished by its common sense, in which the subject is simplified and robbed of all unnecessary and minor technicalities. Cloth, 12mo, 271 pages. Price, 60c. American Book Co., Chicago.

LIVE STOCK

THE HOG CHOLERA PROBLEM.

In view of the fact that hog cholera has been prevalent in certain sections of Michigan during recent months, with the usual heavy losses to hog owners and a failure on the part of farmers to take the proposition in hand as soon as the difficulty is discovered, by not only cleaning premises but administering the serum treatment to the individuals which have not yet come down with the disease, a further discussion of this treatment will be timely.

In the last issue appeared an article on hog cholera in Iowa, in which Prof. W. J. Kennedy, of Iowa State College, is quoted with the statement that the loss this year in Iowa from this destructive disease would aggregate fully 80,000,000 pounds of pork. In this connection the discussion of the control of hog cholera by Dr. Gibson, Iowa state veterinarian, before the recent meeting of United States Live Stock Sanitary Association, held at Chicago during the International, is of interest. He expressed it as his opinion that in order to successfully combat hog cholera it would be necessary to have a staff of field veterinarians, especially equipped and competent to deal with the disease. Back of this organization, he stated, it would be necessary, in his opinion, to have at least one person in each township who would act as an informant to the veterinary department, and upon the appearance of the disease in any herd of hogs notify the department. Upon receiving such notification the state veterinarian could then dispatch one of his field staff to take charge of the outbreak, destroy the hopelessly sick hogs, treat the balance of the herd with serum and establish a rigid quarantine of the premises. Then, by thorough disinfection of hog lots and pens, burning of all dead carcasses and all contaminating litter, eradicate the outbreak by the use of serum on all adjacent herds.

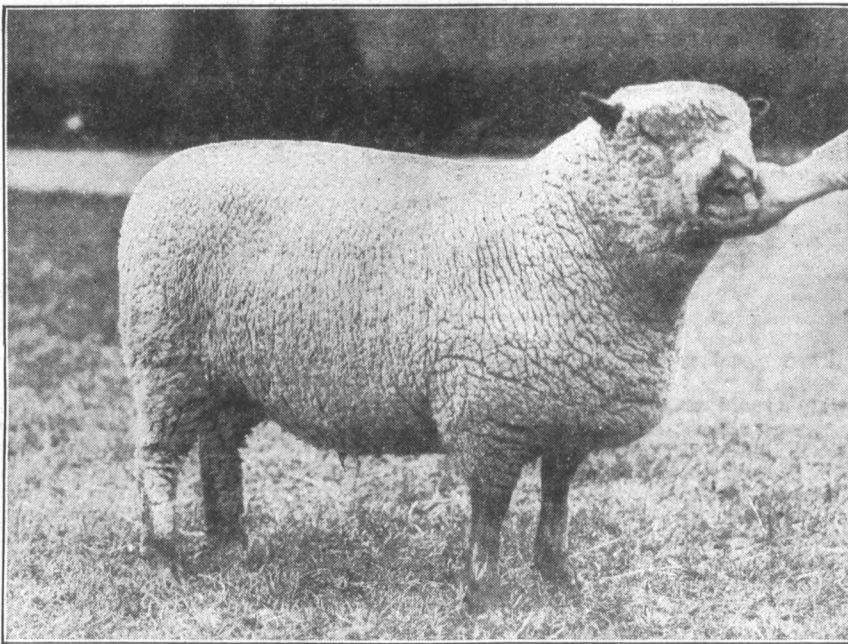
In addition, as a means of insuring the control of the disease, even under these favorable conditions, Dr. Gibson advocated the government inspection of all serums manufactured in or shipped into the state. The opinion of Dr. Gibson that hog cholera can be successfully combated by the use of the serum treatment is shared by other competent officials in other states, including Dr. Giltner, state veterinarian of Michigan, who has had a wide experience in the use of this treatment since it was first successfully developed.

It is quite probable that the Michigan law is adequate to the control of hog cholera if those who suffer an outbreak in their herds, or who know of such outbreaks in nearby herds, would co-operate with the live stock sanitary officials to that end. Fortunately, hog cholera is not as prevalent in Michigan as is the case in the corn belt states, yet there is enough of it every year to cause a very considerable loss to hog growers in some sections, a loss which might be largely, if not entirely, obviated by the use of prompt measures whenever and wherever such outbreaks occur. It would be the part of wisdom for every hog owner who lives in a section where cholera has made its appearance to immunize his hogs by the serum simultaneous treatment, which has proved most effectual in the control of this disease.

That this treatment will successfully immunize hogs from cholera has been too well demonstrated to admit of a reasonable doubt. On this point the experience of owners of large herds kept under conditions peculiarly favorable to the development of this disease is of undoubted value. Such an experience was related by Mr. Alvah Brown, of Michigan, in an address recently delivered before the American Public Health Association at Washington, D. C. Mr. Brown maintains a herd of several thousand hogs on his Kent county farm which are fed largely upon garbage collected in Grand Rapids and delivered to the farm each day in specially constructed railways cars adapted to this purpose. Speaking of his experience with hog cholera, in the address above mentioned, Mr. Brown says:

"This farm has been established less than six years and previous to that time, industries of this character have been of a very hazardous nature because of the great risk of loss of stock through the ravages of hog cholera; since the government process of hyper-immunization has been perfected, this disease can be controlled with slight losses if the rules are

systematically followed; cleanliness is essential from a sanitary standpoint but the lack of it has apparently no effect upon the prevalence of cholera in event the stock has once been made immune; the pigs are treated at the age of from four to ten weeks and while nursing; a pig is held in position by one man and by hypodermic, virus is injected in the inside of the left ham which furnishes the disease germ; serum is injected into the right, which furnishes the combative qualities in the pig's system; this is known as "the simultaneous treatment," and is not always practical because of the danger in handling the virus on the part of the operator; my losses in pigs from this treatment in the summer months will not average above five per cent, but in the other months which are not so favorable to the pigs, the losses are considerably greater and the per cent depends on the weather conditions. I treat pigs at this age because of the lesser amount of material required as this is regulated by the avoirdupois of the animal; all our stock must be immune, otherwise the animals are quite sure to contract the disease early in life; if any animals are to die through vaccination or through the disease we want it to happen while they are young and before any investment of consequence in their development has been occasioned. My experience indicates that treatment by this process makes the animal immune during its natural life which does not often exceed four or five years and is generally much less. My pigs being from immune sire and dam makes them less



Grand Champion Fat Wether at the International, a Yearling (pure-bred) Shropshire, Shown by J. & D. J. Campbell, of Ontario.

susceptible to the disease if not vaccinated, and less liable to death through the vaccinating process; it has been estimated that pigs from stock where immunity extends back several years on both sides have about 40 per cent of immunity though no treatment is given and I believe this is a fair estimate."

It will be noted that in his experience, Mr. Brown has secured a far longer period of immunity than is claimed for this treatment by state or government officials. But the main point is, that by immunizing all his stock when they are small pigs it is accomplished at a comparatively small expense. Unquestionably, the farmer who lives in a section where there are known or suspected cases of hog cholera would find it cheap insurance against loss from this disease to immunize his small pigs from the disease, at a cost not exceeding 25 cents each. The cost of treating older hogs is proportionately greater, but will, after all, be found a cheap insurance where there is more than an ordinary hazard of infection by this disease.

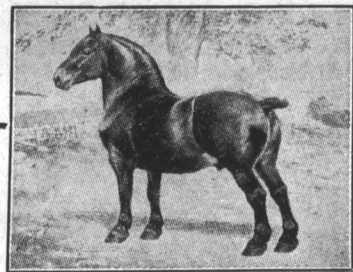
Good work has been done by the live stock sanitary officials of Michigan along this line and no farmer who feels that there is more than ordinary danger of cholera infection in his herd is living up to his economical opportunity for taking advantage of the research work which has developed this treatment if he does not at once communicate with the state veterinarian, or the state live stock sanitary commission, or employ a competent veterinarian on his own behalf to administer this treatment which will immunize his herd against this deadly disease and take such precautions as are essential to maintain a desirable sanitary condition in and about the premises upon which his hogs are maintained.

HOG KILLING ON THE FARM.

Hog killing is an operation that claims attention on most farms during the days of late fall and early winter. Of late years, most of the hogs are marketed on foot and it is only those set apart for home consumption that are slaughtered at home. Various farmers have various ways of going about this work and a few notes from the writer's experience may be of interest to others similarly engaged at this season.

For 24 hours previous to killing, food should be withheld from the hogs. When this is done the entrails are less likely to be ruptured than when full and the work of removing the fat adhering thereto is more conveniently done.

In securing the hog all undue excitement should be avoided. This will aid a freer discharge of the blood, any of which, if retained in the flesh, prevents successful curing of the meat and causes it to spoil during hot weather. Some men knock their hogs down with a club before sticking, others think it more humane to shoot them with a rifle before they are stuck. I have some doubts if they will bleed out completely when either method is employed. We catch our hogs in the pen, put a rope around one hind leg and drive them to the place of slaughter. The roping is done by the person who has been regularly feeding and caring for them. Of such a person they are not suspicious and will usually go quietly where desired. The one who is to do the sticking should use a knife of medium length with a keen edge.



HEWO BELGIANS

NEW IMPORTATION

We have given more than a quarter century to importing, breeding and distribution of the Belgian horse. We handle no other breed and believe we have now in this new importation of stallions and mares a class of horses that will please you, and all are for sale at prices not equalled by anyone in the business when merit is considered. Will be pleased to have you ask about them and to visit us at any time.

H. & H. WOLF
Wabash, Ind.
HEWO STOCK FARM

METZ BROS., NILES, MICH.

We have a fine lot of imported and American bred

Percheron Stallions

on hand and we can sell them for less money than any other importer. Write us your wants.

METZ BROS., Niles, Michigan.

A. A. PALMER & SONS

Open the season with the finest aggregation of

PERCHERON Stallions and Mares

they have ever offered to the breeding public.

60 Head to select from.

P. O. Belding, Mich. R. R. Orleans.

PERCHERONS

bred for utility as well as show quality. Stable includes several international winners. Three 2-year-old stallion colts of quality for sale. Come, or write B. F. ANDERSON, R. No. 3, Adrian, Mich.

PERCHERONS—One extra good dark gray, 3-year-old Stallion, a ton horse, also yearling stud colts. **R. OVERHOLT, Dutton, Mich.**

Reg. Percheron Stallion and Mare Colts for Sale.
M. A. BRAY, Okemos, Mich.

UP HILL OR DOWN HILL

PERFECT SAFETY

RED TIP CALKS

cannot drop out and will not break off; wear sharpest and last longest. They are the best and safest for **YOUR HORSE.**

Beware of Imitations.
LOOK FOR THE RED TIP.

Booklet tells why. Send for it.
NEVERSLIP MANUFACTURING CO.
NEW BRUNSWICK, N.J.

20 Reasons Why You Should Investigate the **SANDOW** Kerosene Stationary ENGINE

It runs on kerosene (coal oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—great power—starts easily at 40 degrees below zero—complete, ready to run—children operate them—5-year iron-clad guarantee—15-day money-back trial. Sizes 2 to 20 H. P. Send a postal today for free catalog, which shows how Sandow will be useful to you. Our special advertising proposition saves you one-half cost of first engine sold in your county. (107)

Detroit Motor Car Supply Co.
164 Canton Ave., Detroit, Mich.

P Largest Profits **P** are secured only from **R** livestock which is healthy and vigorous **R**

PRATTS ANIMAL REGULATOR

puts stock in profit-paying shape. "Your money back if it fails." 25c, 50c, \$1; 25-lb Pail, \$3.50. Pratts Profit-sharing Booklet and 1913 Almanac FREE. At all dealers, or **PRATT FOOD COMPANY**
Philadelphia Chicago

Mention the Michigan Farmer when writing to advertisers.

KELLY DUPLEX Grinding Mill—Guaranteed

Only Mill Made with Double Set of Burrs

Grind ear corn, shelled corn, oats, wheat, barley, rye, kafir corn, cotton seed, corn in shucks, alfalfa, sheep oats or any kind of grain. Bagger has a double spout. Attach to either side of mill.



THE KELLY DUPLEX is the easiest running mill made.

Requires 25% less power and does twice as much work as any other mill of equal size. Especially adapted for gasoline engines. We make 7 sizes. Write for free catalog. DUPLEX MILL & MFG. CO., Box 308, Springfield, Ohio.

Farmers Who Will Need a Tank Heater



Should try the NELSON. Note this heater in water tank, no heat going to waste, all under water. Now in use in 25 states. TWO WEEKS FREE TRIAL. If after two weeks free trial you do not think it is worth double the price we ask for it, return it to us and we will pay the freight both ways. We know the heater is the very best on the market and we guarantee it to give satisfaction. To verify this we ask you not to BUY, but to TRY it two weeks free. We want you to be your own judge. All we ask of you is to give our heater a trial. If not sold by your home dealer, write today for catalog No. 13, and price. NELSON MFG. CO., Deerfield, Wis.

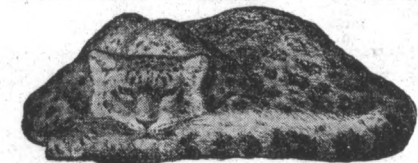
NOW!

Send Your Name For Book About Farm Wagon Economy



Tells how to use your old running gears for many years; save 10,000 high lifts; save repair bills. **ELECTRIC Steel Wheels** Make hauling 200% to 600% easier; don't rut roads or fields; can't break or dry apart. Send for illustrated book of wheels and wagons. Electric Wheel Co., 35 Elm St., Quincy, Ill.

Save High Lifts



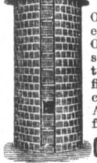
WE TAN

very kind of skins. Horse and Cattle hides for Rugs, Robes, and Coats. We make Ladies' and Gentlemen's Fur coats, Scarfs, Muffs, Gloves, etc., from skin sent us to be tanned. We guarantee everything we make. Send for Illustrated Catalog.

TAXIDERMY IN ALL ITS BRANCHES
THE PELOQUIN FUR TANNING CO.
386 East Main St., Rochester, N. Y.
Established 1894

Guernsey Silo

Fire-Proof—Everlasting



OUR FREE BOOKLET tells why the Guernsey is easy to erect and at very low cost; how best grade Ohio vitrified clay hollow-tile silos reinforced concrete, air, sun, wind and frost—tile doors render it fire-proof. Tells why cheapest to build because first cost is last cost—no repairing, repainting or trouble. Agents wanted. Write for booklet, guarantee and full information FREE.

GUERNSEY CLAY CO., 1103 Odd Fellow Bldg., INDIANAPOLIS, INDIANA.

JACKS and MULES

Raise mules and get rich. 13 Jack and Mule farms under one management, where can be seen 460 head fine large Jacks, Jennys and mules, 14 to 17 hands high. Good ones. Stock guaranteed. Write for prices today. Address

KREKLER'S JACK FARM
West Elkton, Ohio.
Branch barns: Clinton, Ind.



No Promise

A Guarantee

Your FURS returned without charge to you should we fail to give you satisfaction. Write today and you will receive Honest and Correct Quotations.

METROPOLITAN RAW FUR CO.
161-163 West 25th St., New York.



SEND US YOUR COW AND HORSE HIDES
To be tanned and manufactured into coats, robes, gloves, and mittens. We are dressers of all kinds of furs. Write for free catalogue and samples, telling all about our business.

Fur Coats and Robes For Sale
THE SYLVANIA TANNING CO.
Sylvania, Ohio.



Owl Brand on Cottonseed Meal means best quality and responsibility. We will hold you to our trade. Write us for prices and booklet.
F. W. BRODE & CO., Memphis, Tenn.

ordinary scraping the skin comes off with the hair. It is necessary, therefore, to shave off the hair with a sharp knife, requiring much time and doing a poor job.

In scalding place a hook in the hog's mouth and by means of this swing the rear half of the body into the scalding barrel. Churn up and down three or four times and pull it out to air. This churning and airing may be repeated several times, and then the hog should be reversed. This time cut open ham strings, insert gambrel and scald the head end the same way. If the hair comes off freely from the legs and ears the scald is sufficient. Pull the carcass up onto the platform, and, beginning with the legs and head, scrape off the hair quickly. The water may be returned from the barrel to the kettle to be reheated for the next scald. After the water has been used or tempered, subsequent scalds will be more successful.

The hair having been removed hang up the hog by means of a rope and pulley blocks, to any firm support previously prepared. Wash the carcass by drenching it with hot water and remove all scurf and stray hair by scraping it down with a keen knife. This done, give a dash of cold water and continue the scraping until thoroughly cleaned.

To remove the entrails with dispatch and cleanliness requires some skill. With a sharp knife open up the front of the body from rectum to sticking point, using the greatest care not to cut into the intestines. As the entrails are removed have a tub ready to receive them and the fat may be taken off while warm. Cut out, together if possible, the heart, liver, lights, windpipe and tongue. Having placed a cob or piece of wood in the mouth to keep jaws apart, and the spread stick half way down the belly to open the sides, dash in plenty of clean, cold water until perfectly clean. Allow the carcass to hang until cold and firm. It will then be ready to cut up and salt.

Canada.

J. HUGH MCKENNEY.

Profit in Draft Mares.

A FACT patent to every thoughtful observer of modern agricultural husbandry is the increased necessity for heavy horses to secure the greatest possible returns for the labor expended on the farms. It is true that much of the recently made farm machinery has been evolved in response to the high price and great scarcity of farm labor, but this does not make the necessity for powerful teams and heavy machinery any the less.

It is an established fact that one man with four good heavy horses and the most modern farm implements will do more and better work than two men with six lighter horses working with less modern tools. The precision with which heavy horses furnish the power to do the work of tillage is just what is required, whereas lighter horses can not, in the very nature of things, perform such a good job.

Just this condition of things has turned the attention of many a shrewd and thoughtful farmer to the possibilities in the breeding and growing of animals to meet the demand thus created. There can be no doubt as to the money to be made in the breeding of good draft horses. Of all types of horses the draft type is in most constant and sure demand. The supply is very plainly less than the market call. A good draft animal is almost as good as legal tender anywhere and under all conditions.

All a farmer has to do is to let it be known that he has a draft horse for sale and plenty of buyers will present themselves. Especially is this true if the farmer has been so fortunate as to have acquired the reputation for raising good horses of this desirable type. He may then set his own price, and not be long in disposing of his surplus horses. Among men reasonably well adapted, by natural inclination and surroundings, there seems to be a fairly good profit in raising just ordinary horses, as many men make the mistake of doing. But when extra good horses, or those better than the average, are produced, the profit received increases in proportion as careful painstaking effort is coupled with the thoughtful application of good business principles that govern successful breeding operations.

It is plain that for horses of a nondescript character, without the right form or weight for any particular purpose, are not in special demand in any market or in any community, but the producers of such animals are usually easily satisfied, and seem to feel that they are reasonably compensated for the cost incidental

to the production. It is the best horses that are particularly adapted for a special purpose, either for heavy draft, carriage use, or track, that are the ones that find ready market, at prices worth while. The farmer has not much business dabbling in other classes than the draft breeds. It is this class that he needs on the farm, and in all probability the only one he will have any success in producing. It is a very small per cent of light horses that are bred that sell for exceptional prices, while good draft animals are always in demand.

One reason that the general stock of farm horses over the country show such poor quality, especially with regard to any uniformity of draft type, is because so many farmers, a few years ago tried to produce marketable colts of the roadster type by breeding their farm mares to sires of lighter breeds. This was very noticeable in the writer's locality some years ago. A roadster of splendid type and quality was brought in, and to him were bred hundreds of farm mares. He proved to be a remarkable sire of his kind, and became noted throughout the state. But the experiment of breeding farm mares was a failure in a great majority of cases, and a decided failure and set back to the improvement of farm horses in this locality.

Farmers have become convinced that it is the drafter that he should breed, too, for the best selling colts and for stock to be used on the farm as well. Also, it is plain that the more the mare conforms to the draft type of the sire the better and more valuable the offspring. The operation need not take the proportions of a special business, but it may be conducted merely as a side line, and result in increasing, very materially, the annual income from the farm.

In working out this idea, nothing but mares should be kept on the farm. With careful handling and oversight, mares will do about as much work as geldings and raise a colt besides. When rightly managed draft mares may be used for ordinary kinds of farm work at all times of the year without interfering in any way with their foal raising. In fact, it is a quite prevalent feeling among breeders that a reasonable amount of work as exercise, aids a great deal in keeping the mare in a thrifty, healthy condition, which is a very important factor in the production of a strong foal. If proper care and good judgment is exercised they may be worked up to the day of foaling without injury to either mare or foal, and in a few days more they are ready to resume their place on the regular farm work. The colts produced in this way can be raised at a comparatively less figure, demand no great amount of care, and only a limited amount of attention other than some handling at odd times. On the writer's farm have been numerous examples of this kind. Some of these mares have been retained until 15 and 16 years of age, raising from 10 to 15 colts up to this age and all the time doing their share of the farm work. These colts have sold from \$125 to \$225 each when from two to four years old. We feel that mares of this kind are a good investment. As we look back over these experiences, we see when perhaps we might have done better by a little different management but on the whole, the plan and results have been very satisfactory indeed, from a commercial point of view. The draft mare is as profitable an animal as the farmer can possess and may be depended upon to make a good showing in the way of interest and of profit on the investment represented.

Weight counts for more than anything else in a draft horse. To class as such, the horse must weigh 1,400 pounds or over, and the more in excess of this figure the more the value will be. In fact, there is little danger in getting a draft horse too heavy if he is well boned, and right in general conformation and makeup. The popular and useful type possesses heavy bones and a short, closely coupled back, a heavy front with a full breast and medium straight shoulders. The legs should be well apart with wide, strong hocks, and moderately short pasterns.

A good covering of flesh, a smooth finish, and a docile and kind disposition, with plenty of willingness to work, are essentials.

Good breeding is, of course, essential in producing such a horse. Good blood always tells in the mating of horses as well as in all other kinds of farm stock. And here is where a great many farmers are making a great mistake in not exercising more care and judgment in the choice of the sires they use. Suppose the cost in getting the mares in foal was

doubled, either by trouble or a large service fee, the extra expense would more than be made up in the increased value of the offspring. A greater discrimination on the part of mare owners would very soon result in a better class of sires being offered for use throughout the country.

By the use of a pure-bred sire that possesses extra quality as an individual colts may be secured that may be depended upon to bring fancy prices, providing the mares are desirable and well cared for. Of course, it must not be expected the best results will be obtained by mating a first quality sire with any kind of a mare. While the sire may be said to be of chief importance in the matter of successful draft horse breeding, the type and quality of the dam enter largely into the result secured. A pure-bred draft mare will, beyond question, offer greater assurance and larger possibilities in the production of offspring, than one of poorer or no known breeding. But it is not at all necessary that a mare be pure-bred to prove a wonderfully good investment to the farmer. Let her be of draft type and a good individual and any farmer who manages wisely may find good profit in colt or horse production.

Ingham Co.

H. M. YOUNG.

THE YOUNG PIG IN WINTER.

So much has been said regarding the care of young pigs during the winter one would think nothing new could be offered. Now if this were the case, good; for it would show that the exact science of winter pig management had been attained and all one had to do to successfully raise them would be to follow old and well defined rules. While there is no royal road to successful hog raising, there are certain things one must observe and practice to be fairly successful with winter pigs. All of us make mistakes and the worst of it is we quite often forget the ideal condition for pigs during spring and summer are not consistent with the mode of procedure we should give them during winter time. In other words, many making an invariable success with pigs during the warmer months fall down dismally when they undertake the winter care of pigs. Others make a success with winter pigs as well and why so? Here is the main secret (?) of rearing winter pigs, a repetition, quoted for years, but "lest we forget," let me emphasize the fact; "they must be warm," never mind the feed or breed, the first requisite is warmth, not partial but all the time. They must have easy access at all times to a wind-proof, warm, well-lighted nest or bed. This does not mean an expenditure of dollars in up-to-date wood or concrete houses, although this is always money well spent to those who can afford it. Wooden pens may be battened cheaply, the floors raised so the little fellows are up from the mud and water. They simply can not thrive humped up, shivering in filth and frozen slush, no matter how much milk, mul feed, etc., they may be fed. Give them then, a warm house, with ample range and a dry bed of grass, chaff or straw renewed at least once a week, with fresh material first; after this look to the feed.

Corn is a hog's seemingly indispensable food (fattening food) but in my estimation a poison for young pigs; hogs and pigs are different; here is where many of us forget again, and provide for the young porker, rations for topping a 200 or 300-pound hog for market. The aim is not to fatten pigs but to grow them. Warm separator milk fed often, say four times daily in skimmed rather than in too liberal quantities once or twice a day, is best. Apple parings, potato peelings from the kitchen, scraps in small amounts, beet tops or roots fed in sparing quantities once each day are quite essential. A box or low bin of coarse dry sand and gravel to which add a peck of ashes and charcoal, a little salt and a pound or so of copperas, if possible, should be in easy reach of them always. Copperas, salt, charcoal and grit are all cheap and easily procurable, see to it they have a box and keep it filled; they will do the rest. When the pigs are two months old, corn in small amounts may be fed once a day, middlings, mill feed, etc., may be added as a thin slop to their milk. Warm slops, too, are much better than cold feed.

I think it costs more to raise winter than spring pigs, but late May and early June hogs usually are the highest in price of the season, too, and the difference in cost of winter and spring-fed hogs with me does not nearly offset the profit in raising the former.

Gratiot Co.

G. A. RANDALL.

FINISHING THE LAMB CROP.

The flock owner who aims to secure maximum profits from sheep husbandry should not overlook, at this season the vital importance of finishing the lamb crop before marketing. The fall thus far, in Michigan and the central states, has been unusually favorable for pasture growth, thereby causing lambs to make excellent bone and flesh development. However, despite the favorable pasturing season, it is imprudent to depend entirely upon pasture to finish the lambs for market, as the succulent condition of the forage will produce a quality of mutton that will shrink heavily. Pasture, properly and judiciously used, is most economical in preparing lambs for market, but should not be relied upon alone.

It is quite a prevalent practice among farmers to market the lamb crop directly from pasture during October and November. This has several advantages. First it minimizes the cost of production. Second, pasture always produces unusually rapid gains when supplemented by a high grain ration. Third, keeping the lambs on meadows is a means of holding in check obnoxious weed growth that otherwise would produce seed. Stubble fields, new seeding and old meadows can be profitably utilized in this way if judgment is exercised, since such fields must not be pastured too closely.

Another common practice is to carry the lamb crop along on pasture until winter sets in and then finish it on dry feed during the early winter months. This has proven very satisfactory and profitable among farmers who are in position to hold the lambs. It is an economical way of developing the animals so that, as soon as put on dry feed, rapid gains are made. Where large quantities of roughage and grain are grown upon the farm, and it is the desire to return it to the soil, finishing a good crop of lambs during the early winter months is a sure way of increasing the productivity of the land. No manure made on the farm excels that from a pen of feeding lambs.

It is quite impossible, where a large number of lambs are reared in one flock, to market them most profitably in the fall off pasture. The variation in age and milking qualities of ewes are factors productive of a wide variance in growth among the lambs. Some lambs make very rapid growth during the pasturing season, while others, with seemingly the same opportunity, grow much slower and take on flesh less easily. In every flock however, there are lambs that can be sorted out early in the fall and marketed to advantage without consuming a large quantity of grain. I have found that it is advantageous in some years to dispose of the well grown lambs early in the season, and especially when overstocked, or when pasture conditions are unfavorable.

No matter how good the pasture may be, or when the lambs are to be marketed, it is advisable to feed some grain during the fall months. Some owners feel that when the flock has plenty of pasture it is wasteful to feed grain, but experiments conducted at several stations show that a better quality of mutton can be produced and greater gain of flesh and bone secured, when a grain ration is supplied. Fall pasture, stimulated by excessive rainfall, is exceedingly succulent and does not constitute a balanced ration. A light grain ration not only counteracts the succulency of the pasture but supplies additional flesh and bone-forming elements essential to economic production. When salvage grain can be purchased for \$20 per ton it makes very cheap feed and, if fed judiciously along with other farm-grown grain compounds, an excellent ration for finishing lambs that are yet on pasture.

Shiawassee Co. LEO C. REYNOLDS.

SOY BEANS IN GRAIN RATION FOR LAMBS.

The Wisconsin Agricultural Station recently conducted some experiments to determine the feeding value of soy beans for lambs with oats fed as an adjunct to corn. Because of their high protein content, it was assumed that soy beans would be of great value to balance the corn ration. As the lambs to be used in the experiment were to be kept as breeding ewes it was not aimed to feed for large gains but to maintain them in good growing condition. The grain ration of one lot was composed of equal parts of soy beans and shelled corn, the other receiving oats in place of the soy beans. The amount of grain fed each lot for the first three weeks was one pound per lamb

per day. After this time they received 1½ pounds per day. About one pound of cut corn stover was fed to both lots each morning. For the evening meal they received approximately one pound of clover hay, for a month and a half and then they received as a substitute June grass hay.

It was found that the total gains made by the lot fed soy beans was 163 pounds while the other lot made a gain of 137 pounds. The lot fed soy beans did not take to their grain during the first few days, but after that time they appeared to relish this grain. While it was not practicable to determine the cost of the soy beans, the experiments showed that one pound of soy beans is equal to 1.19 pounds of oats in feeding value.

Washington, D. C.

G. E. M.

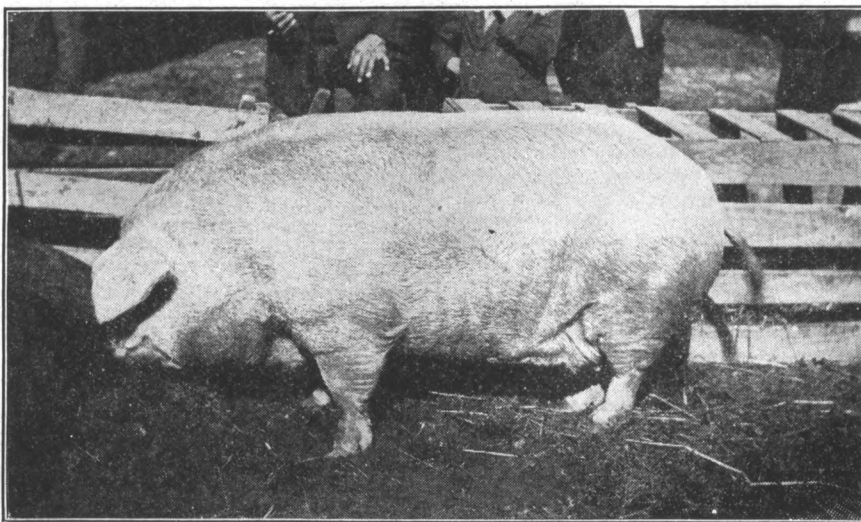
IN-BREEDING AND CROSS-BREEDING.

It is clear that the preventive of free crossing and the intentional mating of individual animals are the very cornerstones of the breeders' art. No man of ordinary sense or ability would expect to improve or modify a breed in any particular manner, or keep an old breed true and distinct, unless he separated his animals and mated them with some skill. The killing of inferior animals in each

minishes the constitutional vigor, size and fertility of the offspring, and occasionally leads to malformations, but not necessarily to general deterioration of form or structure. The failure of fertility shows that the evil results of inbreeding are independent of the augmentation of morbid tendencies common to both parents, though this augmentation is often no doubt highly injurious.

With some animals, among which may be mentioned certain herds of Shorthorns well known in the past, it has been possible to carry on close breeding for a long period with impunity, by selection of the most vigorous and healthy individuals, but sooner or later evil follows. The evil, however, in such cases, comes on so slowly that it easily escapes attention for a time. In such cases a cross will, however, produce, so to speak, instantaneous effects, and renewed remarkable appearances of vigor becomes at once conspicuous, as well as greater fertility.

It is very remarkable that many breeders, who realize that animals and plants profit from a slight change in their condition of life, have run riot and injured their herds by sticking to inbreeding for very long periods. They overlook the important fact that the germ is more effectually stimulated by the male element when taken from a distinct indi-



Prize-winning Chester White Sow shown at Last Year's International by Adams Bros., of Hillsdale County, who Won a Championship at this Year's Show.

generation would correspond to the same thing as their separation.

It is a great law of nature that all organic beings profit from an occasional cross with an individual not closely related to them in blood, and that, on the other hand, long continued close inbreeding is injurious. The belief that evil follows from close inbreeding rests, to a large extent, on the experience of practical breeders, especially those who have reared many animals of the kinds that can be propagated quickly. For example, breeders of pigs have found that close breeding not only produces infertility but the young are sometimes born idiotic and without sufficient sense even to suck. Furthermore, when attempting to move some have been found unable to walk straight.

Calves of closely related parents have been born with brain disease, staggering in their gait, and have had to be slaughtered, as it was a hopeless endeavor to prolong their lives. The evil consequences of long-continued close inbreeding are not so easily recognized as the good effects from crossing, for the deterioration is gradual.

It often occurs that offspring descended from the nearest blood relations are not deteriorated in structure to external appearance; they are, however, liable to malformations, because everything that lessens the vital power acts in this manner. When one considers the various facts adduced, which plainly show that good comes from crossing, and that evil follows from close inbreeding, and when it is borne in mind that throughout the whole organic world elaborate provision has been made for the occasional union of distinct individuals, the existence of a great law of nature is, if not proved, at least rendered highly probable—namely, that crossing animals which are not closely related to each other is highly beneficial and even necessary, and that inbreeding prolonged during many generations is highly injurious.

As life depends on, or consists in, an incessant play of most complex forces, it would appear that their action is, in some way, stimulated by slight changes in the circumstances to which each organism is exposed. The system of long-continued close inbreeding between relatives di-

vidual, and, therefore, slightly modified in nature, than when taken from a male having the same identical constitution. Illinois. W. H. UNDERWOOD.

ANOTHER SUCCEEDS WITH SMALL SILO-FILLING OUTFIT.

Seeing an inquiry in your paper of November 30, by E. H., of Montcalm county, in regard to purchasing a private outfit for silo filling and seeing the answer, very good but a little discouraging if he is in the same predicament I was, and it seems to me that he is, I venture to give my experience. When I came to the silo I had to buy the whole outfit for filling, as there was not a cutter for miles, and I could not get it then, and as far as interesting my neighbor farmers within distance to own a cutter and co-operate, it seemed impossible, so I went at it alone. I had a two-horse gasoline engine which I used for sawing wood, grinding feed, washing, separating milk, and a hundred other things, but I thought the same as the answer to this inquiry, that it took a great deal of power to run an ensilage cutter. But an agent came to me one day and offered to put his cutter up and if my little engine would not run it and fill my silo, which is 12x28 ft., and do the work perfectly, I need not keep it, so I took him up, and to my surprise I still have it and could not get along without it. We filled our silo at the rate of 20 to 25 tons per day and when it had settled we refilled it, and I also had some corn shocked that was very soft so, on November 22 we hauled that in and put it in the silo and it made as good ensilage as the green corn. We filled our silo with just our own crew, teams, etc. That made a big saving in expenses which was no small item when I had to buy the whole outfit alone. The answer speaks of wanting to exchange a small cutter for a larger one in a short time. There would be no occasion for this. I can put in eight tons per hour as well as two.

So, if E. H. is thinking of getting a four-horse engine anyway, I see no reason for him not owning a silo and cutter as a four-horse engine of most any make would run cutter nicely.

Wexford Co.

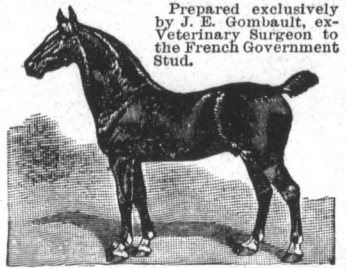
F. BREDAHL.

Horse Owners

Look to your interests and use the safest, speediest and most positive cure for ailments of your horses, for which an external remedy can be used, viz:

GOMBAULT'S CAUSTIC BALSAM

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. 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

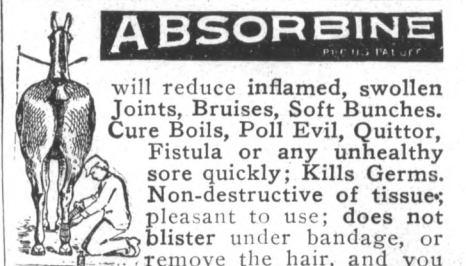
To Live Stock Men

Diseases of Cattle, Horses, Hogs, Sheep and Poultry treated by Dr. David Roberts, the nation's greatest veterinarian. Book of 184 pages, plain, practical, authoritative. Gives symptoms, tells what to do.



Get this book. Free at most drug stores; if not at yours, send 25c and receive copy direct, postpaid. You can write Dr. Roberts about any trouble with your live stock and get his personal advice by enclosing a 2-cent stamp. Experiment is more costly than neglect. Get correct information by writing Dr. Roberts today.

DR. DAVID ROBERTS VETERINARY CO. 9621 Broadway, Waukesha, Wis.



ABSORBINE

will reduce inflamed, swollen joints, Bruises, Soft Bunches. Cure Boils, Poll Evil, Quittor, Fistula or any unhealthy sore quickly; Kills Germs. Non-destructive of tissue; pleasant to use; does not blister under bandage, or remove the hair, and you can work the horse, \$2 per bottle, delivered. Book 7 K free.

ABSORBINE JR. the Antiseptic Liniment for mankind. Reduces Painful, Swollen Veins, Goitre, Wens, Strains, Bruises, stops Pain and Inflammation. Price \$1.00 per bottle at dealers or delivered. Will tell you more if you write. Manufactured only by

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

KENDALL'S SPAVIN CURE

The old, reliable remedy you can depend on for Spavin, Curb, Splint, Ringbone or lameness. Thousands have proved its invaluable. Get a bottle from your druggist. Price per bottle \$1.60 for \$5. "Treatise on the Horse" Free at druggist or from Dr. B. J. KENDALL CO., Keosauqua Falls, Vt., U. S. A.

CLEAR-EYE FOR HORSES' EYES.

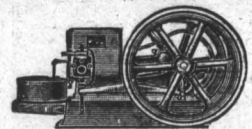
Best remedy ever discovered for Moonblindness, Pink-Eye, Cataracts and all ailments of eyes of animals. \$2 a bottle. Guaranteed. Write for our free horse book "Forty Facts for Horse Owners."

THE LAKESIDE REMEDY CO., 5409 Calumet Ave. Chicago, Ill

THE ROSS SILO

Only silo made with these combined features. Doors on Hinges Continuous Door Frame. Refrigerator type of Door and Door Frame. Oval Door Frame to fit exact circumference. Not a bolt in entire door frame or doors. Extra Heavy Hoops and Lugs. Roof Rafter and Anchors furnished FREE. Backed up by 63 years of experience. Write for catalog which explains all. AGENTS WANTED. THE E. W. ROSS CO. Box 14 Springfield, Ohio

Gasoline Engines



**Sold Direct
to You at
FACTORY
PRICES**

60 Days Free Trial—You Run No Risk

The Witte is conceded the best engine in America. Made by E. H. Witte, master builder for 25 years. Ask any Witte user. Any size from 1½ to 40 horse-power all tested to ten per cent overload. 61 special advantages.

**And You Now Pay Only
FACTORY PRICE**

We cut out all dealers—their profits go to you. You also get the full benefit of our low factory cost. We have no power expense at our plant, as we own our gas well; testing, heating, lighting fuel, all free. Take a 60 day trial. Five year guarantee. Write for book, "How to Judge a Gasoline Engine," and complete catalog. Our wholesale factory prices will interest you mightily. Write NOW, telling us size engine you need.

WITTE IRON WORKS CO.
2191 Oakland Ave. Kansas City, Mo.

**The WITTE
Cuts Gasoline
Bills in Half**

Your Seed Grain CLEANED and GRADED FREE

To prove my "Chatham," I will ship it freight prepaid, no money down. Let it clean, grade and separate your seed grain for 30 days. Then keep it and pay me my astonishingly low price next November or send it back, at my expense.

**CHATHAM GRAIN GRADER
AND CLEANER**

grades, cleans and separates Wheat, Oats, Corn, Barley, Peas, Beans, Flax, Clover, Timothy, etc. Takes Cockle, Wild Oats, Smut, etc., from seed wheat; any mixture from flax. Sorts corn for drop planter. Rids clover of buckhorn. Takes all dirt, chaff and weeds from timothy. Removes foul weed seed and all damaged, shrunken, cracked or feeble kernels. Handles 60 bu. per hour. Gas power or hand power. Post-albrings low-price—buy on time proposition and latest Catalog. Write now for Booklet 60. (73)

The Manson Campbell Co., Detroit, Kansas City, Minneapolis

240 Page Book On Silos and Silage

Most complete work on this subject published. Used as text book by many Agricultural Colleges. Gives the facts about Modern Silage Methods—tells just what you want to know. 240 pages—indexed—over 40 illustrations, a vast amount of useful information boiled down for the practical farmer. Tells "How to Make Silage"—"How to Feed Silage"—"How to Build Silos"—"How to Maintain Soil Fertility by Silage System." All about "Summer Silos" and the Use of Silage in Beef production. Limited Revised and Enlarged Edition now ready. Send for your copy before too late. Enclose 10c in coin or postage stamps and mention this paper.

Silver Manufacturing Co., Salem, Ohio

Galvanized or Painted Roofings

At Mill Prices.

We manufacture the very best quality of Steel Roofing, in V Crimp, Corrugated, Pressed Standing Seam or Roll and Gap Roofing.

We can save you money. Write us for prices.

Agents Wanted.

The Sykes Metal Lath & Roofing Co., Niles, Ohio.

**Best
Possible
Prices.**



**Honest
Treatment
Always.**

**59 YEARS OF HONEST
FUR BUYING**

Since 1853 thousands of dealers and shippers of Raw Furs have sent their skins to us every year, with the assurance of absolutely fair and honest treatment. If you want to feel safe in your shipments and sure of highest possible prices and every penny that is coming to you, send your Raw Furs to us. You will never again trade with any one else.

TRAUGOTT SCHMIDT & SONS
136-164 Monroe Avenue
DETROIT, MICH.

Sit right down now and mail us this coupon before you forget it

Traugott Schmidt & Sons, Detroit, Mich.

Dear Sirs:—I want to ship my furs where I can be sure of Honest Treatment and the Highest Prices. Will you send me price list, tags, etc., and put me on your regular list?

Name _____
Address _____
M F

BREEDERS' MEETINGS AT THE INTERNATIONAL.

American Polled Hereford Association.

The annual meeting of the Polled Hereford breeders was held at the Great Northern Hotel, Chicago, on the evening of December 4. Twenty-eight breeders from eight states were present. The board of directors reported that the first volume of the Double Standard Polled Hereford Record is now in the hands of the printer and will be issued within a few weeks. During the past year there have been 215 new herds of pure-bred or Double Standard Polled Herefords established, which is an increase of over 50 per cent over all the previous ten years' history of the breed. There are now 625 established herds of Polled Herefords in the United States, located in 34 states, Old Mexico, Hawaii and Canada. The year just closed has shown a gain in membership of the association, of 112, while the entire former membership gained in ten years was 120, thus making a gain of 93 per cent in one year over the combined growth of ten years.

Mr. J. E. Green, of Muncie, Ind., was re-elected president of the association. B. O. Gammon, Des Moines, Ia., was re-elected as secretary-treasurer at the directors' meeting.

American Oxford Down Record Association.

The members of this association met on the evening of December 3, with a goodly number of breeders in attendance. The old officers were re-elected for the ensuing year. There is a strong sentiment among the members of this association to have next year's meeting held on the evening following the judging of Oxfords, due to a belief that the members gathered at the judging ring will receive an inspiration which would make for an enthusiastic meeting and that this policy would stimulate a larger attendance.

INTERNATIONAL CHAMPIONSHIPS.

Breeding Cattle Championships.

Short horns.—Senior and grand champion bull, Rockwood Farms, Ames, Ia., on Count Avon; junior champion bull, Elmdorf Farm, Lexington, Ky., on King's Secret. Senior and grand champion female, White & Smith, St. Cloud, Minn., on Roan Queen. Junior champion, D. R. Hanna, Ravenna, O., on Village Primrose 2nd.

Herefords.—Senior and grand champion bull, J. P. Cudahy, Kansas City, Mo., on Fairfax 16th. Junior champion bull, O. Harris, Harris, Mo., on Repeater 7th. Senior and grand champion female, J. P. Cudahy, on Scottish Lassie. Junior champion female, O. Harris, on Miss Repeater 11th.

Aberdeen Angus.—Senior and grand champion bull, O. E. Broadfute & Sons, Xenia, O., on Leroy 3rd, of Meadow Brook. Junior champion bull, R. M. Anderson & Sons, Newell, Ia., on Provo 2nd. Junior and grand champion female, Wilson Bros., Muncie, Ind., on Queen Mother Johnson 8th. Senior champion female, James D. McGregor, Brandon, Manitoba, on Violet 3rd of Congash.

