

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

JOURNAL.
ESTABLISHED 1843.

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

VOL. CXLIII, No. 18.
Whole Number 3807.

DETROIT, MICH., SATURDAY, OCT. 31, 1914.

{ 50 CENTS A YEAR.
{ \$2 FOR 5 YEARS.

Solving the Good Roads Problem.

THE good roads question still bulks large among the urgencies of Michigan. As to the best roads for the money, evidently the last word has not been said, for great differences of opinion still exist, even among the experts. Indeed, it will be hard to lay down hard and fast rules a dozen years hence, when we shall know much more about road construction than we do today, because of varying conditions. One section of the state will stick to stone, another to gravel, others to brick and other material. And all of them will be right, no doubt.

Wayne county bonded for \$2,000,000 and has built many miles of concrete roadway in the vicinity of Detroit. Kent county voted good roads bonds for \$600,000 three years ago, and is now working on 220 miles of main trunk lines, mostly gravel. One mile of concrete road has just been opened for traffic on the South Division road, starting at the south limits of Grand Rapids, which has been built as an experiment. Alvah W. Brown, chairman of the Kent county road commissioners, believes that gravel is far more economical for road building in this section, and he figures it out this way: A concrete road, seven inches thick and 16 feet wide, costs around \$12,000 per mile, while a gravel road costs \$4,000. This means a difference in first cost of \$8,000, and this sum placed at interest at five per cent yields \$400 interest per year. Now, take but half of this sum, or \$200, and this money, if spent judiciously in upkeep and improvement on a mile of gravel road cannot help but make the road better every year. The gravel will get thicker and the road will get wider, while in addition there will be money enough for a binder, the application of tar, via, glutrin or some other material to keep down the dust arising from automobile traffic. As to the application of oil to arrest dust, Mr. Brown says experiments that were made by an oil company on the Butterworth road here have not proven satisfactory. In California and other dry climates the oil has worked well.

Ohio has many miles of brick road leading out of Cleveland and other cities, but the clay beds and the brick kilns there makes brick road construction much cheaper in Ohio than in Michigan. Trap rock, which is abundant in the upper peninsula,

is admirable for road building but is no better than the "hard heads" of the lower peninsula, which are being bought of the farmers in Kent and other counties and crushed for use on the roads. Kalamazoo, Kent, Genesee and perhaps other counties, are using jail prisoners to good advantage in road building operations, especially in handling stone for the crushers.

miles of good roads next season. Wexford claims more miles of good roads, population considered, than any other county in the state. Wealthy lumbermen of Cadillac have helped in this work.

Calhoun county now has 111 miles built under the state reward system and the road commissioners have asked the supervisors for \$66,000 to con-

and that the plan of building one mile of road in each township be followed the coming year; also that a road maintenance fund be opened.

Charlevoix county has extensive road building plans. It is proposed to increase the county road tax from two mills to three. Five miles of stone road have been completed and work is now in progress on the Deer Lake road. The Advance road, Walloon road, and others, will receive attention. Boyne City business men are helping. There is a project to build a cement road around Pine Lake.

Houghton county has an extensive program of road work for 1915, calling for an expenditure of about \$50,000. It is recommended that all macadam roads built in 1913 and 1914 be given a surface treatment of oil to prevent dust. The county built 33.3 miles of road this year and of these 10.3 miles were bituminous macadam, 8.5 water bond macadam, three miles gravel and 11.5 dirt.

Genesee county supervisors have been asked to raise \$81,000 for good roads work next year. Flint will hold a "Good Roads Day" celebration on October 29, marking the formal opening of the main arteries leading to the city. It will be a civic holiday, with speeches, parades and other festivities.

Marquette county spent over \$71,000 on its roads last year and the money available for this year's work amounts to \$66,000.

The good roads question is a live issue in Berrien county. Last year

the board spent \$198,000 in construction of what Benton Harbor papers call "little ribbons of soft stone 12-foot wide," otherwise known as "water-bound macadam." The road board recommends that over \$222,000 be spent in similar fashion during the coming year, with exception of the Lake Shore road and part of the Paw Paw river road, which are parts of the state trunk line system, and are to be 16 feet wide. It is proposed to build 31 miles of macadam road, spreading the usual tax of two mills. Some people favor gravel and others who support macadam admit that the use of a binder of tar product may be necessary.

Bay county supervisors have voted a tax of one and a quarter mills for road purposes.

Other counties are becoming interested in the solution of their road problem; while



A "Ribbon of Stone" Typical of Permanent Roads Built in Berrien Co.

These men are usually paid 50 cents per day and board, and in the case of married men the money goes to the support of the families. Single men get the money on completion of term of sentence, and they have something with which to start being men again, if they will.

Wexford county will build seven

tinue the work next year. Of this sum, \$10,000 is for maintenance, \$2,000 for new equipment and the balance for building new highways.