Galloways.—Senior cham. bull, Straub Bros., Avoca, Neb., on Choice Master. Junior champion bull, same on Casino. Senior champion female, Straub Bros., on Ladylike. Junior champion female, same on Nellie Melville.

Polled Durhams.—Senior champion bull, J. H. Miller, Peru, Ind., on Sultan's Creed. Junior champion bull, same on Valiant Victor. Senior champion female, Miller on Lady Craven. Junior champion female, same on Capacious Sultan.

Red Polls.—Senior champion bull, Geo. Ineichen, Geneva, Ind., on Elgin. Junior champion bull, Frank J. Clauss, Barnum, Ia., on Paul. Senior champion female, Ineichen on Cosy 2nd. Junior champion female, Chas. Graff, Bancroft, Neb., on Rosalie.

Breeding Swine Championships.

Poland Chinas.—Grand champion boar, John S. Goodwin, Naperville, Ill., on Colomade. Grand champion sow, Mahon Bros., Osborn, O., on Fancy King Lady 2nd.

Berkshires.—Grand champion boar, W. E. Spicer, Bushnell, Ia., on Artful Duke 40th. Grand champion sow, same on Artful Belle 114th.

Large Yorkshires.—Grand cham. boar and sow, W. H. Fisher, Columbus, O.

LIVE STOCK NEWS.

Many Iowa farmers who have been favored with fine, large corn crops this year are sorry that they have so few cattle, hogs and sheep for feeding this winter, since the price of corn is so low. In the western portion of that state new corn is bringing only 33¢ to 35¢ per bushel, and as crib room is utterly inadequate for storing surplus, large quantities will be forced upon the market in the near future. The unusually mild autumn resulted in a much smaller consumption of corn and other feed than usual. Cash business in corn has been quite large in the western markets of late, and there have been liberal transactions for January and February shipment. Speaking of corn, many farmers will be interested in hearing about Jerry H. Moore, the seventeen-year-old South Carolina youth, who this year on a single acre of land attached to his father's parsonage, produced 228 bushels and two pecks of corn, and in so doing broke the world's

corn record. The legislature of that state recently adopted resolutions thanking Jerry for his distinguished services to the commonwealth and also passed a special act giving him a scholarship in the university's agricultural college. So, Carolina is not making much of a showing in its corn record, the average yield to the acre last year having been but 18.5 bushels, with an aggregate crop of 29,646,000 bushels, yet there has been much improvement since 1900, when the crop aggregated 17,429,610 bushels, with an average yield of only seven bushels per acre. The president of the largest land and credit company in the country recently remarked that he and bankers generally were anxious to do business with farmers who can obtain first-rate results in growing corn and other crops, adding that many more boys like Jerry Moore were needed in the corn belt.

At the recent sixth annual convention of the Indiana Cattle Feeders' Association at Lafayette there were cattlemen present from all parts of the state, and those who attended furnished statements showing the extent of cattle feeding in their respective districts. From the statements made it was gathered that in southern Indiana only 50 per cent of a normal crop of cattle is now on feed. In the second fifth supplies run 75 per cent of normal feeding, dividing the state into five sections, north and south, while in central Indiana about 75 per cent of normal feeding was reported. In the north central and extreme northern sections it was found that supplies ran from 50 to 125 per cent of normal, according to localities. Men who have traveled through the northern portions of the state contended that only 75 per cent of a normal supply is now on feed for next spring's market.

Short feeding of cattle is now far more popular than the old-fashioned long feeding, and skillful stock feeders have made liberal profits by feeding cattle a few weeks or a few months. In a recent week a stock feeder marketed a consignment of cattle that brought \$8.25 per 100 lbs., after paying \$6.50 for them as feeders and feeding for only 45 days. Cattlemen generally seem to be skeptical about the permanency of the prevailing exceptionally high prices for finished cattle, and they are in most instances inclined to take fair profits rather than wait for larger returns. This explains the unusually small percentage of strictly prime beefs offered on the Chicago and other markets week after week. A well-informed cattleman who a short time ago traversed the best cattle territory of Illinois and Iowa said that 65 per cent of the cattle taken out of western markets within a period of 100 days had been returned already to market, despite the great abundance of feed everywhere. This state of things may be said to be quite general, as shown by the half-fat cattle that comprise the greater part of the daily market offerings. Observers have remarked that 85 per cent of the market offerings need longer feeding to render them fat. This premature marketing points plainly to a scarcity of good cattle by next spring, and it also means a serious shortage in weight for the winter supply. It is known that most of the fleshy cattle in feeding districts were bought at high prices by owners and this furnishes a powerful incentive for unloading them whenever a reasonable profit appears in sight. Many cattle have been bought in western markets that will not be fed corn until after New Year's.

"Ohio will feed more cattle than last year, yet there will not be a normal total. There will be fully 50 per cent fewer sheep and lambs fed in here this season than last." This is what H. N. Ensign, of Jamestown, Ohio, says, and he should know, as he is very prominent in Ohio feeding and farming affairs. He was recently in the Chicago market for the purpose of buying a large number of feeding cattle, and reported the corn crop of his state as larger and better than last year, while the hay crop was not as good. "It is my prediction that those who have paid \$7 and higher for feeding steers will not come out even where they have to market them from the middle of December to the middle of February," commented Mr. Ensign. "Indications are for a great many half-fat cattle being thrown upon the market during that period. Those who are in position to hold their cattle and get them in good fat condition, need not, in my opinion, have cause to worry. These will be wanted right along at relatively high prices."

The cattle markets of the country have been suffering from the greatly lessened consumption of beef everywhere and the unusually small percentage of prime heavy and yearling beefs, a combination of low-grade beef and extremely high prices acting detrimentally to the interests of the trade. It is evident from the grading of cattle coming to market that farmers are carrying unusually few well-bred fat steers and heifers on their farms at the present time, recent marketings having run largely to grass cattle and warmed-up stock that is seeking a market before the winter sets in. Farmers as a class appear to be wary about feeding cattle through the winter, and those who will do so are in many cases going to rough them through and pasture them the following summer. The dearthness of feeders carrying considerable flesh is causing many farmers to try their luck with light-weight stock steers, owing to their being cheaper, and considerable numbers have gone from western and southwestern live stock markets to various parts of the corn belt. On the whole, the promise for choice beef cattle for a long time ahead cannot be considered as bright. Meanwhile the packers find it no easy matter to dispose of their stocks of beef in coolers, and several reductions have been made in prices, but, unfortunately, the retail meat markets are apt to be slow in making corresponding reductions in prices.

VETERINARY

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

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

Indigestion—Brittle Hoofs.—I have a three-year-old filly that is losing flesh, appears dull and dumpy, but is not getting as much good out of the feed she eats as she should. She has been worked hard all summer and I have noticed that her hoofs are brittle. T. O'N., Harbor Beach, Mich.—Examine her mouth and you will perhaps find a tooth or two that are interfering with mastication; the crown of a temporary tooth may require extracting. Give her 1 oz. ground gentian, ½ oz. bicarbonate soda, 1 dr. of ground nux vomica and a teaspoonful of Fowler's solution at a dose in feed three times a day. She should be well fed and groomed twice a day. Apply lanolin to hoofs once a day.

Indigestion—Chronic Lymphangitis.—I have a mare nine years old that is not thriving; her hair is rough, legs stock a little, but her appetite is good. We also have another horse that had an attack of lymphangitis one year ago, since then his leg remains stocked. R. S., Deford, Mich.—Your mare's teeth may need floating. Give her a teaspoonful of powdered sulphate iron, two tablespoonfuls ground gentian, two tablespoonfuls ginger and 1 dr. ground nux vomica at a dose in feed three times a day. Chronic lymphangitis is incurable, therefore you will obtain unsatisfactory results from treatment. However, it is well to keep in mind that the same causes which produced it once will do so again. Daily exercise and avoid overfeeding on grain when idle, will usually prevent this disease.

Rheumatism.—I have a six-year-old mare, weighing about 1,500 lbs., that stiffens in both hind legs when allowed to stand still a few minutes. There is no swelling, no fever and I might add that some days she is worse in one leg than the other. A. G., Forsyth, Mich.—Give her 3 drs. sodium salicylate at a dose in feed three times a day. Also give her ½ oz. powdered nitrate potash at a dose in feed night and morning. Keep her dry and warm. Avoid driving her when cold rain or snow falls on her hind quarters.

Chronic Scours.—For the past three years my six-year-old mare has been troubled with scours. Have given her different remedies which were prescribed by two different Vets, without doing her any permanent good. When she is worked and not driven faster than a walk she is not so bad, but when driven fast she scours badly. T. B., Dinca, Mich.—I am inclined to believe this an incurable case. However, you will obtain fairly good results by giving 1 dr. powdered opium and from 1 to 2 drs. salol at a dose in feed three times a day. You may also try giving a teaspoonful of powdered sulphate iron, 1 oz. ground ginger at a dose in feed three times a day. Oats and well cured timothy is the best feed for a case of this kind, and drive slow.

Acute Indigestion.—I have a 12-year-old mare that first had a bad attack of acute indigestion two weeks ago. Was treated successfully by our local Vet. She has had three attacks since. In event that she has another what would you advise me to give her? E. T., Camden, Mich.—In treating acute indigestion the first step to be taken is to arrest fermentation. Give 4 ozs. hypo-sulphite soda dissolved in a pint of water as a drench and repeat in 30 minutes if relief has not been obtained. Or give 3 drs. salicylic acid, 1 dr. borate of soda in a quart of warm water at a dose every 30 minutes. There are many other remedies that are suitable, such as sulphate of lime, magnesium sulphate, boracic acid, cresylic acid, carbolic acid and coal tar disinfectants that are all useful in controlling acute indigestion. It is needless for me to say that it is always good practice to wash out rectum with soap-suds. In some cases it is necessary to puncture bowel in right flank to allow the gas to escape; however, this should not be resorted to unless it is seemingly justifiable and necessary.

Poor Appetite—Bull Calf with One Testicle.—I have a 19-month-old heifer that I wish to beef this winter and I would like to have you prescribe a tonic for her. This heifer is getting thin, but appears to be well. I also have a bull calf that I wish to castrate but find only one testicle in scrotum. Will the other one come down later? A. C. S., Benzonia, Mich.—Give your heifer 1 oz. ground gentian, ½ oz. powdered cinchona, 1 oz. bicarbonate soda and 1 dr. ground nux vomica at a dose in feed or as a drench three times a day. Also give her a dessert-spoonful Fowler's solution at a dose three times a day. It is possible that the missing testicle will descend through ring into scrotum. If you did not care to wait, he can be castrated now, but, of course, the risk is a little greater than if he was in normal condition.

Thin Cow—Light Milker.—I have a cow that has a very good appetite, but she neither produces much milk or lays on flesh, but is gradually losing flesh. She has been giving milk since May and I would like to know when to dry her. I feed corn stover and good clover hay twice a day. She has also run of straw stack in good weather, and for grain I give her from 4 to 5 qts. of ground oats

(Continued on page 579).

PRACTICAL SCIENCE.

THE ROLE OF IRON.

BY FLOYD W. ROBISON.

Iron occupies a very unique position in the animal economy. Iron rarely if ever occurs on the earth's surface in its metallic condition but chiefly in the form of oxide—that is, a union of the metallic iron with the oxygen of the air, and when metallic iron is exposed to atmospheric action it very soon becomes coated with a film of oxide, or, as it is sometimes stated, it very quickly rusts.

Iron is a Carrier of Oxygen.

In the soil, iron is important because it is a carrier of oxygen and by subsequent reduction in the soil and following oxidation again when exposed to the air, it plays an important role in the chemical activity of the soil.

In the animal organism the office of iron is exactly the same as in the soil, that is, it is a carrier of oxygen. One of the most important functions of the body—the function of respiration—is impossible in the absence of iron. The small red corpuscles of the blood are the agents through which oxygen is distributed throughout the body. Their faculty for holding and carrying the oxygen seems to depend very intricately on the iron which is a constituent part of their composition. The haemoglobin of the blood when it becomes oxygenated, or charged with oxygen, becomes what is known as oxy-haemoglobin, in which oxidized condition, because of the content of iron there present, oxygen is transported throughout the blood to the various tissues of the body, where the oxygen is given up. The carbon dioxide gas in the tissue is in turn taken up by the haemoglobin and is transported back to the lungs where it is discharged. The presence of iron in the blood, therefore we may readily see, is very vital indeed to the normal respiratory process. Indeed, the haemoglobin of the blood which we may consider as a typical proteid contains as a constituent part iron in exactly the same way that all proteid materials contain nitrogen. This is one example, showing an inorganic plant constituent, namely, iron, to be a typical food material.

Iron is a Plant Food.

To a certain extent, therefore, it is possible to refer to iron as plant food. It will be recalled that we have asserted from time to time that the major activity of the mineral nutrients in the soil was to be construed in the light of their administrative capacity rather than as plant foods. By administrative capacity it will be recalled that we considered their major office to be in assisting in the creation of the various organic products such as starch, sugar, etc., assisting by their presence only without becoming an integral part of that organic substance. Iron, we say, is in part an exception to this statement, and to the extent that it is an exception it becomes a typical plant food.

Iron, then, is necessary in the food. It is peculiarly necessary because as we have heretofore stated, it is associated in the body with the respiratory process. It is a direct carrier of oxygen in the blood.

Iron Stored up in the Body at Birth.

A study of the composition of young animals at birth and at various stages in their early life history has revealed the fact that at birth there seems to be an excessive amount of iron stored in their bodies. Mammals relying for their food entirely upon mothers' milk are limited thus in their food supply. Now the only iron that could be obtained from outside sources would be the iron which is a natural constituent of mother's milk. When it was discovered that at birth many young mammals contained a considerable supply of iron, certain scientists began to inquire why this surplus of iron was present in the young animal's body. An examination of the milk—the natural food of that animal—showed that it was rather constant in its content of iron and from the time of its birth until the time when milk ceases to be its total diet, there is practically no change in the per cent content of iron in the milk. It is very evident, therefore, that if in a young animal living entirely on milk, for the first few months of its existence, an excess of iron is stored in the body at the time of birth, it seems reasonable to assume that nature has thus wisely provided for an all important substance which the milk—the natu-

ral food for the animal—must be deficient in, and the evidence seems to bear out this statement.

Milk is Deficient in Iron.

In other words, to make it perfectly plain, milk does not contain enough iron to make it even a perfect food for the infant and young animal except it be supplemented in some way as far as content of iron is concerned. Nature has beautifully provided for this by providing a sufficient store of iron in the body to thus supplement the milk for a certain period of time in the early history of the animal. It has been estimated that in the human infant this period will, on the average, be about ten months.

The Ten Months Line Again.

In other words, at the end of ten months after birth, we may safely assume that the excess store of iron in the infant's body will have been exhausted. A priori reasoning again would convince us that this is the time in the life of the child when some food other than milk should be given it. It is interesting to note in this connection that this time seems to tally very nicely with the time indicated by the exhaustion of the lime supply, which is another indicator which we have used in this study in food material.

Our Modern Living.

We have mentioned from time to time that the abnormality of modern living tends to exaggerate the natural deficiencies of our food in various materials. Modern machinery and the perfection of food manufacturing have lowered the inorganic constituents of food. We will take for example, one of the most notable illustrations, that is—white wheat flour. Modern methods of milling have gradually reduced the amount of inorganic matter contained in flour until it is very low indeed in our modern white patent flour. The removal of the exterior of the berry and the fine sieves which prevent even the smaller particles of bran from passing through have reduced the inorganic matter in white flour until there is present in the highest grades not more than .4 per cent of total inorganic matter. This would not be a matter of so much concern were it not for the fact that bread is even now the most stable article of food on the table and we feel that some effort should be made to provide among our daily articles of food those constituents which are necessary to carry on the actual vital processes of the body.

Anaemia Caused by Deficiency in Iron.

One of the most common diseases of persons living specially in the cities, is anaemia, and in the larger cities the pernicious cases of anaemia are by no means uncommon. These cases, physicians lay directly traceable to the lack of iron in the blood, caused primarily through the lack of iron in the food, or to a disturbed metabolism which prevents possibly the absorption of iron which may be present in the food. It is an interesting thing to note that an impairment of the iron-absorbing power of the blood seems to be one of the first indicators of a seriously disturbed metabolism and thus we may see nature pointing again to the vital role which iron plays in human and animal nutrition.

Iron Tonics.

Various preparations containing iron have been on the market from time to time in order to overcome the food deficiency in this product.

These have been of doubtful value. The iron occurring in food products, seems to be in a considerable degree in organic combination, that is—built into the organic molecule in the food, and the human body—the animal body—seems to be capable of utilizing those inorganic constituents which are an integral part of the organic molecule to better advantage than inorganic constituents which are present in the food possibly in inorganic form.

Iron High in Peas, Beans, Etc.

Iron, for example, is present in the protein of peas—legumes—most of which class of food are peculiarly high in their content of iron. Iron is present in the yolk of eggs, in organic combination. Most of the preparations of iron on the market are some solutions of various inorganic salts of iron and it seems reasonable to suppose that they are not of so much value to restore the bodily deficiency in iron as those products which contain iron as a constituent part of

their makeup. So we say that arranging the diet to include in large quantities those food materials which contain large amounts of organic iron is the most rational method of overcoming and combating those diseases which are due primarily to inadequate amounts of iron in the body.

We shall take up some of those foods and attempt to show some dietaries based on these statements.

LABORATORY REPORT.

Will you please tell me if there is enough goodness in sour apples to pay for picking up and feeding to milch cows or to any other stock? I would like to make some use of them, have been feeding about a peck to a cow; they have failed in milk. I thought it was due to taking them off from grass. Am feeding hay, evergreen sweet corn, gluten and bran; will feed silage in about a week. I am sending the analysis of the gluten that I am feeding; is it all right? I would like to ask how to make good cider vinegar from the cider of sour apples. The cider is just made; have tried it a number of times and never had any success.

Sanilac Co.

E. L. T.

(1). Several times in these columns the method of manufacture of cider vinegar has been outlined. Sour apples make very desirable cider vinegar if they are clean. The best way to handle the cider in small quantities is to keep it in a rather warm place, add a yeast cake, (one of Fleischman's compressed yeast cakes), when the sugar in the cider will very rapidly change to alcohol. In spite of the fact that the apples are sour they will be found to have a good deal of sugar in them, just the same, and this sugar will quite readily ferment to alcohol when it has been treated with yeast and kept in a moderately warm place.

After the sugar in the cider has been changed into alcohol the slowest part of the vinegar-making process begins. Place a vinegar barrel on its side, add two or three gallons of vinegar and then fill it about one-fifth full with the fermented cider, at the end of a couple of three weeks add another fifth of the cider stock and so on until the barrel is full. The bung should be left open or plugged loosely with raw cotton. To make the vinegar of proper strength will take two or three months, but its flavor will be fine if the cider is from clean, nice apples. Good cider vinegar cannot be made from poor, decayed apples.

(2). Sour apples, if ground or chopped in rather small pieces, are a good adjunct to the ration for milch cows. They would be classed in with silage and other succulent feeds, although they do not have the value that good corn silage would have, but with plenty of apples on the ground there is no need of wasting them and they may, with perfect propriety, and with decided advantage, be worked in as a supplemental feed. Probably 10 or 15 pounds per day would be as much as should be given, and care should be taken that they are cut up so that there will be no danger of the stock choking on same.

(3). The card showing the analysis of gluten feed indicates that same is about a normal gluten feed. Notice, also, that this gluten feed is uncolored. It has been quite the custom to add a yellow coal tar dye to gluten feed, but the writer is pleased to note that this feed is uncolored and that the manufacturer is proud of that fact.

CATALOG NOTICES.

James Litter, Feed and Milk Can Carriers are illustrated and described in Catalog No. 11 sent by the James Mfg. Co., Ft. Atkinson, Wis. The different styles of carriers manufactured by this well known company, as well as the method of installation in different types of barns are fully illustrated and described in this catalog, which will be sent upon request.

Virginia coal mines is near and end and The Cyclone Woven Wire Fence Co., of Cleveland, Ohio, send a handsomely illustrated 40-page catalog, showing the many styles of Cyclone Woven Wire Fence for practical and ornamental purposes about the farm and lawn, including posts, gates, trellises, window guards and other wire and iron goods. In writing for this art catalog mention the Michigan Farmer.

Kitselman Fence, manufactured by Kitselman Bros., Muncie, Ind., is illustrated and described in a 40-page catalog sent upon request by this firm. In it are listed many styles, heights and weights of Kitselman Fence suited to every purpose for which fencing is required upon the farm. Ornamental fence, gates, and fencing tools are also listed and considerable information of practical value is to be found in the catalog.

Genasco
The TRINIDAD-LAKE-ASPHALT
ReadyRoofing

Stays waterproof
Trinidad Lake asphalt makes roofing stay waterproof. It is the product of Nature. And man has never equaled it for roofing. We use it to make Genasco.

Genasco doesn't rot, rust, dry-out, crack, break—and doesn't leak.

Get Genasco for every building on the farm. Mineral or smooth surface. Comes in rolls ready and easy for anybody to lay. Ask your dealer for Genasco. Write us for samples and the valuable Good Roof Guide Book—free.

The Kant-leak Kleet for smooth-surface roofings does away with nail-leaks and makes seams watertight without cement.

The Barber Asphalt Paving Company
Largest producers of asphalt, and largest manufacturers of ready roofing in the world
Philadelphia
New York San Francisco Chicago

Don't Fail to Get Prices on Edwards STEEL Shingles

If you only knew how cheaply, quickly and easily you can roof your buildings with genuine Edwards STEEL Shingles, you wouldn't fool with any more prepared roofing or inflammable wood shingles. Don't you know Edwards sells the world's finest roofing direct from factory at lowest price ever known? Don't you know Edwards pays freight clear to your station and guarantees prompt, safe delivery? And don't you know that more than 100,000 Edwards roofs have been put on and that never a one has failed to give PERMANENT satisfaction? Don't you know that any man can easily lay Edwards STEEL Shingles right over old roof or on sheathing? Don't you know that Edwards STEEL Shingles are

Rust-Proof, Fire-Proof, Rot-Proof

Don't you know Edwards uses a secret process which absolutely prevents rust from ever getting a foothold; that Edwards has patented an interlocking device which makes a permanent watertight joint? Don't you know Edwards uses only the finest open-hearth steel for his shingles; that Edwards Galvanized STEEL Shingles never need painting nor repairs? Don't you know that Edwards gives every buyer a signed \$10,000 guaranty against fire by lightning; that Edwards STEEL Shingles not only make the most handsome roof but outlast THREE wood-shingle roofs and FIVE prepared-paper roofs? Well, then—why don't you write Edwards a postal this minute and get by return mail his latest catalog 1267 and astounding factory prices? If you'll give the size of your roof, Edwards will make you a lump price on the job. Get Edwards prices at once.

THE EDWARDS MANUFACTURING CO.
1217-1267 Lock St. Cincinnati, Ohio

BROWN FENCE

For all purposes. Direct from factory, freight prepaid.
Bargain Prices—13c per rod up
Get our new fence book before you buy fence for Horses, Cattle, Sheep, Hogs, Poultry, Etc.
Also Lawn Fence and Gates
We save you big money—give you highest quality. Mail postal now for Big Fence Bargain Book.
Dept. 49 THE BROWN FENCE & WIRE CO., CLEVELAND, OHIO

FARM FENCE

41 INCHES HIGH
100 other styles of Farm, Poultry and Lawn Fencing direct from factory at save-the-dealer's-profit-prices. Our large catalog is free.

20 CENTS A ROD

KITSELMAN BROS. Box 278 Muncie, Ind

ALL BIG WIRES

That's the only kind of fence it pays to buy. Get our new book, convincing proof of quality and sensational low prices.

EMPIRE FENCE
is sold direct from factory, freight prepaid—23 styles to choose from—for all purposes. Write us a postal now for offer.

New Book Free Bond Steel Post Co., 16 E. Maunee St. Adrian, Mich.

BOWSER SWEEP MILLS

Different from all others. 4 or 2 horses. Grind Corn with shucks and all small grains. (Also make 10 sizes of belt mills)

FREE—Booklet on "Feeds and Manures"
D.N.P. Bowser Co., South Bend, Ind.

Any Kind of a Free Trial You Want—On Any Great Western Cream Separator

We will arrange to let you have a Great Western Cream Separator on any kind of a trial you want. Test the Great Western side by side with any other separator. Try them both on any kind of milk—warm, cold or stale. See how much better the Great Western is in every way. Then decide. We know that the Great Western beats them all. Comparison will prove it to you. You are safe in trying or buying a Great Western. Our

5 Year Guarantee

protects you absolutely. Write us. Let us send you our book so you can read up on butter fat facts and cream separator profits. Read about the many features that make the Great Western pay enough more than any other separator to pay for itself quick. \$5.00 to \$15.00 more on each cow every year. You should investigate now even if you have a separator.



Our Book FREE

tells best methods of separating—gives results of extensive experiments and proves Great Western superiority in many ways. Mail postal now—don't decide on any machine till our book comes.

ROCK ISLAND PLOW CO.
246C Second Ave. Rock Island, Ill.



Even without the Beatrice Centrifugal Disc Washing Device and the r-piece Steel Pail, both of which we give free with each machine, the BEATRICE CREAM SEPARATOR is the greatest money-saving and service-giving skimmer you can buy. Get our money-saving prices. Free booklets worth reading, if you ask.

Beatrice Creamery Co.
Dept. L, Chicago, Ill.

BEATRICE Cream Separator

DE LAVAL CREAM SEPARATORS

not only save their cost every year but may be bought on such liberal terms as to literally pay for themselves. Why should you delay the purchase of the best separator under such circumstances?

THE DE LAVAL SEPARATOR CO.

165-167 BROADWAY,
NEW YORK.

29 E. MADISON ST.
CHICAGO.



Clean Cows, Clean Barns, Less Work—Bigger Profits

Learn how to make your dairy barn modern at small cost. Write Now for free books that show you how. Save work, time, money, prevent sickness and disease, increase quality and quantity of milk.

James Sanitary Equipment

—used by most dairymen who make biggest profits. Outfits for one to one thousand cows. Book 10 tells about Stalls, Stanchions, etc. Book 11 tells about Manure Carriers, etc. Either or both free. Mention number of cows you own. Write NOW! Address JAMES MFG. COMPANY 1-31 Cone St., Ft. Atkinson, Wis.

FREE!

Send sketch of floor plan for proposed new barn or remodeling and get Mr. James' expert advice FREE!

BUY AN ICE PLOW



and save the ice crop. Cut your ice quick and cheap with my Double-row Ice Plow. It equals 20 men with saws. Pays for itself in 1 day. Also Tools. Ask for catalog and prices. WM. H. PRAY, Verbank, N.Y.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

SHALL THE DAIRYMAN KEEP PURE-BRED COWS?

THIS is a question which until quite lately, possessed comparatively little interest for the average farmer, but so rapid has been our progress within the last few years, in the science of dairying, that now, not a few men would say yes, without any hesitation whatever. The majority, however, still feel far less interest in this subject than its importance warrants, and I am writing now to present the subject briefly, in the hope that it may induce someone to think of the great advantages of the pure-bred herd.

The first advantage that occurs to us, is that of selection. Of course, there are poor cows that are pure-bred, but the conscientious breeder will not ship them if he knows they are poor. There are exceptions, of course, but most of the pure-bred cattle sold by responsible dealers are good, and the average of pure-breds is much higher in respect to quality, than the average of the best cattle not registered.

There is more hope for the future of an animal that is registered, for its owner will take better care of it, and care always tells.

The man with a pure-bred herd feels that he has more in the business, and will give more thought and attention to it. "Where your treasure is, there will your heart be also," said the "Great Teacher," and the saying is ever true. Show me a man who has little or nothing invested in his herd, and I will show you one who has little faith in the business, and will have little reason for faith until he changes his practice. I used to watch some people feed grain, to their cows, and wonder how they ever expected to get their money back. If any man had told me that a cow should have more grain than a horse, I should have thought him crazy, but now after a few years of trial, it is quite as easy for me to feed a cow, as to feed a horse, for I know I am just as sure to get it back, if not surer.

I would not advise the man who does not like a cow, to invest in pure-bred animals, for they will not pay for the money invested in them without proper care and attention.

The man who has decided to breed pure-bred cows, should start right. He should not buy anything in this line because it is cheap. He should not buy at the beginning, of a man of little or no experience in breeding. He should rather go to an experienced breeder of the animals he wants to purchase, and then rely on the judgment of that breeder. Yes, I know he might not be square with you, he might sell you something that is not of much value, just because he sees you are an easy mark, but if I were you, and know little or nothing about the science of cattle breeding, and wanted to improve my herd and get a pure-bred herd of high quality as soon as I could, I would go to some reputable breeder, and ask his advice, and pay his price for stock unless I believed it too high. For I should not be very likely to mourn over the price, and second, that if that breeder gave me the advice which he followed, and if I followed it, some day I might be just as successful a breeder as he.

Reader, I want to tell you something in confidence: My success in life, has been only ordinary, but whenever I have done anything well, it has generally been by following the example of some other man who has succeeded. The way of life is strewn with failures, because men will not consent to be led.

I shall never forget my first winter with a silo. I read the Michigan Farmer with great care every week. Brother Lillie did not write a word that winter that was lost on me.

I said to myself, now, if I feed those cows just as Lillie tells me to, and if he tells the best he knows, then I can feed cows quite as well as he. I was right, for once, at any rate. So here is a motto for the beginner in dairying: "Follow the successful man." Put this motto up where you can see it, and read it, until it rings in your ears. Say it over to yourself while you are milking. And let it regulate your dairy practice. If you do this, your neighbors will soon be coming to you for advice, and you can return the good that other people have done you.

Time flies very fast, and it is surpris-

ing how soon the calf gets to be a cow. It will not take long for us to grow a pure-bred herd of considerable size, if we only make the start. But let me again emphasize the importance of starting right.

I would by far rather be the owner of one good cow, than to have a whole barn full of poor ones. The cow that will merely pay for what she eats, furnishes you a market for the feed grown on the farm, but she makes you work hard and long to market it. The cow that does not quite pay for her feed, is running you in debt, and the more cows you have, that are like her, the poorer you are. When you invest in pure-bred cows, you have a right to expect something better than the average, and if you do not get it, you are losing out. No intelligent man would put money into registered stock if he did not think the value was in them, and it is not in them, unless they will make good when put to the test. There are cows that will do this, and we can get them, if we buy wisely, but if we are beginners, we need the advice of an experienced breeder.

Last year our association paid \$110 for a male calf that was not more than six months old. Yes, that was a good price for a calf. We could have gotten registered male calves of that age, and size, for less than one-quarter of that sum. Why did we pay the price for our bull? Because, we could not get him for less, and we could not afford to do without him. If all goes well, he has years of service before him, and if he sustains the reputations of the great animals whose blood runs in his veins, he will be worth many times what we paid for him. There are nearly as many male calves dropped as there are heifers; you can get bulls, and bulls, but reader, there are only a very few truly great sires and when you select one for your herd, your pure-bred herd, I mean, you can not afford to stop for a few dollars. It will make the animal no better to pay a long price for him, and I am not writing in this manner to help the breeder of pure-bred cattle to fatten upon his customers, but the root of the whole matter is to get animals at the beginning that are full of promise and, if we get such animals, we shall probably have to pay for them.

Oceana Co.

W. F. TAYLOR.

BUCKWHEAT BRAN—BALANCED RATION—RISK CRUMBS FOR CALVES.

I enclose a sample of buckwheat bran which I can buy at \$21 a ton. Is it worth that price? Will you give me a balanced ration of the following feeds: Buckwheat bran at \$21 a ton; ground oats at \$25 a ton; cottonseed meal at \$30 a ton; winter wheat bran at \$24 a ton? This feed is intended for milk cows, some fresh, some give a little milk, and others are dry; the roughage consists of cornstalks, early in the morning, ensilage at 8 o'clock, straw at noon, ensilage at 5 o'clock, and mixed hay at night. Must dry cows have the same kind of feed as cows giving milk? Are risk crumbs worth \$1.50 a hundred? Are they good for young calves? How much is good for a calf to start on and gradually increase it; also, how much milk? I have a separator and put the crumbs in the skim-milk.

Ottawa Co.

B. V.

The sample of buckwheat bran is what is commonly known as buckwheat middlings and buckwheat hulls. Buckwheat hulls in themselves are practically worthless as a feed, but the buckwheat middlings are quite valuable, containing over 20 per cent of digestible protein. With the price of other feeds at the present time, for instance, oats at \$25 per ton, I could say that \$21 is all that this bran is worth. The middlings themselves might be considered worth more, but I would rather have the hulls bolted out, or screened out, than to have them in there. There is one thing about it, they are light and consequently don't add very much to the weight. Possibly they are worth the price. I believe the cheapest ration you could get out of the foods you have named would be to mix the oats and the buckwheat bran in equal parts by weight, say 100 lbs. of each, mix them together thoroughly, and feed the cow this grain ration in connection with your roughage. Your roughage, of course, is deficient in protein. You have no clover hay, simply one feed of mixed hay is given a day and cornstalks and ensilage for the balance, consequently you should feed a grain ration comparatively rich in protein, and the ground oats and buckwheat bran will make a good grain ration to feed with them. You could feed less of this feed, say one pound a day of cottonseed meal if you prefer to do that, but I believe I would as soon have the buckwheat middlings and the oats as any feed. On the other

hand, wheat bran will take the place of the ground oats. You could mix your buckwheat middlings and wheat bran, equal parts by weight, and make a good ration.

I am unable to say about the value of risk crumbs for calves. I know that the rusk make very good food for people, but whether these crumbs would make a good food for calves or not, I do not know. I have heard of their being used. I should not think that they would do any harm to the calves when mixed with the milk, but I hardly think that they are rich enough in fat to balance up a ration of skim-milk, and I would prefer to have linseed meal gruel. If you can get these crumbs at a bargain it might pay to try them in a small way and see what effect they would have.

COST OF PRODUCING MARKET MILK.

A very careful investigation made by the Dairy Department of the College of Agriculture, of Ohio State University, shows that the average cost of producing a gallon of milk in Ohio is about 25 cents, or 6 1/4 cents per quart. This allows 3,200 pounds per year as an average milk production. It really takes the production of the average cow in the state of Ohio. This cost, of course, takes into consideration the cost of feed, labor, interest on investment, maintenance, insurance, taxes, etc., just as the manufacturer would figure his business. When the average milk production is increased the cost of producing the milk, of course, is decreased. Now the average cost of distribution is 3 1/2 cents per quart, making a total of 9 1/4 cents per quart as the cost of producing milk and delivering it to the customer. Therefore, this means that when milk retails at 10 cents a quart the average producer or distributor is making a little or no profit in the transaction. When cows above the average produce the milk, of course, there is a profit, and when we have exceptionally good cows the profit increases so that it is a respectable business.

The city customer who is complaining constantly about the high price of milk if it gets above five cents a quart ought to take these things into consideration. They ought to be willing to pay the farmer at least the cost of production, and yet we learn that the women of some of the larger cities are thinking of boycotting the milk proposition because milk sells for eight or nine cents a quart, and this also from women who are abundantly able to pay for the food which they consume. Certainly if they would study the cost of production and distribution of good clean milk they would not object to paying nine or ten cents a quart for it, because I believe that they would be willing that the man who produced the milk and the man who distributes it should make a little profit. The only reason why they can take the attitude which they do with regard to this necessary product is because they think the farmer and the distributor are making excessive profits out of it. Now they are not. The average man who produces milk and sells it for less than ten cents a quart is producing it at a loss if he takes into consideration all of the expenses which go into production. He may not do it as economically as he should do it. And yet, if we haven't any better we must get along with these and they must make a living, and the only way to have cheaper milk or cheaper food products of any kind for the city consumer is to have some of the people in the crowded cities come out onto the farm and show us how to do it. If we could get labor cheaper we could produce foodstuffs cheaper. If some of the people in the cities who are complaining about the high cost of food products would go out into the country and produce for a time there would be less complaint about the high cost of these products, and this change would be beneficial, both from the standpoint of health and of education.

TEACHING A CALF TO DRINK.

It is no small accomplishment to be able to take a young calf that has only been allowed to nurse his mother once or twice, away from his mother, teach him to drink milk, feed him about the right amount, and get him started on skim-milk, substituting flaxseed jelly for the butter-fat which the separator takes out of the milk, gradually getting him onto roughage, and make a nice animal out of him. It is an accomplishment that any person ought to be proud of. There isn't only now and then a man that can do the job.

BEAN PODS VS. CLOVER HAY.

Having no clover hay will it do to feed bean pods to cows once a day, with cornstalks, and ground oats and corn twice a day?

If you would plant your beans real early and then harvest them before the beans ripen, just as soon as they are nicely set in the pods, and make them into hay, you would have a hay equal, probably, to clover hay; but when you allow the beans to ripen, the straw gets ripe and dry and it becomes unpalatable and undigestible to a large extent, and yet there is a good deal of value to it. If you have no clover hay bean pods make a fairly good substitute. Much depends upon the quality of the bean pods. If the beans were pulled before they got dead ripe, cured and gotten under cover without getting wet and did not heat in the mow nor get musty, in other words, if they are palatable and digestible, they make a fairly good substitute for clover hay and you need have no hesitancy in feeding them. But the most of the bean pods this year are almost worthless for feed because they were damaged by rain and many of them were absolutely unfit for food.

FEEDING RUTABAGAS.

Can we feed our cows rutabagas where we send the cream to the creamery?
Kent Co. H. L. D.

You can feed rutabagas with entire safety to milch cows and have their products in good marketable condition if you do not feed too many of them at once, especially when you first begin to feed them. There is where the trouble comes in feeding these rank growing roots and other foods. If we give the cow all she wants at first it throws her system out of normal condition and a taste will be imparted to the milk, but on the other hand, if we begin gradually to feed them and never overfeed it will have no particular effect upon the quality of the milk, and they can be safely fed. Rutabagas are a splendid root to be fed to cows and furnish a splendid succulent ration. I would begin to feed the cows only one or two rutabagas at a time, then gradually increase until you get them so that they will eat a peck, no more, at a feed. That is sufficient. There is no great amount of food value in the rutabagas, of course, there is some, but the effect on the digestive tract is splendid and enables the animals to digest more of the dry feeds which are consumed. If care is taken in feeding the bagas at first, and due care taken not to overfeed at any time, there will be no trouble whatever with the milk. The creamery will not know that you are feeding rutabagas.

COTTONSEED MEAL FOR COWS.

One of my neighbors was telling me that you had quit feeding cottonseed to your cows. They saw it in The Farmer. I take The Farmer but must have overlooked that article. I read your writings with a great deal of interest. I want your advice if it is not asking too much. My reason for writing is this, I have had three cows that have each lost one teat each, and last summer one of my cows lost her calf. She was four months along. I have never had any trouble in this way before with my cows. I begin to think it is the cottonseed that we fed last winter. We fed 3 lbs. a day this winter. We are only feeding 2 lbs. per day with good silage, clover hay and cornstalks. A few days ago I got out of cottonseed, did not have any for four or five days. My cows did not shrink on their milk at all and when I first began to feed it they did not increase the flow of milk at all. I am beginning to think that it is money thrown away to feed cottonseed. Am I wrong? We left all of our corn in the silage so it is rich feed. Our corn that we husked went over 100 bu. per acre. What kind of feed with silage, do you think buckwheat middlings and wheat bran would make?

Kent Co. E. W. S.

I don't like to express my opinion about the effects of cottonseed meal in this particular instance, because the evidence is not complete enough so that one can form anything like a satisfactory opinion. In a former article in the Michigan Farmer I did say that I was suspicious that where one fed too much cottonseed meal, especially to a breeding herd, that it in some way interfered with the regular breeding of the animals. I stated plainly the fact that I could not prove this. It is simply a notion of mine, and I have got that notion from feeding cottonseed meal for quite a long time to my herd of cows. I have discontinued the feeding of cottonseed meal entirely, largely because I was suspicious that it did interfere with the regular breeding of the animals, and since I have discontinued the use of cottonseed meal we are

not having the trouble we formerly did. Yet I may be entirely wrong, it might have been due to something else. I am simply giving you my suspicion.

My experience in feeding cottonseed meal, however, is different from E. W. S.'s. I could always get results in feeding it, and I think, theoretically, that cottonseed meal is a splendid food to feed in connection with corn silage because it helps balance the ration and when I fed cottonseed meal I could always get results so far as increased milk flow was concerned. I think you could get the same results with buckwheat middlings and wheat bran, and perhaps better results, but I doubt at the prices which feeds sell on the market you could get results as economically, because a pound of digestible protein costs more furnished by wheat bran and buckwheat middlings than it does in cottonseed meal, and if I didn't have a breeding herd of cattle where the calves were one of the important products of the herd, I would not object at all to feeding two pounds of cottonseed meal a day. I don't think that would do any particular harm. But the calf crop is quite an important one with me, and as long as I believe the cottonseed meal does have a little influence upon the breeding of the cows and possibly upon the progeny, as long as I can get results, even if it does cost a little more, by feeding other foods, and certainly as long as I am having better results since I discontinued the use of cottonseed meal, I am not going to feed any more cottonseed meal, at least, for some time to come.

Now with regard to the injury of the udder. I am quite positive in my own mind, that excessive feeding of protein is liable to cause udder trouble. Possibly three pounds of cottonseed meal per day might have a tendency to do this, but I doubt this. A cow's udder can be injured from so many different causes that it is not advisable to lay this bad result to the feeding of cottonseed meal without knowing more about conditions. It might have nothing to do with it, and it might.

I cannot understand why you do not get results from feeding the cottonseed meal. You say that when you stop feeding the two pounds of cottonseed meal per day your cows do just as well, and that when you begin feeding again there is no increase in the flow of milk. This is certainly unusual. Most everybody else reports that they get best results when they feed a feed like cottonseed meal, rich in protein, if fed in connection with corn silage and ordinary hay or straw as roughage, because such roughage lacks the necessary amount of protein to have a cow do her best and the cottonseed meal supplies it.

Now, with regard to your cow losing her calf, or aborting. Here again, abortion is many times due to some external injury. This cow may have been hooked, or may have slipped in the field, or been crowded or jammed in a way to produce abortion. Or it may be contagious abortion has started in your herd. There are so many things to be taken into consideration that I wouldn't want to, for a moment, think that cottonseed meal was the cause of this. I doubt very much if it was.

With regard to the value of buckwheat middlings and wheat bran, it is the judgment of all dairymen who have tried these feeds that there is nothing better for the cows than these two feeds. If you will mix up these middlings and the bran together in equal parts, for a grain ration, I don't believe you could find a better one. The only question is as to the price. What we want is a certain amount of protein in the grain ration to help balance up the carbohydrates in the roughage. Other things being equal, we will take that food which will give us a pound of digestible protein at the lowest price. At the present prices of these commodities I think you can get a pound of digestible protein cheaper in cottonseed meal, but if I was suspicious that cottonseed meal didn't agree with my cows I would try some other feed for a spell at least, and see what the effect would be. Because your corn that you put into your silo was well cared, it is no sign that you should not feed a grain ration rich in protein. In reality, it is all the more necessary to have an economical ration, that you mix some food with this that is rich in protein, otherwise your cows will have to eat too much of this corn silage to get the protein which they desire and need. My judgment would be, if you have good dairy cows, that you can afford to feed them a small grain ration of some feeding stuff rich in protein.



We Make Pastures Green in January

We have enabled more than 25,000 farmers to have just as fresh and economical feed for their stock in midwinter as they have in the springtime. We have increased the milk flow of millions of dairy cows and put tons of prime meat on an uncounted number of feeders. We have increased the net value of the crops of 25,000 farms by almost 50% and we are ready to do as much for your farm.

We make the

INDIANA SILO

with this object in mind. We build it to give the utmost silo value for the owner. We use only the most perfect silo material. We shape every stave so that it fits exactly and makes an air-tight seam. When we splice Indiana Silo staves we use our patented self-draining all-wood mortised joints, and we send out Indiana Silos so that you can assemble them without trouble and with the least possible cost.

All this means better silage for you. It means that you can feed your stock as profitably and as economically in winter as in the spring. It means more milk, more meat and more profit, with less expense, less labor and less waste.

We have 700 Indiana Silos in a single county in Ohio. We have four great factories with a capacity for making 150 Indiana Silos a day. We are the largest Silo Manufacturers in the world.

Let us build an Indiana Silo to your order now, and we will make delivery when you want it.

THE INDIANA SILO COMPANY

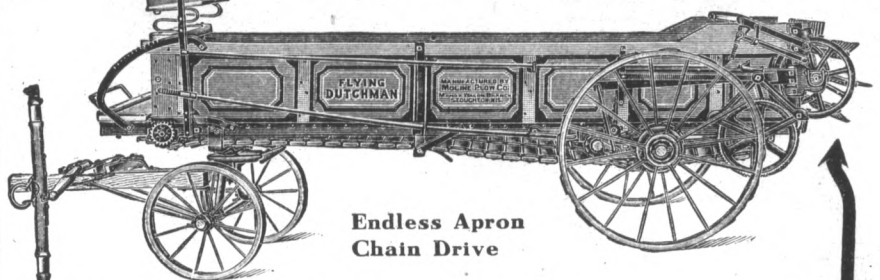
Factories:

Anderson, Ind.
382 Union Bldg.

Des Moines, Ia.
382 Indiana Bldg.

Kansas City, Mo.
382 Silo Bldg.

THE FLYING DUTCHMAN



Endless Apron
Chain Drive

Strong—Simple—Light Draft

Just look at the lines of this Low Down Spreader. See where the wheels are located—right under the load—just where wheels should be.

The greatest weight comes on the rear wheels—giving perfect traction power without the extra heavy mud lugs that others require.

The Box is as long as any spreader built, yet the distance between the wheels is from 25 to 50 per cent less than other low down spreaders.

Think how much easier to handle in the barnyard and in the field—and it takes just one less horse to run it than the long unwieldy ones. Not a freakish feature about it—no, not one—we have never known a freakish implement to give satisfaction.

Another point—the Flying Dutchman is lower behind than in front—the apron and load travel "down hill"—another light draft feature. The endless apron has 18 inches clearance between the lowest point and the ground—6 inches more than some others—some difference.

Steel Frame—Steel Wheels—Steel Beater

Apron runs on three sets of hardened steel rollers—absolutely no sagging. No other spreader so simple in construction—one lever operates entire machine. No other spreader so well built and strong—no other spreader so generally satisfactory to the user—"The Lightest Draft Low Down Spreader Ever Built."

We also build the Moline Spreader which is of the same construction but has a Return Apron.

Our Handsome Spreader Booklet Free.

Also 1913 Flying Dutchman Almanac.

Write today

MOLINE PLOW CO.

Dept. 26

MOLINE, ILL.

\$15 95 and Upward
AMERICAN SEPARATOR
FREE TRIAL. FULLY GUARANTEED.
Easy running. Easily cleaned.
Whether dairy is large or small,
obtain our handsome free catalog. Address
AMERICAN SEPARATOR CO. BAINBRIDGE, N. Y.

THE LARGEST AND BEST LINE OF WELL DRILLING MACHINERY in America. We have been making it for over 20 years. Do not buy until you see our new illustrated Catalogue No. 14. Send for it now. It is FREE.
Austin Manufacturing Co., Chicago

The Michigan Farmer

ESTABLISHED 1843.

THE LAWRENCE PUBLISHING CO.

EDITORS AND PROPRIETORS.

39 to 45 Congress St. West, Detroit, Michigan.

TELEPHONE MAIN 425.

NEW YORK OFFICE—41 Park Row.
CHICAGO OFFICE—600 First Nat'l Bank Building.
CLEVELAND OFFICE—1011-1015 Oregon Ave., N. E.

M. J. LAWRENCE.....President.
M. L. LAWRENCE.....Vice-President.
E. H. HOUGHTON.....Sec. Treas.

I. R. WATERBURY.....Associate Editor.
O. E. YOUNG.....Associate Editor.
BURT WERMUTH.....Associate Editor.
ALTA LAWSON LITTELL.....Associate Editor.

E. H. HOUGHTON.....Business Manager

TERMS OF SUBSCRIPTION:

One year, 52 issues.....50 cents
Two years, 104 issues.....\$1.00
Three years, 156 issues.....1.25
Five years, 260 issues.....2.00
All sent postpaid.
Canadian subscriptions 50c 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. No ad'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 1912

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 Publishing Co., Detroit, Mich.

DETROIT, DEC. 21, 1912.

MERRY CHRISTMAS.

As the first Christmas morning, which saw the dawn of the Christian era, gave to the world at once the greatest example and the greatest incentive, not alone in right living within the application of the moral law, but as well in accordance with the Golden Rule as applied to the good-fellowship of man, so each returning holiday season marks a renewal of the Christmas spirit within the hearts of all Christian mankind. Then, as at no other season, are we wont to remember our friends with little gifts which, regardless of their intrinsic value, typify our kindly feeling toward them. At the Christmas-tide as at no other period of the year, we are also wont to remember the unfortunate and in many ways to exhibit a spirit of good fellowship toward mankind in general, which might well be emulated throughout the year.

The generally used salutation, "Merry Christmas," is a happy expression which should be given its fullest meaning as an expression of "good will toward men," the giving of the best and noblest sentiments within us for the good of all mankind, as befits the true Christmas spirit. Thus we wish every member of the Michigan Farmer family a very Merry Christmas, and that with the greater satisfaction because we know that they will pass the word along within the sphere of their activities with the true Christmas spirit which will make for the permanent betterment as well as the temporary good cheer of all mankind.

CURRENT COMMENT.

Heretofore our efforts in behalf of the farmers of Michigan have been largely directed toward acquainting our readers with the principles of scientific agriculture which have been developed so rapidly in recent years. We have believed that newly developed scientific truths as applied to practical agriculture were not so generally understood or their importance so generally appreciated by the average farmer as should be the case, while the experience of practical farmers as to the best methods of production held a lesson of scarcely lesser importance. But, while the application of scientific principles and economic methods in the production of crops is an important item in the business end of farming, the marketing of those crops in a manner to secure to the farmer the greatest income is a matter of no less importance.

For this reason we have planned for the coming year, without lessening the value of the Michigan Farmer from the standpoints above mentioned, to place special emphasis upon the problems of marketing farm products in a manner

which will secure to the producer the greatest possible proportion of the consumer's dollar. To this end we shall not only amplify our market reports in a manner which will give to producers the widest possible knowledge of market conditions but, under the head of a new department of Farm Commerce, publish in each issue articles which are the development of practical experience on the subject of marketing farm products in a manner which will greatly increase the producer's revenue and at the same time prove an advantage to the consumer, which is a necessary factor in any successful scheme of direct marketing. It is a matter of common knowledge that there is far too wide a margin between the price received by the producer and the price paid by the consumer for practically all farm products, but no practical remedy for this condition has been applied.

Heretofore commerce in farm products has been entirely separate from the business of production. In all other lines of production the commerce in products is intimately associated with the business of production and controlled by, if not actually engaged in, by the producers. In this fact lies an economic lesson for producers of farm products. The products of the farm should be directed into channels of trade by the farmers themselves, the same as the products of our manufacturing factories are directed into channels of trade by their producers, who in every case, retain control of their distribution.

The word "commerce" means the trading in or distribution to the trade of any kind of products, hence the heading of Farm Commerce has been selected as the comprehensive title of this new department in agricultural journalism, and we shall endeavor to make this new department so practical and comprehensive as to be worthy of its name. To this end we have prepared a series of special articles on marketing by what we have styled the "NOMID" system, meaning, as the title implies, no middleman, which is the result of actual experience and many months of patient investigation in successful methods of the direct marketing of farm products, the first installment of which will appear in the issue of December 28. In addition to practical articles of this nature, we shall make this department an experience exchange for our readers, as well as the medium for advice upon specific problems. In addition, comment will be made upon the situation as it exists with regard to various products in the leading market centers, drawing logical conclusions where these are obvious, in such a manner as is calculated to aid the reader in exercising good judgment as to the time and manner of marketing such products as he is unable to sell direct to the consumer and must market through regular channels.

In doing this, however, we shall not attempt, as have some market writers who pose as possessing supernatural knowledge with regard to future market conditions, to make accurate predictions with regard to the future trend of market values, which every thinking man knows is beyond the pale of human ability, but rather to furnish accurate information upon which the reader may base an intelligent opinion. We do not aim simply to tell our readers that they are being robbed by other "interests," without offering an effective remedy, but rather to point out to them a way by which an increasing proportion of their products may be marketed under the

"NOMID" system, which will not only afford them a greater revenue from the products so marketed, but will enable them to so control the marketing of those products which must be distributed through established channels of trade as to materially lessen the amount of toll which will be taken from them in the channels of distribution.

Ultimately, also, this plan will acquaint the producers of farm products with the consumers in a manner which will be helpful to both and in a gradual and natural manner lead to organized direct marketing on a larger scale, and thus effect by natural and logical means that most desirable end which promoters with a selfish interest have so far failed to bring about. The student of economics will bear testimony to the fact that those who are successfully conducting large enterprises have in practically every case grown into them, rather than gone into them, and it is with the idea in farm commerce of the right kind, controlled by the farmers who are the producers of the products which give rise to that commerce, that we have decided upon this new departure in agricultural journalism. To this end, and to the end that the business end of farming may be given that general attention which it merits we bespeak the co-operation of our readers in this new move for the betterment of the Michigan Farmer during the coming year.

The "Butter Trust."

On Saturday of last week suit was brought by the Department of Justice of the United States government against the Elgin Board of Trade, sometimes referred to as the "Butter Trust," and the American Association of Creamery Butter Manufacturers, whose membership is largely made up of big creamery interests, commonly designated as centralizers. In this suit, sweeping charges are made by Attorney-General Wickersham, that a conspiracy exists to arbitrarily fix the price of butter in the interest of big manufacturers and cold storage concerns and to the detriment of farmers, other small producers and the consuming public. Aside from petitioning for the dissolution of the two organizations above named the government officials seek to enjoin the defendants from appointing a price-fixing committee, from fixing prices, from quoting or publishing figures purporting to be "market prices," unless they are based upon bona fide sales of butter, from demanding that Elgin prices be used as a basis for making contracts for butter and from making fictitious sales of butter to mislead the public as to the actual price at which butter is being sold.

In this connection the result of the meeting held by the directors of the Elgin Board of Trade on Monday of this week is interesting. For some years a bitter fight for control of this organization has been waged between the commission or selling interests and the producing interests represented in same. From current reports of the result of this meeting, it appears that the selling interests secured control of the organization, abolished the quotation committee and made a number of other important changes, one of which was to lower the standard of butter to 92 points in summer and 90 points in winter, instead of 93 points the year through, as has been the case.

In connection with this suit it is officially claimed that the government has, through its secret service opera-

tives, determined that there are now 60,000 tons of butter in cold storage, constituting practically a corner in the market, which is said to be 25,000,000 pounds more than was in sight at this time last year. It has not been stated, however, that the men named in the government suit are parties to the storing of this vast quantity of butter.

The principal interest of our readers in this suit lies in the alleged claim of the government that Elgin prices are held down in summer for the purpose of securing control of the product, below the point warranted on a supply and demand basis, and forced up to a higher level in winter when the storage butter is marketed. As the Elgin price has been made the basis for fixing the price on butter-fat at local creameries throughout Michigan, this point is of no small interest to Michigan producers. In other ways the methods of the big centralizers have been deemed to be detrimental to the best interests of the small local creameries, although these points do not appear to be involved in this suit.

In any event, it would appear that the dairy interests of the country, including the local creameries of Michigan and other states, have little to fear from the result of this civil suit, the outcome of which will be awaited with interest by everyone engaged in the dairy business.

To Control Seed Importations.

Tuesday of last week was designated by the secretary of agriculture as the day for a hearing on the regulations to be promulgated in the enforcement of the seed importation act, so-called. This is an act to regulate foreign commerce by prohibiting the admission into the United States of certain adulterated grain and seeds unfit for seeding purposes. The act prohibits the importation into this country of all seeds of alfalfa, Canadian bluegrass, Kentucky bluegrass, awnless brome grass, clover, meadow fescue, millet, orchard grass, rape, red-top, and timothy when adulterated or when containing more than three per cent by weight of weed seeds. It also prohibits the importation of alfalfa and red clover seed containing more than 90 dodder seed per pound. In grains it prohibits the importation of the seed of barley, buckwheat, field corn, kafir corn, flax, oats, rye sorghum and wheat intended for seeding purposes when such seed is adulterated or contains more than three per cent by weight of weed seeds.

Legislation of this kind has long been needed to keep low grade seed and seed containing a large proportion of weed seeds off our markets. The importation of this class of seeds has been very general, especially from Canada where the "Seed Marks Act" prevents such inferior seed from being marketed in the Dominion. It is doubtful if this act is as stringent in its terms as it ought to be, as no good farmer who was advised of the fact would care to plant seed containing three per cent of weed seeds. The enforcement of this law may, however, relieve the situation, which has too long prevailed, to some extent.

Imagination and Success.

It has been said that imagination is the incentive that has spurred modern investigators to the highest scientific effort. Unquestionably imagination or optimism, or by whatever name we may call the day-dreams of those who are often called eccentric by their fellowmen, but who later achieve noted success, is undoubtedly a valuable asset in progress of any kind. Only a few years ago, easily within the memory of the present generation, many of the accomplished facts of this age of progress were considered visionary by those who came in contact with the experimenters who aided in their development. Perhaps the best illustration of this is the development of the automobile, which was first the product of imagination and optimism of early experimenters with motor vehicles. No less notable are the telephone, telegraph and the many modern electrical wonders, as well as the somewhat older but no less remarkable development of steam power.

Can we doubt that this quality which has been such an important factor in the development of scientific investigations and mechanical and industrial progress will also prove a valuable aid, within reasonable limitations, to the farmer who is searching for the great truths of nature and seeking to understand nature's laws as applied to his everyday work? Truly, a reasonable degree of optimism is a valuable asset. The man (Continued on page 577).

Kindly Give This Your Attention.

Look at the little pink name label on this copy of The Michigan Farmer. If, after your name, you find 1Jan3 or 1Jry3 it means that your subscription expires on Jan. 1, 1913, the issue of Dec. 28 being the last you would receive.

You realize that a good weekly farm paper is a necessity to the up-to-date farmer. The Michigan Farmer is best for you because it is the only weekly Agricultural and Live Stock Journal devoting its columns exclusively to Michigan territory. Furthermore, at the new reduced rates it is the lowest priced weekly farm paper in America. Quality and Price being right, your renewal is warranted.

By sending us your renewal now it will insure you against missing any copies, it will also keep us from being over-rushed during the last few days of the year and give us an opportunity to give your order better attention.

The new reduced rates without a premium are:

One year	50 cents
Two years	\$1.00 (a \$1 bill).
Three years	\$1.25
Five years	2.00

Renew for yourself at once and get a few of your friends and neighbors to subscribe with you.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION



The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

A SUMMERLAND CHRISTMAS TREE.

By ELLA E. ROCKWOOD.

BUT, mamma," pleaded ten-year-old Glen, "can't we have a Christmas tree this year. It won't seem one bit like Christmas if we don't. We have always had one before we came to California."

"Where would we get it, dear?" replied his mother. "Don't you see that Christmas trees do not grow in this warm country? Of course, in a big city like Los Angeles they have them shipped in, but we are too far away, here in Imperial valley to get one. They cost a lot of money, too, because the freight on everything is so high down here."

The boy's face fell and his mother hastened to add: "But we will have Christmas just the same. You children can hang up your stockings, and Santa Claus will find them. Maybe he comes in an airship in this country where there isn't any snow."

At this both children began to smile, for the thought of Santa in an airship was a new one. Mrs. Wallace had been arranging little Jessie's hair. This now being completed, and the clean gingham dress buttoned ready for school, Glen was dispatched to the corral to saddle the pony while the mother put up the lunch.

"And don't forget Dolly's nose-bag with the barley for her dinner, and be sure that you lead her down to the ditch for drink of water at noon," was her injunction as he started to do her bidding.

Going to the corral, which in the west usually takes the place of a barn, Glen put the saddle on the pony and drew the girths tight. It was quite a lift, for the saddle was heavy, but he managed it by leading the pony up beside an empty tomato box. Mounting, he rode to the door, where his sister was waiting. Her mother helped her up behind, hung the dinner pail on the saddle horn beside the nosebag, and with a "good-bye" they were off to the schoolhouse two miles away across the sand.

It was mid-December, but there was neither frost nor snow. The sun, a few hours above the eastern horizon, shone from a cloudless sky, sending his warm rays to be reflected by the sands as the pony jogged along. To the west rose the precipitous outline of the Coast Range Mountains twenty-five miles away. In that clear air it appeared but a short distance. To the south, over in Mexico, the blue haze peculiar to mountainous districts hung against the sides of a similar range, while in the foreground loomed big Mt. Signal, set squarely on the boundary line between lower California and the United States.

Living in this land of perpetual sunshine less than a year, the Wallace children found their surroundings still interesting with the novelty which belongs to anything new. Overhead a flock of pelicans were winging their slow flight and uttering their harsh cries. On a fence-post at one side of the road a big turkey buzzard sat sunning himself. He paid no attention whatever as they passed but slowly raised, first one wing then the other, in the warm air.

"There's a road-runner!" exclaimed Glen. "I've watched him running ahead of us for half a mile. There he goes hopping across the ditch, but he will be back again in a minute. I've heard papa say it takes a fast horse to beat one, and he doesn't fly like other birds, but just runs."

"Watch how he jerks his tail when he stands still a minute, and how he pokes his head forward when he runs," said Jessie. "His bright eyes are on us every step of the way."

"I think the road-runner is the funniest bird in California," said Glen as he drew the pony down to a walk so they could see better. "He looks like a great big jay, only he is brown speckled instead of blue and gray. What a long

tail he has, and such a funny top-knot. He never makes any noise but just keeps trotting along the road ahead of a team."

"I'd like to see a robin redbreast or a bluebird, wouldn't you, Glen?" asked his sister.

"Well, there aren't many robins here, but I saw one the other day in the top of one of our eucalyptus trees. Papa said it had come from the north to spend the winter away from the cold."

"And I saw a meadow-lark, but it didn't sing just the same as ours," returned the little girl.

"Ours," repeated her brother, mischievously. "Why, we don't live in Michigan any more, goosie, and these are our birds now," and he urged Dolly to a faster pace.

Meanwhile Mrs. Wallace was thinking about the approaching holidays and wondering what she could do to make it

Then came the distribution of the gifts, with father playing Santa in a fur coat and cap. This was always followed by a bountiful dinner around the long table in the big dining-room, a happy joyous day for old and young.

With a little sigh she recalled her thoughts to the present and looked around the little room. It was a very humble home, built in the simplest manner, in the midst of the great Imperial Valley desert, a desert which was fast being converted into farms of wonderful fertility under the magic influence of water from the Colorado river brought nearly 100 miles in huge canals for this very purpose. The house consisted only of two rooms, one a living room, the other a combination dining-room and kitchen. All summer the family ate their meals and did the cooking in the broad screened porch on the east side of the

twice what it had been back east on the same number of acres.

When Mr. Wallace came in to dinner the parents talked over the Christmas matter together.

"Glen is getting to be a big boy," said his mother, "but he is going to be greatly disappointed if he can't have a tree. You know we have had one every year since he can remember. I told him this morning that it was out of the question this year, but I wish we did not have to disappoint him. These eucalyptus are graceful and pretty as they grow but they are too big and would not answer at all for Christmas trees. I guess we will have to give it up and be content with filling their stockings," she added, after a pause.

"Barney Brothers, in town, are going to have in some trees," remarked Mr. Wallace, "but I declare I don't feel as if we could afford to pay five dollars for one, and that is what it would cost. You see," he added in explanation, "they have to be shipped in from the north part of the state, where the evergreens grow."

"No," returned the wife in a tone which implied that the matter was settled, "we won't pay five dollars, for there are too many other things we need more than a Christmas tree."

After dinner, which the two ate alone, Mr. Wallace shouldered his long-handled shovel, picked up the little wooden paddle which every rancher carries in the irrigating season to clean the mud from his shovels, and started back to his work. "Mary," he called back, "Don't you want to come out and see how fast the barley is growing since we turned the water on the last time?"

"Why, yes," was the response. "I'll let the dishes stand till I get back. It will do me good to get out in this glorious air. I guess it would seem good to the folks back home to be able to get out in the sunshine the way we do 'all winter'."

"I never saw things grow as fast as they do here," remarked the rancher as they walked down the lane leading to the back eighty. "Why, I declare, those willows are big enough for firewood already and it is only a little over a year since I stuck the cuttings in the ground here at the side of the ditch to keep the soil from washing."

"Those willows!" exclaimed his wife. "Those willows," she repeated with her eyes fixed upon the growth of silvery green just ahead of them. "Why, there's one that would make a lovely Christmas tree. Why didn't I think of that before? See how perfectly pointed the top is, and they have not shed their leaves yet either as the cottonwoods have. Aren't we in luck? Glen can have his tree after all. You shall cut it and we will set it up the day before Christmas while the children are at school. I will trim it with popcorn and some cotton from neighbor Wilson's field across the road will remind us of snow. I can make some chains out of red and green crepe paper, and I'll cut a big star out of cardboard and gild it for the top. A tree is a tree, whether it be of spruce or of willow, especially when, as in this case, it is willow or nothing."

The short December day was drawing to a close when Glen and Jessie rode into the home yard the afternoon before Christmas. The front room was mysteriously closed and the shades were drawn over the windows. Supper was waiting and without giving them a chance to ask any questions the children were hurried to the table. By the time the meal was finished it was quite dark.

Suddenly a sound of bells was heard approaching the house—sleighbells, too. Soon mysterious footsteps were heard to enter the closed room by way of the outside door. Glen's eyes began to open pretty wide but he said not a word. Both

FOR SANTA CLAUS TO FILL.

By T. C. HARBAUGH.

How often do the wintry winds, the fleecy flakes of snow
Recall the merry Christmases of Childhood's long ago—
When little eyes grew brighter at the thought of doll and drum
And peeped above the spread to see if Santa Claus had come!
We heard the bells that jingled 'neath the heavens cold and gray
And to their sound to Slumberland we softly stole away;
The winds that left their dark retreats and swept the snowy hill
Would gently stir the stockings hung for Santa Claus to fill.

Oh, what is sweeter than the thought of Childhood's happy times
When angels rang within our hearts the holy Christmas chimes—
When round the sacred hearth of home we gathered, one and all,
And laughed to see our shadows as they danced upon the wall?
Despite the years behind us we're but children older grown,
And rosy little cheeks today we press against our own,
And when the children are a-bed and all the house is still
We count the little stockings hung for Santa Claus to fill.

Tonight the reindeer and the sleigh willskim across the snow
That sparkles as it did for us in moments long ago;
'Mid the glory and the beauty of the landscape robed in white
The little ones will sweetly dream of Santa Claus tonight;
A smile is on their faces by the doors of Slumberland
And peeping o'er the coverlid is many a dainty hand;
They helped to hang upon the wall with eager, childish skill
A row of pretty stockings for Old Santa Claus to fill.

Oh, Christmas of Childhood! Time can never quite efface
The memories that gently cling to cherished time and place,
And tiny stockings in a row, expectant—hopeful—prim—
In memory are hanging by the chimney old and grim—
This for Joe and this for Ben, and these for Maud and May!
I stop to think a moment where the children are today;
Where is the heart that would forget, no matter if 't is chill,
The boys and girls who hung their socks for Santa Claus to fill?

The snow lies like a blessing on the hills and in the dells,
And unseen hands at dawn will ring the holy Christmas bells,
As first they rang the sweetness to the stars with love aglow
And told of Judah's Christmas in the golden long ago;
In many a home a little child with bright, expectant face
Will hang a tiny stocking by the dear old chimney place,
And we who see it hanging there, when all around is still,
Will think of those we used to hang for Santa Claus to fill.

seem Christmasy. It appeared as if every element of the season was lacking in a land where it was always like summer. Christmas seems to call for cold and snow, for sleighbells and furs. She had not been in California long enough to get over a tiny feeling of homesickness once in a while, and as she went about her work now she thought, with a little pang, of the family home-comings when all the relatives for miles around gathered at the old farm house for Christmas. The big spruce tree reaching to the ceiling was set in the parlor and upon it the grown-ups hung the gifts while the children begged in vain for just one peep before it was ready for them to see.

house, while a similar one on the west served as a sleeping apartment the year around.

Prosperity had come as a result of the move to the west, yet pioneering has its trials in any climate and they were not entirely lacking, even here. On the whole, however, the Wallaces' rejoiced that they had come. The eucalyptus trees which they had set out about the house were growing fast and even now towered over the humble roof, supplying a grateful shade, and all the year round they could have fresh fruits and vegetables from the garden. The barley and alfalfa grew vigorously, in winter faster than in summer, and their income was

children were listening to every change of these unusual sounds.

"It must be Santa Claus," exclaimed Jessie suddenly. Just then their mother opened the door and motioned for them to enter.

There stood the willow tree in all its brave array, while at its side was Santa rapidly tying to its branches packages from out his huge pack. The only difference that the children discovered be-

tween this Santa Claus and the Santa of previous years was that in place of a fur coat he wore a long linen duster, which certainly was far more suitable to the climate.

As Glen was preparing for bed after the tree and his gifts had been duly enjoyed he confidently remarked to his mother, as he kissed her goodnight, "I think California is most as nice as Michigan after all, don't you?"

THE ARRIVAL OF COUSIN BILLIE.

By T. A. TEFFT.

Billie Winkler had left home in New York and come to Rockazoo to visit Aunt Susie, whom he had not seen since he was a very little boy. He knew she had no photograph of him, so of course he could pass as a stranger.

He asked a policeman of the little city where 44 Washington street was. The policeman looked for a moment at the tall young man carrying a suit case before answering. "You see the trolley-track there?"

"Yes."

"Well, young man, follow that. The first street where it turns is Washington, and the number I think you will find on the house."

"Thank you," said Billie, as he started on.

As he was following the directions which the policeman had given him, he attracted the attention of people on the street by frequently laughing to himself.

"I guess it is a patent medicine man, I will pretend to be," he muttered to himself. "I can't do like the fellow I was reading of in the magazine I had on the train, who pretended he was a long lost son, and had the old couple make a will, leaving him all their property. I'm doing it just for the fun of the thing. Then that was only a story anyhow."

He soon came to Washington street, and it was not far to where he saw the number 44 on the doorpost of a large brown house.

"Who will come to the door?" he asked himself as he went up the walk. "It would be about my luck to find Cousin Tom home, and then, I would have to be just myself. But if there is nobody at home except Aunt Susie and Cousin Margaret, I will work my little game all right."

When he reached the door, he paused a moment, then pushed the bell. It was neither Aunt Susie, nor Cousin Margaret that opened the door, but a very large colored woman, who wore a very small white apron.

"Is the lady of the house at home?" he very politely asked.

"No, there be no lady of de house home here," snapped the colored woman.

"Now let me think a minute," said Billie. It is surely Friday, and it is nearly two o'clock. Strange, for this is the time she said to come."

"Well, lands, you come right in. You see, I thought you was one of dem book agents that be hanging round," smiled the colored woman. "I'll go and call Mrs. Gray at once."

Billie entered into the hall, sat his suit case down, and closed the door. Soon a lady whom he thought was Aunt Susie descended the stairs.

"I am an agent for the Kill-all-pain Pill Company," began Billie, before she had got to the bottom. "One of these little pills," and he held out toward her a box containing breath candy, "will cure—"

"There is nobody sick in this house," interrupted the lady.

"You might be taken sick any time, and a box of these wonderful little pills by your bed might do—"

"I do not care for any," interrupted the lady again. "If any of us are taken ill we can send for the doctor; he lives on the corner."

"But he might be out," retorted Billie. "I do not want any," said the lady.

At that moment Billie was conscious that somebody was at the top of the stairs watching him. He looked and saw, dressed in pink, a girl. "That is my Cousin Margaret," he said to himself.

"Perhaps you could make use of a box of Dr. Garbison's Kill-all-pain Pills?" said he holding the box toward her.

The girl in pink shook her head. "Didn't I tell you we don't want any?" demanded the lady.

"O, yes, for yourself," laughed Billie. "But perhaps you have a cat or dog that is sick. If you have one of these little pills, mashed and served with hash and two drops of lemon juice, will certainly cure them of all troubles they have."

The words flashed out from the lady. "Perhaps you think that was a very good joke."

"O, no, indeed; no joke at all; just try it," said Billie.

"I have been holding the door open for you quite a while. Please go out so I may close it."

"Certainly. I suppose I may call the next time I'm in town?"

The door shut with a bang, and Billie with his suit case was on the outside.

"Well, I'll take a walk and look the town over, then I'll try and find the office where Cousin Tom works. He will bring me home with him tonight and introduce me to Aunt Susan and Cousin Margaret. This old suit case—why didn't I manage to leave that at 44 Washington, somehow or other? Certainly I'm not going to take it all over town with me. I'll stop into the drug store and have a hot chocolate, then back to 44 with it."

Billie quenched his thirst. Then back to 44 Washington street he went.

He proceeded as he had done before, pressed the door-bell, and waited.

It was the lady herself who opened the door. A surprise covered her face when she saw who it was.

"You—you back again?" she muttered.

"Yes," smiled Billie. "Something told me I would be doing a great crime against humanity if I did not try and sell you at least one box of Garbison's wonderful pills."

"I don't think you're quite right," declared the lady.

Billie proceeded as if he had not been interrupted. "As I was going away from your house I saw that you had a parrot. Now one of my little pills given to a parrot before breakfast will make him sing more sweetly than ever before."

"If you don't leave this house at once I will telephone for a policeman," declared the lady.

"Oh! don't do that; don't do anything like that. I will go and go quickly; but if you have no objection I would like to leave my suit case in your hall for an hour or so, while I continue my work for humanity. This will be just the place for it," he said, setting it down.

"But I do object," said the lady.

"Will call for it this evening," shouted Billie, as he went down the path.

He did not hear, after the door shut with a bang, a voice from the top of the stairs asking who it was, nor after the question had been answered, and the lady had declared she would set the suit case on the sidewalk, did he hear the girl in pink advise her mother not to touch it, "For something might be in it that would go off."

But Bill, with his soul full of happiness, wandered up and down the streets of Rockazoo, till he found the office where Cousin Tom worked.

"Say, but this is a great surprise," exclaimed Tom, when he saw who it was. "When did you come? You have been over home to see the folks, of course?"

Then Billie, with his face covered with smiles, related his joke of the afternoon. "Say, that is a good one on Ma and Sis. You can bet your life, they'll be surprised to find who you are."

"I rather think so too," agreed Billie.

Tom soon closed the office, then arm in arm he and his cousin started for Washington street. As they went, they talked of the coming surprise.

"You don't think your mother and sister will feel bad about it?" asked Billie.

"Certainly not; they'll laugh about it for the next ten years."

When they came to 44 Washington they entered unobserved.

"You go in there," said Tom, pointing to the reception room. "I'll call the folks."

"O, mother," he called, "I've brought home somebody to dinner. Margaret you come too."

"Why, Tom! Is that you? You are home early this afternoon," came the reply from above. "We will come right down."

A peal of laughter came from Tom,

when he saw the expression that came to his mother's face, as she, followed by Margaret, entered the room.

"Let me introduce you, mother, to Cousin Billie."

"What, then you—why, you are not a patent medicine man after all," exclaimed Aunt Susie.

"Not yet," replied Billie.

Then they all laughed.

"You must be hungry. I'll hurry and have dinner as soon as possible," said Aunt Susie.

"I am not starving, but think I'll be able to eat all right," returned Billie. "If you will excuse me I'll change my clothes before dinner."

"Your—your suit case isn't here!"

"Why, mother; he left it here didn't he?" asked Tom, looking first at his mother, then at Billie.

"Yes, but you see we didn't just know what to think of a person that was so extraordinarily anxious to sell his pills; so we sent for a policeman to come and take it away. I am so sorry. You will go and get it, won't you Tom?"

"After dinner," replied Tom.

"But you'll have trouble in getting it?"

asked Billie.

"O, no. You see, in a small town like

Rockazoo, everybody knows everybody, so there will be no trouble about it at all. I'll explain how it happened."

"Hadn't I better go with you?"

"No. You stay here and tell mother and sister all the news. They will have a thousand questions to ask you."

After dinner Tom departed for the police station. An hour passed before he returned.

"Get it all right?" inquired Billie.

"Yes, Billie, but Bill, you see—well—they opened it."

"O, I don't care about that," said Billie. "Wasn't anything in it I wanted to hide."

"No," went on Tom, "but you see, before opening it they put it in a tub of water. They thought there was a bomb in it."

"Put it in a tub of water!" that was all Billie said.

That night after Billie had retired to his room he could hear someone laughing in Aunt Susie's room, and upon listening he surmised that he heard more laughter coming from a room his Cousin Margaret occupied.

"Gee, I wonder what they are laughing about," he murmured to himself, as he hung a wet shirt across the back of a chair.

BRAMBLE HILL.

BY ROBERT CARLTON BROWN.

(Book Rights Reserved by the Author.)

Chapter VIII.—(Continued).

"Why, General, it'll look just as though I was staying here for the purpose of marrying Susan Dunlap. It'll be all up! I couldn't stay in this town another minute. It means the finish—my finish. That's all!"

"It do seem that way," answered the old fellow perplexedly. "You see, it's sure enough, too. I—they've decided to cut through the property here, an' the feller I was talkin' to the other day was an authorized agent, an' he offered six thousand dollars for the hundred acres. But we don't have to take that offer, you know. That's why I didn't say nothin' about it to you; it'd only worry you. When they condemn the property they'll have to give us more money, 'cause the land is worth it. But don't look so fierce, Sidney; sit down an' talk it over sensible. I didn't know you could get riled like that. I hadn't the heart to tell you before. But it ain't so black out, Sidney. You still got three hundred acres."

"Yes, and half of that is barren land, or, like the grove, good for nothing," cried Sid. "This is no stage Gibraltar, made out of paper pulp, that I've bumped up against this time. It's the real thing."

"It do seem so," admitted the general. "But if you marry Susan Dunlap you got the whole thing right in your hand."

"But, confound it! I can't marry the girl till we love each other, can I?" cried Sid. "If that will wouldn't keep cropping to the surface we might—Oh, you don't think I'm an idiot, do you? Everybody in town will know about it, and they'll all say I'm just hanging around here, living on the thousand a year the farm will pay after the land is sold, and waiting for a chance to marry Susan. Think I'd relish that? Of course, I like her; she might even learn to like me; but a fellow can't purposelessly remain in the ridiculous position I'll be in, without any land left to offer even a chance of meeting the money provision of the will. That's the only hope I've had to cling to and now—"

"Well, it's got to be," Hornbill interrupted tremblingly. "I suppose they'll begin condemnation proceedings early in the winter or spring, unless we come to terms out of court."

"Well, I'm going to pack up and light out for New York then."

"Now, boy!" Old Hornbill had tottered to his feet, his lips quivering. He put an unsteady hand on Sid's shoulder. "You just think it over an' don't do nothin' rash. It'll all come out right in the end. Why, I seen Miss Susan drivin' her nautomobil through the private road this afternoon an' she was lookin' toward the house all the time."

"Oh, please don't!" Sid broke in impatiently. "You're all right tending to business and I know you've got my best interests at heart and all that; but don't mix in matters of—please don't try to arrange the rest of it. A fellow can't

stand the thought of anybody—well, you understand."

Hornbill seemed very dubious. He stood for a moment looking squarely at Sid then blurted out: "Well, be that as it may, you got to marry the girl."

"Oh, I say, don't—" Sid shook Hornbill's hand from his shoulder and strode down the steps, walking straight on, out into the dark.

Hornbill started to hobble after, stopped abruptly, emitted a sharp grunt and settled down despairingly on the stairs, mumbling, "Be that as it may, he'll have to marry the girl. There ain't no other way out of it now."

Sid was driving that nagging thought before him as he strode through the grove. The will was pushing him hard. It didn't accord with his ethics; he didn't think it manly to deliberately plan to marry a girl to safeguard his own future. Marriage should be something more than that. He did like Susan; he felt that he could love her and that she might love him if things were allowed to follow their natural course. But this forcing! It made them both strange in each other's presence. It imposed a barrier. Of course, he hadn't overlooked any opportunity to see Susan, especially since he had been deprived of Jerusha's companionship. But the times had been few, and they were so seldom alone together. The whole thought of it was distasteful. It was a shame to put such a yoke on two young people. The more Sid thought of Susan the more he liked her. She was such a jolly sort and stood out from all the rest in Turtle Creek as a different kind. She was more his type of girl. Oh, well what was the use of all this beating about the bush? He'd have to marry her. That was all there was left.

No, he wouldn't. There was some path out of this right-of-way business. There must be. He recalled the few dry chapters of Blackstone he had read in the absence of anything more to his taste, and realized that barriers are imposed by law which can not be overridden by mere will.

Well, he could always go back to New York. There was something in that. But then, it wouldn't be a very pleasant thing to do, either. He couldn't go back and work for twenty dollars a week; he'd be unable to keep up his end with the fellows he knew. It was all very rotten.

He had reached, in his walk, the very lane through which he had strolled with Jerusha that day the Old Settlers' Reunion idea had been conceived. Yes, there was the very stump he had been standing by when she ran off and left him, telling him to go on to the village and beard Stimpson in his den. He had done it. He liked her spirit, as he recalled it. Too bad she had gone away. He really missed her. She had such determination. Think of a girl dashing out as she had, fearlessly, to run the gauntlet of life. Well, he hadn't that much nerve. How he wished she were back to tell him what to do, and make him do

(Continued on page 573)

IN EXCELSIS.

BY CHAS. E. JENNEY.

Look up to the skies on this calm Christmas Eve,
Fill soul to the brim with contemplative awe;
Their limitless bounds He alone can conceive
Who set there the Stars and Who laid them the Law.

Look up from the depths of your follies and fault;
Look up from the darkness of sorrow and sin;
A gleam thou mayst gain from the heavenly vault,
A breath from above will inspire thee within.

Look up! All the day you have plodded in earth
And sought the frail treasure of moth and of rust,
Nor dreamed that above thee are prizes of worth—
There are diamonds other than those in the dust.

Look up, and be humbled before the vast scheme;
Insignificant wholly the Now and the Man,
But perhaps of high purpose thou mayst catch a gleam,
And perhaps be vouchsafed a small glimpse of the Plan.

Look up! Don't forever go blindly below;
Some bright Constellation may lead thee afar,
For 'twas Christmas Eve in the long, long ago
That the watchers on high saw that wonderful Star.

STUDYING THE WINTER BIRDS.—II.

BY ORIN E. CROOKER.

The Woodpeckers and Their Cousins.

IN all probability the first visitation that one's "bird tree" will receive after it is made attractive by several pieces of suet and a bone or two will be from a downy woodpecker. "Downy" remains in the northern states through the winter and seems to be equally at home in storm or sunshine. He is an industrious little fellow, going over the trees in his path one by one and searching for the grubs and other insect food that is buried in the crevices of the bark or under its surface.

Industrious as he is, however, the presence of a free supply of heat-forming fat in the form of suet will bring him to the bird tree repeatedly during the day, once he has found it out. The writer has found him to be the most regular of visitors—lunching no less than five or six times a day at the free stores provided. The directness with which he flies to the point of attraction will easily convince one that he has been there before. A new comer is more timid and approaches the suet in a hesitating manner. The regular visitor will also utter an excited little "squeak" as he pounces upon the food awaiting him.

The writer has also observed that when a particular "downy" gets in the habit of visiting the bird tree regularly he never pauses to examine the trunk or branches for grubs. He seems to remember that he has searched this particular tree before and contents himself with visiting it simply for the suet that he knows he will find there.

"Downy" is an attractive little fellow in modest dress. For the most part he is clothed in bars of black and white, giving him a sort of streaked appearance. A scarlet spot on the back of his head is the only extravagance in dress in which he indulges. The female is lacking in even this. In size he is somewhat smaller than the common English sparrow and is always seen clinging to the side of a tree, usually the trunk. Unless engaged in hammering away at an insect under the bark he is usually on the move, seldom being still for an instant.

A less frequent visitor to the bird tree will probably be "downy's" big brother, the hairy woodpecker. He is almost an exact counterpart of "downy" with the exception that he is larger and at the same time more shy. He will not prove as regular a visitor as his smaller relative. Probably he is more of a rover through the winter months and just stops as he passes by.

A still rarer winter visitor than even the hairy woodpecker is the yellow-shafted flicker or "high holder"—one of the largest and most common of the woodpecker family. Ordinarily the flicker goes south in winter but occasionally an individual or two will remain through the cold months. He is the bird so familiar to everyone in summer, seen usually perched at the top of some telephone pole or sending out his "long roll" by pounding with his bill upon some especially good sounding board in the way of a dead limb or tree. He is more quiet

in winter and quite subdued—as though he realized his mistake in not going south with the rest of his kind. It is somewhat of a serious matter for him to get a living in winter for he gains a large share of his food from insects in the grass. However, he manages to get through somehow and is among the first of the birds to give notice of spring by his "holler" from some point of vantage. During the winter he will not visit the bird tree with any regularity, but he may make an occasional visit.

Probably the most cheerful individual that will happen along—and he is quite likely to come on a stormy day when his visitation will be all the more welcome—will be the black-capped chickadee. He seldom travels alone. Usually he has six or eight companions on nearby trees. It is a pleasure to hear them call back and forth to each other, "Chick-a-dee-dee-dee." It is the very essence of cheerfulness, particularly if the snow is falling thick and fast.

The chickadee is very active and, while not a woodpecker, his habit of searching the bark and crevices for food is very similar. He is a handsome creature in his dress of slaty blue, his darker head covering and his little cap of glossy black. It may be one's good fortune some winter day to hear him give his "phoe-be" call. It is almost identical with the call of the "pe-wee" that builds his nest on a rafter under the open shed or barn in summer. "Phoe-be! phoe-be"—it sounds plaintively across the snow and makes one wonder for a moment if some member of the flycatcher family has, by mistake, been left behind by its companions.

Another bird that will undoubtedly visit your tree, and perhaps with regularity, will be the white-bellied nuthatch. One cannot mistake him, for he has a reckless way of going about over a tree—now right side up and now upside down. In fact it seems as though he prefers the latter position. He will dine off the piece

of suet while standing on his head and with no concern for the looks of things. He is about the size of a chickadee; has slate-colored plumage, and a rather long black bill. He is by no means a friendly bird but he is not afraid of human kind, appearing rather indifferent to their presence. Come up to a tree upon which he is feeding and he will not fly away. He will simply slide around to the opposite side and go on looking for grubs.

One of the most dainty birds that will pay one's bird tree a visit is the little brown creeper. He is the "humming bird" in point of size of the winter birds, and even more shy and rare. It is difficult to gain more than a fleeting glimpse of him, and should he suspicion that you are really looking at him he will be certain to put the turnk of the tree between you and himself.

The brown creeper is a distant cousin of the chickadee and nuthatch. He is beautifully dressed with brown on his back and a creamy breast. He creeps over the trunk of a tree like a nuthatch—with the exception that he usually begins at the base of the trunk, creeps up to the lower limbs, and then usually flies to the base of another tree and repeats the process. There is no mistaking him for any other of the winter birds, and fortunate indeed is the observer who receives visits from this interesting and diminutive chap with any degree of regularity.

PIN-MONEY FROM MISTLETOE.

How Boys, and Sometimes Girls, Net Neat Little Sums.

BY FELIX J. KOCH.

You who think you can climb like a squirrel, you who pride yourself on how you can withstand any and all semblance of dizziness you who are sharp of eye, join our company and be out to the woods after mistletoe. Every approaching Christmas season, when the other work of the farm is done, or when the call of

THE SPIRIT OF CHRISTMAS.

BY CORA A. MATSON DOLSON.

Cheer and good-will for those around,
Not haste and worry hour by hour;
Love-words for all by kinship bound,
With simple gift, as lies in power.

Through work, and waste of strength and store,
The spirit of the Day is lost;
The thought-gift of the heart means more,
Ofttimes, than one of greater cost.

A blue-print to the eyes may bring
The vision of some bygone day
When life was in its happy spring,
And orchards wore the bloom of May.

The Christmas card, with holy word,
The landscape-pictured calendar,
The letter that had been deferred,
The lover's ring of gold for Her,

The stitches by some child-hand wrought,
May seem the fairest upon earth;
For 'tis the underlying thought
That lends to every gift its worth.

Dark was the manger where the Gift,
The first great Gift, was given to men,
Yet light enough to pierce each rift
Through all the centuries since then.

the woods is great with the city boy, great scores of men and boys, and sometimes girls, flock to the country to gather mistletoe. If they've been wise they've done their exploring long before this. When first the leaves begin to turn, and on the oaks the natural foliage is russet or brown, then the great balls or bunches of waxy-leaved mistletoe stand out by contrast. Boy Scouts, on their cross-country marches, will jot into the notebook, that such and such tree, reached from such and such place, is heavy with the mistletoe. Again, folk out for an afternoon's walk will make the same memorandum.

Then, later, these young folks will organize mistletoe parties. Some great farm wagon is engaged to meet them at the end of the car line, or else at the wayside station of railway. The girls prepare lunch and the men provide bottled ginger ale or other liquid refreshments. Out to the chosen oak forest they go, singing, jesting, making merry.

Arrived at the woods, the women, for a time, make ready the fire for the coffee, spread the lunch and otherwise prepare things. The men attach climbers to their shoes, put long coils of rope over their shoulders and tighten the saws to these. Strangely enough, the mistletoe, like an oriole's nest, seems always to grow far, far out on a limb, beyond the point where it is safe climbing. Frequently, therefore, a mistletoe gleaner will climb as far as he dares, then saw the rest of the limb before him. Down it clatters, only to be caught in branches beneath. Then the rope is lowered in the form of a noose, the bough is caught, lifted, swung and moored, until finally it can be caught by those below. At other times an especially fine bit of mistletoe is not to be taken that way. Then a saw is dropped under and about the limb and, by means of the ropes at its ends, it is worked back and forth, forth and back, until the piece of bough is cut free.

Still again they will pole the mistletoe, breaking it off by simply knocking, but nevertheless they manage to bring choice balls down.

That, then, is where the girls get in their work. With aprons spread they dart about under the trees to catch the clusters as they fall. The impact is not nearly so great when coming into an apron as it is upon the ground. According to the strength of the fall, one gets or loses the berries, and this is, of course, what determines the price.

Once they have all the mistletoe the wagon has room for, and the men are tired, the women fagged, luncheon is served.

Brought to the rallying place of the crowd, the mistletoe is barreled and shipped to some man who has contracted for it long before.

Away back in Pliny's time, it seems, folks revered the mistletoe. Pliny spoke of three species of it, and a contemporary told how one variety was used for fattening cattle if they were hardy enough to withstand certain effects produced by it.

Pliny, we are told, is also the source of our information for the reverence in which the mistletoe, when found growing upon the oak, was held by the Druids. The oak, it seems, was their sacred tree, and whatever was found growing upon it they regarded as sent from heaven and as the mark of a tree chosen by God. "Calling it their 'all heal'," says one writer, "after their sacrifices and banquets have been duly prepared under the tree, they bring near two white bulls, whose horns are then for the first time



Oak Trees Upon Which Large Quantities of Mistletoe Are Growing.

LET US TAN YOUR HIDE.

Cattle or Horse hide, Calf, Dog, Deer, or any kind of skin with hair or fur on. We tan and finish them right; make them into coats (for men and women), robes, rugs or gloves when ordered. Your fur goods will cost you less than to buy them, and be worth more. Our Illustrated catalog gives a lot of information which every stock raiser should have, but we never send out this valuable book except upon request. It tells how to take off and care for hides; how and when to pay the freight both ways; about our safe dyeing process which is a tremendous advantage to the customer, especially on horse hides and calf skins; about the fur goods and game trophies we sell, taxidermy, etc. If you want a copy send us your correct address.

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



Raw Furs Wanted

I pay the Highest Cash Prices for all kinds of Raw Furs, and Guarantee You a Square Deal on Every Shipment.

It will pay you to get my Price Lists, and ways of doing business before you sell. Write today without fail to

O. L. SLENER,
Box 23, N. East Liberty, O.

THE GOLDEN ROD VACUUM CLEANER

"A Right-up-to-the-minute" Labor Saving House Cleaning Machine. Write for Prices.

It is easier to operate, and having a large, adjustable, flexible eight-inch nozzle, makes it possible to clean more space with less effort and faster than with other cleaners. It has nine inches of air space and a large reservoir for dust and dirt, which makes it possible to do a big cleaning without emptying.

The One Best Hand Operated Machine that will clean rugs and carpets as perfectly as high-priced machines and can be operated by anybody and in any place.

Simplicity Itself.
It is Noiseless.

The Lightest Vacuum Cleaner Made. It Stands Alone. A Peer of Vacuum Cleaner.

OWOSSO SUPPLY HOUSE, Owosso, Mich.

FREE A Pair of Fur Mittens with every Cattle hide or Horse hide lined robe we custom tan. We Custom Tan and Dress Fur Skins from the trapper to the wearer. Taxidermist work on Deer, Moose, Elk, and Floor Rugs, from Raw Skins under all conditions. Catalog rushed to your request.

W. W. WEAVER,
Reading, Mich.

FISH FRESH and SALTED

If you want the choicest quality be sure to get our price list before ordering.

WISCONSIN FISHING Co.
Dept. Y, Green Bay, Wisconsin.

Have Daylight at Night.

Long winter evenings made pleasant by **KERO VAPOR LAMP.** Gives a steady, brilliant white light, odorless, noiseless, so simple a child can operate it. Flame is always uniform, cannot "creep up" and blaze out of chimney. Lights from top of chimney without removing mantle or glassware.

45 HOURS OF MODERN GAS LIGHT From 1 Gal. COMMON KEROSENE. Sold on 30 days free trial; pay when satisfied. Write for circular, etc. AGENTS WANTED.

DOORENBOS BROS., 325 Bates St., Kalamazoo, Mich.

AGENTS—BIG MONEY
Experience unnecessary. Sell the everlasting guaranteed Steel Mantle Light Burners. Make coal oil produce gas. Give 3 times the light of old style. No smoke; no smell. Every home buys 3 to 4 and more. Repeat orders certain. Sample complete 25c. Particulars FREE. Write today.

The Steel Mantle Light Co., 344 Huron St., Toledo, O.

NOTICE
At the annual meeting to be held in the City of Hastings on January 14, 1913, to commence at ten o'clock A. M., the members of the Michigan Mutual Tornado, Cyclone and Windstorm Insurance Company will vote on amendments of sections 5 and 7 of the charter of the said Company. Dated Hastings, Mich., December 9, 1912. D. W. ROGERS, Sec.

Chairs & Tricycles
For Invalids and Cripples
Worthington Co.
1550 Cedar St., Elyria, O.

WANTED—MEN TO LEARN BARBER TRADE.
Few weeks required. Wages Saturdays. Tools given. Have an independent business. Now is the time to learn. Jobs open everywhere. Catalogue mailed free. See our special this month. **MOLER BARBER COLLEGE, 738 So. Wabash Ave., Chicago, Ill.**

WANTED FOR U. S. ARMY—Able-bodied, unmarried men, between ages of 18 and 35; citizens of United States, of good character and temperate habits, who can speak, read and write the English language. For information apply to Recruiting Officer, 212 Griswold Street, Detroit, Mich. Heavenrich Block, Saginaw, Mich. 1st and Saginaw Streets, Flint, Mich. 144 West Main Street, Jackson, Mich. Huron & Quay Streets, Port Huron, Michigan.

WANTED—A working foreman, farmer, by MICHIGAN FARMER, Detroit, Michigan.

GOVERNMENT Positions are easy to get. My free booklet x-82 tells how. Write today—NOW. EARL HOPKINS, Washington, D. C.

WANTED A man or woman, all or spare time, to secure information for us. Experience not necessary. Nothing to sell. **GOOD PAY.** Send stamp for particulars. Address **M. S. I. A., Indianapolis, Indiana.**

Please mention the Michigan Farmer when you are writing to advertisers.

Michigan Farmer's Club List.

For the benefit and convenience of our subscribers we have arranged the following list of papers on which we can save them money. Besides the money, they save the trouble and expense of sending each order separately.

EXPLANATION—The first column is the regular subscription price of the other papers. The second column gives our price for a year's subscription to both the other paper and the Michigan Farmer. The third column gives the price at which the other paper may be added when three or more are ordered. If price is not given in this column ask us. Example: We will send the Michigan Farmer and Detroit Semi-Weekly Journal for \$1.15. If, for instance, McCall's Magazine also is wanted add it at 40c making total \$1.55. Any number of papers may be added at third column price if they are for a subscriber to the Michigan Farmer.

If you want the MICHIGAN FARMER THREE YEARS and the other papers one year add 75c to the second column price. For the Michigan Farmer 5 years add \$1.50. We do not send samples of other papers. Address the publishers direct.

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

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

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

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

NAME OF PUBLICATION.	See explanation above.			
Daily, (6 a Week) on R. F. D. only.	\$	\$	\$	
Free Press, Detroit.....	2 50	2 50		
Journal, Detroit.....	2 50	2 50		
Times, Detroit.....	2 00	2 00		
Herald, Grand Rapids.....	2 50	2 50		
News, Grand Rapids, Mich.....	2 00	1 75		
Press, Grand Rapids.....	2 00	2 25		
Courier-Herald, Saginaw.....	2 50	2 25		
News Saginaw.....	2 00	2 25		
Tribune, Bay City, Mich.....	2 00	2 10		
Blade, Toledo, Ohio.....	2 00	2 10		
News-Bee, Toledo, Ohio.....	2 00	2 05		
Tri Weekly Newspapers				
World, N. Y. City.....	1 00	1 20	75	
Semi Weekly Newspapers				
Journal, Detroit, Mich.....	1 00	1 15	70	
Weekly Newspapers				
Blade, Toledo, Ohio.....	1 00	1 00	55	
Commoner, Lincoln, Neb.....	1 00	1 05	60	
Enquirer, Cincinnati, O.....	1 00	1 00	55	
Inter Ocean, Chicago, (w).....	1 00	1 00	55	
Cattle, Sheep, Swine, Poultry, etc.				
American Poultry Journal, Chicago, (m).....	1 00	1 20	75	
American Poultry Advocate, Syracuse.....	50	80	35	
American Sheep Breeder, Chicago (m).....	1 00	1 35	90	
American Shepherd, Chicago, (m).....	1 00	1 35	90	
Breeders' Gazette, Chicago, (w).....	1 75	1 45	1 00	
Farm Poultry Boston, Mass. (s-m).....	1 50	80	35	
Fruit Belt, Grand Rapids, Mich.....	1 00	70	25	
Green's Fruit Grower, Rochester, (m).....	50	80	35	
Board's Dairyman, Fort Atkinson, Wis.....	1 00	1 20	75	
Horseman, Chicago, (m).....	2 00	2 10	60	
Jersey Bulletin, Indianapolis, Ind. (w).....	1 00	1 35	90	
Kimball's Dairy Farmer, Waterloo, Ia. (s-m).....	50	80	35	
National Sportsman, Boston, Mass. (m).....	1 00	1 15	70	
Poultry Keeper, Quincy, Ill. (m).....	50	80	35	
Poultry Pointers Kalamazoo Mich.....	50	80	35	
Poultry Success, Springfield, O. (m).....	50	70	25	
Reliable Poultry Journal, Quincy, Ill. (m).....	50	80	35	
Swine Breeders' Journal, Indianapolis, Ind. (s-m).....	50	80	35	
Popular Magazines.				
American Magazine, N. Y. City, (m).....	1 50	1 60	1 15	
Cosmopolitan, N. Y. City, (m).....	1 50	1 60	1 15	
Everybody's Magazine, N. Y. City, (m).....	1 50	1 60	1 15	
Etude, Philadelphia, Pa. (m).....	1 50	1 60	1 15	
Mechanical Digest, Grand Rapids (m).....	25	70	25	
McClures Magazine, N. Y. City, (m).....	1 50	1 60	1 15	
Musician, Boston, Mass. (m).....	1 50	1 55	1 10	
People's Home Journal, N. Y. City, (m).....	50	85	40	
Pearson's Magazine, New York City, (m).....	1 50	1 55	1 10	
Red Book Magazine, Chicago, Ill. (m).....	1 50	1 55	1 10	
Review of Reviews, N. Y. City, (m).....	1 50	1 60	1 15	
Ladies' or Household.				
Delineator, N. Y. City, (m).....	1 50	1 60	1 15	
Designer, N. Y. City, (m).....	75	1 05	60	
Harper's Bazar, N. Y. City, (m).....	1 25	1 45	1 00	
Housewife, N. Y. City, (m).....	50	80	35	
McCall's Magazine, N. Y. City, (m).....	50	85	40	
Mother's Mag., Elgin, Ill. (m).....	1 00	1 25	70	
Modern Priscilla, Boston, Mass. (m).....	1 00	1 25	70	
Pictorial Review N. Y. City, (m).....	1 00	1 25	70	
Woman's Home Companion, N. Y. City, (m).....	1 50	1 60	1 15	
Woman's World, Chicago, (m).....	25	60	15	
Religious and Juvenile.				
American Boy, Detroit Mich. (m).....	1 00	1 20	75	
Boys' Magazine, Smethport, Pa. (m).....	1 00	1 15	70	
Little Folks, Salem, Mass. (m).....	1 00	1 45	1 00	
Young People's Weekly, Elgin, Ill. (w).....	75	95	50	
Youths' Companion, Boston, Mass. (w).....	2 00	2 05	1 60	
Youths' Companion Boston, Mass. (w).....	2 00	2 45	2 00	

HOW YOU CAN GET OTHER PAPERS FREE.

A one-year subscription to any one of the papers in the above list can be secured free for a club of Michigan Farmer subscriptions, as follows: Any paper with a regular subscription price (given in first column of club list), of 50 cents is free for three points. Any paper with a regular subscription price of \$1.00 is free for five points. Any paper with a regular subscription price of \$1.50 is free for eight points. Any paper with a regular subscription price of \$2.00 is free for 10 points. Any paper with a regular subscription price of \$2.50 is free for 12 points.

Read explanation of points and conditions on page 30 of this issue.

Remember that premiums and other papers are not given free with your own subscription but are given in exchange for your time in securing others to subscribe for The Michigan Farmer.

DON'T MISS ANY GOOD THINGS

that will appear in The Michigan Farmer during 1913. Renew your subscription now. Also get a few of your friends and neighbors to subscribe with you. Read pages 586 and 587 and see how you can get valuable premiums in exchange for your time and trouble in securing a few subscribers.

HAVE YOU A LITTLE SPARE TIME?

Then read pages 586 and 587 of this issue and see how you can have valuable premiums for spending a little of your time in securing a few subscribers to The Michigan Farmer.

bound. The priest, clothed with a white robe, ascends the tree and cuts the mistletoe. They then slay victims, praying God to prosper His gift to them unto whom He has given it.

"Prepared as a draught, the mistletoe was long used as a cure for certain ills and as a remedy for poisons. The mistletoe figures also in Scandinavian legend as having furnished the material of the arrow with which Baldur, the sun-god, was slain by the blind god Hoder."

HOW TO STEER A SINGLE SLED.

BY THALEON BLAKE.

That boy is fortunate, indeed, who is reared where the weather is cold in winter, and the snow gives frequent op-

portunities for coasting. The little fellows having "scooters," and going "belly-buster," ought soon to learn to guide by shifting the weight of their bodies from side to side, while the medium-grown boys usually use their skates as aids to keep in the paths. There is some art in using a skate; one skate is sufficient, for the foot without the skate, when laid over the one with the skate, tends to steady the skate, as well as weigh it easier into the snow. Then, too, if the hill is covered with a packed snow, the swinging of the skate from side to side need seldom be beyond the runners; a slight motion sidewise commonly being all that is necessary. When the art is mastered, a single thrust beyond the runner is enough to cause a loaded bobsled to veer sharply if the path is icy,

you will observe how a rubber band may be slipped over the end and tied to this screw. Another rubber band is fastened in like manner over the handle to the bolt on which it lies. This prevents the lever from bouncing up when the flying sled goes over a bump.

If the levers are metal, they may be flattened, both to facilitate drilling the axles or bolt holes, and to offer a larger surface to the blocks of wood, $\frac{1}{4}$ to 1 in. thick, between them and the sled runners. The ends that are to serve as even to turn 180 degrees, and descend backwards.

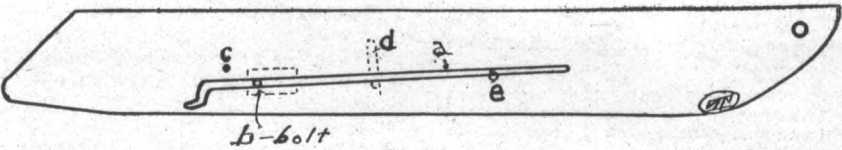


Fig. 1.

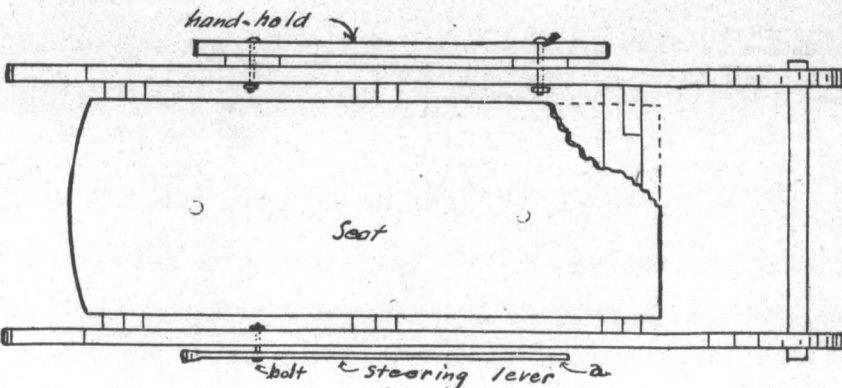


Fig. 2.

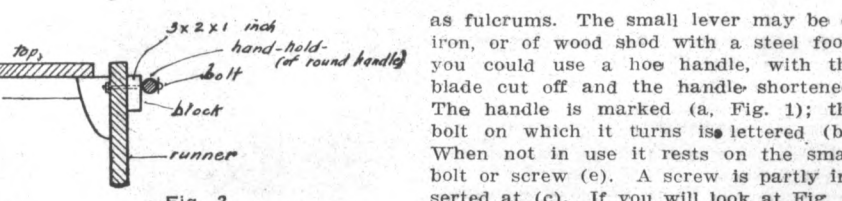


Fig. 3.

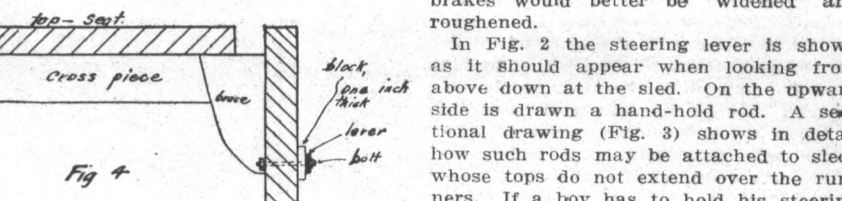


Fig. 4.

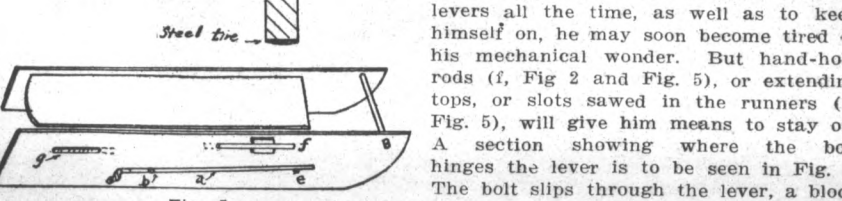


Fig. 5.

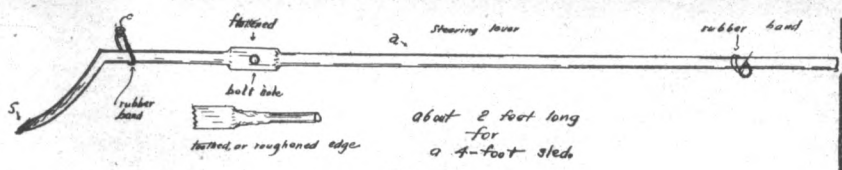


Fig. 6.

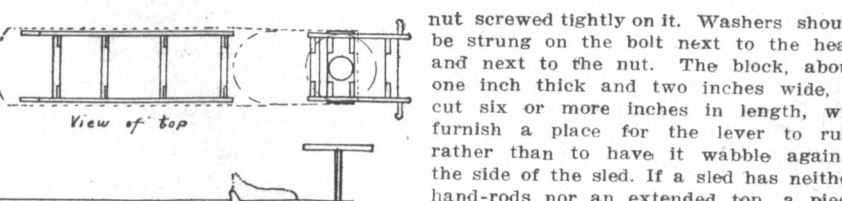


Fig. 7.

A way is suggested in Fig. 7 by which a stout single sled may be coupled to a smaller sled, making an excellent bob. A new top is set on the rear sled and extends partly over the forward one. A comfortable seat may be built for the steersman. A steering wheel assists the feet in controlling the direction; supports for the feet are attached like horns to the front of the forward bob. This style of bob-sled is not recommended for small boys to coast with on steep, icy hills, particularly if the surface is uneven, full of angling bumps or "thank yous," because the twisting to which this style of bob is always subjected requires strength of materials and much weight. Besides, if the steersman bounces out of his seat, and loses control, those behind have no power to right its course.

nut screwed tightly on it. Washers should be strung on the bolt next to the head and next to the nut. The block, about one inch thick and two inches wide, if cut six or more inches in length, will furnish a place for the lever to rub, rather than to have it wobble against the side of the sled. If a sled has neither hand-rods nor an extended top, a piece of iron may be shaped into an extra wide staple to limit the upward movement of the steering rod as shown in (d, Fig. 1).

BRAMBLE HILL.

(Continued from page 570).

it. He was without a helm, drifting. He knew it. He must pull up.

He couldn't somehow separate the thought of Jerusha from the spot. She possessed just what he lacked—that spirit, that determination to do. If she were only here to impart a bit of action to him.

Then suddenly by a trick of memory he recalled her words on that day when he had been driven to his first and last real accomplishment in Turtle Creek. Why, by George! She had said something about a railroad being cut through Bayview! The words came back to him now. She had said if she only had his chance. Well, she would have done something with it. She had said something about going to Bayview—and then he had cut her off. He remembered now. It was by the gate in front of her house, and old Wattle's music had interrupted the thought. What was it she would have done about the railroad? Of course, it must be the same railroad; he had heard rumors of it off and on now for some months.

Probably she only meant if she were a man and had his chance she would have gone to Bayview and got the officials to run the road through Turtle Creek, and sold the strip of land to them for the right of way. Well, if that had been her idea she wouldn't have profited much by it. Still, that was a thought. Probably if he had gone to Bayview and called Turtle Creek to the attention of the railroad people, and proved it advantageous for them to run through his land, he might have had a better price. He knew they paid well for suggestions and advice.

Still, Jerusha was very clever. She had thought up that plan of renting the land to the Old Settlers. Her mind had always been full of schemes. It didn't seem likely that she would be foolish enough to consider selling the land for right of way. She must have had some other idea.

Absurd! Why, the girl hadn't the merest conception of one hundred thousand dollars; she had never spent even a ten-dollar bill. Still, it was remarkable the way she had made that old cow support herself and Wattle before Nathaniel Edgeworth had left that income of ten dollars a month. There was something strange about Jerusha. Sid wished he had cultivated her more when she was there. He didn't even know a fellow, except Jimmy, who had the same sense for business.

But then, why shouldn't a girl think of business! Weren't there wonderful women lawyers and all that! Or, if Sid only had that gift! Of course, a woman could have business ability as well as a man, but a man should have a bit more of it.

Well, anyway, he wondered what Jerusha would have done if she had been face to face with his dilemma. There was nothing insurmountable to her. She would have scrambled over the bunker somehow. But how? Oh, of course there's a way out of every maze.

The upshot of it all was that Sid went home late that night, took off his shoes on the doorstep and walked noiselessly past watchful Hornbill's door, entering his own chamber and shading his light over a little writing desk in the corner.

There he poured the whole thing out on paper in an effort to ease his feelings. He told it all to his old chum Doodle. Of course Doodle was as impractical as he. There seemed a sort of subtle humor in that.

It was such a relief to tell somebody the whole thing; somebody different from those in Turtle Creek—a nice, irresponsible person who had enjoyed the same careless up-bringing. Sid went back and gloated over the details, how the damnable will had been reaching out, tentacle after tentacle, until the horrid octopus had him now clutched to its bosom with a thousand arms. There was no way of release but to cut through the Gordian Knot. He loved to tell nice, foolish old Doodle how many lovely little stumbling blocks had been slipped before his unsuspecting feet by that skulking will. And the railroad! That was clever. To think a railroad should come along and decide to plow its way through his land, over his dead body. That was a good line; it sounded so melodramatic. He had witnessed a tank play with Doodle once; in the big scene the hero was bound to the ties and the engine was puffing up terribly (terribly enough for an engine made of cardboard) and the heroine, lingering in the wings, flirting with a stage hand, had rushed in like a leader of an Amazon war sociable, dashed headlong at him with a knife between her teeth and

severed the—"Oh, Doodle," he wailed in the last line, "I wish there were heroines in real life and that one would come along, cut the ropes and save me from this impending engine."

About a week later Sid received a commiserating note from Doodle. It didn't help cheer him much. Doodle had begun by telling his troubles with a three-thousand-dollar polo pony that had lost all form and simply wouldn't get into shape. Then he had worked over a review of Broadway as he had last seen it, before retiring to Newport for the summer. Every word, in spite of the slight petulance and chronic cynicism of the man, breathed freedom. The thought swept over Sid suddenly, how nice it would be to be back in the old Johnstone, with Roberts, and nothing but cabinet keys and invitations to worry about. He'd never been face to face with real vital worry before. It wasn't pleasant. When a man's bread and butter is imperiled he loves to think back of the joyful times when he had only to worry whether he would choose tenderloin or squab for dinner. Of course, a man must worry, but the worries one makes to his own order are so much more pleasant than those thrust upon him. Nice companionable worries, these little ones.

Doodle finished his tantalizing letter with a few choice remarks concerning Sid's position in the encircling arms of the octopus. "It's too bad you're not more fascinating to the ladies, Old Sid-eral. Had I been in Turtle Creek a year I'd have a swarm of heroines ready to rush in and save me. But I guess you're right; heroines are only on the stage. Besides, nowadays, when men will go into business and all that sort of rot, it's no fun saving them. But, say, if there were a heroine that could drag your body from beneath the wheels of that engine, I know her and I'd try to interest her in your case, only she's traveling in Paris with my aunt now. You remember Aunt Ralmer at Harvard? You used to like her so well. Well, this girl is great, just the kind you'd imagine aunt would pick out for companionship. Aunt says she's always thinking up schemes to cut down traveling expenses and that sort of thing. Even washes out her own handkerchiefs and dries them on the window pane. She's a wonder. Aunt says she's as full of schemes as French coffee is of chickory. She'd find a way out of your trouble all right, you can bet. No, I'm not in love, that is, she doesn't know I am. But it does make a fellow think he's pretty small when a girl like that breezes up on the horizon and knows more about practical things in ten minutes than he'll ever know in ten years. Wish I could send her along to help you break loose from that octopus, but Aunt says she doesn't know how she'll ever do without her. For my part, I hope she never leaves aunt, unless it's for something more permanent. I never knew the Clendenning was such a jolly place to live until she came there; and I never saw such a dismal hole as it is now."

"Nice sort of heroine," smiled Sid. "Just like old Doodle, though, to fall in love with a girl like that. Always taken in by some queen who amazes his impractical mind by some practical stroke, like taking a horse cab to save taxi fare. Probably some young Fifth Avenue lady who jollies Aunt Ralmer by making a silver purse do for a gold net one. She'd be a lot of help to me down here, dopping out an idea to fight a railroad. She may do on substitute smelling salts, but, oh, these practical ladies that inspire Doodle! If he'd ever seen Jerusha Wattle make a shirtwaist out of linen salt sacks, begged from the Turtle Creek creamery! Well, that's being practical!"

(Continued next week).

A CHRISTMAS PRAYER.

BY BERT A. H. NANCE.

I pray for those who feel no lack,
And every heart of stone
That sees another's sin as black,
But spotless views its own;
Oh, send the light, the gleaming light,
Whose beams no man can mar,
And let the blind receive their sight
While shines the Christmas star.

I pray for those who wander on
And dread to look before,
Poor erring ones, whose hope is gone,
Who see no open door;
O Father, grant to such the grace
To see a light afar,
And may love shine from every face
While shines the Christmas star.

I pray for every lonely soul
Throughout our joyous land;
Grant that we all may reach the goal
And somehow understand
That none, with selfishness or pride,
Thy loving light shall bar.
Grant all a happy Christmas-tide
While shines the Christmas star.

To Let on Shares.

Good chance, especially for man who wishes to educate his children. **DAIRY FARM**—bringing in over \$200 per month—one mile from Michigan Agricultural College—will be let on shares to right party. If interested give full particulars as to family, experience, etc.

Address Box 180, East Lansing, Mich.

FARM FOR RENT

Near Michigan Agricultural College.

Six miles east of Lansing on Interurban; five cent car fare from Michigan Agricultural College; one and one-half miles from high school; farm of 140 a. stock farmer desired; money rent. For terms write

PROF. C. A. WILLSON,
Univ. of Tenn. Knoxville, Tenn.

FARMS AND FARM LANDS
FOR SALE OR EXCHANGE

Fertile Farms and unimproved lands in Delaware, diversified farming, live stock, delicious fruits and ideal homes. For information address, State Board of Agriculture, Dover, Delaware.

CASH FOR YOUR FARM
I bring buyers and sellers together. Write me if you want to buy, sell or trade. Established 1881. Frank P. Cleveland, 948. Adams Express Bldg., Chicago, Ill.

OUR FARM LIST saves you time and money in buying a farm. **ASK FOR IT.**
MICHIGAN FARM HOME CO., Greenville, Mich.

60 ACRE FARM—just out of corporation. Soil fertile, level and all tillable. New house with steam heat, bath and water system. Five large barns. An elegant home for \$150 per acre.
A. C. McCARRY, Union City, Michigan.

WHY PAY RENT when you can buy the Best Land in Michigan at from \$7 to \$12 an acre near Saginaw and Bay City. Write for map and particulars. Clear title and easy terms. **Stafford Bros. (owners) 15 Merrill Bldg., Saginaw, W. S. Michigan.**

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley, the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. **Sacramento Valley Development Association, Sacramento, CALIFORNIA**

FARM BARGAINS.

22 A., near Bellville, Mich. No buildings; fine garden land.
166 A., near Minden, Provisional, County of Haliburton, Canada. The making of a fine homestead. Some timber. This property can be bought cheap or will exchange for hardware stock or town property in Michigan.
80 A., near Westbranch, Mich., some timber and a fine spring stream.
120 A., near Detroit, one of the best farms in Wayne County, 10 A. fine timber.
W. W. BENNETT, 1209 Majestic Bldg., Detroit.

80 Acres, \$400 Cash Needed
Year's Income \$1650

Buildings worth \$2200; for sale only because owner's other business demands all his time; fertile, machine-worked fields, stream-watered pasture for 20 cows, 10 acres wood; apples, pears, plums; 2-story 7-room house, piazza, 40-ft. basement barn, carriage house, hop house, near neighbors, school, mail delivered, only 3 miles to R. R. station, high school, creamery, etc.; income last year from dairy, fruit, potatoes and poultry \$1650; if taken now only \$1900, \$400 cash, balance easy terms. Further details and traveling directions to see this and a 161-acre farm with 10 cows, 2 horses and all machinery for \$2800, on easy terms, page 49, "Strout's Farm Catalogue '35", 2nd Edition, copy free. Station 101, E. A. STROUT FARM AGENCY, Union Bank Building, Pittsburg, Pa.

AND VEGETABLES
are grown and shipped during the winter months, with scarcely any competition. Nearness to center of population makes it highly profitable. Large acreage and expensive machinery unnecessary. Average farm 20 to 40 acres. Good water; abundant rainfall, healthiest climate, good schools, hard surface roads, best fishing and hunting. No snow or ice, no large fuel bills. Come and investigate before buying land. We will help you to locate right. Our book of "Facts About Florida" sent free. It gives all sides of the things you should know. Addr. Dept. H.

FLORIDA EAST COAST RAILWAY
J. E. Ingraham, Vice-Pres. St. Augustine, Florida.
or **Louis Larson, N. W. Agent**
109 W. Adams Street, Chicago, Ill.

CALIFORNIA
ALFALFA AND FRUIT LANDS

We have just purchased and are now subdividing into small farms, the famous 180,000 acre Chowchilla Ranch in San Joaquin Valley, California. All smooth level land, ready for the plow, best of soil and climate. Six to eight cuttings of alfalfa per season, yielding one and one-half to two tons to each cutting, which sells for \$9 to \$10 per ton in the field. Fruit and vegetables thrive here. Prices from \$100 to \$150 per acre. Easy terms. An opportunity to select a choice farm from the largest California tract yet to be subdivided.

Write us for beautiful illustrated booklet.
UNITED STATES FARM LAND CO.
742 Market St., San Francisco, Cal.

227 Bushels of Corn to the Acre

This crop was raised in the season of 1911 by a boy in Mississippi. Can you do as well on your high priced land? Living is pleasant in the south. You can be outdoors all the time and can raise from 2 to 4 crops a year. Alfalfa, cotton, corn, oats, cowpeas, cabbage, sweet and Irish potatoes, tomatoes and fruits of all kinds grow equally well.

Go South, Young Man and Grow Rich

For beautifully illustrated booklets and full information write to **J. C. CLAIR,** Immigration Commissioner, Room 606, Central Station, I. C. R. R., Chicago.



Woman and Her Needs

At Home and Elsewhere



DO YOU PAY YOUR BILLS?

THERE is an old saying that he who dances must pay the fiddler. But did you ever see anyone who insisted on dancing in season and out that was willing to settle the bill when the fiddler demanded his pay? I never have, and I am well acquainted with several people who have had their fling. And though they had promised, when friends remonstrated with them, to pay when the time came, one and all cried out for someone to come to the rescue when it was time to stop dancing and square accounts.

There was one girl who had tubercular tendencies. She was not in a serious condition and sane living for three or four years would have made her a strong woman. All she need do was eat plain, nourishing foods, breathe always fresh air, wear warm comfortable clothing, avoid late hours and not over exert herself in any way. Yet, in spite of the fact that physicians and friends warned her she paid no attention to any health rules. She ate what she pleased, kept her window open if she felt like it, wore thin clothing and low shoes in wet, cold weather, and danced three nights in the week if opportunity offered. To all remonstrances she only laughed and said she would dance if she felt like it, she would be the one to pay the fiddler.

But, of course, she wasn't. When the old man demanded his pay the burden of settling came on her father and mother who for a year had to care for her when her health failed utterly, as, of course, it did. And they went on paying up for three years after she died, for it took them that long to settle the bills with nurses and doctors.

A young man liked to dress well and run around with flashy acquaintances. Friends tried to tell him he ought to stay in nights and devote himself more to business if he wished to succeed, but he

the mortgage. Who paid the bills in the end?

So it always is with the ones who will not listen to advice, but insist on making life a playground. They are always quick enough to tell us they can manage their own affairs when everything is going smoothly, but so soon as there is trouble how quick they are to crawl out from under and leave the ones they have insulted to straighten things out. I often wonder what would happen if family and friends, instead of coming to the rescue, simply stood back and let them get out of the scrape the best way they could. Would it be a lesson to them, or would they simply go farther down? There is no way of telling, for the experiment has never been tried. There is always someone to hold out the helping hand, no matter how little the culprit deserves it.

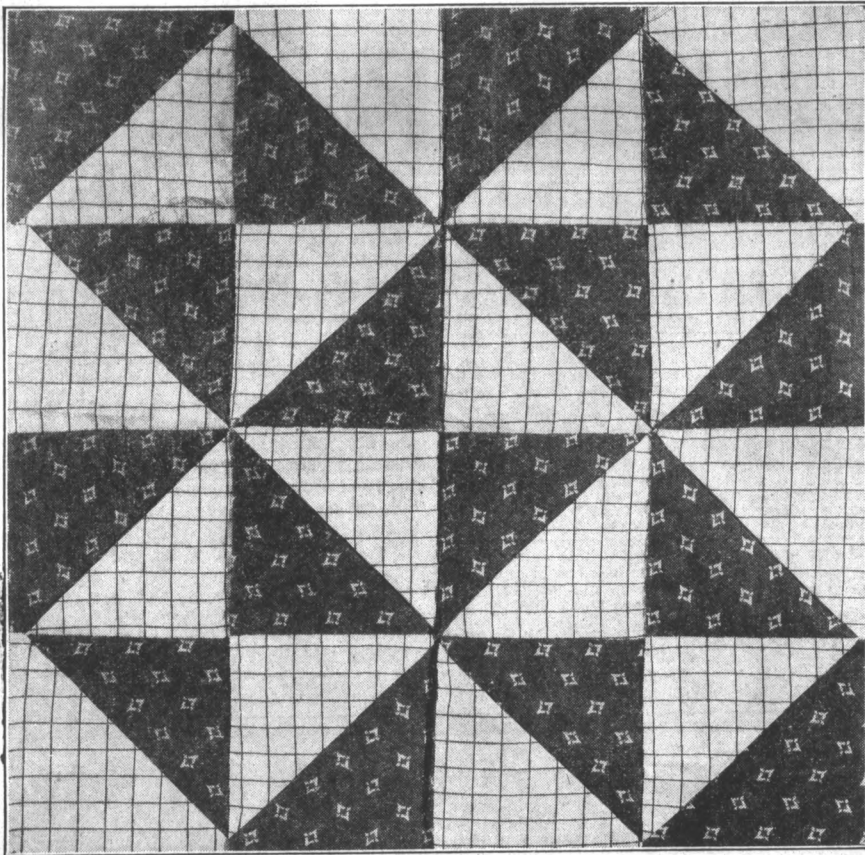
Sometime ago a reader remonstrated with me for writing about subjects of this sort. She wrote that it only awoke sad memories in hearts and did no good. Perhaps she is right, but when I look around me and see so many men and women struggling along, paying up for friends who danced and slipped out when the bills came in, I can not keep still. Here is hoping that this may stop someone before the bills get too large for settlement, or that those who have been called on to pay may have the manhood or the womanhood not to ask for help.

DEBORAH.

A Simple Quilt Pattern.

In the Michigan Farmer of November 2, Mrs. G. S., of South Branch, asks for quilt patterns. I send one which I think pretty. She can vary it in several ways, thereby making it do for two or three patterns.

For instance, make the whole quilt like



told them all he would do as he pleased so long as he paid the bills. He did, but the trouble was he paid some of his bills with his employer's money. Of course, he was caught. They always are, and yet others will read of it and go out and do the same thing. Then his father had to mortgage his home and pay the bills over, and his sister had to leave school and go to work to help her father pay

the pattern, either of mixed pieces, or having the dark all of one color, say all dark blue, or light blue. Or the blocks can be set together with squares or strips. Then again quarter this pattern and you will find a pattern for a small square. Taking a row of the pieced half squares from the top and bottom of the pattern, there are two squares, making another pattern. The half of a four-inch

square would be as small as my conscience would let me cut up cloth to make a quilt.

If you want to be real economical try this way. Take a sheet of newspaper and fold straight and smooth, cut apart on the fold. You can use the whole leaf, or fold over and make a square from it. On this paper baste your pieces crazy quilt style. Fold under all the overlapping edges and baste down. When the paper is covered trim the edges even with the paper, then stitch on the sewing machine, all the joinings, after which the paper can be easily removed, and your blocks can be sewed together.—J. E. H.

(If Mrs. G. S. will send her full name and address other patterns will be mailed her.—Ed.)

ATTRACTIVE HOME-MADE CHRISTMAS PRESENT.

BY ELISABETH R. LITTS.

This dainty and useful little Christmas gift, which would be acceptable to any woman or girl, is a holder for a bolt of ribbon and is easily made. The cost, too, is very slight and when it is finished it makes a worthy remembrance for your most fastidious friend.

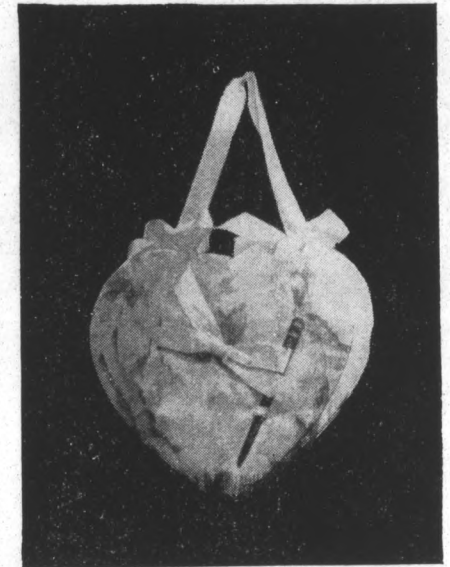
Take two pieces of cardboard and cut them heart-shaped, making them about four inches across at the widest point and about five inches long. Of course, the size can be smaller if the maker desires, but I find that this size is the nicest and makes the best appearance. After getting the cardboard the right shape, prepare to cover both pieces. For the covering procure a good grade of Persian ribbon with bright, delicate colors, either pink or blue predominating. Get one-third yard of ribbon, plain ribbon, to match, to use for the linings on the inner side of the hearts, as only the edges show and the plain ribbon does just as well and is not so expensive as the Persian.

Select the cardboard heart that you wish to use for the top and cut a piece of sheet wadding the same size, as it is prettier to have the top slightly padded. Sprinkle a little sachet powder in the padding and stretch the ribbon over it, having it turned neatly over the edges. Hold this securely in place by sewing backwards and forwards until the covering is perfectly tight and neat, then cut a piece of the plain ribbon and sew it over the back, hiding all of the edges and stitches of the front cover. Now cover the other cardboard in the same way, only omit the padding, as it isn't necessary on the back. Your two pieces are now ready to fasten together, but before doing so make a little loop of ribbon on the outside of the front piece, to stick the ribbon tape through, as shown in the illustration. For this you must have some narrow ribbon of the same shade. Buy at least a yard and a half of this size, which should be no wider than a half inch, narrower if possible, as you will need it to make the hanger at the top when it is finished. In making this loop, punch a couple of holes a half-inch apart on one side of the heart. The location can be determined by the illustration. Pass the ribbon through from the back, and back through the other hole, pull tightly and fasten the ends securely on the back.

Buy a bolt of baby ribbon, white preferably, as it can be used for anything. Make a large hole through the center of the bolt, punch two holes through the center of each heart and tie the two pieces together, fastening the bolt between them by passing the ribbon through the hole, this will allow the bolt to turn around when the ribbon is pulled off. Use some of the narrow ribbon for tying the two sides together, making the ends come in front where they are fastened by a pretty bow. Then make your hanger and fasten it to each side of the back, on the inside, and it will hang up evenly. Place a full bow at each end where the ribbon is sewed onto the cardboard. For one or two cents you can

buy a white bone ribbon tape needle. Place this through the slip made for it and your present is complete.

It can be made easily in one evening and makes a pretty and unusual gift. I have made several and everyone to whom I presented them said they had never seen one like it, and they seemed greatly pleased, and as the entire cost



is only 60 or 70 cts, according to the value of ribbon used, I have been very well satisfied with this little Christmas remembrance.

TWO MILLION RED CROSS SEALS FOR MICHIGAN.

Michigan's consignment of 1912 Red Cross Christmas seals has been received at the office of the Michigan Association for the Prevention and Relief of Tuberculosis, in Ann Arbor. Two million seals were shipped in this consignment. Twenty local and county agents have already been appointed.

The seal this year is more attractive than ever before. The total number of seals sold in this state last year was 754,210, or \$7,542.10 worth. Of this amount, \$942.76 was sent to the National Association to cover the expense of securing the seals and advertising material, \$4,689.73 was used for anti-tuberculosis work in various cities and towns throughout the state, and \$1,909.61 was turned into the treasury of the Michigan Association to help further the campaign for the organization of local societies and committees, and the education of the people in Michigan. The State Association expects to sell at least one million seals this year, and is aiming to sell the entire two million.

Workers are needed who will help with the local work. Some of us have little time to do active work, but everyone can help financially in this great cause as the seals sell for only one cent each. Agents are wanted all over Michigan. If you will help in this work write to the secretary, Carol F. Walton, Medical Building, Ann Arbor, Michigan.

THE CHRISTMAS REMINDER.

BY BESSIE L. PUTNAM.

Well it is, with the multiplicity of holiday remembrances, that more and more does the same principle prevail that the gift with the giver is the essential. Little reminders which have with them a loving thought may mean more to the truly appreciative than elaborate presents which mean painful economies for months to come.

Never was fashion more prolific with suggestions easily adapted to one of moderate means but with a little skill with needle or crochet hook. Just now the fancy is for the fine handkerchief with a quarter-inch hem, and bordered with some dainty edge. It may be one of the numerous chochet patterns in a very narrow edge. This must be worked with

fine thread and a very fine hook, for the completed work should never be inclined to be loose. Or the old-fashioned narrow tatting is another simple edge sure to please.

Flowers of silk, satin, or ribbon find many places for their use, and are quickly made from very small scraps which would otherwise go to waste. Just the other day we saw some dainty models in a store with the fishtail bow of black velvet ribbon finished at the center by a row of three of the tiniest of pink satin roses, set in green baby ribbon. Those having a faculty for crochet, will find buckles of Irish crochet another way of finishing up-to-date neckwear.

Wild roses of pink or white are made by gathering a double strip of satin of suitable length to a little more than meet in a circle. Bring this gathered strip around to simulate the blossom, and fill in the center with French knots done with yellow or gold silk. Two of the sweet brier rose size are a very handsome substitute for a brooch, while the tiny ones may be used in all sorts of decorations.

The shops just now are full of suggestions, and if your scrap bag is fuller than your purse, consult the stores only for models. Then go home and use your own skill.

A NOVEL CHRISTMAS CAKE.

BY E. RUSSELL.

Make a white or yellow batter, quite stiff, put a layer of it in a pan, then place slices of cold dark cake on it, having trimmed off the crust; then another layer of batter and more cake, finishing with the batter.

Pink cake may be used for "blocks," or both dark and pink, or a dark batter and white cake, to suit the fancy. When cut it will look very unlike the common marble cake.

Those not in the secret will wonder how the batter can be kept that shape; as mysterious as "how the apple got into the dumpling," which once puzzled a king.

Now for "mother's way" of cutting a large round cake, avoiding the usual "small end of the wedge." This consists in cutting each wedge of cake nearly to the center leaving the central part to support the decoration. It is especially nice when the cake is to be placed on the table whole, or apparently so. This leaves the middle intact, and does not interfere with any central decoration. This was one of the delights of our childhood, "the piece left for manners," when we donned good behavior on company days.

HOME QUERIES.

Discouraged.—I think your trouble comes from excessive shyness. Your letter is very well written. Your words are well chosen and your thought expressed in good, concise English. For that reason I believe you do not talk well because you are afraid of criticism. If that is the case the only thing to do is to forget yourself completely. I should read the best magazines, and the very best type of women's journals. These and other journals touch on live topics which should be of interest to everyone. Read them carefully and inform yourself on questions of general interest. Practice imaginary conversations aloud when you are alone so you will get used to the sound of your own voice. Perhaps some of your trouble comes from the fact that you are not used to meeting many people. If that is so, go out all you possibly can, to church, grange and farmers' club, and make yourself talk to everyone there.

Household Editor:—What is mean by pasteurized milk?—Young Mother.

Milk that has been heated rapidly to about 155 degrees F. and kept at that temperature for 30 minutes, then cooled rapidly to 68 degrees. It is not so hard of digestion as sterilized milk. In sterilized milk a temperature of from 212 to 220 degrees is reached and maintained for a half hour. Sometimes this temperature is maintained for one and a half hours.

Household Editor:—Would you give cocoa to young children, say three or four years old?—Anxious.

While cocoa contains the same stimulating principles as tea and coffee, and some authorities say a larger per cent, it doesn't affect the nervous system as does the caffeine in the other beverages. It contains a fair proportion of all the food principles and is not only nourishing of itself but on account of the milk added to it. Chocolate is about 50 per cent fat and cocoa is chocolate with a

You Save Money Here's Proof

The United States Government Laboratory test shows Ceresota to be worth from 14 to 79 cents per barrel more than other well known and extensively advertised flours.

This is the best reason in the world why you should use

Ceresota Flour

The prize bread flour of the world

GET A CERESOTA COOK BOOK. It contains valuable suggestions and over a hundred recipes that are unusually excellent. This book delights every housekeeper. It will interest you. Limited Edition FREE. Send a post card today.

Save the coupons in every sack. They tell how to get a splendid little story book of intense interest to every child. Let your children color the many lovely pictures with the harmless water-colors that you get, too. Children love this story of wonderful adventure—it's just the kind your child wants to hear "all over again."

Manufactured by

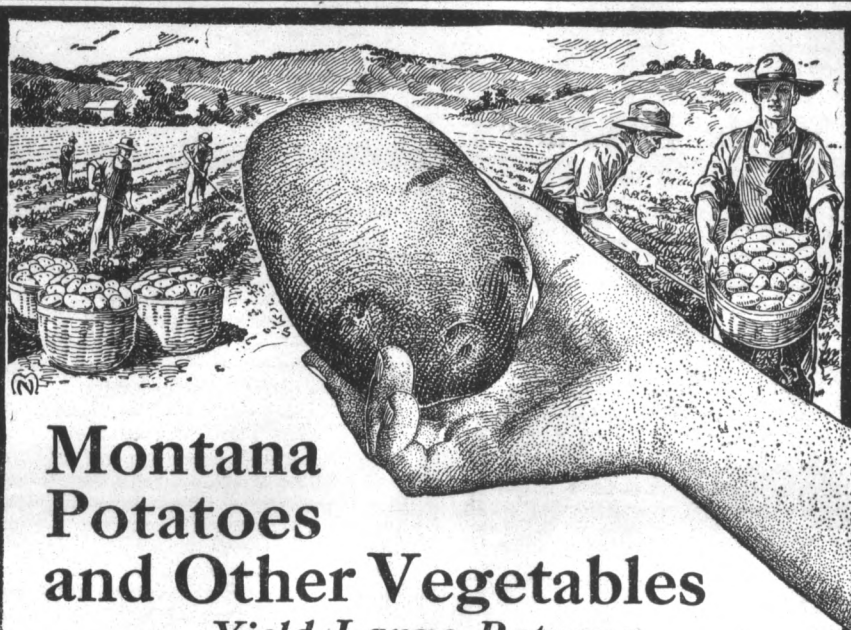
The Northwestern Consolidated Milling Co., Minneapolis, Minn.



THIS TRADE MARK
ON EVERY SACK



Registered in U. S. Patent Office



Montana Potatoes and Other Vegetables *Yield Large Returns*

W. W. Sleight, of Willow Creek, Mont. writes: "About four years ago I took up a homestead of 160 acres. I had in crop last year 10 acres of potatoes and raised over 6,000 bushels. I had also all kinds of garden truck. I took up this land for nothing and land on which you can raise 600 bushels of potatoes to the acre and get 60c a bushel you can soon figure up how it has increased in value."

The following from J. A. Siffert, Three Forks, Mont.: "Am sending you a box of potatoes from Con Lane's farm near here. He has a little less than two acres and has 450 sacks. There are about two bushels in each sack."

These Are Not Unusual Instances

They are the rule, not the exception. What these and their men have done you can do. Make a new start now. Take up a government homestead under the new three year homestead act. There are millions of acres of land that can be homesteaded and millions of acres that can be bought at \$15 to \$45 per acre. Write for literature of this treasure land, compiled and published by the

Chicago, Milwaukee & St. Paul and Chicago, Milwaukee & Puget Sound Railways

This literature and full information free on request to
H. W. STEINHOFF, General Passenger Agent
212 Majestic Bldg., Detroit, Michigan.

O. E. SHANER, Immigration Agent
750 Marquette Building, CHICAGO
F. A. MILLER, Gen. Pass. Agent
CHICAGO



When Writing to advertisers please state that you saw their ad. in The Michigan Farmer.



BEST FOR THE READER
THEREFORE

BEST FOR THE ADVERTISER
Arranged according to location, reading from east to west.

Ohio Farmer, Cleveland, Ohio, (Rate 50c per line.)	Guaranteed One 1,000 Circulation Line Lines
Michigan Farmer, Detroit, Mich. (Rate 40c per line.)	238,488 \$1.03½ \$1.03½
Pennsylvania Farmer Philadelphia, Pa. (Rate 15c per line.)	
Indiana Farmer, Indianapolis, Ind.	50,775 .25 .20
Breeder's Gazette, Chicago, Ill.	85,000 .50 .50
Hoard's Dairyman, Mt. Atkinson, Wis.	65,479 .40 .38
Wisconsin Agri- culturalist, Racine, Wis.	62,615 .30 .27½
The Farmer, St. Paul, Minn.	140,000 .60 .55
Wallace's Farmer, Des Moines, Ia.	70,000 .35 .35
Kansas Farmer, Topeka, Kan.	60,000 30. .30
Oklahoma Farm Journal, Oklahoma, Okla.	50,000 .25 .25
California Country Journal, San Francisco, Cal.	20,000 .15 .15

840,442 \$4.13½ \$3.99

These publications are conceded to be the authoritative farm papers of their individual fields. For further information address

GEORGE W. HERBERT, Inc.
Western Representative, First National Bank
Building, CHICAGO, ILL.
WALLACE C. RICHARDSON, Inc.,
Eastern Representative, 41 Park Row,
NEW YORK CITY.

The Michigan Farmer One Year The New York (3-a-week) World One Year Both Only \$1.20

The New York World comes to you three times each week thus giving you practically a New York daily. The New York World is unexcelled as a newspaper and will keep you posted on the news of the world. Send all orders to THE MICHIGAN FARMER, Detroit, Mich.



Anty Drudge Lectures Mrs. Wontchange

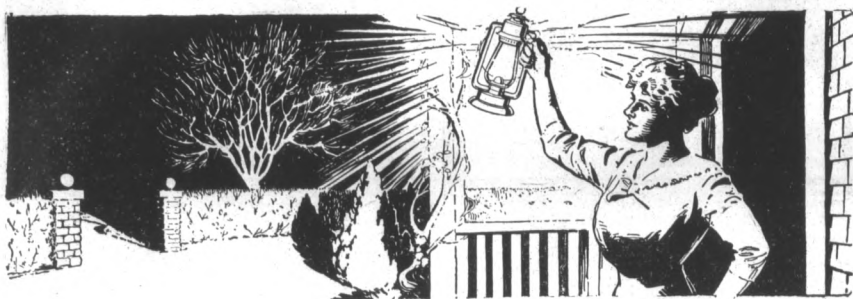
Mrs. Wontchange—"Well, the old ways are good enough for me. My mother and grandmother were farmers' wives, and they got along all right."

Anty Drudge—"Well, everybody for themselves; but I know I go in for some of the new things, and glad am I to know about them. I wouldn't be living on a farm today if it wasn't for Fels-Naptha Soap and all it does to make my work easy."

Some old-fashioned things, like grandmother's cookies and pies, can't be beat. But, in cleaning, Fels-Naptha Soap is a new-fashioned way that is lots better. It makes easy washing, housecleaning, scrubbing and scouring greasy pots and pans.

The old way you needed a hot fire when you were washing and it took twice as long as the Fels-Naptha way, and was a great deal harder. When you use Fels-Naptha Soap you don't use hot water, nor a wash boiler for your clothes. You don't have to scrub so hard nor so long; and in housecleaning you get done in half the time.

Covered by the Red and Green Wrapper. Made in Philadelphia



Rayo The Reliable Household Lantern

There is always need for a good lantern around the home—in the yard, in the cellar, in the attic—wherever a lamp is inconvenient or unsafe.

The RAYO is ideal for home use. It gives a clear, bright light—like sunlight on tap. It is strong, durable, compact, handy. Doesn't leak. Doesn't smoke. Easy to light and rewick. Will last for years. Ask for the RAYO.

At Dealers Everywhere.

STANDARD OIL COMPANY

(An Indiana Corporation.)

One of the 400

Cash or Credit

\$5 to \$40 Saved

Brilliant Oak Heater

A Kalamazoo Direct to You

Shipped Same Day Order is Received

It is not only the saving of money that has given us 500,000 delighted customers. It's the greater beauty, convenience, fuel economy and durability of every Kalamazoo Stove or Range. Also our prompt delivery and liberal treatment.

Write for Catalog of 400 Stoves and 30 Days' Free Trial

Don't pay the middleman \$5.00 to \$40.00 extra. Let us save you that much. Return a Kalamazoo after a year's use if our claims are not true. What dealer will do that? Send postal now for Catalog No. 113, and please mention this paper.

Kalamazoo Stove Co., Manufacturers, Kalamazoo, Mich. Ask for Furnace or Gas Stove Book too, if interested.

large part of the fat removed. It is thought to be a valuable food for children.

Household Editor:—Can you suggest a way to use barley for an invalid?—Home Nurse.

Soak three tablespoonfuls of barley over night in cold water. In the morning drain off the water, add a quart of cold water and a quarter teaspoonful of salt and cook down to one pint. Use a double boiler or simmer on the back of the stove. Then strain and set away to cool. Add two tablespoonfuls of this to a cup of warm milk.

COLLAR BOW WITH BUCKLE IN IRISH CROCHET.

Wind No. 24 thread 25 times around the forefinger. Make 68 dc in this ring, join with sl stitch.

Ch 1, *, 13 dc in next 13 dc through both loops of stitch, ch 7. Take hook out of work, and insert in 5th dc back, and draw last loop of 7 ch through; ch 7 skip 3 dc and draw last ch through next dc; 3 dc over this loop of 7 ch; picot of 3 ch; 6 dc in same loop, 5 dc under

of ring, a small picot of ch five and catch in side petal of next rose. Repeat from * three more times.

This completes the jabot. When pretty ribbon, of suitable size is drawn through and neatly fastened, it is very pretty.

Plain Jabot.

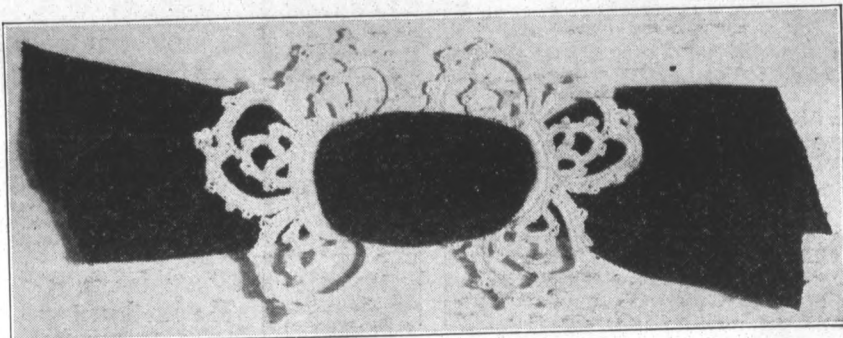
Ch or wind thread around two fingers, fill with sc. * Ch seven, miss four sc, join to next sc, repeat from * nine times.

Eight sc in each of two, ch seven, four sc in next, turn, ch seven, catch in center of eight sc, ch seven, catch in next eight sc, turn, ch four, catch in sc, fill ch seven with eight sc, four sc in next, ch seven, turn, ch seven, catch in center of eight sc, turn, ch four, catch, work five sc in top ch seven, ch four, catch four sc in remaining half of top ch seven, ch four, catch, four sc in half ch, ch four catch, four sc in half ch.

The ch fours are for picot.

Now fill the next three ch sevens in exactly the same way, then the other three of the nine ch sevens. This completes one half the bow holder.

Make ch, or wind cord, and work another half exactly the same, and join the



Irish Crochet Collar Bow Buckle.

next loop; ch 7, draw through 2d dc from picot in first loop. Make 3 dc, picot, 5 dc, picot, 3 dc over this loop; 1 dc in next unfinished loop, picot, 3 dc, 4 dc in next 4 dc on ring; ch 15, pull through center dc of top loop; ch 15, pull through 1st dc in 2d row; make 20 dc over each 15 ch.

Repeat from * to * three times, catching each 2d ch of 15 in the dc next the last 15 ch before it.

Last row: Four dc, picot, 4 dc, picot, 4 dc, picot, 6 dc, ch 4; take hook from work and insert in 6th dc back, pull last st of ch 4 through, 2 dc on ch 4, picot, 2 dc on remainder of ch 4; 4 dc, picot, 4 dc, picot, 4 dc, picot, 4 dc. Repeat around remaining three motifs.

Connect the crocheted buckles by lapping two motifs, and insert black velvet ribbon bow in the manner illustrated.—Cora Belle Williams, Seneca Co., O.

IRISH CROCHETED JABOTS.

BY E. CLEARWATERS.

Having recently made several of the ribbon holders, I will send my directions.

Use D. M. C. No. 5 or the silko, any color preferred, although white, or cream is the usual color used.

Crochet a chain long enough to reach around the four fingers tightly, or wrap the thread twice around the fingers, join and cover this ring with sc. Join with sl st to first sc, ch, 10 or 12, and join at opposite point of ring. Cover this ch with sc. Now work a picot around the large ring of sc as follows:

Ch seven, catch back in third st from beginning for a picot; ch four, miss four, sc, catch in next, repeat twice more, then sl st in three sc, three more picots joined in the first three then three sl st (these three sl st are to join the four small roses to), three more picots, three sl st, three more picots, three more sl st, fasten thread and cut.

Roses:—Ch five join, ch four sc in ring, ch three, sc in same ring, ch three sl sc in first ch of ch four. This gives four spaces for petals. One sc, one half dc, three dc, one half dc, one sc, all in first space. Work three more petals same way; ch four, sl st in sc of petal at back, ch four, sl st in sc of next petal, ch four, sl st in sc of next petal, ch four sl st where first ch four began. Fill each of these ch four spaces with petals as follows: One sc, one half dc, four dc, one half dc and one sc.

The last four petals, join with sl st, or with thread and needle to the three sl st over the sc of ring. This will give one small rose at each of four places equally distant from each other. *Join thread to side petal, a picot of fine ch, catch back in third st; ch two, fasten in first picot on ring, a picot as made around ring, catch in next picot, another picot the same, and catch in next picot

FASHIONS BY MAY MANTON.

Our large Fashion Book for fall of 1912—containing 92 pages illustrating over 700 of the season's latest styles, and devoting several pages to embroidery designs, will be sent to any address on receipt of 10 cents.



No. 7566—Semi-fitted Coat with Robes-pierre collar, 34 to 40 bust. With cut-away or straight fronts, with or without cuffs and belt on back. Four yards of material 27 in. wide is needed for medium size.

No. 7550—Fancy Collars, One Size. With or without frills. Quarter yard is needed, any width, for either collar with 1½ yds. of lace 8 in. wide and 1½ yds. of banding for No. 1, 1 yd. of lace 6 in. wide for No. 2.

No. 7569—Princess House Gown, 36 to 46 bust. With high neck and fancy or stock collar or with square neck, with elbow or long sleeves, perforated for walking length, with inverted plait or habit back.

No. 7567—Girl's Dress, 6 to 10 years. With round or high neck, three-quarter or long sleeves. For the 8-year size, the dress will require 3¼ yds. of material 27 in. wide with ¾ yd. 27 for the trimming.

No. 7568—Tucked Blouse, 34 to 40 bust. With or without chemisette and peplum that is perforated for shorter length, three-quarter or long sleeves. For the medium size, the blouse will require 3¼ yds. of material 36 inches wide with ¾ yd. 18 inches wide for the collar and cuffs, and ½ yd. 18 for the chemisette and stock collar.

The above patterns will be mailed to any address by the Fashion Department of the Michigan Farmer on receipt of ten cents for each.

(Continued from page 577).
who does not know when he is whipped is recognized as the greatest soldier and general. Likewise the farmer who will not admit failure, but who still seeks to solve the problems of success to the best of his ability will be the most successful in his business.

HAPPENINGS OF THE WEEK.

National.

President-elect Woodrow Wilson has returned from Bermuda where he has been resting for the past month. His first duty is to continue his reform program by directing legislation in New Jersey, where he still holds his office as governor.

Six people were killed and six others are missing as the result of a collision between a street car and a Lake Shore & Michigan Southern coal train at Ashtabula, Ohio, Monday night.

Society over the country is giving considerable attention to the announcement of the engagement of Finley J. Shepard, a high official in railway circles, to Miss Helen Gould, famous for her philanthropic enterprises.

United States internal revenue agents raided a large oleo factory in St. Louis, Monday. The officers of the company are held, charged with conspiracy to defraud the government by evading the oleomargarine tax.

A disturbance was caused in the butter trade by an action brought against the U. S. butter board to dissolve the board as a trust. It is claimed that 117,000,000 pounds of butter are held by the interests controlled by this board. The placing of this amount of butter upon the market will in all probability cause a decline in prices.

Large delegations from all over the country are in session at Washington in the interests of the Kenyon bill which came up in that body for consideration Monday. The bill provides for the prohibition of shipments of liquor from wet states into dry states. Bills of this nature have been brought to the attention of congressmen at a number of sessions in the past, but until now the subject has never been considered seriously by those who oppose the measure.

Search has been made for Horace Kearney, a young aviator who attempted to fly from Los Angeles to San Francisco in a hydroplane. He was accompanied by a newspaper reporter. A portion of his machine has been found and it is almost certain that the men and the remainder of the craft have been lost.

The government believes that it has gained a partial victory in the decision of the supreme court in the anthracite coal case. The court held that the Temple Iron Company is an unlawful combination in restraint of trade. The government hopes through this decision to destroy a combination that apparently controls anthracite coal prices.

President Taft has selected Dr. Carl A. Alsberg, of New York, a chemist biologist of the Bureau of Plant Industry of the Department of Agriculture, to succeed Dr. Harvey W. Wiley as government pure food expert. Dr. Alsberg was closely associated with Dr. Wiley and it is believed he will support his predecessor in practically all pure food decisions.

Yeggs secured \$17,000 from a bank at Kyle, Texas, Monday morning. The department of agriculture estimates the past season's eleven leading crops to be worth nearly \$4,000,000,000. This is about \$50,000,000 greater than the value for 1911.

The federal government has organized a bureau for adapting educational methods of rural schools to the interests of the respective communities. There will be a chief and three assistants.

Paul Lockwood was drowned near Michigan Center by breaking through ice on a pond above the dam at that place.

It is estimated that the garbage of the city of Detroit is worth \$1,730 for each day's waste, in fertilizer value. The installation of an incinerating plant to destroy the garbage is being opposed on this ground.

Foreign.

Dr. Edouard Miller has been chosen by the electorate of Switzerland as president of that republic for the coming term. The constitution of Switzerland fixes the term of president to a single year.

The fourth attempt of the Federation of Labor of France, to force a general strike and thereby paralyze the resources of the government, has failed.

Preliminary arrangements have been completed for the negotiations of peace between Turkey and the allied forces. The wide difference, however, between the claims of the two parties prompts the belief that considerable time will elapse before the final terms are agreed upon. It is the opinion of delegates to the conference that the United States is the only great power absolutely disinterested and impartial in the matter, and if it were possible to bring about something of the same intervention which in 1905 led to the Portsmouth conference and concluded peace between Russia and Japan, that a settlement of the present trouble might be affected.

Whitelaw Reid, American ambassador to Great Britain since 1905, died Sunday, at Dorchester house, London, after an illness of only two weeks. Death was due to pulmonary trouble. His wife and daughter were present when the final summons came. He was born at Xenia, Ohio, October 27, 1837, of Scotch parentage. He graduated from Miami University in 1856, became principal of graded schools at South Charleston, O., after which he bought and edited the Xenia News. Later he became editor of the Cincinnati Gazette. At the outbreak of the Civil war he enlisted. During his service he acted as war correspondent of the Cincinnati paper. In 1862 he became war correspondent in Washington and attracted such attention that he was asked by Horace Greeley to accept a

place on the New York Tribune, which he did, becoming editor-in-chief when Mr. Greeley was nominated for president in 1872. He married a daughter of J. Ogden Mills, of California, who inherited a large fortune. In 1878 he was made regent of the New York University, two years later was called upon to represent this country at Paris, and in 1892 he was nominated for vice-president by the republican party on the ticket with General Benjamin Harrison. In 1897 he represented this country at the queen's jubilee in London and was made a member of the commission which negotiated peace with Spain a year later. He was special ambassador to represent the United States at the coronation of King Edward and three years later, 1905, became American ambassador to Great Britain.

CROP AND MARKET NOTES.

Shiawassee Co., Dec. 10.—Strong prevailing winds from the southwest and west. Farmers busy hauling sugar beets, manure and logs to saw mill. A great deal of timber is being cut in this locality. Many of the old woodlots are ready to harvest and unless done the winds are going to destroy their commercial value. Farmers cutting timber are very careful to preserve the young growth as timber is being more highly appreciated each year. Wheat is looking well going into the winter with a good top and root growth. Rye is also doing well. Bean threshing about over. The crop is below the average. Many farmers were too hasty last fall to secure the crop and put it into the barn before thoroughly dry, consequently a large number of farmers have practically lost their crop, from overheating in the barn. Cows are commanding a high price. A number of good animals changed hands today at prices ranging from \$60 to \$75. Lamb feeders are filling up their barns. Very few cattle going on feed. Plenty of corn standing in the fields unharvested. Clover seed is yielding from a half to two bushels per acre. Potato rot is infesting pits and cellars.

Washtenaw Co., Dec. 11.—The first really cold weather is here; a strong gale and the thermometer at 30 degs. Seems quite late winter. Farm work is mostly done. Some corn to be threshed by the power huskers. A good deal of plowing has been done. Wheat and clover going into the winter in excellent condition. There seems to be more feed in and around farmers' barns than usual, and consequently more demand for milk cows and pigs to turn it into cash. Milk and butter prices are doing extremely well. Milk for the Detroit market brings \$1.80 per hundred on a 3 1/2 per cent basis. Creamery butter selling for 36c; easy money to those who are fixed for it. The numerous silos that have been erected and filled promise to be a paying investment.

Emmet Co.—The weather for the first half of November was fairly favorable for the prosecution of farm work, yet the snow that came about the middle of the month caught a small area of potatoes still in the ground and much corn standing in the shock. The first fall of snow remained only a few days, but more has now fallen, sufficient to make the running of sleighs possible, and the larger share of the traffic is carried on by this means. New hay, loose, is selling at \$14@16; straw, \$8@10; eggs 35c. Feedstuffs are much lower than for several seasons. Corn is 75c per bushel and other feeds in proportion. While it is improbable that sleighing is here to stay thus early in the season, still such conditions are not without precedent.

Newaygo Co., Dec. 12.—November was a better month than usual, which gave the farmers a chance to get their farm work done. Some colder now, with a light fall of snow. A good bit of fall plowing done and lots to do yet if the weather will permit. Lots of stumping being done. Bean threshing all done in this locality; beans were a pretty fair yield. No potatoes moving at the present low price. Not many auction sales so far this winter. Prices paid by local dealers: Wheat, old, 95c; oats, 40c; new 35c; corn, shelled, per bu., 60c; eggs, 33c; butter, 25c; pork, live 6 1/2c; dressed, 8 1/2c; chickens, 9c; turkeys, 15c; beef, live, 2@4c; sheep, 2 1/2@3 1/2c; veal, 3@5 1/2c; hay, loose, \$12; baled, \$14; beans, red, \$1.85; white, \$1.75; potatoes, 30c.

Ohio.

Hardin Co., Dec. 9.—This finds farmers nearly through with their corn for this season, more shredded corn this year than I ever knew of before. We learned a good lesson last fall, but this has been a fine time to shred or to husk by hand. We have not had any snow yet and not very much freezing weather. Wheat and rye sowed this fall are making a fair showing. Hogs are selling for 7c per lb., live weight; cream, 35c; eggs, 32c per doz; hay around \$10 per ton; oats, 30c; corn, 38@40c.

Livingston Co., Dec. 16.—We have been having ideal weather conditions for the past two weeks and as a result nearly all of the corn crop has been secured. The open fall has saved considerable feed, as most farmers have not had to feed their sheep very much yet. Farmers are getting their work along nicely and will be better prepared for winter than has been the case in several years. They are also busy cleaning out their barn yards and getting up the winter's wood supply. Feed will be quite plentiful this winter.

Lapeer Co., Dec. 14.—Weather moderating after a hard freeze. Bean threshing not yet done and some grain to thresh yet. Lots of corn in shock in the fields. Wheat and meadows need snow protection. Stock has a chance to feed on pastures yet. Quite a lot of plowing done this fall. Lots of potatoes yet to sell and farmers seem to be holding their hay for better prices. Beef high; pork lower and mutton favored with better prices. Potatoes are selling at 40c; rutab-

(Continued on page 581).

All Eyes Are on the 1913 Saginaw

Dairymen and Stockmen all over the country are already asking, "What will be the big 1913 Sensation in Silos?" And, for the answer, all instinctively turn to the famous SAGINAW. For they know that every practical Silo improvement in the past seven years appeared first in the SAGINAW SILO.

We Promise Another Sensation

For 1913 we promise another big Sensation. An invention which Silo Makers have been attempting for three years. An invention which brings the silo to final perfection. Men will never build a Silo essentially superior to the 1913 Saginaw.

On account of patents still pending, we deem it unwise, as yet, to publicly describe the new 1913 Saginaw feature. But this information will be sent you free in a personal letter if you want it.

Always in the Lead

The Saginaw has always led. It was famous first as "The Silo With the All-Steel Door Frame." Then followed the Saginaw Inner Anchoring Hoop. Next came the celebrated Saginaw Base Anchor. And now comes another new feature—the most surprising of all.

Five Mammoth Factories

Owners of Saginaw Silos have told so many friends and neighbors about the Saginaw that it is now wanted in every farming section. So five mammoth factories have had to be built to fill orders on time. Last season we received orders for 587 Silos in a single day. Yet the Saginaw has been on the market only seven years. Other silos not one-tenth so popular have been in the field almost twice as long.

"Solid as Gibraltar"

The Saginaw Silo stands as solid as the great rock of Gibraltar. It cannot blow down; it cannot twist; it cannot warp; it cannot collapse; it cannot shift on its foundation. Like a Giant Oak, it is rooted to the ground by the patented Saginaw Anchoring System.

FARMERS HANDY WAGON COMPANY, Dept. 42.

Saginaw, Mich.

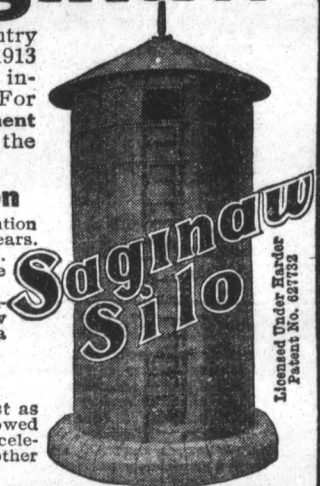
Des Moines, Iowa

Minneapolis, Minn.

Cairo, Ill.

THE MCCLURE COMPANY OF TEXAS, Ft. Worth, Tex.

(54)



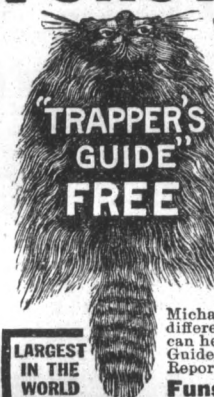
Sweet, Wholesome Silage

No rank, soured silage ever comes out of a Saginaw. It is sweet and pure clear to the edges, right next to the walls. Animals love the enticing flavor and thrive wonderfully on this rich, succulent food. Don't get a Silo that spoils your silage.

Handsome Silo Book Now Ready

Our latest Book on Silos is now ready for mailing. It not only describes the Saginaw, but also contains a veritable wealth of information on Silo Building and Silage. No up-to-date Dairymen or Stockman should miss getting it. Drop us a line today for Booklet and you will receive this book, free and postpaid, by return mail. Address our nearest factory.

FUNSTEN Pays CASH for FURS!



We Want Ten Million Dollars' Worth of Furs

Biggest Prices! Better Grading! Most Money by Return Mail!

These are the advantages you have in sending your furs to Funsten. We are the largest in the world in our line. The biggest American, Canadian and European buyers are represented at our regular sales. Competition for Funsten Furs is greatest. As we sell furs in larger quantities and get more spot cash, we can pay you more cash for furs than you can get anywhere. We count on large volume of business and small margin of profit. No traveling buyers—do all our business direct with you. We want ten million dollars' worth of furs. We want your shipments, anything—from one skin up.

Big Money in Trapping Do trapping during spare time. It's good sport and pays big. Mink, coon, skunk, muskrat, fox, wolf, lynx, white weasel and all kinds of furs are valuable. To accommodate trappers and shippers we furnish traps, including the famous VICTOR at factory cost. Largest stock in U. S.

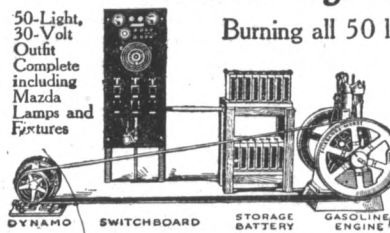
Funsten Animal Bait Guaranteed to increase your catch or money back. Beware of imitations. Funsten Animal Bait won Grand Prize at World's Fair in 1904. U. S. Government uses Funsten Bait. One can of Funsten Animal Bait brought one man in St. Michaels, Alaska, \$1,199 clear profit. Costs only \$1 a can. Different kinds for different animals. Whether you are an experienced trapper or just a beginner, we can help you catch more furs—make more money. Write today for free Trapper's Guide, Game Laws and Trapper's Supply Catalog—three books in one—Free Market Reports, Funsten Safety Fur Shipping Tags, etc. ALL FREE.

Funsten Bros. & Co., 1250 Funsten Building, St. Louis, Mo.



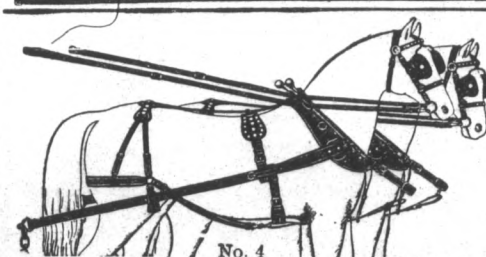
Light for all your buildings at any hour of the day or night. No danger of fires or explosions from lamps or lanterns. No lamps to clean and fill. And with all its advantages

Electric Light Is Not Expensive



Burning all 50 lights of this system for 5 hours would only cost about 10 cents for fuel oils. You would seldom burn all lights at once hence this low cost would be much reduced. Let us give you full particulars. Write for Catalog No. CD 601

Fairbanks, Morse & Co.
Chicago Detroit



HARNESS HORSE COLLARS

Ask your dealer for the Label.

ARMSTRONG & GRAHAM

WHOLESALE ONLY. DETROIT. ESTABLISHED 1880.

Wanted!

Johnson wants your name and address if you are interested in chicken raising. He will send you the famous Old Trusty Book, free—finest published, worth \$1.00.

A Postal Brings Johnson's 1913 Old Trusty Book, Free

Tells about the incubator sensation of the world. 400,000 sold—all making big money for owners. Tells about 30 to 90 day free trial offer, 10 year guarantee. Price less than \$10.00, freight paid east of Rockies and allowed that far to points beyond. Get the Johnson's Book Free—read all the facts—see hundreds of photographs. Don't miss it. Mail a postal now to

Johnson Incubator Man
Clay Center, Neb.

Freight Paid East of Rockies That Far if You Live Beyond

Less Than \$10

—Get Hatching Facts

which tells you how my Belle City Incubator has again—and for the fifth time—smashed all records. This time winning world's championships with three 100 per cent hatches. That record proves my hatcher is certain to give larger hatches, sturdier chicks, make big money for you. Write for book—or send price and save time. Every claim guaranteed. Jim Rohan, Pres.

\$7.55 Buys

World's Champion 140-Egg Incubator

Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water brooder \$4.65. Both ordered together \$11.50. Frt. prepaid (E. of Rockies). Satisfaction guaranteed. Write for book today.

Belle City Incubator Co., Box 14, Racine, Wis.

7.35 for BIG 155 EGG INCUBATOR

Biggest at price—hundreds of dead air cells—cold rolled copper tank, hot water heat, double disc-regulator, deep nursery, high legs, double doors, egg tester, safety lamp. Price \$7.35, with Brooder \$9.85. Freight prepaid east of Rockies. Order from this ad on our guarantee or write for our big free book. Progressive Incubator Co., Box 164, Racine, Wis.

AMERICAN GUARANTEED FOR 30 YEARS

INGOT IRON ROOFING

Money back or a new roof if it deteriorates or rusts out. No painting or repairs required. Our Indemnity Bond protects you. Costs no more than ordinary roofing. Write for big illustrated book FREE.

The American Iron Roofing Co.
Station G ELYRIA, OHIO.

55 BREEDS

Pure-Bred Chickens, Ducks, Geese, Turkeys, Dogs. Send 4c for large Poultry book Incubator Catalog and Price List.

H. H. MINIKER, Box 56, Mankato, Minn.

PFIL'S 65 Varieties

Land and Water Fowls. Farm-raised stock, with eggs in season. Send 2c for my valuable illustrated descriptive Poultry Book for 1913. Write Henry Pfile, Box 675, Freeport, Ill.

Crown Bone Cutter

Hens fed cut green bone lay more eggs. Get a Crown Bone Cutter. Send to-day for catalogue.

Wilson Bros., Box 102, Easton, Pa.

Since Bred to win (We Start 1902 BRED to lay You Right)

Customers say at 5 to 6 mos. over 200 a yr. TRY A TRIO—Special from best line-bred, trap-nested, laying matings \$6; hens same quality \$2.50; pullets \$1.50; chicks \$5; eggs and baby chicks in season. Custom hatching \$2 per 50 eggs in Cyphers.

WHITE Wyandottes—25 May and June hatched cockerels weighing from 7 to 8 lbs. from my famous winter laying strain. L. M. OLDS, Ypsilanti, Mich.

MAMMOTH Bronze Turkey toms & hens, Silver & Partridge Wyandotte cock's, Ind. Runner ducks. Prices reasonable. E. H. & J. A. COLLAR, Coopersville, Mich.

Crystal White Orpingtons—The Great Winter Layers. Yearling hens, cockerels and pullets. MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Mich.

Barred Rock Cockerels—Big, sturdy fellows, hatched from great layers. Prices reasonable. W. C. COFFMAN, R. 6, Benton Harbor, Mich.

Silver, Golden and white Wyandottes, a fine lot of young stock. New circular January 1st. Browning's Wyandotte Farm, R. 30, Portland, Mich.

WHITE Wyandottes—The most beautiful and useful of American breeds. Send for 1912 circular.

A. FRANKLIN SMITH, R. F. D. 9, Ann Arbor, Mich.

Prize Winning Barred Rocks, R. I. Reds, Mammoth Pekin and I. Runner ducks for sale. Eggs \$1.25 per set. Utility \$5 per 100. EMWOOD FARM, R. R. No. 13, Grand Rapids, Mich.

LILLIE FARMSTEAD POULTRY

B. P. Rocks, R. I. Reds, and S. O. W. Leghorn eggs for sale. 15 for \$1.25; 25 for \$1.50; 50 for \$2.50.

COLON C. LILLIE, Coopersville, Mich.

DOGS.

HOUNDS for Coon, Fox and Deer, sent on ten days' trial, pedigree and eligible to registry, trained and untrained.

R. F. JOHNSON, Assumption, Ill.

HOUNDS FOR HUNTING Fox, Coon, Skunk and Rabbits.

Send 2c stamp. W. E. LECKY, Holmesville, Ohio

FERRETS.

6000 FERRETS FOR SALE—Price list free. Book on ferrets.

C. J. DIMICK, Rochester, Ohio.

2,000 FERRETS They hustle rats and rabbits. Small, medium and large. Prices and book mailed free. N. A. KNAPP, Rochester, Ohio.

POULTRY AND BEES

FOUL BROOD OF BEES.

Origin, Contagiousness, Cause of Infection—Precautionary Measures.

The origin of foul brood is not known to scientists or bee men. It is thought to come from a certain condition of the pollen in the hive. There are two distinct classes of this disease—American, and the less destructive European.

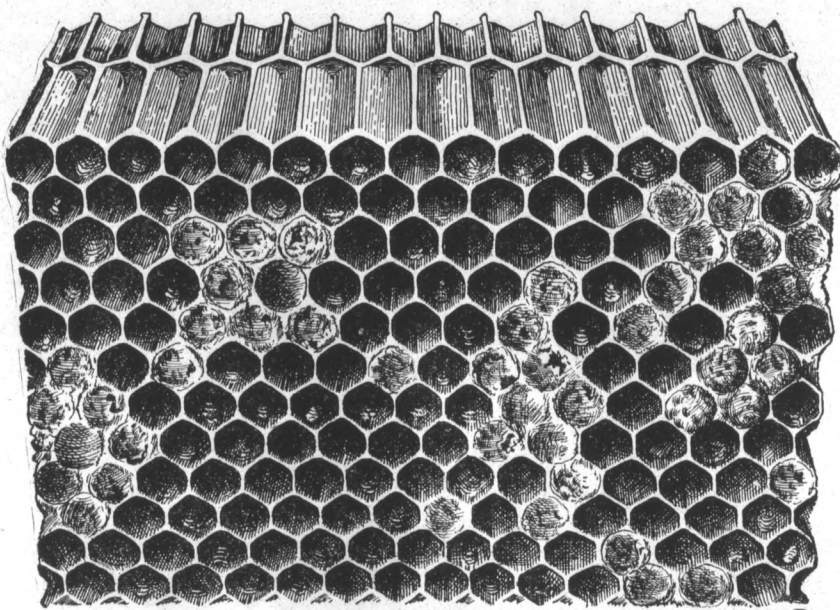
American foul brood is caused by a germ called *Bacillus alvei*, and European by the germ *Bacillus larvae*. These diseases require about the same treatment and, generally speaking, are both given the general name of foul brood.

It was first found in the eastern states, about twenty years ago, and since that time has spread rapidly until the majority of the states now have it in nearly every county. Many of the best honey-

it should be kept in an earthen dish as it is destructive to a metal one.

Queens obtained from breeders should not be introduced in the cage in which they were shipped. Each queen should be released from the old cage in front of a window and recaged in a new one without candy or honey. Then she must be put where she may obtain honey from the hive soon.

Wax from diseased combs may be saved and melted, if done carefully inside of a building which bees can not enter. Wax thus obtained should be thoroughly cleaned with cold water of any honey liable to be clinging to it. Refuse is buried and frames burned or buried. Care should be taken that no honey or sweetened water reaches the bees. Remember, when rendering wax in buildings, that it is very inflammable. Where only a few hives are affected no effort need be made to save wax. The work in every particular must be carefully done or no good will be accomplished. One Utah bee man who had 600 colonies in Salt Lake valley had this number reduced to



Comb containing American Foul Brood, showing irregular patches of sunken cappings and scales. Position of comb indicates best way to view scales which lie on bottom wall of cells.

producing states are worst affected. Michigan, which is one of the leading honey-producing states, has had it within its boundaries for the past fifteen years but, owing to the fact that bee yards were at first so isolated, it was not readily spread. Of late years, with more bees in the state and bee yards closer together, the danger of foul brood has come to be dreaded. Forty-six counties have it at present, with its existence suspected in seven others, all in the lower peninsula. The disease appears to be entering counties and places which have not been previously visited and many bee owners, when told of their bees having the disease, burn swarms and hives in a frantic effort to get rid of it. Such drastic measures, however, are not necessary. *Bacillus larvae* and *Bacillus alvei* germs find a breeding place in honey, old and young larvae. The way in which many colonies become infected is through honey containing the germs, which is generally obtained by a strong colony robbing a diseased one which is too weak to defend its stores, or through carelessness on the part of the bee-keeper. One drop of infected honey from American foul brood contains enough germs to infect hundreds of colonies.

Preventive measures should be used as soon as a single cell of foul brood is found. Colonies having the disease should have their entrances contracted to $\frac{3}{4}$ x 5 in. for a colony of medium strength; for weaker the entrance should be still smaller. Diseased colonies should not be allowed to swarm. Those in box hives or hives having immovable frames should be transferred to frame hives so that hives may be opened and frames looked over from time to time.

Precautions should be used at all times to prevent robbing while inspecting or doing work around diseased colonies. Combs or supers should not be transferred from one hive to another in an apiary known to contain disease. No honey should be bought or used in feeding the bees. The best grade of granulated sugar is safe and also much better. Tools and clothing should be kept clean of wax and honey at all times by using water containing disinfectants made by putting one tablespoonful of pure carbolic acid, either in liquid or crystals, into one quart of water, or by putting one-eighth ounce corrosive sublimate into one gallon of water. If the latter solution is used

40 within two years because of employing various ineffective methods in his attempts to eradicate the disease.

Legislation, and co-operation among bee-keepers, will put an end to this disease if properly carried out. Nearly every state has foul brood laws and inspectors. Some have inspectors for every county. Michigan has foul brood laws that are being given a little attention by one inspector from the Dairy and Food Department. As soon as \$500, the amount set aside by this department, has been expended, inspection ceases. This is not enough to insure much effective work. One of the bills passed by the last legislature and vetoed by the governor carried an appropriation of \$1,500 for bee inspection and disease control. Pennsylvania recently passed a new foul brood law with ample provisions for inspection.

The annual honey crop of the United States has a value of over \$25,000,000. Foul brood causes a loss of \$1,000,000 from decreased production, besides the loss of bees and depreciation of property. The government, realizing the importance of this industry, is appropriating more and more money each year for the study of bee diseases and for the general benefit of the honey-producing industry.

Shiawassee Co. N. F. GUTE.

KEEPING DOWN FEED COST.

A very important consideration in raising poultry upon the farm is that of keeping expenses as low as possible and yet not fail to give good care to the stock. From experience I find that the secret of profitable egg production is hatching the chicks early, in keeping them growing and in making the pullets lay early. And it is not alone due to feed. If you do not keep their quarters clean you will encounter lice and mites at every stage and when the laying period has been reached the results will be disappointing. Provide for your hens a good dust bath; whitewash their house with lime, carefully filling all cracks with the thick lime; sprinkle insect powder over the hens while they are on the roosts and they will soon more than repay you for the extra care.

The feed must be considered if you expect a profit from the flock. Sprouted oats makes a cheap green food and is a good egg producer. In my opinion it is the best green food obtainable. Feed,

once a day, as much as they will eat up clean. By sprouting them the palatability of oats is increased considerably. The ordinary method is to soak the grain in water about 10 hours, drain off the water and empty oats into a box having small holes in the bottom. Sprinkle them night and morning with hot water and when the oats begin to sprout spread them into other boxes, having them about two inches deep in each box and sprinkle twice a day with warm water. When the sprouts are two inches long I begin feeding them and also begin sprouting another lot so as to have them ready when the first are all gone.

I also feed wheat, corn and buckwheat. After the hens have gone to roost I scatter the grain in the litter, then turn the litter over. The straw is then on top and when the hens get off the roosts in the morning they begin digging out the grain which keeps them busy all forenoon.

At noon I feed the sprouted oats, with a change occasionally to mangles, cabbage or clover hay. The evening feed consists of whole grain fed in troughs, and what they do not eat is removed. I find sour milk an excellent drink for them but of course I keep plenty of fresh water before them all the time, also charcoal and grit.

Wayne Co.

J. P.

GETTING READY FOR THE SPRING CHICKENS.

It is none too soon to begin making plans for the chickens one expects to raise next year, and to get the yard and coops ready. If an incubator is used to hatch the eggs, a brooder will be required to take care of the young chickens; and if they are set under hens one will need a lot of small coops to keep them and their little ones in.

Home-made brooders will often answer the purpose. Anyone who can saw boards and drive nails can make one in a short time at very little expense. The main thing to look out for in making a brooder, as well as the small coops for the separate hens with their broods, is to see that it can be easily cleaned. If the brooder or coops are made separate from the floors on which they are to stand it will be an easy matter to clean for the houses can be turned over, the floors scrubbed and left to dry and air for a whole day in the hot sun.

The floors for the coops will insure the safety of the little chickens from rats or other animals that might dig under the coops and destroy them, as well as to keep them dry during rainy weather. It is not a very pleasant thing to get out of bed some stormy night, go out and gather up a hundred, or more, half-drowned chickens and take them into the house where a fire must be built to warm and revive them. Later in the season when the chickens get larger it will not be necessary to keep the coops on these platforms but they can be simply moved from one place to another when the ground under them becomes unclean.

If one is raising the little chickens in the same yard where the old ones are kept, a feeding pen will be indispensable. The old chickens will not only gobble all the feed in sight but will also trample the little chickens under their big feet and often kill them. The feeding pen should be made with slat sides and top, and the slats will have to be placed quite close together for the little chickens. The slats can be so arranged that every other one can be taken out when the chickens get larger. With an arrangement of this sort it is no trouble to feed the little chickens for they can eat inside the pen as long as they want to and are safe from interference by the larger ones.

Do not, by any means, neglect to provide proper drinking troughs or fountains. The little chickens get so thirsty over night that they will often leave their morning feed to get a drink. The water vessels should be located in the shade in order to keep the water as cool as possible in summer.

There is plenty of hard work connected with chicken raising. Even if all the coops are made now and everything is gotten ready several months before the chickens are hatched there will be plenty of daily work to do and one will be glad that this much has been attended to during the slack days in winter.

Ohio.

MARGARET WHITNEY.

Regularity in the care of poultry is of much moment. Sudden changes of housing conditions, of feed, of time for eating, may result in a cessation of egg production.

VETERINARY.

(Continued from page 564).
twice a day and at times give her mint hay. J. W. L., Decatur, Mich.—Give your cow 1 oz. ground quassia, 1 oz. of powdered cinchona, 1 oz. cooking soda at a dose in feed three times a day. You are no doubt milking her at a loss and all things considered, I believe you had better dry her.

Pneumonia.—I have recently lost two lambs which took sick soon after they were placed in pen to fatten them. They had considerable discharge from nostrils, soon became weak, had to help them up, and after a few days sickness died. Some of my other lambs are too loose in bowels and I would like to know what to give them. W. J. B., Howell, Mich.—The lambs that died perhaps took cold and died of pneumonia. You should have examined them after death. Give your lambs some of the following compound powder at a dose in each feed: Ground gentian, fenugreek, anise, ginger, cooking soda and salt. Give each one a teaspoonful at a dose in meal twice a day. You should avoid feeding them much musty, second growth clover; shake the dust out of it before you give it to them.

Knuckling.—I have been watching the veterinary columns to get a remedy for cocked ankle, but failed to notice a prescription for that ailment. I have a two-year-old colt that knuckles badly when he walks and I would like to have him cured. C. D. W., Brown City, Mich.—You will obtain fairly good results by applying cerate of cantharides to fetlock joints once a week. Light blister such as I have prescribed, will assist in strengthening the ligaments of joint and make the colt nearer sound.

Rheumatism—Spinal Disease.—I have a mare that is stiff and sore, more so in hind than fore quarters; she is hardly able to get up alone. Our local Vet. has been treating her for the past four months, with poor results. She has good appetite and is with foal. W. E., Woodland, Mich.—Give her 2 drs. sodium salicylate, 3 drs. nitrate potash and 1 dr. ground nux vomica at a dose in feed three times a day. Apply equal parts alcohol and spirits camphor to back and sore parts twice daily. Don't feed her too much corn, and exercise her daily.

Mange.—Ever since last June my six-year-old work horse has been troubled with an itchy condition of the skin. Our local Vet. has been treating him for mange but fails to relieve him much. This horse is in agony during hot weather, but not nearly so bad during cold weather. W. G. L., Unionville, Mich.—Apply one part sulphur, half part carbonate potash and four parts fresh lard three times a week. Give him ½ oz. of Donovan's solution at a dose in feed three times a day. In my practice I find it a good plan to clip such horses, the skin can be healed much more quickly when hair is short; besides, less medicine is required.

Surfeit—Indigestion.—I have a seven-year-old mare that is all broken out on shoulders, neck and thighs. The hair on these blotches shed out and she seems gaunt. Have been feeding new corn and husked fodder and straw. W. S. C., Litchfield, Mich.—Salt her feed, change feed, giving her some roots and mixed hay. Give her 1 oz. bicarbonate soda, ½ oz. gentian, ¼ oz. Fowler's solution at a dose in feed three times a day. Groom her twice daily.

Indigestion—Impaction of Bowels.—I have a six-year-old mare that has been sick for the past five days, but she has been unthrifty for several weeks and for the past few days shows uneasiness, as if suffering some pain. She appears to be uncomfortable after eating. Her appetite for food is not good and she is not thirsty. G. W. B., West Olive, Mich.—She should be fed a good quality of food and not too much at a time; her bowels should be kept open and active and a short walk daily, would do her good. Give her 1 oz. cooking soda, 1 oz. gentian, and 1 oz. ginger at a dose in feed three times a day. Give her ½ oz. of salicylic acid at a dose in each feed until she ceases to show pain after meals.

Loss of Appetite.—Six weeks ago I bought four calves that were seven months old and in poor condition. Two of them do not have much appetite for food and none of the four are thriving. Their bowels are constive, they are fed cut corn fodder and nubbins of corn. J. W. F., Alderson, Mich.—Give each of them 4 ozs. epsom salts at a dose daily until bowels loosen; one dose may be enough. Also give ½ oz. ground gentian, ½ dr. ground nux vomica and ½ oz. of cooking soda at a dose in feed or as a drench three times a day. A change of feed will do them as much good as drugs.

Nasal Catarrh in Cats.—Have some nice fat cats that have spells of sneezing, blowing and discharging mucus from nose, and I might add, they had a similar sickness last winter, but recovered. What is this sickness and what can be done for them? Mrs. J. R., Peck, Mich.—Sleeping in damp places and a cold wind blowing on them is perhaps the cause of their catarrh. Wash out nostrils with a salt solution made by dissolving 1 oz. salt in a pint of clean, tepid water and apply twice daily. Give them some cooking soda in their feed, or give it in water.

Crop-board.—My chickens refuse to eat or drink more than enough food and water to keep them alive. They exercise very little; are fed corn, oats, wheat, buckwheat, millet and oyster shells. A. D. D., Prescott, Mich.—Give your chickens enough castor oil or olive oil, or epsom salts to clean the crop and bowels out, or it may be necessary to operate on crop and remove contents; this is done by opening crop and removing its contents and sewing wound. Their feed should be soft and of a laxative nature. Keep them in a dry, warm, clean coop.

Having Purchased a \$1,000 Son of Frennd Hengerveld De Kol Butter Boy

to head our herd. We offer for sale our 3-year-old herd bull, Sherlock Lillith Pauline Count No. 70120. We had prided ourselves on having one of the best young sires in Michigan, and well worth \$500, but as we have a number of cows worth over \$500 each we decided to own the best sire in the state. The record of his five nearest tested dams average 25.73 lbs. each. His sire is from the record of his five nearest tested dams average 25.73 lbs. each. His dam, 26-lb. cow, Ina Aaggie, by a son of Canary's Mercedes (25.16 lbs.). His dam, the noted 27-lb. Lillith Pauline Countess Carliotta (a thousand dollar show cow) is from a 21-lb. dam. He is a grand show animal, nearly white, weighs a ton, and has taken prizes at a number of state and county fairs. You can have his picture and pedigree by dropping us a card. We also have several from A. R. O. dams, from 3 to 12 months old, from \$75.00 to \$175.00 each. Let us send you pedigrees. Price, \$250.

LONG BEACH FARM, FRED S. KENFIELD, Prop., Augusta, Michigan.

NO MORE WET OR COLD FEET!

Try a Pair of our famous (Health Brand)

FELT-LINED CLOGS
as illustration, leather tops, wooden soles, lined felt, Mens or Women,

ONLY \$1.60
Express prepaid to your home, on receipt of money order or cash (no checks)

Higher 3 buckles . . . \$2.25
High legged Wellingtons \$2.75 & 3.25
Childrens Lace 7's to 2's . . . 1.25
The Buffalo Felt-Lined Clog Store
Dept. L, 403 Broadway, Buffalo, N. Y.

Why Are You Satisfied

to leave your money where it earns little or no interest when you will receive

5% Paid or Compounded semi-annually

If deposited with this Society.

Full particulars on request.

The Industrial Savings Society,

219 Hammond Bldg., Detroit, Mich.

I. ROY WATERBURY, Pres. AUSTIN N. KIMMIS, Secy

PATENTS that PAY BEST

Facts about PRIZES, REWARDS, INVENTIONS WANTED, etc., Send 10c postage for Valuable book.

R. S. & A. B. LACEY, 89 Washington, D. C. Established 1869

For Sale—Horses, cattle, sheep, swine and poultry, nearly all breeds.

exchanged. South West Michigan Pedigreed Stock Ass'n., David Woodman, Sec'y-Treas., Paw Paw, Mich.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN-ANGUS.

Herd, consisting of Trojan Erics, Blackbirds and Prides, only, is headed by Eberton W. a Trojan Erica by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910.

A few choice bred young bulls for sale.

WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES

—One of foremost dairy and bull calves for sale. Berkshire swine. All pure bred.

Michigan School for Deaf, Flint, Mich.

GUERNSEY BULL CALVES.

YORKSHIRE PIGS. Good Stock.

HICKS GUERNSEY FARM, Saginaw, W. S. Mich.

GUERNSEYS

—Bull calves from high producing ancestors. Herd tuberculin tested. No females for sale. ALLAN KELSEY, Lakeview, Mich.

10 Registered Guernseys

Cows in milk. Bulls and bull calves. Write today for sale list. G. A. WIGENT, Watervliet, Michigan

REG. GUERNSEY BULL CALVES—large improved

Yorkshire hogs, sows bred of the best breeding. Price cheap. JOHN EBELS, R. 10, Holland, Mich.

FOR SALE—5 registered Guernsey bull calves 7 mos.

old, grandsons of Glenwood's Main Stay, 15 A. R. daughters. Geo. W. Reeves, R. 2, Grand Rapids, Mich.

HATCH HERD HOLSTEINS—Choice sires from

A. R. O. records of 18.74 lbs. and 24.98 lbs. butter in 7 days. Will sell for \$60. B. B. REAVEY, Akron, Michigan.

HOLSTEINS—Machine on high speed now.

I am selling \$100 bull calves for \$75 delivered, and can prove it with pedigrees and photos. HOBART W. FAY, Mason, Michigan.

Holstein-Friesian Cattle—The kind that

make good. GREGORY & BORDEN, Howell, Michigan.

HOLSTEIN Bull ready for service. Also bull calves.

Sired by 30-lb. bull, A. R. O. dams. Duroc Jersey boars of best breeding. E. R. Cornell, Howell, Mich.

Bigelow's Holstein Farms

Breedsville, Mich.

Have for sale several fine young

bulls out of cows with high official

butter and milk records.

Send for circular.

Service Bulls and Bull Calves

Sired by Johanna Corcordia Champion,

whose sire's dam and dam's dam average 34.06

lbs. butter in 7 days, average fat 4.67 % Also cows

and heifers bred to him. I can offer you bulls at

bargain prices. Try me and see, and do it quick.

L. E. CONNELL, Fayette, Ohio.

Holstein Bull Calves out of grand daughter

of De Kol 2nd. Butter Boy 3rd. Sired by best son of Pontiac Butter Boy. Price only \$50. O. D. WOODBURY, Lansing, Mich.

FOR SALE—HOLSTEIN BULL CALF

Born June 5, 1912, sire a son of the King of the

Pontiacs from a daughter of Hengerveld De Kol

Dam of calf an A. R. O. daughter of Sadie Vale

Concordia's Paul DeKol, her dam a 20 lb. imported cow.

ED. S. LEWIS, Marshall, Mich.

Purebred Registered

HOLSTEIN CATTLE

The Greatest Dairy Breed

Send for FREE Illustrated Booklets

Holstein-Friesian, Assn., Box 164, Brattleboro, Vt.

"Top-Notch" Holsteins.

Choice bulls from 11 to 14 mos. old, of fashionable

breeding and from dams with official milk and butter

records for sale at reasonable prices. Also young

bull calves.

MCPHERSON FARMS CO., Howell, Michigan.

Lillie Farmstead Jerseys

(Tuberculin tested. Guaranteed free from Tubercu-

losis.) Several good bulls and bull calves out of

good dairy cows for sale. No females for sale at

present. Satisfaction guaranteed.

COLON C. LILLIE, Coopersville, Mich.

FOUR CHOICE A. R. O. HOLSTEIN BULL CALVES

from six weeks to one year old. Price \$40 to \$150. ELLIS

W. DORIN, Brookside Farm, Sunfield, Mich. R.F.D. 3.

BULL CALVES—Richest Hengerveld,

breeding. Special prices for quick sale. YPSILAND

FARMS, Ypsilanti, Mich., Cole Brothers, Owners.

REGISTERED Holstein Cattle—Two good bull calves

Herd headed by Hengerveld Coin Pietertje.

Barred Plymouth Rock Cockerels.

FLOYD F. JONES, R. F. D. 3, Oak Grove, Mich.

Hereford Bulls For Sale, Also Poland China Hogs.

ALLEN BROS., Paw Paw, Michigan.

JERSEYS CHEAP.

I have at my Christianity Farm at Dundee, some

40 Registered Jerseys, all ages, for sale. Cows \$75.

Two-year-olds \$50, yearlings \$35, heifer calves \$25.

I have been sick for two years past, unable to see to

anything. This herd was started in 1876. The dam

of the first male was Brownie 105 Imp. Judge

Marston, of Bay City, started his herd from this cow.

B. E. Bullock, No. 433 Delaware Ave., Toledo, Ohio.

Jersey Cattle For Sale.

C. A. BRISTOL Fenton, Michigan.

Jerseys

—Bulls ready for service, bred for

production. Also cows and heifers

Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

BUTTER BRED JERSEY BULLS

CRYSTAL SPRING STOCK FARM,

Silver Creek, Allegan County, Michigan.

FOR SALE—Jersey Bull Calf—born Dec. 28th.

First class individual from the best of blood lines. WATERMAN

& WATERMAN, Meadow Land Farm, Ann Arbor, Mich.

FOR SALE, Jersey Bulls, old enough for service, sired by a grand-

son of Imp. Interested Prince and from cows that produce

400 to 500 lbs. butter annually. A. Newman R1, Marlette, Mich.

RED POLLED BULLS FOR SALE—from good

strains. JOHN BERNER & SON, Grand Ledge, Mich.

Scotch Shorthorn Bulls and Heifers For Sale.

W. W. KNAPP, Howell, Michigan.

Dairy Bred Shorthorns—Beef type, dairy strain, young

bulls, 1 months old for sale.

Oash or good note. J. B. HUMMEL, Mason, Mich.

Dairy Shorthorns—Large Cattle—Heavy Milkers.

All sold. Prices right. A square deal to all.

W. W. KNAPP, R. No. 4, Watervliet, Mich.

SHEEP.

Leicesters

—Yearling and ram lambs from Champion

flock of Thumb of Mich. Also select Berk

shire swine. Elmhurst Stock Farm, Almont, Mich.

"OXFORDOWN SHEEP"—Descriptive and illus-

trated article sent free.

PARSONS, "The Sheep Man of GRAND LEDGE, MICH.

OXFORD RAMS

sired by and ewes sired by and bred

to Imported Rams for sale. B. F. MILLER or GEORGE L. SPILLANE, Flint, Mich.

OXFORDS

for sale, at reasonable

Quick Maturing Berkshires—Best breeding; best type.

Satisfaction guaranteed

or money refunded. O. S. BARTLETT, Pontiac, Mich.

Improved Chesters

—Young breeding

stock, either sex.

Also a few tried sows to be bred for spring farrow

and early fall pigs. W. O. WILSON, Okemos, Mich.

O. I. C.—TWO BOARS fit to head any

herd. Fall pigs ready to ship.

C. J. THOMPSON, Rockford, Michigan.

O. I. C.

Extra choice bred gilts, service boars

and spring pigs, not akin from State

Fair winners. Avondale Stock Farm, Wayne, Mich.

O. I. C's—All ages, growthy and large, sows bred.

100 to select from. Attractive

prices on young stock. H. H. Jump, Munith, Mich.

O. I. C's of superior quality. 17 choice young

gilts and 11 top young boars. Pairs

no akin. FRED NICKEL, Monroe, Michigan.

O. I. C. SWINE

Write me for

Pigs, pairs and trios, not akin. Have a number

of service males of good type. Write me describing

of your wants. A. J. GORDEN, R. No. 2, Dor, Mich.

O. I. C. Swine, both sexes. Males weighing 100 to 225

lbs. Herd registered in O. I. C. Association.

GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

O. I. C's—Fall pigs, either sex, from prize-winning

stock. Also 2 May boars left. Call or

write. Rolling View Stock Farm, Cass City, Mich.

Reg. Chester Whites

—Both sexes and bred gilts, also

bulls. Bargains. RAY PARHAM, Bronson, Mich.

O. I. C's—A fine lot of last spring stock for sale, big

growthy type, either sex, pairs not akin.

Sired by Grand Champion boar Scott No. 1. Half mile

west of depot. OTTO E. SCHULZE, Nashville, Mich.

THIS

O. I. C.

SOW WEIGHED 932 LBS.

AT 23 MONTHS OLD

IONIA GIRL

I have started more breeders on the road to suc-

cess than any man living. I have the largest and

finest herd in the U. S. Every one an early developer,

ready for the market at six months old. I want to

place one hog in each community to advertise my

herd. Write for my plan, "How to Make Money from

Hogs." C. S. BENJAMIN, R. No. 10, Portland, Mich.

DUROC-JERSEYS—Fall and Spring boars from

prize-winning strains. Sows

MARKETS

Realizing the importance to our readers of reliable market quotations we spare no trouble or expense to insure the correctness of the quotations in our columns. Special representatives at all leading market centers insure the subscriber accurate market reports, uninfluenced by any factor of trade. All quotations are correct for the dates on which they are made.

GRAINS AND SEEDS.

December 18, 1912.

Wheat.—On Tuesday the trade occupied a stronger position than it had in any session during the past two weeks. Until this date the market had remained on a steady basis with the exception of fractional changes in a dozen sessions. The strength on Tuesday was due to European demand. Agents were inquiring for wheat in this country to send abroad. Reports that Turkey had rejected the proposed peace terms, that poor weather for harvesting prevailed in South America, and that a falling off in the European visible supply, led to the bullish tone of the trade. In this country bearish conditions still exist. A steady flow of grain from the farmers is coming in primary elevators, receipts being three times as great as they were at this time a year ago and there appears to be no sign of a reduction in these offerings. The immediate demand for flour is not large and stocks of wheat are increasing. So the most favorable factor in the market is the large foreign demand. One year ago the price for No. 2 red wheat was 96½¢ per bu. Detroit quotations are as follows:

	No. 2	No. 1	
Thursday	1.05½	1.04½	1.10½
Friday	1.05½	1.04½	1.10½
Saturday	1.05½	1.04½	1.10½
Monday	1.05½	1.04½	1.10½
Tuesday	1.06½	1.05½	1.11½
Wednesday	1.07½	1.06½	1.12

Chicago, (Dec. 17).—No. 2 red, \$1.06@1.07½; May, 98½¢; July, 87¢ per bu.
New York, (Dec. 17).—No. 2 red, \$1.07 at elevators; May, 95½¢@96¢ per bu.

Corn.—The corn trade has held about steady during this past week. The movement of this grain from the farms is increasing rapidly and has already attained large proportions. It is probable that but for the excellent demand from abroad prices would have declined. In spite of these heavy offerings at primary elevators the visible supply increased but a little over half a million bushels. There is also a good demand for corn in feeding sections which prevents a considerable volume of the receipts from getting to large market centers. At the Detroit market trade is slow. One year ago No. 3 corn was quoted at 63¢ per bu. Detroit quotations are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	48	49
Friday	48½	49½
Saturday	48½	49½
Monday	48½	49½
Tuesday	48½	49½
Wednesday	48½	49½

Chicago.—No. 2 yellow, 48@49¢ for new; Dec., 47½¢; May, 48½¢; July, 49¢ per bu.
Oats.—This deal has held steady with the market of a week ago. There continues to be a healthy demand from all sections. The large crop has placed prices on a level that stimulates a wider use of the cereal than usual. This, with the natural demand, gives the market splendid support on its present basis. Receipts are of comparatively small proportions and the visible supply shows a decrease of several thousand bushels for the week. One year ago standard oats were quoted at 51¢ per bu. Detroit quotations are as follows:

	Standard.	White.
	No. 3	No. 3
Thursday	36½	36
Friday	37	36
Saturday	37	36
Monday	37	36
Tuesday	37	36
Wednesday	37	36

Chicago.—No. 2 white, 34½@35½¢; Dec. 32½¢; May 33¢; July, 33½¢ per bu.
Beans.—This market is higher locally but lower in Chicago. A better demand prevailed at Detroit on Monday and Tuesday and the price there shows an advance of 3¢ for the actual deals. Quotations are:

Detroit.—All shipments, \$2.18 per bu.
Chicago.—Pea beans, hand-picked, \$2.45 @2.55; red kidneys, \$2.25@2.35.

Clover Seed.—The general trend of the seed market is upward, both at Detroit and Toledo. There is a good demand with offerings limited. Quotations are:

Detroit.—Prime spot, \$11.30; prime alsike, \$12.60 per bu.
Toledo.—Prime spot, \$11.45; March, \$11.52; prime alsike, \$12.90.

Rye.—This market is inactive and about steady with a week ago. Quotations are:

Detroit.—Cash No. 2 rye, 62¢ per bu.
Chicago.—Cash No. 2, 62@63½¢ per bu.

FLOUR AND FEEDS.

Flour.—Jobbing lots in ¼ paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.60; second, \$5.30; straight, \$5.20; clear, \$4.90; spring patent, \$5.10; rye flour, \$4.80 per bbl.

Feed.—Detroit jobbing prices in 100-lb. sacks are as follows: Bran, \$23; coarse middlings, \$24; fine middlings, \$29; cracked corn and coarse corn, middlings, \$29; corn and oat chop, \$22 per ton.

Hay.—Carlots, on track, Detroit: No. 1 timothy, \$16.50@17; No. 2, \$15@15.50; light mixed, \$15.50@16; No. 1 mixed, \$14.50@15.
Chicago.—Choice timothy, \$19@20; No.

1, 16@17.50; No. 2 and No. 1 mixed, \$14 @15; No. 3 and No. 2 mixed, \$10@13; clover, \$7@12.
New York.—Market steady; standard \$22 per ton; No. 1, \$22.50@23; No. 2, \$21; No. 3, \$18@19; No. 1 mixed, \$18@20; No. 1 clover, \$18.

Straw.—Car lot prices on wheat and oat straw on Detroit market are \$9@10 per ton.

Chicago.—Wheat straw, \$6.50@7; oat straw, \$7@7.50; rye straw, \$7@8.50.

DAIRY AND POULTRY PRODUCTS.

Butter.—Creamery stock lost a full cent early this week. It is evident that prices had reached the point at which many consumers turn attention to dairy and packing stock or to substitutes. In consequence creameries are materially weaker in all markets. Jobbing prices in the Detroit market are: Fancy creamery, 35¢; firsts, 32¢; dairy, 22¢; packing 21¢ per lb.

Elgin.—Market firm at 34¢.
Chicago.—Weakness reigns in this market. With prices on the down grade, buyers are looking to immediate needs only. Creameries generally 2¢ lower than last week and all but lowest grade extremely hard to move. Dairies in fair demand at 1¢ reduction. Storage creameries and packing stock very dull and weak. Extra creamery, 34¢; extra firsts 32@33¢; firsts, 30@31¢; seconds, 26@27¢; dairy extras, 31¢; firsts, 27¢; seconds, 25¢; packing, 12@22¢ as to quality.

New York.—Market irregular; all kinds materially lower. Creamery, extras, 32@35¢; firsts, 33@35¢; seconds, 29@31¢; thirds, 27@28¢; state dairy, best, 33@34¢; good to prime, 28@32¢; common to fair, 23@27¢; packing, 20@23¢ as to quality.

Eggs.—No change in values on high-grade offerings. Tone of market a little less firm, however, due to heavy offering of storage supplies. Current receipts, candled, cases included, selling at 30¢ per dozen.

Chicago.—This market is in a most unsatisfactory condition. The proportion of fresh eggs in shipments is so variable as to make a wide range in values necessary. Receipts fully up to normal; business slow and prices lower. Miscellaneous lots, 19@24¢, cases included; cases returned, 18½@23½¢ as to quality; ordinary firsts, 18@20¢; firsts, 23@23½¢ per dozen.

New York.—Market firmer. Fresh gathered extras, 35@36¢; extra firsts, 33@34¢; firsts, 30@32¢; seconds and lower grades, 25@29¢; western gathered whites, 30@36¢.

Cheese.—Quiet with values unchanged. Quotations: Wholesale lots: Michigan flats, 16½@17¢; New York flats, 18½@19¢; brick cream, 17½@18¢; limburger, 17½@18½¢; imported Swiss, 28@29¢; domestic Swiss, 21@22¢; block Swiss, 19½@20¢ per lb.

Chicago.—Demand slow and trade dull but dealers refuse to make price concessions. Quotations: Twins, 15¢; daisies, 16@16½¢; young Americas, 16@16½¢; limburger, new, 15½¢; brick, choice, 15@15½¢ per lb.

Veal.—Detroit.—Steady, fancy, 12½@13½¢; choice, 10@11¢ per lb.
Chicago.—Quiet. Fair to choice, 80@110 lbs., 12@12½¢; extra fancy stock, 13¢; fair to good chunky, 10@11½¢ per lb.

FRUITS AND VEGETABLES.

Apples.—Detroit trade easy; prices remain unchanged. Detroit quotations are: Baldwin, \$2.25@2.50; Greening, \$2.50@2.75; Spy, \$2.75@3; Steele Red, \$3@3.50.

Grapes.—Detroit. Catawbas, 15¢ per 4-lb. basket.

Potatoes.—Detroit.—Little improvement is noted, especially in the carlot transactions. Trade is fairly active at last week's prices. A better quality of offerings is now reaching the trade than earlier in the season. Michigan stock in car lots, 53¢ in sacks, 48¢ in bulk.

Chicago.—Market a shade easier, with receipts lighter than a week ago and also a year ago. Fancy stock sold in bulk as high as 47¢, and sacked at 48¢ on Monday.

New York.—Weak and in increased supply. Western offerings, \$1.25@1.75 per bag.

Onions.—Conditions are unchanged with most of the important markets overstocked.

Detroit.—55¢ per bu.
New York.—Western, per crate, for white, 40¢@41; 100-lb. bags reds and yellows, 75@80¢.

Chicago.—Weak. Home-grown yellow, 35@45¢; fancy, 75¢ per 65-lb. sack.

Cabbage.—Offerings are liberal in all large markets of the north and prices easy. Demand moderate.

Detroit.—Per bbl., \$1@1.25.
Chicago.—Holland bringing \$4@6 per ton. Red cabbage is scarcer and quoted at 75¢@81 per bbl. Common kinds, 60@65¢ per bbl.

Poultry.—Detroit.—Market is normally active with receipts on the increase. Offerings mostly live stock, due to weather conditions. Prices practically unchanged except on turkeys which are in light supply and higher. Dressed—Spring chickens, 14@15¢; hens, 12@14¢; old roosters, 10@11¢; turkeys, 18@21¢; ducks, 16@19¢; geese, 13@14¢ per lb. Live—Spring chickens, 13@13½¢; hens, 12@12½¢; No. 2 hens, 9¢; old roosters, 9@10¢; turkeys, 17@20¢; geese, 13@14¢; ducks, 15@16¢ per lb.

Chicago.—Receipts increasing but trade is good and market pretty steady. Quotations on live are: Turkeys, good weight 15¢; others, 10¢; fowls, good, 11¢; spring chickens, 10½¢; ducks, large, fat, 14¢; do., Indian runners, 12¢; geese, full feathered, 12¢; do., plucked, 8@19¢ per pound.

New York.—Dressed stock firm and generally higher. Fresh killed western chickens, 12@13¢; fowls, 12@15¢; turkeys 14@23½¢ per lb.

MISCELLANEOUS.

Wool.—Increased activity was noted in wool circles this week with prices well maintained. A good demand prevails for domestic stock. Quotations:

Chicago.—Medium, unwashed, 24@26¢; coarse do., 21@23¢; tubs, washed, 27@35¢.

Boston.—Mich. fine., 20@21¢; do., ¼-blood, 28@29¢; do. ¾-blood combing, 29@30¢ per lb.; do., ¼-blood, 29@30¢.

Provisions.—Ruling prices are lower than those of last week. Quotations:

Detroit.—Family pork, \$22@23; mess pork, \$19; clear backs, \$22@24; hams, 14½@16½¢; briskets, 11@12¢; shoulders, 13½¢; picnic hams, 13¢; bacon, 16@18¢; pure lard in tierces, 11½¢; kettle rendered lard, 12½¢ per lb.

Chicago.—Mess pork, Jan., \$17.95; lard do., \$10.25; short ribs, do., \$9.67½.

Honey.—Detroit.—Steady. Choice to fancy comb, 16@17¢; amber, 14@15¢; extracted, 9½@10¢ per lb.

Grand Rapids.

Local dealers are paying 28¢ for both butter and eggs, the markets continuing to show weakness. Hay receipts are large, farmers getting \$13@15. The potato market is weaker, prices paid at outside stations ranging from 30@35¢. The apple market continues dull, with no movement of stock.

THE LIVE STOCK MARKETS.

Buffalo.

December 16, 1912.

(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York).

Receipts of stock here today as follows: Cattle, 250 cars; hogs, 160 double decks; sheep and lambs, 115 double decks; calves 800 head.

With 250 cars of cattle on our market here today, and 40,000 reported in Chicago, our market was in an almost demoralized condition, except for a few handy, fancy, light weight butchers' cattle; all others sold from 25@50¢ per cwt. lower, and the worst take off was on the cattle weighing 1,200 lbs. and over. The market closed dull with at least 25 cars going over unsold.

We quote: Best 1,350 to 1,500-lb. steers \$8.75@9.25; good to prime 1,200 to 1,300-lb. do., \$7.75@8.25; good to prime 1100 to 1200-lb. do., \$7.25@7.75; coarse, plain, 1100 to 1200-lb. do., \$7@7.25; medium butcher steers, 1000 to 1100, \$6.25@7; butcher steers, 950 to 1000, \$6@6.50; light butcher steers, \$5.25@5.75; best fat cows, \$5.50@6; butcher cows, \$4.50@5; light do. \$3.75@4.25; cutters, \$3.50@3.75; trimmers, \$3.25@3.35; best fat heifers, \$7@7.50; medium butcher heifers, \$5.75@6.25; light do., \$4.50@5; stock heifers, \$4@4.25; best feeding steers, dehorned, \$6.25@6.75; fair to good stockers, \$5@5.25; light common stockers, \$4.25@4.50; prime export bulls, \$6@6.25; best butcher bulls, \$5.50@5.75; bologna bulls, \$4.50@5; stock bulls, \$4.50@5; best milkers and springers, \$65@75; common to fair kind, \$40@55.

Receipts of hogs today were very heavy, 160 double decks on sale, the largest one day's supply of the season. The market was a strong dime lower than the close of Saturday, and fully 20¢ lower than the best time of the day. It was generally a one-priced market for everything except roughs and stags, \$7.40 taking the bulk of the offerings from the best down to the pig weights. Roughs sold at \$6.50 @6.60; stags, \$5.50@6. The close was rather tame, but about everything sold. The sheep and lamb trade was slow, and prices a strong 50¢ a hundred lower than the close of last week; most of the choice lambs selling for \$8.50. Yearlings were salable at \$6.75; look for about steady prices the balance of the week with moderate runs.

We quote: Choice lambs, \$8.40@8.50; cull to fair do., \$5.50@8.25; yearlings, \$5.50@6.75; bucks, \$2.50@3.25; wethers, \$5@5.25; handy ewes, \$4.25@4.60; heavy ewes, \$4.35@4.50; cull sheep, \$2.50@3.25; veals, choice to extra, \$10.50@11.50; fair to good, \$7.50@10; heavy calves, \$4.50 @6.50.

Chicago.

December 16, 1912.

Cattle. Hogs. Sheep.
Received today41,000 37,000 65,000
Same day last year .31,851 58,520 30,320
Received last week .62,697 169,449 140,088
Same week last year .72,746 166,230 149,472

The week starts off today with liberal receipts of live stock of all kinds and generally lower prices. In the cattle market there was some activity early in the day, but it was restricted to butcher stock, which averaged 10@15¢ lower. Steers were neglected, and at a late hour little had been done, buyers bidding 25¢ or more lower. It was certain that a lower scale of prices would be established, and the only question was how great the drop would be. In the hog market there was a fair animation, with prices about 5¢ lower, sales ranging at \$6.90@7.40. Current receipts are running lighter in weight, last week's arrivals having averaged but 222 lbs. per head, compared with 228 lbs. a fortnight earlier, 213 lbs. a year ago, 224 lbs. two years ago and 216 lbs. three years ago. The market was glutted today with lambs and sheep, and prices averaged 25¢ lower, the best lambs going at \$8.25, but feeders were steady. A sale was made of 1,000 Montana feeding wethers at \$4.40, a higher price than was paid last week.

Cattle buyers got so well stocked up with beef, particularly good to choice carcasses, during the previous week, when the International Live Stock Exposition was running its big fat stock show and disposing of the fine exhibits, that the trade requirements in the cattle line last week were rather restricted. The cattle receipts were much smaller, and such a small number showed up on Monday that prices were mostly a little higher, some sales showing advances of as much as 15¢. By the middle of the week, however, the market was dull and considerably lower, the Wednesday run reaching 26,276 head, and thereafter the demand was apt to be better for the cheaper and medium-priced cattle than for the choicer and higher-priced offerings. The bulk of the beef steers sold during the week brought \$7.25@9.50, with moderate numbers of the choicer class of cattle purchased at \$9.60@10.70 and a few sales of fancy heavy beefs at \$11, while grass-fed lots brought \$5.80@7.65. Short-fed steers sold at \$7.70@8.60, and the commonest steers were not more than \$1

higher than a year ago, while the best steers sold \$1.65 per 100 lbs. higher than then. Butchering cattle had a very good outlet, cows and heifers selling at \$4.35@7.25, with scattering sales of fancy heifers at \$7.50@8.50. Cutters sold at \$3.90@4.30, canners at \$2.75@3.85 and bulls at \$4@8, yearling bulls topping the market. The stocker and feeder branch of the market exhibited considerable animation at times, stockers selling mostly at \$5@7, with inferior weights at \$4.50 and over, while feeders carrying much weight brought \$6.25@7.50, a few extra heavy well-bred feeders selling up to \$7.75. The stock show appears to have exerted a healthy influence on the feeder trade, as numerous visitors have sent in buying orders. Calves have sold freely at \$9.50 @10.75 per 100 lbs., with sales all the way down to \$4.50@9 for the commoner to medium lots. Milkers and springers had a slow sale at \$40@90 per head, ordinary cows being decidedly lower than a short time ago.

Hogs have received some mighty hard bumps recently, the local packers taking advantage of the absence of a fair eastern shipping demand to bring about sharp declines in prices for all kinds. In fact, the drop reached such a large figure that Milwaukee packers had buyers here bidding for supplies. Trade in hogs as well as in cattle and sheep, was seriously impeded by the slow movements of stock trains, which caused a slow traffic at times and weak prices late in the day, as many as 11,000 hogs being carried over at night to swell the offerings for the following day. Prime barrows of strong weights continued to sell the highest, although choice lots of light hogs, averaging around 185 to 195 lbs., sold not far from the top, there being a large demand for young hogs and pigs to satisfy the extremely heavy call for fresh pork. Late advices from various parts of Iowa say that hog cholera has been carrying off a great many hogs and forcing thousands of hogs on the market, owners fearing their hogs will become affected. At the close of the week hogs sold at \$7@7.45, against \$7.25@7.75 a week earlier, pigs fetching \$5.25@7.15 and stags \$7.40@7.80, while boars sold at \$3@4.

Sheep and lamb owners who are making their flocks good and fat are making no mistake, recent sales having been made extremely satisfactorily. Prices have undergone liberal advances within a short time, with fat lambs of the popular weights leading off, and all other kinds of fat live muttons sharing in the upward movement. Fat little yearlings that can be substituted for lambs in the retail markets have gone up sharply on good buying orders, and the few consignments of belated range lambs on the feeder order sold extremely well. Comparisons of prices of sheep, yearlings and lambs with quotations of a month ago show surprising advances, while prices are far above those paid in recent years on corresponding dates, especially for lambs. The consumption of mutton throughout the country is enormous. Last week saw advances of as much as 75¢ in fat lambs, and matured sheep and yearlings rose 25@50¢, closing sales of lambs ranging at \$5.50@8.50, while feeder lambs brought \$6.40@7.35. Yearlings were salable at \$5.35@7, wethers at \$4@5.25, ewes at \$3@4.75 and bucks at \$3 @3.50.

Horses were marketed in moderate numbers last week, and the best heavy business horses brought steady prices, although the local and outside buying orders were only fair. Other kinds moved off slowly at not any too well maintained values. Drafters were salable at \$260 per head for the best down to \$95 for the poorest offerings, while delivery wagon horses were slow at \$120@210, with little doing in loggers and feeders at \$90 @225 as an extreme range. Drivers were neglected at \$75@180, and farm horses were dull at \$90@180.

LIVE STOCK NEWS.

Visitors to the recent big fat stock show in Chicago remarked on the vanishing big steer, once so prominent in stock shows everywhere. It was decidedly the smallest show of big cattle ever seen since the International was established 13 years ago.

Corn handlers have been a good deal surprised of late at the lack of offerings from the country. It is remarked that in spite of the fact that the prices paid for corn in farming districts are, relative to the May option, the highest seen in a number of years, purchases are small. Iowa farmers have parted with considerable of their surplus corn, and lack of crib space has been and promises to continue an important factor in compelling sales, but farmers who have plenty of cribs will undoubtedly store their corn to full capacity, hoping for higher prices in the future. Illinois, Missouri and Nebraska farmers have shown from the start a general unwillingness to sell their surplus corn and have sold sparingly as a general rule. Recent bids in the country for No. 3 corn have been about 2½¢ per bushel under May for December-January shipment, whereas the usual discount ranges from five to eight cents under. On a recent day corn was sold for export at a price equivalent to 2½¢ a bushel free on board Chicago, and much more could have been sold at the same price, says a market report. Receivers have not been looking for any more corn at Chicago than would be needed for the filling of December contracts. In fact, it is evident that notwithstanding the big crop raised this year, farmers are by no means disposed to sell at prices that are about half as high as they can obtain by feeding out the corn on the farm. Prevailing prices for corn are away below a parity with all kinds of live stock. Of course, the weather is a factor to be reckoned with in marketing corn, and a continuance of cold, crisp weather will favor the market movement. It is extremely unfortunate that so many farmers are short of live stock at this time.

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.
December 19, 1912.
Cattle.

Receipts, 1941. Bulls, stockers and feeders steady; all others 15c lower than last week.

We quote: Extra dry-fed steers, \$7.50 @8; steers and heifers, 1000 to 1200, \$6.75 @7.50; do., 800 to 1000, \$6.65; do. that are fat, 500 to 700, \$4.25 @4.75; choice fat cows, \$5.50 @5.75; good do., \$4.25 @5; common cows, \$3.25 @4; canners, \$3 @3.50; choice heavy bulls, \$5.50 @6; fair to good bolognas, bulls, \$4.50 @5; stock bulls, \$3.75 @4.25; choice feeding steers, 800 to 1000, \$5.75 @6; fair do., 800 to 1000, \$5 @5.50; choice stockers, 500 to 700, \$5 @5.50; fair do., 500 to 700, \$4 @4.75; stock heifers, \$3.75 @4.25; milkers, large, young medium age, \$4 @70; common milkers, \$3 @40.

Bishop, B. & H. sold Bresnahan 8 butchers av 576 at \$5, 12 canners av 804 at \$3.40, 4 do av 747 at \$3.50, 4 cows av 1080 at \$4.25, 5 do av 1048 at \$4.25, 1 do weighing 820 at \$3.40, 7 do av 867 at \$3.50, 4 do av 955 at \$3.50; to Parker, W. & Co. 30 steers av 772 at \$5.75, 22 do av 784 at \$5.90, 9 do av 760 at \$6.50, 26 do av 950 at \$7.35, 1 bull weighing 1094 at \$5.25; to Nagle P. Co. 4 cows av 945 at \$4.10, 4 do av 1195 at \$5.25, 2 steers av 850 at \$6.50, 11 cows av 970 at \$4.35, 2 do av 1155 at \$4.40, 1 do weighing 1030 at \$4, 1 do weighing 1260 at \$5.50, 7 do av 947 at \$4.10; to Hammond, S. & Co. 9 steers av 764 at \$6, 3 do av 877 at \$7, 28 do av 1011 at \$7.40, 16 butchers av 825 at \$6; to Regan 6 do av 571 at \$4.75, 2 do av 580 at \$4.25; to Strong 3 feeders av 870 at \$5.75; to Schlicher 3 steers av 743 at \$5.50, 9 cows av 925 at \$3.90; to Sullivan P. Co. 3 steers av 997 at \$7, 6 cows av 825 at \$3.40, 1 steer weighing 760 at \$6, 4 cows av 1025 at \$4.50, 6 steers av 783 at \$6.40, 3 cows av 900 at \$5.25, 2 do av 840 at \$4.

Haley & M. sold Nagle P. Co. 2 cows av 1165 at \$4.25, 6 do av 1013 at \$4.60; to Hammond, S. & Co. 2 steers av 1370 at \$7.75, 2 cows av 1000 at \$3.50, 8 steers av 800 at \$6.10, 1 bull weighing 930 at \$4.50; to Snow 2 steers av 660 at \$5.80; to Kull 4 heifers av 700 at \$5.25, 4 cows av 880 at \$3.75, 2 steers av 915 at \$6, 1 bull weighing 1020 at \$5.25, 2 heifers av 665 at \$4.85, 4 do av 750 at \$5.25; to Strong 30 feeders av 880 at \$6.60, 4 stockers av 632 at \$5.25; to Bresnahan 11 butchers av 550 at \$4.35, 8 cows av 820 at \$3.50; to Wyness 1 bull weighing 1080 at \$5, 5 cows av 1095 at \$5.25; to Mason B. Co. 16 butchers av 792 at \$4.20, 11 cows av 973 at \$4; to Nagle P. Co. 3 bulls av 870 at \$4.85; to Bresnahan, Jr. 11 butchers av 873 at \$5.40; to Snow 3 cows av 990 at \$3.60, 4 do av 1050 at \$4, 4 do av 1000 at \$4; to Breitenbeck 23 butchers av 825 at \$6.20.

Spicer & R. sold Bresnahan 4 cows av 930 at \$3.50, 1 do weighing 930 at \$3.50, 1 do weighing 610 at \$3.25, 3 do av 957 at \$3.75, 1 do weighing 720 at \$3; to Strong 9 stockers av 622 at \$5.25, 5 feeders av 744 at \$5.25, 2 cows av 965 at \$3.60; to Sullivan P. Co. 21 butchers av 600 at \$4.75, 1 bull weighing 1430 at \$5.40, 7 heifers av 620 at \$4.30, 4 cows av 892 at \$4, 5 heifers av 730 at \$5; to Heinrich 2 steers av 805 at \$3, 2 do av 760 at \$6.50; to Nagle P. Co. 1 cow weighing 1020 at \$4.50, 1 bull weighing 1580 at \$5.85; to Mich. B. Co. 1 do weighing 1490 at \$5.50; to Mason B. Co. 16 butchers av 793 at \$4.20, 11 cows av 972 at \$4; to Wyness 5 cows av 1090 at \$3.25; to Kull 2 do av 910 at \$5.25, 2 heifers av 730 at \$4.50; to Bresnahan 9 cows av 920 at \$3.50, 5 do av 920 at \$3.50, 12 do av 902 at \$3.50, 3 do av 893 at \$3.50; to Fry 7 butchers av 760 at \$5, 7 do av 726 at \$4.40.

Roe Com. Co. sold Sullivan P. Co. 1 bull weighing 960 at \$5.50, 1 cow weighing 900 at \$3.50; to Heinrich 12 steers av 936 at \$7; to Bresnahan 4 cows av 805 at \$3.40, 2 do av 830 at \$3.25; to Nagle P. Co. 7 do av 1093 at \$4.90, 6 do av 961 at \$4; to Mich. B. Co. 1 bull weighing 1390 at \$5.50; to Goodwin 6 cows av 816 at \$3.75; to Fry 2 steers av 950 at \$5.50, 2 do av 810 at \$5; to Rattkowsky 3 heifers av 700 at \$4.

Torrey sold Heinrich 11 steers av 853 at \$7.

Weeks sold same 3 do av 773 at \$6.75. Weeks sold Bray 7 cows av 990 at \$3.60.

Torrey sold same 3 canners av 773 at \$3.25, 2 cows av 1015 at \$4.50.

Haddrell & Co. sold same 6 do av 716 at \$3.50.

Weeks sold Rattkowsky 4 cows av 1060 at \$4.30, 4 do av 985 at \$3.70, 1 do weighing 1360 at \$5.25.

Veal Calves. Receipts, 483. Market dull at last week's prices. Best, \$9.50 @11; others, \$4 @9; milch cows and springers steady.

Spicer & R. sold Rattkowsky 1 weighing 330 at \$4.50, 1 weighing 140 at \$9.50, 1 weighing 110 at \$9.50.

Sharp sold Mich. B. Co. 18 av 140 at \$9.50.

Sandall sold same 6 av 125 at \$9.50, 2 av 140 at \$9.50.

Haley & M. sold Newton B. Co. 5 av 165 at \$10; to Thompson Bros. 2 av 125 at \$7, 1 weighing 310 at \$6, 1 weighing 110 at \$6.

Roe Com. Co. sold Thompson Bros. 1 weighing 140 at \$10.50; to Goose 28 av 300 at \$4.50, 3 av 115 at \$8.

Bishop, B. & H. sold Parker, W. & Co. 3 av 135 at \$10, 8 av 135 at \$9.50, 2 av 115 at \$9.50, 4 av 135 at \$10, 3 av 170 at \$10.

Receipts, 4,892. Sheep steady; lambs 25c lower than last week. Best lambs, \$8; fair to good lambs, \$7.50 @7.75; light to common lambs, \$4.50 @5; fair to good sheep, \$3 @4; culs and common, \$2.75 @3. Roe Com. Co. sold Barlage 70 sheep av 105 at \$3.50, 38 lambs av 85 at \$7.

Sharp sold Mich. B. Co. 11 sheep av 100 at \$3.75, 3 lambs av 80 at \$7.75.

Sandall sold same 40 lambs av 60 at \$7, 37 do av 60 at \$7, 37 sheep av 110 at \$3.25.

Bishop, B. & H. sold Costello 33 lambs av 65 at \$7.25, 17 do av 55 at \$5.50, 31 do av 48 at \$5, 39 do av 40 at \$5; to Sullivan P. Co. 8 do av 80 at \$7.75, 46 do av 77 at \$7.50, 14 do av 80 at \$7.75, 39 sheep av 115 at \$3.50, 7 do av 115 at \$3.50, 23 lambs av 68 at \$7.40, 31 do av 60 at \$6; to Thompson Bros. 29 do av 70 at \$7.50, 32 sheep av 115 at \$3.75, 13 do av 110 at \$3.75, 12 lambs av 42 at \$5; to Hammond, S. & Co. 14 do av 65 at \$7.50, 97 sheep av 138 at \$4, 16 do av 110 at \$2.75, 7 do av 160 at \$4; to Hayes 58 lambs av 55 at \$6; to Fitzpatrick Bros. 32 do av 57 at \$6, 58 sheep av 125 at \$3.75, 63 lambs av 70 at \$7.50; to Newton B. Co. 21 do av 75 at \$7.75; to Nagle P. Co. 184 do av 80 at \$7.85, 154 do av 78 at \$7.75, 192 do av 83 at \$8.

Spicer & R. sold Nagle P. Co. 18 lambs av 70 at \$6, 19 do av 60 at \$6, 14 sheep av 85 at \$3.75, 4 do av 90 at \$2.50, 11 do av 105 at \$3.50, 13 lambs av 75 at \$7.50; to Sullivan P. Co. 5 sheep av 80 at \$2.25, 12 do av 100 at \$3.75; to Thompson Bros. 14 do av 80 at \$3.15, 7 lambs av 55 at \$5.50, 7 sheep av 95 at \$3.75; to Nagle P. Co. 21 lambs av 70 at \$7.25; to Mich. B. Co. 9 sheep av 100 at \$3.25.

Haley & M. sold Newton B. Co. 6 sheep av 115 at \$3, 12 lambs av 50 at \$5, 34 do av 75 at \$7.50; to Nagle P. Co. 125 do av 81 at \$7.75, 84 sheep av 120 at \$3.50, 55 do av 120 at \$3.50, 49 lambs av 75 at \$7.50.

Hogs. Receipts, 4,107. No hogs sold at noon; prospects are as follows:

Range of prices: Light to good butchers, \$7.15 @7.25; pigs, \$6.90 @7; light yorkers, \$7 @7.10; stags half off.

Bishop, B. & H. sold Hammond, S. & Co. 510 av 220 at \$7.20, 1015 av 180 at \$7.15, 807 av 170 at \$7.10.

Spicer & R. sold Parker, W. & Co. 300 av 200 at \$7.20, 100 av 190 at \$7.15, 106 av 160 at \$7.10.

Haley & M. sold same 340 av 210 at \$7.20, 480 av 185 at \$7.15, 280 av 160 at \$7.10.

Roe Com. Co. sold Sullivan P. Co. 225 av 200 at \$7.20, 150 av 180 at \$7.10.

Note.—There will be no market here Christmas Day.

Friday's Market.
December 13, 1912.

Cattle. Receipts this week, 2,323; last week, 2,667. Market steady at Thursday's prices on all grades. We quote: Extra dry-fed steers, \$9 @12; steers and heifers, 1000 to 1200, \$7.50 @8; do. 800 to 1000, \$6 @7; do. that are fat, 500 to 700, \$4.50 @5; choice fat cows, \$5.50 @6; good do., \$4.50 @6; common do., \$3.50 @4; canners, \$3 @3.50; choice heavy bulls, \$5.50 @6; fair to good bolognas, bulls, \$4.50 @5; stock bulls, \$3.75 @4.25; choice feeding steers, 800 to 1000, \$5.50 @6.25; fair do., 800 to 1000, \$5 @5.50; choice stockers, 500 to 700, \$5 @5.50; fair do., 500 to 700, \$4 @4.75; stock heifers, \$3.75 @4.25; milkers, large, young, medium age, \$4 @7.50; common milkers, \$3 @40.

Veal Calves. Receipts this week, 9,002; last week, 10,972. Market steady at Thursday's prices. Range of prices: Light to good butchers, \$7.15 @7.25; pigs, \$6.75 @7; light yorkers, \$7 @7.10; stags one-third off.

Sheep and Lambs. Receipts this week, 9,002; last week, 10,226. Market steady at Thursday's prices. Best lambs, \$7.75 @8.25; fair to good lambs, \$6.50 @7.50; light to common lambs, \$5 @6.25; fair to good sheep, \$3 @4; culs and common, \$2 @2.75.

Hogs. Receipts this week, 11,918; last week, 10,972. Market steady at Thursday's prices. Range of prices: Light to good butchers, \$7.15 @7.25; pigs, \$6.75 @7; light yorkers, \$7 @7.10; stags one-third off.

Choice lines of creamery butter have had numerous advances in recent weeks, and prices have reached the highest figures seen in December in a number of years. Eggs, too, are away up in price, and large amounts of cold storage eggs have been taken out by owners and sold at large profits, having been purchased when eggs were plentiful and comparatively cheap.

Colorado is feeding fully its usual quota of sheep and lambs this winter, although the San Luis Valley, famous as a mutton producing region, is not doing much in this line because of the failure of the pea crop. It is the common custom of the sheepmen in that section to place bands of lambs in these fields, and lambs get fat as butter by eating the peas from the vines. Utah and Idaho are reported as doing more lamb feeding than usual, and these flocks are expected to be mostly needed for supplying the mutton markets of the Pacific coast, although some may be shipped eastward. All over the east and middle west much smaller numbers of lambs and sheep are being fed than usual, and owners expect to reap substantial profits, an abundance of cheap feed being an important factor this being considered as an offset to the greatly increased cost of feeders at the start. This

was a year when range sheepmen had every inducement for waiting until their flocks were fat before parting with them, and they were highly favored by good grass and plenty of water, so that the percentage of feeders was abnormally small. In various places farmers who are in the habit of feeding lambs for the market are beginning to buy good breeding ewes and bucks with the view of being independent of range sheepmen.

Texas reports say that there is a great cattle shortage down there, and one feeder who usually begins the winter season with 8,000 head of cattle has now but 2,000 head. Another feeding firm that usually owns 2,000 cows now has but 1,000 head. The northwest can no longer look to Texas to replenish its depleted ranges, and neither can the corn belt look to that state to fill its feed lots, there being a home demand for all the available cattle for breeding and feeding purposes. Silos are being built by the hundreds in many parts of the state, and stockmen have discovered that kaffir corn and silage fed with cottonseed meal is an excellent ration for fattening their cattle. The result is that feed lots are being started, making a lively local demand for feeder cattle. During the past season feeder calves sold at \$20 @35 per head, and prime two-year-olds sold up to \$50 per head. One firm is handling 1,000 grade cows and 300 pure-bred cows, besides thousands of steers on the range, being breeders of Hereford cattle and extensive ranchmen.

Advices from the Texas Panhandle are that there will be no losses of cattle this winter, hand feeding being the rule. Feed is abundant, but cattle are few, and aged steers are so scarce that Kansas pastures will have to take ones and twos to meet their requirements when the time comes to stock up.

B. R. Lewis, head of Clay, Robinson & Co.'s hog selling department at East Buffalo, N. Y., was a visitor at the recent International Live Stock Exposition held in the Chicago Stock Yards, and paid high compliments to the fine display of swine. He remarked that the eastern markets will receive fairly large supplies of hogs well into next month, these being of heavier weight than usual for this season of the year, and this will keep the eastern shipping demand for hogs at Chicago limited for a while. He stated that Indiana, Ohio and Michigan have more cattle on feed than usual, and Buffalo has received fair supplies of fat Canadian steers that brought considerably higher prices relatively than were obtainable in Toronto. Buffalo has for many weeks been getting large supplies of low-grade female cattle from Pennsylvania and New York, and Chicago packers have been buying 100 cars of this canner stock weekly. Buffalo never having received such large supplies of such cattle. With relatively good prices, owners have been free sellers, and eastern sections have been pretty well cleaned up of low-grade cows.

The demand for light-weight hogs is growing in volume, the large requirements of the fresh pork trade being an important factor, and they are selling closer in price to the heavier hogs than was the rule a short time ago.

CROP AND MARKET NOTES.

(Continued from page 577).

bagas, 35c; carrots, 50c; butter, 28c; eggs, 28c per dozen.

Oakland Co., Dec. 17.—Good weather conditions during most of November and early December has enabled farmers to secure the corn crop in fairly good shape. Some corn remains in the shock yet, but this is the exception rather than the rule. Not much live stock on feed as feeding stock on farms has been depleted by the unusual scarcity of feed last year which induced liberal selling. The dairy industry is growing rapidly in many sections of this county and this year has seen more silos built than ever before. The potato crop was not as large as was anticipated, but seems to be keeping fairly well. Consequently the bulk of the crop is being held for possible improvement of prices later in the season. Little hay is going to market and with the exception of small grains and the hog crop, marketing is not very general for this season of the year.

Wayne Co., Dec. 16.—The unusually favorable weather has not only enabled the securing of crops, but has been particularly favorable for drawing produce to the Detroit markets. Farmers have been improving this opportunity very generally, although considerable plowing has also been done. Truck crops are the rule in sections adjacent to Detroit, although the dairy industry is also of considerable importance. No withstanding a slight increase in the price given by Detroit distributors, there remains considerable dissatisfaction over the requirements for producing market milk and the price received for same, which is now around \$1.80 per cwt.

CATALOG NOTICE.

Overland automobiles are fully illustrated and described in the art catalog sent upon request by the Willys-Overland Co., of Toledo, O. This catalog is particularly devoted to a full and complete illustration and description of two new models built by this company, in which special features of construction and finish are clearly brought out. Send for a copy, mentioning the Michigan Farmer.

Sunny Tennessee!

That section of Kentucky, Tennessee, Alabama and Georgia traversed by the

Nashville, Chattanooga & St. Louis Railway

is rich in natural resources, and its climatic conditions and the fertility of its soils offer unexcelled opportunities for the profitable production of grains, grasses, live stock and truck crops. Fertile and attractive farmlands may be had at very low prices.

WRITE me at once for Descriptive Literature FREE

H. F. SMITH, Traffic Mgr., Dept. B, 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, A. & I. Agt. for Florida, Alabama, Georgia, Jacksonville, Fla.

E. N. CLARK, A. & I. Agt. for Virginia and the Carolinas, Wilmington, N. C.

MOTSINGER

GUARANTEED AUTO-SPARKER

(Better than an overloading battery) Will generate current for ignition, and electric lights, charging storage batteries, etc. Suitable for all types and sizes of gas and gasoline engines. LET US TELL YOU HOW TO MAKE YOUR OWN ELECTRICITY.

MOTSINGER DEVICE MFG. CO. 575 Taylor St., LaFayette, Ind.

We Want HAY & STRAW

We get the top price on consignments, make liberal advancements and prompt remittances.

Daniel McCaffrey's Sons Co.

PITTSBURG, PA.

Reference, Washington Trust Company, or any bank in City

RAW FURS

Thousands of satisfied shippers receive our price list. Get your name on our mailing list and we will keep you posted on market conditions.

NOTICE—WE PAY EXPRESS CHARGES. WE CHARGE NO COMMISSION.

HENRY M. FRANK CO.

250-252 Seventh Ave., New York.

OUT OUT AND MAIL AT ONCE.

GET BEST PRICES

FOR YOUR

CATTLE, HOGS and SHEEP

BY CONSIGNING THEM TO

Clay, Robinson & Co.

Chicago South Omaha Sioux City

East Buffalo East St. Louis Fort Worth Denver

Kansas City South St. Joseph South St. Paul

Excellent Markets Southwest

This has been a wonderful year in the Southwest. Enormous crops of wheat and oats, one of the largest corn crops ever grown, great crops of alfalfa and forage; peaches, berries and apples without end and potatoes to feed the nation.

These are cheap lands of high productivity along

Rock Island Lines

and great markets with their unlimited demands near at hand and in every direction. Only 500 miles from Central Oklahoma to Galveston, one of the great exporting points; 186 miles from Central Louisiana and 460 miles from Central Arkansas to port of New Orleans. Kansas and Colorado have the high priced markets of five Rocky Mountain States; New Mexico's mining markets are offering high prices for all food products. Millions of dollars invested in packing plants at Oklahoma City, Fort Worth, Wichita, Kansas City, St. Joseph, Denver, Omaha, St. Louis and Chicago. Every farmer in the Southwest along the Rock Island Lines has ready access to several great markets, low freight rates and good service and the nearest ports of export raises the price of all grains above that received in the Northern Corn Belt. Literature describing the Agricultural opportunities Southwest has been prepared by Prof. H. M. Cottrell, Agricultural Commissioner, Rock Island Lines.

Write Today
Low Priced Land
Low Fares to See the Land



L. M. ALLEN
Passenger Traffic
Manager
511 La Salle Station
Chicago

John Sebastian, Third Vice President

BERRY BOXES.

Crates, Bushel Boxes, and Climax Baskets
AS YOU LIKE THEM.

We manufacture the Ewald Patent Folding Berry Boxes of wood veneer that give satisfaction. Berry box and crate material in the K. D. in carload lots our specialty. A liberal discount on early orders. A postal brings our price list.

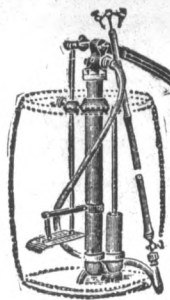
CUMBERLAND FRUIT PACKAGE CO.,
Dept. B, Cumberland, Wis.

GET THE BEST

A Good Spray Pump earns big profits and lasts for years.

THE ECLIPSE

is a good pump. As practical fruit growers we were using common sprayers in our own orchards—found their defects and invented the Eclipse. Its success forced us to manufacture on a large scale. You take no chances. We have done all the experimenting! Large, fully illustrated Catalog and Treatise on spraying Free.



MORRILL & MORLEY MFG. CO., Box 2, Benton Harbor, Mich.

Fruit and Ornamental Trees

HUNDREDS OF CARLOADS OF
Evergreens, Shrubs, Hardy Roses, etc. 1,200 acres, 60 in Hardy Roses, none better grown. 47 greenhouses of Palms, Ferns, Begonias, Everblooming Roses, Geraniums, and other things too numerous to mention. Mail size postpaid, safe arrival and satisfaction guaranteed. Immense stock of SUPERB CANNAS, the queen of bedding plants. Acres of Hardy Perennial Plants, which last for years. 50 choice collections cheap in Seeds, Plants, Roses, etc. For Fruit and Ornamental Trees ask for Catalog No. 1, 112 pages; for Seeds, Everblooming Roses, Cannaes, Geraniums, Greenhouse and Bedding Plants in general, Catalog No. 2, 163 pages. Both Free. Direct deal will insure you the best at least cost. Try it. 59 yrs.

The Storrs & Harrison Co. Box 54, Painesville, O.



OUR TRAPPER'S FRIEND AND GUIDE FREE

MODERN METHODS IN TRAPPING. This GUIDE is as different from any Guide you ever saw, as an AUTOMOBILE is different from the old time STAGE COACH. \$100.00 would not buy it of you if you could not get another. You never saw its equal. You get the GUIDE FREE, ordered on our blanks. Write the Old Square Deal Fur House, WEIL BROS. & CO. Box A-24 Ft. Wayne, Ind.

HORTICULTURE

IMPROVING OUR FRUIT STOCK.

The severe winter of 1911 and 1912 caused the destruction of thousands of young trees in orchards all over the country, but the damage done is but one of the many problems which the horticulturists have to meet each year. The orchardists of the upper Mississippi Valley have made urgent demands upon the Department of Agriculture for cold-resistant fruits, and in response to these requests Explorer Frank N. Meyer was sent to Asia to search the cold and barren slopes of the Tien Shan Mountains and the desert regions of Chinese Turkestan for wild apples, pears, peaches, apricots, plums, cherries, currants, and other fruits, and after two years' work he reports the presence there of forests of wild apples, apricots, and almonds, and the existence of remarkable bush cherries which are promising for the breeders of cold-resistant forms to work with.

In discussing this subject, Prof. David Fairchild, of the department, who is in charge of the corps of explorers, called attention to the Chinese wild peach, trials of which have already shown that it can stand as much cold as the Chili peach in Iowa. It promises to be the earliest stock yet introduced into California, and it has stood the extreme heat of the southwest in a remarkable way. Whether it can be hybridized with the ordinary peach remains to be seen, but certainly it is deserving of a place in the home collection of every fruit breeder.

He continued by saying that it is a recognized fact that the Chinese pears and their American descendants, the Kieffer and Le Conte, are not affected with the pear blight which attacks and destroys whole orchards of the more delicate varieties that have come to us from Europe. With the possibility of creating superior blight-resistant varieties which shall be of better quality than these cooking pears, all of the best varieties which can be found in China and Central Asia are being assembled for experimental work.

Incidentally attention was called to the Japanese chestnut which is resistant to the chestnut-tree disease and to varieties of walnuts which are also disease-resistant. Much progress is also being made in the improvement of the persimmon.

TURNIPS AND RADISHES TROUBLED WITH MAGGOTS.

What can be done to avoid wormy radishes and turnips? Can anything be done this fall or should the preparation be made in the spring? Does the immediate sowing, after the manure has been turned under, cause wormy land?

Wayne Co. SUBSCRIBER.
Because of the general destruction of radishes, turnips and allied crops by the larvae of the hairy, two-winged fly known to biologists as *Pegomya brassica*, various remedies and preventive measures have been discovered and devised by gardeners. Among the more important we may mention the following: (1) In the fall the garden should be cleaned of all refuse of radishes, turnips, cabbages, cauliflower and other plants belonging to the mustard family and this material either burned or composted in such a way that any insect life present may be destroyed. (2) Plowing the garden in the fall disturbs the eggs, larvae, or adults that may be wintering in old stumps of cabbages and other places, and, if the plowing be deep, the pests will be buried so thoroughly that they will not survive. (3) Stirring the soil also exposes maggots that may be in the ground, to the elements, birds, poultry, etc. (4) Another practice that should not be neglected is the rotation of the garden crops. The ideal scheme is to have the cruciferae plants, (those mentioned above), grown on soil that did not produce such crops the previous season, since the pest will live over and prosper on any of the crops named. (5) An effective specific for maggots is carbolic acid emulsion. It is prepared by the use of 1 lb. soap, 1 gal. water and ½ gal. crude carbolic acid. Emulsify by vigorous agitation—use a force pump and force the liquid back upon itself. Dilute with 35 parts of water. This mixture is applied a day or so after transplanting, or, in case of radishes and turnips, not over three days after the plants are up, and repeated every week or ten days till the first of June. The mixture will corrode and needs to be handled with care. (6) Finally, it should

be stated that a preventive measure lies in the liberal use of plant food, especially of phosphate fertilizers. Rapidly maturing plants are less severely attacked by the insect under consideration, than plants suffering for want of food. These suggestions ought to be helpful in the control of the insect and by the use of several, or all, of them the inquirer should be able to keep the damage down to small proportions.

KENT GROWERS WILL ORGANIZE.

Kent county farmers and fruit growers met in Grand Rapids December 6 at the call of J. H. Skinner, farm demonstrator for that county, and voted in favor of the formation of a co-operative association for growing and marketing more and better fruit. The articles of association will be broad enough, however, to include all farm produce. Mr. Skinner was chairman of the meeting and J. Pomeroy Munson, president of the Michigan State Horticultural Society, was secretary. A committee composed of Henry Smith, Chas. W. Wilde, W. A. Watts, Thomas Graham and H. D. Perkins, was appointed to consider articles of association and another meeting was called for December 13 to perfect the organization. It will be an incorporated body.

Talks on the pressing needs of organized effort and co-operation of farmers and fruit growers were made by Eben Mumford, of Lansing, director of all farm demonstration work as outlined by the government in Michigan, and by O. H. Benson, of Washington, in charge of the work of organizing boys' and girls' clubs in rural districts throughout the United States. Among other speakers were John I. Gibson, manager of the Western Michigan Development Bureau, and Edward Hutchins, the well known fruit grower of Allegan county. Mr. Gibson placed emphasis on the need of growing better fruit by more thorough spraying and better cultural methods. Mr. Hutchins said also, that the production of good fruit was of first importance, but closely following this was the urgent need of business-like methods in packing and marketing the orchard products. He urged especially a fraternity of all local organizations, with competent sales managers in the field, having knowledge of conditions in different markets, so that there may be wise distribution and gluts prevented. In regard to the operations of the Fennville Fruit Exchange this year he stated that it had been satisfactory, the fruit having sold at fair prices considering market conditions. Most of the apples went to dealers in smaller markets in one to ten car lots.

Mr. Mumford spoke of the tremendous waste that attends selling under current methods, or lack of method, and of the necessity of organized and federated effort among Michigan growers, following the notable example that the citrus fruit growers of California has given us. The object in view is not to raise the price of fruit to the consumer, but to do away with the waste of selling. Knowledge of markets is needed, and men of ability at the head capable of correctly analyzing complex market situations.

Kent Co. A. GRIFFIN.

MULCHING BERRY PLANTS.

Certain characteristics of berry plants, especially strawberries, which have low-growing vines, require, upon the part of the grower, extra care and attention, otherwise than would be bestowed upon taller growing vines, as raspberries, currants and others. The strawberry, unlike other berries and similar to the peach, starts its fruit buds in the fall previous to the season of bearing. These embryonic buds are in compact form, enclosed tightly in the base of the crown and ordinarily secure from damage by light freezes and normal wet spells; but, from the fact of these immature fruits being deposited so low within the crown, often below the surrounding surface soil, necessitates care in the future site of the bed. Low lying ground annually submerged or whereon water lies for long periods, or sags in which it will collect for periods, should be rejected as berry ground. They love a higher, drier, deep, rich soil, free from excess of water, but one very retentive of moisture also a soil which ordinarily does not heave by freezing and thawing.

The mulch does not prevent freezing as many suppose, though it does prevent excessive frost from injuring the immature fruit buds; on the contrary, it serves the purpose of keeping the frost, or a portion of it in the soil contiguous to the plants until all danger of freezing is

past the following spring. Were it not for this, during ordinary thaws in winter and especially early spring, the plants would warm up, growth would start, and when another cold snap came the berries, so far as that season was concerned, would be mostly ruined. The mulch should therefore be heavy enough to prevent undue freezing of the plants; one able to hold them in a dormant condition even till all danger of frost the next season is passed. Although, however, in the case of real early varieties and early fruit, one may omit the mulch, or if mulched rake it off early and thus run a chance on very early berries, but the dependable paying crop for northern states, are the later, larger and firmer berries.

In an experience of 25 years I have fruited hundreds of varieties and experimented with different mulches and different systems of mulching galore, but ordinarily, the clean straw mulch (so far) is more satisfactory and cheaper than others by long odds. One may mulch with hay, clover chaff, shavings, etc., but ordinarily many of these are carriers of obnoxious weed seed which are always sure to grow and entail extra labor in the removal. In winters of heavy snow at intervals, I have used the ordinary land roller, as an experiment, to firm the snow in a hardened, packed form over beds with excellent results; for a mulch is a mulch, nevertheless if the purpose for which it is intended is fulfilled. I never had any plants smothered by such procedure and if no sudden and extreme thaws occurred, the beds bore heavily the subsequent season. I would be pleased to have others try this out and report. My attention was called to this method by observing in fence corners where snow lay very late in the spring those berry plants (wild) that were covered longest, were larger, thriftier plants and bore more and larger berries than those that were farther removed. This was new land pasture and the soil equally good one place as another so I could not lay it to the difference in soil content of elements suited to the growth of the plant and its fruit that made the marked variance.

Gratiot Co. G. A. RANDALL.

A NEGLECTED FRUIT—THE MULBERRY.

The ravages of the San Jose scale have been discouraging. Many who formerly kept a few apples, pears or plums about the house or garden, enough to supply the family needs, will not do so now. Spraying is too troublesome and expensive. They are willing to leave fruit culture to the horticulturist who has the time and the facilities for it. This is a misfortune to many families, however it may be to the fruit grower.

But while the scale is eating the common fruits there is another which has thus far proved immune. This insect does not find the mulberry congenial, neither do the other common pests trouble it seriously. We are not claiming that the mulberry has no enemies and we will not promise that some will not be developed later, but at present it is remarkably free from enemies and there is no reason to expect anything serious in the immediate future.

The mulberry is not a fruit of high quality. In flavor it is so sweet as to be insipid. As a dessert fruit it is not to be recommended in comparison with other products of the orchard. But it has culinary possibilities, when used with tart fruits. It can be used as the basis of jams, jellies, sauces and that distinctively national product of the kitchen which appeals to every American, pie.

The season for the mulberry is long. During three months they are to be had from the tree. Even when green they can be used and when they begin to ripen they yield a fairly uniform crop day after day.

No fruit is more easily harvested. Spread sheets on the ground, then shake the limbs. Down will come the fruit, after which the rest is easy.

There is no serious difficulty about growing the trees. All they ask is to be planted. They are quite capable of taking care of themselves. The one requirement is to choose a variety hardy enough for the locality.

Few varieties of the mulberry have been developed and of these only four are of much prominence. These are the Downing, New American, Russian and Teo's Weeping.

The Downing produces an abundance of large berries, more sprightly than the Russian in flavor, but the tree is less hardy. Trees of this kind are met with

in the southern part of Michigan, though it seems a little tender in exposed localities. On low ground it is hardly to be recommended, though worth trying on high lands.

The New American lays claim to more hardiness than the Downing. The fruit is large, black and of good flavor, the tree vigorous and productive.

When in doubt, however, it is safe to plant the Russian. The tree succeeds well through a wide range, north, south, east and west. It grows rapidly and loads itself with fruit. It may be set alone in waste places. It may be planted in rows for windbreaks or about the fruit orchard to protect cherries and plums. For the birds like mulberries and so long as the fruit can be had they will leave even cherries to ripen in partial peace, at least. The timber is also of value. The berries are small and too sweet for the palate of most fruit eaters, but they are to be had with so little labor and at such small expense that its defects should be overlooked.

Teo's Weeping mulberry is neither tree nor vine, but one of those "betwixt-and-between" creations which frequently find a place on a lawn. The original Teo's was a sport from the Russian variety, brought to public notice by the man whose name it bears. The trees now sent out by nurseries are made by grafting this trailing Teo's upon Russian stock five or six feet above the ground. A tree-vine is produced which is used for covering arbors, or may be allowed to grow at will. It bears freely, but is of most value as an ornamental, for which purpose it has become quite popular.

A mulberry which once attracted unmerited attention is the White Chinese. Many years ago it was quite extensively planted in the hope that it would be used for feeding silkworms, but neither the tree nor the industry which was to go with it have flourished. The tree succeeds in the south, but is too tender for the north. The reason for mentioning it is to warn possible victims against unscrupulous tree agents who may offer it for sale with high claims for imaginary merits.

Most any soil is suitable for the mulberry. Even sandy, rocky places may be utilized. Then why should it not be more commonly planted, since it requires little attention and no care? Give the birds a chance, the children, too. They both will eat the mulberry if it is to be had.

Oakland Co. FRANK D. WELLS.

CARE OF SPRAYING OUTFITS.

Like many of the farm machines that are used for but short seasons of the year, the spraying outfit is apt to rust out before it wears out. Many of the parts of a spraying rig require to be in perfect order and unless they are the machine will not do its work. These parts corrode or rust during the long season when no spraying is done, with the result that the life of the machine, or many of its most expensive parts, is short—much shorter than it would be with proper care.

In leaving spraying pumps for the winter, see, in the first place, that they are stored under cover where they will be kept dry. Clean them thoroughly, taking particular pains to drain out any water which may remain in the pumps and from the jacket of the gasoline engine if power pump is used, bearing in mind that a valuable engine can be practically ruined by water being left in the water jacket and freezing. A liberal application of engine oil to all the working parts of the engine in the fall will do much to keep off rust. Nozzles and hose should be cleaned out and dried. Any wooden barrels or tanks used as reservoirs should be put away from the sun, preferably in a moist place.

PROPAGATING BUSH FRUITS.

Black raspberries propagate only by means of stolons. A stolon is a trailing branch, but in this plant, the branch reaches the ground only after describing a wide arc, and the new plants form at or near its outer extremity as these portions come in contact with moist soil.

Both black raspberries and blackberries propagate by means of suckers, the young plants springing from the lateral roots, which correspond to runners in some plants. Both the black raspberry and the blackberry, sucker in great profusion, hence there is usually no difficulty in securing new plants of these sorts in generous quantities. Much stronger blackberry plants may be obtained by means of root cuttings. These are made by securing roots the size of a lead pencil,

or larger, and cutting them into two-inch lengths, when they are buried in the ground where they will be safe from freezing, or kept in damp sand in a cellar. Callousing takes place more freely in sand. As early in the spring as the ground can be worked, the cuttings should be planted in rows four to six inches apart and covered with two inches of soil. If good cultivation is supplied, these cuttings will make nice plants in one season, much better than sucker plants because of the development of a more extensive and compact root system.

Emmet Co. M. N. EDGERTON.

THE SOOTY BLOTCH.

This disease has been quite prevalent this year, even on many sprayed orchards and has caused fruit-growers who wish to grow perfectly clean fruit considerable worry.

The sooty black spots, most often about the size of a dime, are familiar to most all apple men. This trouble and the fly speck are fungus troubles very similar in character. The name flyspeck indicates the general appearance of the latter disease. Neither one of them effect the skin of the apple as the scab fungus does but subsist entirely on the oily secretions of the skin. Therefore they are troubles that do not seriously effect the keeping qualities of the fruit, nor do they effect its shape as scab often does. Commercially, however, the fruit is injured.

This trouble is worse under moist or wet conditions either of location or season, therefore the prevalence of it this year. In some seasons it is seen very little and in some favorable locations even in wet seasons it is not often noticed.

The control of the trouble consists in pruning and spraying. A good thorough pruning to open the tops of the trees and let the sunlight in will help considerably. The usual sprayings for scab will in many orchards also control the blotch. Although some authorities recommend a weaker fungicide at the time of spraying for the second brood of the codling moth which is usually done in August, it is advisable to use the same strength as is used in the earlier sprayings on account of these diseases. In some places thorough applications of lime-sulphur as a fungicide does not control these troubles. Then Bordeaux mixture is advised and one application at the time when the apples are about the size of hickory nuts will often prevent most all of the trouble.

Orchards well pruned and in locations having a good circulation of air seldom need other sprayings than those for scab, and full strength fungicide at the August spraying.

The Spy is quite susceptible to the blotch. However, it is a variety on which it can easily be controlled as Bordeaux mixture can be used without causing rusting. Baldwin, Greening, Belmont, Maiden Blush, and Grimes are also affected.

Besides attacking the apple the sooty blotch sometimes attacks the Anjou and Lawrence pears.

Van Buren Co. F. A. WILKEN.

HOW TO GROW STRAWBERRIES.

For the beginner with limited or moderate means, I think there is no branch of farming quite as profitable as the culture of small fruits, and especially strawberries. It is not a very difficult task for the person who likes this kind of work, and is willing to attend strictly to details, to make a net profit of from \$100 to \$250 per acre.

Truly, the strawberry is a mortgage lifter, because of quick returns. Plant and care for them one season and you can reasonably expect a bountiful harvest the next.

The best soil for strawberries is an elevated, well-drained clay loam. It should have been previously well manured and planted to a hoed crop.

Before plowing, give a good dressing of fine manure. Plow to a medium depth. Work the soil thoroughly, until you have a fine, compact bed.

Plant varieties which are adapted to your own locality. Get the plants from near your home, if possible. Get strong plants. The first the parent plant produces is the most vigorous.

Spring planting is to be much preferred, because plants set in August are very hard to get started on account of the hot, and dry weather which generally prevails during that season of the year, and besides, the plants will not make enough growth that they can be expected to read much this year.

Plant as soon as soil is dry enough. The soil need not be warm. If possible, plant before the first of May. The spring rains and late snow flurries will do them good. They should start growth before the sun gets very warm.

If the varieties you select are not self-fertilizing, plant in alternate rows varieties which are; otherwise, they will not bear.

Plant in rows $3\frac{1}{2}$ feet apart, and 18 to 20 inches apart in the rows. Use a hand potato planter, or a garden trowel to make the holes. Set the same depth the plants were before they were dug. Be sure not to set too deep, for then the crowns will decay and the plant speedily die. If set the stated distances, about 8,000 plants per acre will be required.

Press the soil firmly around the roots. Leave a little loose soil on top as a mulch.

After planting is done, hoe in around the plants a liberal amount of a good fertilizer. It pays to fertilize each year. Cultivate and hoe frequently to conserve moisture, and keep free from weeds. This must not be neglected.

Clip all blossoms. Do not allow them to bear fruit the first year; also cut all runners off during the first summer, unless you may wish a few for layering where plants are missing. In this way, and only in this way, can you expect to grow very vigorous plants.

If you wish to cultivate during fruiting period, the following year, sow oats broadcast at the rate of about four bushels per acre, about the middle of August which will freeze down and make a good mulch for the winter. You may, if you like, mulch with wheat straw or wild hay, which is free from weed seeds; this is to be done after the ground freezes. In the spring, as soon as warm weather comes, rake the straw or hay in between the rows, tread it down, and you will control moisture, keep down weeds and assist in keeping the berries clean. After the picking season is over, remove the mulch and cultivate at frequent intervals till fall.

You may expect two or three good crops; then a new patch should be in readiness. Some have quite good success in renewing the old patch. The principal object in mulching is to hold the snow, protect the plants and ground, and especially prevent alternate freezing and thawing in early spring. Without the mulch the plants are liable to heave, which will work injury or ruin to them.

New York. W. D. KORB.

CONTROLLING ASPARAGUS RUST.

Breeders and growers of asparagus are advised by the United States Department of Agriculture, to take up pedigree breeding and to use careful methods of production, in order to keep rust from the plant. On the subject the Department says:

Although the breeding work carried on with asparagus will eventually lead to the control of rust in commercial plantings, several years must elapse before this result will become effective. Meanwhile it is necessary to take all measures practicable to prevent the destruction of existing fields of asparagus by the rust. To this end the main factor is to keep the rust away from the fields in summer just as long as possible.

Wild asparagus growing around the borders of the fields, along fences and ditches, is one of the worst enemies of the grower. These wild plants act as infection centers and their influence can be easily traced later in the season when the cutting beds have grown up. Wild plants wherever found, should be dug up and burned. New beds should be planted at only rare intervals of time and then if possible, where they will be to windward of a cutting bed. Keep the seedlings out of the cutting bed, at least, let none stay in at the time the bed is allowed to grow up after the cutting season. Allow no poor shoots to grow up in the cutting field. Keep down every shoot of asparagus until the middle of June and see the neighboring farmers do the same. In the fall the tops should be removed carefully from one-year-old beds that are not to be cut the next year. This will in a large measure, reduce the liability of infection from this source.

Since this has been a poor fall for keeping fruit under ordinary conditions those who have stores in their cellars, or storages, should watch carefully to see that conditions are made as favorable as possible. Ventilation, humidity, temperature, and the removal of decaying fruits are the important things to consider.

10 or More Men QUICK!

WANTED
in every township to get my special 1913 proposition and price. This offer excels everything, get in on it quick. I am going to put 10 or more spreaders in every township at once on the most startling proposition. I know, as a manufacturer that a Galloway with Mand's New Gear is the best value in America. I'll guarantee you a deal to

Save \$25 to \$50

if you answer this ad at once. Write me tonight sure. Also get my latest book—"A Streak of Gold" tells the secrets the great soil experts have discovered in land treatment with manure. Book alone worth a \$10 bill. I'll send it free. Write at once for Special 1913 proposition and prices. Wm. Galloway, Pres. The Wm. Galloway Company, 649CS Galloway St., Waterloo, Iowa. Don't Miss This Offer 30 to 90 Days FREE TRIAL. REMEMBER—We carry stocks of all our machines at Chicago, Kansas City, Council Bluffs and Minneapolis—insuring prompt shipments.

ALBERTA

The Price of Beef

is High and so is the Price of Cattle. For years the Province of ALBERTA, (Western Canada), was the Big Ranching Country. Many of these ranches today are immense grain fields, and the cattle have given place to the cultivation of wheat, oats, barley and flax, the change has made many thousands of Americans, settled on these plains, wealthy, but has increased the price of live stock. There is splendid opportunity now to get a FREE HOMESTEAD OF 160 ACRES (and another as a pre-emption) in the newer districts and produce either cattle or grain. The crops are always good, the climate is excellent, schools and churches are convenient and markets splendid in Manitoba, Saskatchewan or Alberta. Send at once for literature, the latest information, railway rates, etc., to

M. V. McInnes
176 Jefferson Ave.
Detroit, Mich.
or write Superintendent of Immigration,
Ottawa, Canada.

SPRAYERS

For large or small orchards, market gardens, potato farms, grain, cotton, tobacco, home and garden work, poultry plants, whitewashing, cleaning, cold water painting, etc. From Bucket, Knapsack and Barrel Sprayers to 2 gallon and 50, 100, 150 and 250 gallon Power Sprayers—complete or in part to build up Sprayers already in use. Ask your dealer to show them and write for new booklet, "Spraying Vines, Trees and Bushes." We also make full line potato machines, garden tools, etc.

Batemans M'Fg Co.
Box 1044
Greenloch, N. J.

The Michigan Nursery Co.

Sell Nursery Stock Direct to the Planter at a very low price and they guarantee all stock to give satisfaction. Send for our prices.
D. H. WINKWORTH, Sect'y,
The Michigan Nursery Company.

CHAMPION EVAPORATOR

For Maple and Sorghum
The experience of thousands proves THE CHAMPION the best for quality of syrup, convenience and durability. It will save you labor, time and fuel. Material and satisfaction guaranteed. Write for catalog stating number of trees you tap.
CHAMPION EVAPORATOR COMPANY
Hudson Ohio.

BAGS
WE BUY OLD BAGS SOUND AND TORN
We Pay The Freight
IROQUOIS BAG CO.
724 Broadway, Buffalo, N. Y.
Reference—Citizens Bank.

Government Farmers Wanted—\$80 to \$75 Free Living Quarters. Write Ozment, 17 F. St. Louis.

When writing to advertisers please mention the Michigan Farmer.

FARMERS' CLUBS

THE ASSOCIATIONAL MEETING.

(Continued from last week.)

In addition to the resolutions adopted on the report of the committees, which were published in the last issue, the committee on honorary members reported the names of Mrs. J. L. Snyder and Mrs. Mary C. Spencer, state librarian, whose names were added to the roll of honorary members of the Association by a rising vote. The committee on general resolutions made a report in a resolution which embodied thanks for all who had labored for the success of the meeting, particularly Mrs. C. P. Johnson, associational secretary. The committee on temperance reported a number of resolutions which were adopted by the convention as follows:

Temperance.

Resolved, That we favor a law by Congress of the United States, prohibiting the transportation of intoxicating liquors into dry territory.

Resolved, That we favor statewide prohibition, and for the re-submission of the equal suffrage amendment if lost.

Resolved, That the Michigan State Association of Farmers' Clubs, in session at the capital, most heartily endorse the great work of Superintendent G. W. Morrow, of the Michigan Anti-Saloon League, during the past year, and that we extend to him our hearty support, as he enters his new field of labor.

Resolved, That we urge the annual temperance meeting in local Clubs, conducted by the young people of the Club.

Election of Officers.

This was the last order of business in the morning session on Wednesday and the election was quickly consummated by there being but one candidate for each office, which permitted a suspension of rules and the casting of the vote of the convention by the secretary in each case, with the following results: President, Jas. N. McBride; Burton; vice-president, C. B. Scully, Almont; secretary and treasurer, Mrs. C. P. Johnson, Metamora; new directors, Messrs. R. J. Robb, Mason, J. F. Reiman, Flint. The power to appoint a corresponding secretary is vested in the president and the name of this officer will be announced later.

Wednesday Afternoon Session.

This session was opened by music furnished by pupils from the School for the Blind, which was well rendered and much appreciated. At this point the report of the committee on state affairs was made and the resolutions adopted as published in last issue. Following this, the report of the committee appointed to draft amendments to the constitution of the State Association was received, and the propositions outlined were discussed at length by delegates present. These proposed changes, which have been previously published in *The Farmer*, were adopted with only one amendment, which was a matter of compromise after much discussion, the changed sections of the constitution reading as follows:

Article VI.

Any Farmers' Club in Michigan desiring membership in the State Association must endorse by a majority vote of its members, attested by the signatures of its president and secretary, the constitution and by-laws of the State Association and file application with the secretary of the State Association, said application to be accompanied by a membership fee of two dollars. Provided, that any Club whose dues for 1912 have been paid shall become a member of the State Association and entitled to a charter upon filing an endorsement of the constitution and by-laws as above provided.

Article VII.

Every Farmers' Club shall pay to the State Association the sum of twenty cents per family membership thereof, on or before the first day of November in each and every year. Provided, that no Club shall pay a total of less than two dollars or more than five dollars.

Article VIII.

Any Club failing to pay its annual dues for one year shall stand suspended and be required to pay a reinstatement fee of \$1.50 before reinstatement shall be made.

Article VI is to replace the Article of the same number in the present constitution and Articles VII and VIII of the present constitution are to be numbered IX and X.

Upon the completion of the business of the session, Mrs. C. A. Bullock, of Hadley and Elba Farmers' Club, read a most interesting paper entitled, "Does the College Education Unfit Girls for Farm Life?" From the home word pictures presented in this paper it was made evident that a college education does not unfit girls for farm life, but that it may have a most wholesome influence in raising the standard of farm life. This interesting paper will be reserved for publication at some future date as space may permit.

Following a musical number and reading by J. W. Woodworth, of Battle Creek, Dr. Eben Mumford, of M. A. C., in charge of government field men in Michigan, delivered an address on "One Phase of Rural Development," the substance of which we shall undertake to present to readers of this department in a future issue.

The Wednesday Evening Session.

A most interesting feature of this meeting was an address by Dr. R. E. Doolittle, chief government chemist, Washington, D. C., on "The National Food Law."

In opening his address, Dr. Doolittle touched upon the necessity of good food and proper nourishment, not only of brain and body workers, but of children as well, and in summing up this feature of his address, said that it has been most aptly and truthfully said that "pure food is the basis of health, and health the basis of happiness, vigor and even morality." The doctor stated that, while science has done much to show the importance of proper food, there are many problems, both educational and commercial, to be solved before we are assured of a pure and wholesome food supply. The educational problems are being rapidly solved by our schools and colleges, but the commercial problem of a pure and wholesome food supply is a most difficult one, and it is with this that the pure food laws have to deal.

Dr. Doolittle outlined the opposition of greed which has been made upon every hand, both in the passage and enforcement of the pure food and drugs act, which governs interstate commerce in food and drug products. In speaking of the terms of this act, he defined adulteration and misbranding of food within the meaning of the act, which definitions have been previously summarized in this paper. In speaking of the more simple forms of adulteration, Dr. Doolittle said that, while at first sight it does not seem a grave misdemeanor to reduce the cost of that product, as for instance, milk, by removing the cream, or by increasing the volume by the addition of a little water or by similar methods of adulteration which do not make the food product especially deleterious to health, yet these forms of adulteration have a most important interest to the consumer. Such adulteration is a commercial fraud of the worst character, is securing money under false pretenses and the guilty man is as much a thief as is the highway robber. Furthermore, the man who practices these adulterations is not particular as to the ingredient which he may add, whether wholesome or otherwise.

Continuing along this line, Dr. Doolittle enumerated many of the more common forms of adulteration or misbranding encountered by the officials in the enforcement of the pure food and drug act, making it clear that anything and everything is permitted to be used for food purposes in the preparation of same, until some official can secure sufficient evidence to

convince a judge and jury of twelve men without technical knowledge, that the product is injurious to health.

In speaking of more ideal conditions of affairs, Dr. Doolittle said: "How much better it would be if such substances were prohibited in foods until the manufacturer could demonstrate to a committee of properly qualified physicians or nutrition experts that his product was wholesome and conducive to good health." Next Dr. Doolittle took up the subject of chemical preservatives, discussing their harmful nature, and later in his address devoted considerable attention to a discussion of drugs coming under the food and drugs act. In speaking of their all too common harmful nature, he said: "It is remarkable how many ills apparently affect the American people, and how prone we are to seek remedies therefor. Drugs and medicines when prescribed by physicians are necessary for the restoration and preservation of health, but the medicine taking habit as it exists today is to be condemned. Fresh air and sunshine, a careful and judicious selection of wholesome foods, exercise in the open air, sufficient sleep and a cheerful spirit are much better antidotes. When these fail the physician should be called."

In closing, Dr. Doolittle called attention to the misrepresentation of products not covered by the food and drugs act and to the wholesome sentiment favoring legislation to control interstate commerce in such products. Many other valuable and interesting lessons were drawn in this address which space will not permit us to dwell upon in this report.

Another most interesting feature of the evening program was an address by Prof. W. H. French, on "Agriculture in Rural and Secondary Schools," of which the following is a brief synopsis:

The public schools of our country are organized for a definite purpose—that of training our children physically, mentally and morally. At least this has been their function. We now add to this vocational training. We do not need a new system of education, but we may re-organize and revitalize the old.

The viewpoint of the old system was classical and aristocratic. The viewpoint of the new must be social and democratic.

It is becoming more and more evident that in the elementary and secondary field of industrial or vocational education the public school can give to the people the best service. Private and special schools cannot solve the problem of general skilled labor.

Agriculture is a basic industry, and, therefore, should be the first taught. It can be inaugurated most easily and with less expense because of the ease of correlating the agricultural subjects with those already taught in the public schools.

In the rural school there are two phases of work:

First, what we may call the essentials, consisting of reading, writing, arithmetic,

the elements of grammar, history, civics, physiology and geography. These constitute the working tools of the child which will unlock for him the world's accumulation of literature, science, art and industry.

Second, the elementary principles and practice in the fundamental industries. This will include the elements of agriculture, manual training, domestic science and domestic art.

The largest purpose in including the second division is to arouse an interest in and respect for the home, the farm, the shop. The State Course of Study provides for the teaching of the elements of agriculture and home economics. The practical work will consist of gardening, elementary cooking and sewing, and shop work. In order to promote the work in rural schools we are planning the organization of Junior Agricultural Associations, or boys' and girls' clubs.

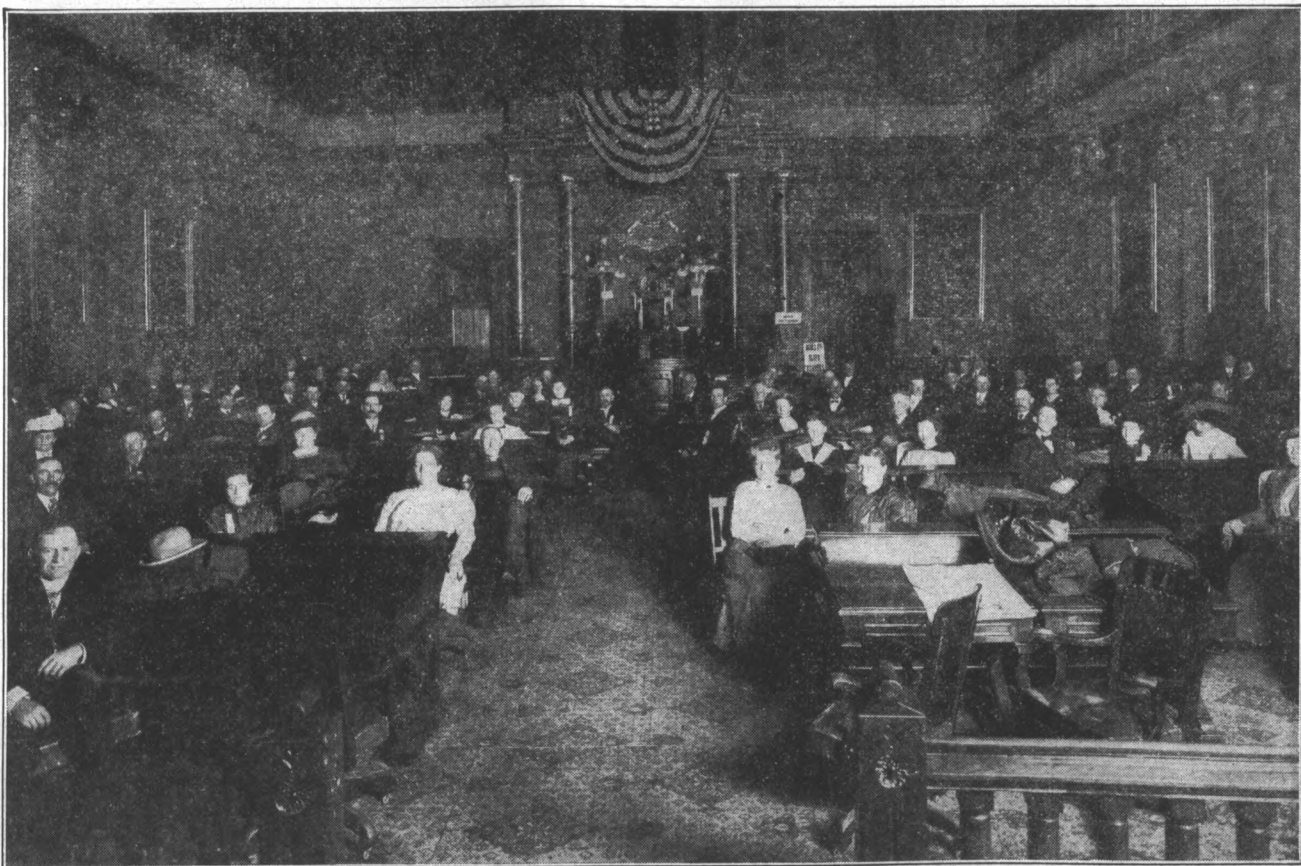
During the past year agriculture has been taught in 1,135 rural schools, and in 28 counties, corn contests, have been conducted for the boys, and in 15 counties, potato contests. Garden work and domestic science exhibits have been planned for the girls.

In order that the home may be more directly interested, the Junior Agricultural Associations are organized. This will give the children home projects to which they may apply the principles learned in school, and at the same time arouse the interest and guidance of the parents. In the high schools we have arranged a course in secondary agriculture which consists of that part of general agriculture corresponding to the science of work already done in our high schools. It consists of one unit in each of the high school grades. An average of 60 per cent of the boys in the high schools elect the agricultural work as against the languages.

The aim is not merely hand or vocational efficiency, but also intellectual efficiency, for we believe that there can be no industrial efficiency without intellectual efficiency. The trained mind is as essential to the manual worker as to the brain worker. We aim to make the work in farming attractive, and to teach fundamental principles and practices in order that we may produce better farmers, better farming and better farm products. We aim to set up an agricultural and industrial ideal toward which the boys and girls may move as they develop in their educational course. We aim to press home to the student the idea of his responsibility to the community, and to utilize the great forces found in farmers' organizations, such as the Grange and Farmers' Clubs.

We believe that the boy represents the potential man, and that he should be educated for his day and generation.

Thus closed the twentieth annual meeting of the Michigan State Association of Farmers' Clubs, which the enthusiastic delegates declared to be the most interesting and beneficial of any yet held by the organization.



Scene at the Twentieth Annual Meeting of the Michigan State Association of Farmers' Clubs in Representative Hall.

GRANGE

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

FORTIETH ANNUAL STATE GRANGE.

Last week's gathering of Patrons of Husbandry at Sault Ste. Marie marked the end of four decades of Grange endeavor in Michigan. With the thought that it has required forty years of loyalty and determined effort to bring the organization to the proud and powerful position it now occupies, comes something of a realization of the difficulties encountered and the obstacles necessarily overcome by the order's sturdy pioneers. That they laid the foundation well has been proven by the manner in which the organization weathered early storms and has withstood attacks and misrepresentations from without and within in more recent years.

A royal welcome awaited the more than 400 delegates, the patrons of Chippewa county and the residents of the city uniting their efforts in providing entertainment. From the time that Governor Osborn greeted the delegates at the opening session until the officers for the ensuing two years had been installed in the wee small hours of Saturday morning, there was not a dull or unoccupied moment. Tuesday afternoon was given over to the Master's address, which is reviewed farther on in this report, and to reports of minor officers. Wednesday morning to further reports, introduction of resolutions and their reference to committees, etc.; the afternoon and evening to the State Lecturer's program which included an exhaustive consideration of the principles of co-operation; Thursday morning to election of officers and reports of standing committees; the afternoon to degree work, in which two Chippewa county degree teams exemplified the fourth degree in competition for a handsome silver cup; the officers of State Grange acted as judges, awarding the cup to the team representing Pine Grove Grange. Thursday evening the fifth degree was conferred upon a class of 78 and the sixth degree was given to a class of 140. Friday, as usual, was the busiest day of the week, the work of hearing and acting upon the reports of the numerous committees carrying over to the evening session, which closed with the installation of officers. This, in brief, covers the week's work, but the State Lecturer's program, which developed unusual interest in the subject presented, and the work of the important committees must be presented at length in later issues.

Innovations, in the way of entertainment features which greatly relieved the monotony of routine convention work, consisted of an illustrated lecture by L. C. Holden on the history and resources of that section of the state; a most excellent and advantageously situated exposition of Upper Peninsula products, not only natural products but manufactured articles as well. Here were seen agricultural displays which had been shown at state and county fairs, practically all grains, grasses and vegetables being represented. An interesting feature was an exhibit of dressed beef, mutton and pork from animals fattened solely upon the grasses, which include alfalfa, of that region. In connection with this exhibition of products the poultrymen of the county held their annual show, having advanced the dates to make them coincide with this meeting. The splendid quality of this show was the subject of much comment. All in all, this free exposition of products was thoroughly enjoyed by all, besides proving a fruitful source of information to many. Another feature which proved entertaining and educational as well, consisted of a parade of draft-horse teams which took place on Wednesday afternoon. The number and quality of the animals shown was such as to raise the question of whether any other county in Michigan can make a showing superior to this one.

Master Hull's Address.

The State Master's review of the past year showed quite satisfactory growth, the actual figures revealing a steady and consistent gain during the winter months and the usual falling off in the busy summer. During last winter the membership, as indicated by dues paid, reached the highest point in the organization's existence. It, however, seems impossible to prevent a falling off in number of meetings and in attendance and interest when the busy season on the farm arrives. This condition he held to be due

largely to the scarcity of farm help, and it is not peculiar to the Grange alone, as it has been the history of every permanent movement for the betterment of mankind. With this condition in mind, he advocated special efforts at the close of the busy season to re-awaken active interest. To this end, during the past season, every Grange in Michigan was asked to hold a rally or home-coming in November. He referred also to the efforts of the deputy force to prevent this decline each season, and stated that it costs more to maintain an efficient deputy force in Michigan than in other states. The reasons are that Michigan has more Granges—more even than New York whose total membership is nearly twice that of Michigan. In the second place, the state is so divided and extended as to make it more difficult and



John C. Ketcham.

Elected Master of Michigan State Grange at last week's meeting.

expensive to cover the ground. Also, our Granges being small, a material falling off in attendance so depletes the ranks as to invite discouragement and disaster. The present force of deputies was pronounced loyal and efficient and the system of dividing the state into sections, with a deputy in each section and one in each county, where possible, was deemed the best that can be had at present.

Speaking of Grange influence upon state legislation, he held that Grange agitation for a tonnage tax upon the products of Michigan mines led to the special appraisal of mining properties which has been made and which has resulted in increasing mine values for taxation purposes about 300 per cent. The Giles law for interchange of telephone messages, in securing which the Grange figured prominently, is still a victim of the court's delay. The Grange also strongly supported the efforts to secure a preferential primary for nomination of presidential candidates, and gave valiant support to the cause of equal suffrage.

Discussing taxation matters the Master cited the exemption from taxation of corporations by cities, the slight taxes levied upon valuable franchises and the various ways in which money and other forms of property escape assessment, as agencies which tend to shoulder an undue proportion of the tax burden upon the farmer. While separation of state and local taxes would undoubtedly correct some abuses, he believed that this remedy could as easily lead to even greater abuses. The corporate excess plan has some commendable features, in his opinion, but the revenue from it might vary from year to year. Also it would require the services of industrial and tax experts, and he held that with the employment of such experts corporate holdings can be made to pay their just share of taxes under the present system. Added authority may have to be given to the state commission in order to reach such cases, but at present that seems the best solution of the taxation problem. Michigan's mortgage tax law, prior to 1911, was held to be very unjust and, while the new law can hardly be said to have had a thorough test as yet, he believes it worthy of further trial. That it will lower interest rates to any appreciable extent was doubted, however, and the Master recommended the investigation of the New Hampshire law, which exempts from taxation farm mortgages drawing a rate of five per cent or less.

Federal aid for road improvement was held to be on the way, and reference was made to the recently enacted Shackelford bill giving \$10 to \$20 per mile for

the maintenance of certain classes of roads used by rural mail carriers. The activity of other powerful interests in endeavoring to secure federal appropriations was regarded as threatening to the best interests of farmers and the recommendation was that the latter should be constantly on guard to secure the most practical use of the funds which the government will surely appropriate for road purposes in the near future.

All boys who want to practice agriculture should be taught agriculture, and in order to do this to best advantage the Master held that the common school curriculum should be unloaded by dropping some subjects that are of minor importance as compared with agriculture and home economics. He asked endorsement of the so-called Page-Wilson bill which, he explained, provides for the co-operation of federal government and the states in promoting instruction in agriculture, the trades and industries and home economics in secondary schools; in preparing teachers for these vocational subjects in state colleges of agriculture and in state normal schools; in maintaining extension departments in state colleges of agriculture and mechanical arts and in maintaining branches of state experiment stations.

The Southern Commercial Congress, which met at Nashville, Tenn., during the year, proposed an investigation of rural credit systems of European countries and voted to ask each state to appropriate \$2,400 for the purpose of sending two delegates to Rome to attend the International Institute of Agriculture, then to visit other countries, studying their rural credit systems, and report their findings with recommendations. The National Grange, at its recent meeting, gave this movement its approval on condition that one of the two delegates from each state be a practical farmer and Master Hull requested the delegates to consider the matter at this meeting.

Admitting that the parcels post law, which goes into effect with the new year, is not all that the Grange wished, and that it was impossible to secure the passage of the postal express measure which the Grange favored, it was recommended that the new law be given a full and impartial trial, feeling sure that when once in full swing the possibility of reducing the rates and increasing the weight limit will become apparent.

The section of the address devoted to oleomargarine legislation was a very strong one. It explained how the cheap grades of animal and vegetable fats are used in the manufacture of oleo to such an extent that the first cost of the product is about one-half that of good butter; also, how through the Grout law the

standard for oleomargarine at a tint produced by the admixture of 55 per cent of pure white with yellow. This is a tint lighter than that of ordinary butter made from cows on dry feed, but allows enough color so that oleo manufacturers need not bleach the ingredients of their products. It was recommended that the legislative committee support this measure, which is now before Congress, in every possible way.

The address reviewed briefly the work of the recent National Grange meeting held at Spokane, the proceedings of which were given in this department last week. Regarding the much-discussed question of proportional representation in the National Grange, Master Hull expressed the opinion that the adoption of the plan proposed by the Michigan State Grange at former sessions is superior to the one rejected by the National Grange this year, but that either plan would so increase the expense of the National Grange meeting as to render an increase in dues to the National Grange necessary. He also explained that it is difficult to amend the constitution of the National Grange, as amendments must first be passed by two-thirds vote of the delegates at a National Grange meeting and then receive the approval of two-thirds of the Grange states.

Recommending that the tenure of office in the State Grange be limited to two terms, Master Hull closed with a brief review of his two-term administration, during which time 200 subordinate Granges and 50 Pomonas have been added to the roster, the funds of the organization steadily increased, and the membership and influence of the order materially strengthened.

Membership and Finances.

The figures submitted by the secretary and treasurer made a satisfactory showing for the year. Based on dues received, Secretary Hutchins placed the present total membership well above 50,000, which number was exceeded by only a few hundred last year. This gain resulted largely from the growth of old established subordinates rather than from the organization of new ones, the number of new Granges formed being less than half that of the preceding year. Treasurer Coward again issued a detailed financial report in pamphlet form for distribution to the delegates. The summaries showing the assets of the organization and the year's cash receipts and disbursements are as follows:

Invested Securities.

Bonds & securities, Dec. 1, 1911.	\$46,000.00
Bonds paid	500.00
Bonds & securities, Dec. 1, 1912.	45,500.00
Cash on hand Dec. 1, 1912.....	1,979.31
Total invested funds	\$47,479.31
Cash in gen'l fund, Dec. 1, 1912	1,404.16

Total

Total

Invested Funds, Cash Items.

Cash on hand, Dec. 1, 1911.....	\$1,859.31
Interest received	2,320.00
Bonds paid	500.00
Total	\$4,679.31
Transferred to Life Ins. Co	\$1,500
Transferred to gen. fund.. 1,200	2,700.00

Cash on hand Dec. 1, 1912.....

Receipts, including Cash on Hand Dec. 1, 1911.....

Cash on hand

Fifth and sixth degree fees.....

From co-operation (contract system)

Dues, etc.....

Total

Less orders drawn for the year..

Cash on hand Dec. 1, 1912.....

Prominent items in the detailed statement of disbursements from the general fund are \$6,076.22 covering expenses of State Grange meeting of 1911; \$2,488.54 in fees to National Grange; \$1,821.68 covering expense of conducting the contract system, which, by the way, is somewhat less than the cost of the system last year while the returns, aggregating \$6,875.29, are more than \$800 greater than for the preceding year; \$1,500 was given to the support of the life insurance company and more than \$500 was expended in support of equal suffrage. The remainder of the year's disbursements were mainly for organization, supervision and rally work, the total paid out during the year, for all purposes, being \$21,784.31. The year's expenses are thus seen to have been rather heavier than usual, but this was nearly offset by the gain in receipts, the cash balance on Dec. 1 of this year being only \$200 lower than on the corresponding date last year.

Cash on hand Dec. 1, 1912.....

Prominent items in the detailed state-

ment of disbursements from the general

fund are \$6,076.22 covering expenses of

State Grange meeting of 1911; \$2,488.54 in

fees to National Grange; \$1,821.68 cover-

ing expense of conducting the contract

system, which, by the way, is somewhat

less than the cost of the system last year

while the returns, aggregating \$6,875.29,

are more than \$800 greater than for the

preceding year; \$1,500 was given to the

support of the life insurance company

and more than \$500 was expended in sup-

port of equal suffrage. The remainder of

the year's disbursements were mainly for

organization, supervision and rally work,

the total paid out during the year, for

all purposes, being \$21,784.31. The year's

expenses are thus seen to have been

rather heavier than usual, but this was

nearly offset by the gain in receipts, the

cash balance on Dec. 1 of this year be-

ing only \$200 lower than on the corres-

ponding date last year.

I find the Michigan Farmer far super-

ior to many of the farm papers of the

day—in size, quality of paper and, best

of all, selection and high standard of its

contents. Best wishes for the success of

The Farmer.—Mrs. W. D. Ripley, Lectur-

er Pomona Grange No. 4, Erie Co., Pa.



T. E. Niles.

The popular Steward of State Grange, after many terms of service, was re-elected without opposition.

dairy interests have tried to prevent its substitution for butter, and how the argument that the ten-cent tax imposed by the Grout law affects the cost of living for the laboring man has led to the introduction of the Lever bill, which provides for the removal of the ten-cent tax, and how the dairy interests, in turn, have drafted a bill designed to do away with the ten-cent tax but at the same time protect the consumer and producer more fully against fraud. In this bill difference in color is made the test, the Department of Weights and Measures having found a way of accurately measuring color. The proposed law fixes the

Premiums in Exchange for a Little of Your Time

As recently announced we discontinued giving premiums with each subscription to The Michigan Farmer and greatly reduced the subscription price. As we have a great many of these premiums on hand we have decided to give these to our friends who will secure for us two or more subscriptions to The Michigan Farmer. At the new reduced rates it will be an easy matter to induce your neighbors and friends to subscribe with you and the premium will pay you well for your trouble. The premiums will be given according to the number of points credit and below we give a table showing how points are credited.

Price to remit for The Michigan Farmer and how the points are counted.

1 Year 50 cents counts 1 point
2 Years \$1.00 counts 1½ points
3 Years \$1.25 counts 2 points
5 Years \$2.00 counts 3 points

3. New and renewal subscriptions count alike.
4. Clubbing offers containing The Michigan Farmer will count for points the same as if the Michigan Farmer were ordered alone. No credit of points is given for others papers.
5. Points will count only on subscriptions sent by yourself and sent direct to us.

These conditions should be read carefully:

1. No premium is given for less than two subscriptions for The Michigan Farmer.
2. Your own subscription will count for points provided at least one other subscription for The Michigan Farmer is sent at the same time.
6. Orders can be sent as taken and points will be placed to your credit. When you have the required number of points premium will be sent.
7. If you wish sample copies to distribute request them and they will be sent you.

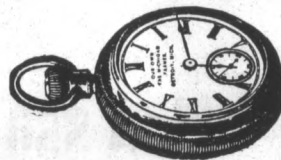
Address all orders and correspondence to—

The Michigan Farmer, Detroit, Mich.

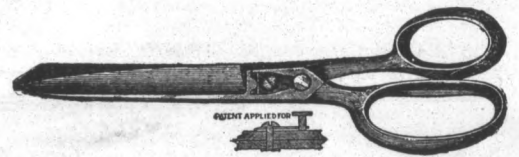


"Presto" the "All-in-One" Razor Strop

This strop is made from the finest horsehide leather, tanned by special processes, then chemically treated with "all-in-one" solution. This preparation is so thoroughly incorporated in the leather that it is guaranteed not to peel, wear, scrape or wash off. Any man can strop a razor with as keen an edge as can the most expert barber. A few strokes on the sharpening side, followed by a like number on the finishing side does the trick. The lot we have purchased are "Extra Strong" and it requires but little stropping to bring a dull blade to a hair splitting edge. Mention premium No. 211. Free for only two points. Postpaid.

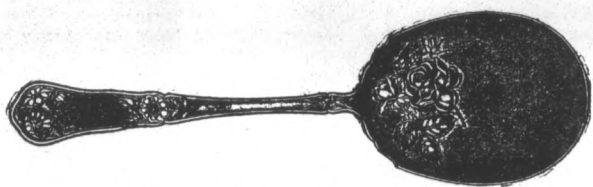


Every boy, young or old, would be proud to carry one of these watches. It is 16 size with nickel case. Stem set and wind. Regular watch movement with hair spring. Keeps good time. Guaranteed by the makers and repaired free of charge for one year if given ordinary care. Any boy who really wants a watch can easily earn one in one afternoon. Mention Premium No. 175. Sent postpaid for only three points.



Patent Tension Shears

Good quality of material, 8 inches long, with patent adjustable spring tension bolt, preventing the blades from spreading and giving a clean cut the full length. We have sent out thousands of these with excellent reports from users, and they have been one of our most popular premiums. Mention Premium No. 159. Sent postpaid, free for two points.



Reliance Plate Berry Spoon

Made by the Oneida Community in the beautiful Wildwood pattern. Extra heavy plate, guaranteed for 25 years. Length 8¼ inches; Bowl 2¼x3½ inches. Mention Premium No. 195. Free for only three points. Postpaid.



Myers' "Awl for All"

LOCK STITCH SEWING AWL, with straight and curved needles. Makes a lock stitch with one thread and one operation. For harness, sacks, canvas or any heavy sewing. Regular price of this awl is \$1.00 in most stores. Mention Premium No. 123. Sent postpaid, free for two points.



Six Reliance Plate Tea Spoons

For those who are exacting and wish a high-grade silver plated teaspoon we have a large quantity of Oneida Community Reliance plate spoons in the beautiful Wildwood pattern. These spoons are plated by a special Oneida Community process and are guaranteed for 25 years. They are sold by all leading jewelers at the protected price of \$1.00 for a set of six. Mention premium No. 218. Free for only two points. Postpaid.



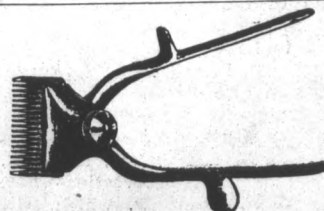
A Genuine German Razor

Not a cheap razor such as is generally used as a premium. It is made of best steel, black handle, hollow ground, 5/8-in. concave blade; honed and stropped ready for use. Guaranteed to give satisfaction. Mention Premium No. 210. Sent postpaid, free for two points.



Six Rogers German Silver Tea Spoons

These spoons are made of the same metal throughout and are guaranteed to last a life time. They can be kept looking bright by cleaning them with a good cleanser. The design is beautiful and the spoons are good enough to use on all occasions. Mention premium No. 216. Free for only two points. Postpaid.



Made by the Herman Boker Co., of the very best material. Just the thing to clip the boy's hair with and save the barber expense. Guaranteed to give satisfaction. Mention Premium No. 223. Sent postpaid, free for three points.

SPECIAL COMBINATION OFFERS.

FEATURE OFFER No. 1.

MICHIGAN FARMER to Jan. 1, 1914.
COSMOPOLITAN, regular price, 1.50.
WOMAN'S HOME COMPANION, regular price, \$1.50.

All For \$2.65

FEATURE OFFER No. 2.

MICHIGAN FARMER to Jan. 1, 1914.
DELINEATOR, regular price, \$1.50.
AMERICAN BOY, regular price, \$1.00.

All For \$2.25

FEATURE OFFER No. 3.

MICHIGAN FARMER to Jan. 1, 1914.
MOTHER'S MAGAZINE, regular price \$1.00.
BOYS' MAGAZINE, regular price, \$1.00.

All For \$1.90

FEATURE OFFER No. 4.

YOUTH'S COMPANION, new subscribers only, regular price, \$2.00.
MICHIGAN FARMER to Jan. 1, 1914.
WOMAN'S WORLD, regular price, 25c.

All For \$2.20

FEATURE OFFER No. 5.

MICHIGAN FARMER to Jan. 1, 1914.
POULTRY POINTERS, regular price, 50 cents.
THE HOUSEWIFE, regular price, 50c.

All For \$1.00

FEATURE OFFER No. 6.

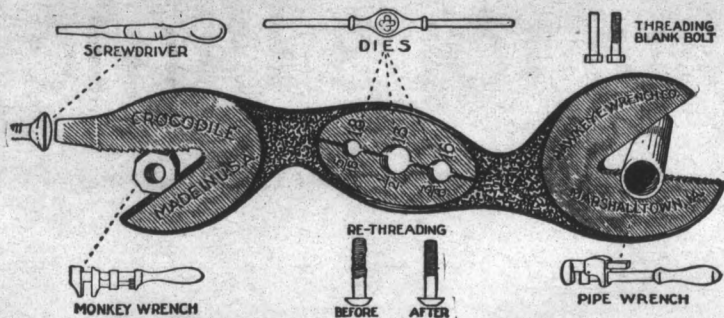
MICHIGAN FARMER to Jan. 1, 1914.
MUSICIAN, regular price, \$1.50.
WOMAN'S WORLD, regular price, 25 cents.

All For \$1.65

FEATURE OFFER No. 7.

MICHIGAN FARMER to Jan. 1, 1914.
WOMAN'S HOME COMPANION, regular price, \$1.50.
BOYS' MAGAZINE, regular price, \$1.

All For \$2.25



Farmers Ideal Combination Wrench

Six Handy Farm tools in one. A pipe wrench, a nut wrench, a screw driver and three dies for cleaning up and rethreading rusted and battered threads. Dies fit all standard bolts used on standard farm machinery. Requires no adjustment, never slips. Will work in closer quarters than any other wrench. Every farmer should carry one of these handy little wrenches on a binder, reaper, mower, etc. They are light, strong, compact and easily carried in hip pocket. Mention Premium No. 222. Sent free for only two points. Postpaid.

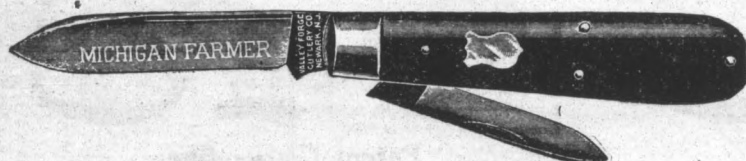


New Combination Reference and Anatomical Wall Chart

Consists of 3 sheets and 6 pages, sheets are 28x36 inches. Virtually 6 charts combined.

1. Map of Michigan.
2. 1910 Census.
3. 25 Live Stock Plates.
4. Farmers Handy Manual.
5. Atlas of the World and U. S.
6. Charts of Panama Canal.

This Wall chart must be seen to be fully appreciated. It is the best collection of charts ever brought together. The anatomical feature will save many veterinary bills. Mention Premium No. 215. Sent postpaid. For only two points.



Farmers Extra Quality Pocket Knife

Made by the famous Valley Forge Cutlery Co. Two blades made of best razor steel. Ebony handle. Brass lined and well finished throughout. Guaranteed to give satisfaction. Mention Premium No. 217. Free for two points. Postpaid.



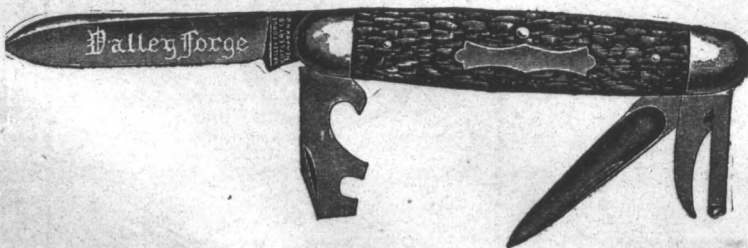
Solid 14-K Gold Point Fountain Pen

This fountain pen is not one of the cheap, plated point pens usually given as premiums, that will corrode in a short time and then are worthless. This pen has a genuine 14k gold point. The barrel and cap are made of hard rubber. The manufacturer fully warrants it for one year, and repairs during that time due to defect will be made without charge or pen exchanged. The guarantee slip is packed with each pen. Ask for Premium No. 221. Free for only two points. Postpaid.



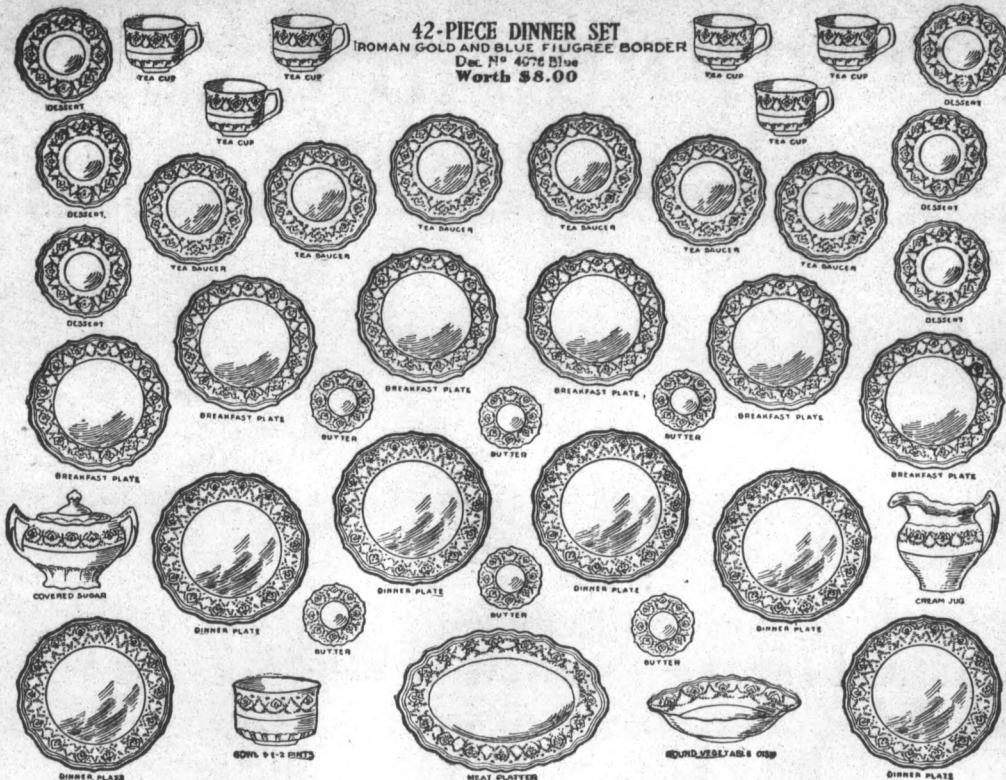
Silver Plated Carving Set

Consists of Knife 10 inches long, and Fork 7 1/4 inches long. Blade of knife and prongs of fork are made of best cutlery steel. Handles are silver plated and stamped with a beautiful design. The plating is on white metal, therefore it cannot wear through and show brassy. This set is easily worth \$2.00. Mention Premium No. 224. Free for only four points. Postpaid.



Handy Combination Knife

Six handy tools in one. Contains large knife blade, screw driver, tack puller, patent bottle cap remover, punch blade and can opener. Made of the very best steel. Guaranteed to give satisfaction. Mention Premium No. 225. Sent Postpaid for Three points.



42-PIECE DINNER SET
ROMAN GOLD AND BLUE FIGURE BORDER
Dec. No. 4076 Blue
Worth \$8.00

42-PIECE DINNER SET FREE.

A new set of dishes are always welcome, as the old ones will break and spoil the set. We are here offering an opportunity for every woman to secure a new 42-piece set of extra fine china in exchange for a few hours work. The ware is good and is fully guaranteed not to check. The border decoration is a beautiful roman gold and blue filagree.

OUR OFFER.

We will send this 42-piece set by freight, charges paid, to your nearest railroad station

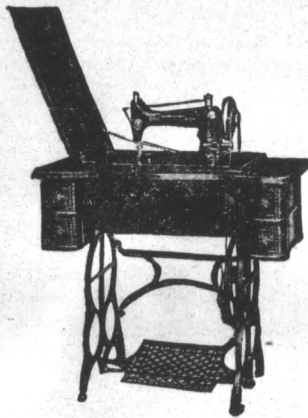
FREE FOR ONLY 14 POINTS

- or for 10 points and \$1.25 in Cash.
- or for 8 points and 1.75 in Cash.
- or for 5 points and 2.50 in Cash.

This is certainly liberal as you only need 14 one-year subscribers, or seven three-year subscribers, or five five-year subscribers, or you can get some of each, just so that the points amount to 14.

Be the first to start in your neighborhood.

A \$50 Sewing Machine Easily Earned



We have made it possible for any woman in Michigan to secure one of our New Model Drop Head Sewing Machines, in exchange for a little time spent in getting subscriptions to The Michigan Farmer. The sewing machines offered are of the best quality obtainable. Automatic lift, oak or walnut table. We sell this machine for \$19.00 cash, and machines no better are sold through agents for \$50.00.

OUR OFFER

We will send one of these machines, freight prepaid, to your nearest railroad station, FREE FOR ONLY 60 POINTS, or for

- 50 points and \$ 3.00 in Cash.
- 40 points and 6.00 in Cash.
- 30 points and 9.00 in Cash.
- 20 points and 12.00 in Cash.
- 10 points and 15.00 in Cash.

Start in at once—get the men folks and children to help you—you will find it easy to get subscriptions at the new reduced rates. Send for our illustrated catalog fully describing the machine, also for sample copies to use in getting subscribers.

LADIES' or GENTS' GOLD WATCH

Easily Earned in a Few Hours.

Almost every person has a desire to own a good gold watch but some do not wish to or cannot afford to spend the money for one. Here is a splendid opportunity to own a high grade gold watch without spending one cent of your own money.

GENTS WATCH

An excellent American movement in 16 size gold filled case, guaranteed to wear for 20 years. Fully warranted to be an excellent time-keeper. This watch sells at retail jewelry stores for \$12 to \$15.

LADIES' WATCH.

High grade, Elgin movement in size gold filled case, guaranteed to wear for 20 years. Plain or beautifully engraved case. Sells ordinarily for \$15 to \$18.

OUR OFFER.

Gents Gold Watch will be sent postpaid free for only 25 points. Ladies' Gold Watch will be sent postpaid free for only 30 points.

Subscriptions to The Michigan Farmer at the new reduced rates are easily secured, also there are many thousand whose subscription has or will expire soon and as renewals count the same as new ones no difficulty will be experienced in getting the required number of points. By getting 3 and 5-year orders you greatly reduce the number of subscriptions necessary.





Here are two actual photographs taken the same day the same hour. They illustrate two fields of corn—one adjoining the other. The scene at the left shows an average corn field. The scene at the right shows a field in which stumps stood last year. It took no more seed, no more labor, no more investment of time or money, to raise the field that will probably produce a 90 bushel-per-acre

crop than the average field that will probably produce a 35 bushel-per-acre crop. The climate was the same for both fields—and the rainfall was the same.

We merely want to show you how much money you are losing by leaving the stumps stand, when you can so easily turn those stumpy acres into dollars.

Pull Out The Stumps

Plant on Virgin Soil—And Reap a Double Harvest

PULL out the stumps! Stump land eats up half the money your land is worth if cleared—and *all* the money you would get if you raised *crops* where the stumps now stand besides the taxes which now return you *nothing!* Land is too high priced to be wasted that way. Crops bring in too much money to be *passed up* that way. You have *paid* for all your land—why not *farm* all of it?

HERCULES Stump Puller

**All Steel—
Triple Power
30 Days
Free Trial
3 Year
Guarantee**



B. A. Fuller
President

Says to You:

BE sure to mail me the coupon at once. When you read my fine free book you will know what it means to pull out the stumps and how easily it can be done with the Hercules. You will see what *others* have done with the Hercules and what *you* can do. And my special price will interest you. I'll save you big money if you write me now. Stop *wishing* the stumps were out—get busy with a Hercules and they'll be out—*big profits for you.*

**Mail Me the
Coupon or a
Postal NOW!**

Let me send you my new, fine, free book at once. I want to show you proof of how you can make \$1,281 profit on forty acres the first year and \$750 every year after, in extra crops and added value of land—by pulling stumps with the Hercules—and how you can make big money in your spare time by pulling stumps for your neighbors or by renting your machine at a nice profit.

Clears an Acre of Land a Day

My book shows actual photographs and prints actual letters from owners, telling of the remarkable feats of the Hercules—how it pulls any size stump, green tree or hedge in less than five minutes—how it easily pulls an acre or more a day. Read how one man increased his land value from \$25 an acre to \$125. Read how easy it is to *clear an acre or more of land a day.* The fastest working machine made. Prove to yourself that the Hercules pulls the biggest stump in five minutes—an acre or more a day—and three acres without moving the machine. Settle the question of stumpy land once for all. My book will tell you how—the quickest, cheapest, surest, *safest way.*

Special Features

The Hercules is the only all steel triple power Stump Puller made. It is the only puller that

has the single, double and triple power features, giving you three machines in one. There isn't a stump, green tree or hedge grown that the Hercules won't pull out without straining or breaking any castings. It's the only low-down constructed puller that has self-anchoring and stump-anchoring features—the only one with double safety ratchets, that insure the absolute safety of men and team. Its all steel construction means 60 per cent less weight and 400 per cent greater strength than any cast-iron or "semi-steel" puller made.

New Low Price

My special advertising offer will enable me to quote you my new low price—a figure that saves you at least 50 per cent of the *regular* price, and which will make you a Hercules owner if you have the least use for a machine that rids your fields of all standing stumps. I can continue this offer only a short while longer—to first buyers in each locality.

Mail Postal or Coupon

Just simply your name and address on the coupon or on a postal is all I want so I can send you the facts, my book, 30 day trial offer, 3 year guarantee and special price proposition. Send *now* before you forget and see how easy you can clear your land—and what it means. Address

B. A. Fuller, President, HERCULES MANUFACTURING CO.
837 21st Street, CENTERVILLE, IOWA

Get My Fine Free Book I want you to mail me the coupon or a postal. It will give me an opportunity of sending my grand free book about pulling stumps. It will enable you to read all about the Hercules—its features, the 30 day free trial offer and my remarkable 3 year guarantee—which insures the replacement of any broken casting for 3 years—whether the fault is yours or the machine.

**Send
Your
Name
Now
For
This
Great
Book
Of
Facts**

**Free
Books
Coupon**

Hercules Mfg. Co.
837 21st Street
Centerville, Iowa

Gentlemen: Please send me all free books about the only All-Steel Triple-Power Stump Puller. Also your 30-day free trial and low-price-to-first-buyers proposition.

Name

Town

State R. F. D.

NOTICE!

Grand Prize Yellow Strand Wire Rope Used on HERCULES PULLERS!

It is this Yellow strand wire rope that won first prize at St. Louis Exposition proving twice as good as next best cable. It is this Yellow strand wire rope that is being used by the U. S. Government at Panama on the real important work of building the canal. And experts say this Yellow strand rope is

one of the big helps that will enable Uncle Sam to complete the canal a whole year before expected.

Don't forget—it's the Yellow strand cable that is showing such wonderful strength, the Yellow strand rope that is beating all others on every test put to it, under all conditions

all over the world. And it is the Yellow strand wire rope that is used exclusively on the Hercules Stump Puller—not a green strand, blue strand, white strand or red strand—but a YELLOW strand—don't forget that—and don't let any unscrupulous person or company confuse you.