Oakland county road commissioners in their report to the supervisors have laid out a road building plan which will cost over \$120,000. They recommend that a two-mill tax be levied



Hard Surfaced, Well-shaded County Roads Add Much to the Attractiveness and Value of Adjacent Farms.

the permanent improvement work being done by townships throughout the state is of considerable magnitude. Altogether satisfactory progress is being made in the solution of the good roads problem in Michigan. While there is still great opportunity for improvement, our roads are being materially bettered throughout the state and at the same time our road officials are learning valuable lessons in the school of experience, regarding the best type of permanent road construction and the most economical methods of accomplishing the work.

Kent Co. ALMOND GRIFFEN.

PROBABLE EFFECT OF THE EUROPEAN WAR ON AMERICAN AGRICULTURE.

Unless we have proof to the contrary, the presumption is that war is an injury rather than a benefit to agriculture. Although it causes scarcity of food products, it also causes scarcity of commodities which the farmer must buy. If the goods which the farmer buys are made as scarce as the goods which he sells, he gains nothing. A rise in money prices, in itself does the farmers, as a class, little or no good, excepting instances where they sell a product which, through scarcity, has risen in price. This is true of horses and wheat at the present time. It has closed some of our markets for apples and potatoes and caused a reduction in their price.

If agricultural products generally are made much scarcer than other products, the farmers as a class may gain, because their produce would rise in price more rapidly than other things.

There is no convincing reason to expect that the present war will cut down agricultural production more than production in other things.

On land, the war will be chiefly confined to national frontiers, and therefore not destroy crops over very large areas.

Men to fill the armies will not be drawn from agricultural pursuits more largely than from other industries.

Much agricultural work on the continent of Europe is still done by women. This work is done almost entirely by them during the war. More of this work may be done by machinery than has been done heretofore in Europe. During our Civil War agricultural machinery spread very rapidly. The basic necessities of life, food, clothing, and shoes are wastefully consumed by armies. The reduction in consumption will be in the finer and more luxurious products.

Russia, the world's largest producer of wheat, will have difficulty marketing it, although surplus wheat from the great producing areas around the Black Sea may find an outlet through the Mediterranean. At any rate, the price of American wheat should rise if the ports of western Europe are kept open. The combined empire of Germany and Austria-Hungary, can feed themselves for an indefinite period, unless they are over-run by hostile armies which seems at present improbable.

War is particularly destructive to horses. During the Boer war 40,000 horses were sent from Kansas City alone, for British South Africa. Probably a quarter of a million will be bought in America during this war.

England, being mistress of the seas, should be able to maintain her factories in normal condition, most of the help employed being women.

Since so large a proportion of the American cotton crop is consumed abroad, a partial closing of European markets has depressed the cotton industry. After the war the world will be clamoring for cotton.

Germany has a monopoly on the supply of potash. During the war we shall get none for fertilizer purposes. Vast quantities will be used in the manufacture of explosives, tending to class.

increase its cost after the war is over.

Since the three countries, Germany, Austria and Russia, produce more than two-thirds of the beet sugar, and almost one-third of all the sugar consumed, both cane and beet, we must expect a scarcity of sugar until the product of these three countries, is again given an outlet.

There are at present 175 German ships in New York harbor waiting until the war is ended, to carry produce to Europe. From this it can readily be seen that prices of our produce will rise more at that time than at any time during the war. It is a part of American thrift to adapt ourselves to circumstances, and if the war continues for several years we shall adjust our conditions accordingly, build up our merchant marine, seek markets in South America, raise our own drug plants, and produce substitutes for what we have heretofore depended on Europe to furnish.

Oakland Co. C. W. MELICK.

ERADICATING WIREWORMS.

Would you kindly advise me as to the best way to treat ground to get rid of wireworms?

Van Buren Co.

W. W.

Fall plowing will prove beneficial in the eradication of wireworms, as turning up the soil late in the fall will tend to destroy some of the larvae by thus exposing them to the elements. It will take two or three years, however, to thoroughly eliminate them from the soil, as this insect spends this length of time in the larval stage. Where the wireworms are very bad, it is sometimes necessary to devote the ground to some crop which is distasteful to them, as buckwheat or rape, to be used as a hog or sheep pasture, as these crops are not injured as badly as some others. When the wireworms are once eradicated, which will be the case after the land has been devoted to cultivated crops for two or three seasons, the pest can be kept in check by devoting the land to a short crop rotation. Wireworms are always more troublesome on an old sod which has been mowed or pastured for a number of years.

LILLIE FARMSTEAD NOTES.

We finished sowing wheat on October 10. This is risky farming, I know. It is really too late to sow wheat in this latitude but then, I am simply taking the chance. I have done the same thing before and won; that is, I had a fair crop, and I have also done the same thing before and lost. But then, I have sown wheat in September before now, even before the 15th of September, and lost, and so has nearly everybody. I wanted to get in the 100 acres this fall, so I sowed later than my judgment told me was safe. Just the same, all the wheat sown the latter part of September has made very little growth. It might almost as well have not been sown. The ground was so dry most of the seed did not come up. My man finished sowing the last field at noon on October 10 in the rain; it has been very rainy weather ever since and today is the 14th. It rained quite a shower Friday night, October 9, but the ground was so dry that we could finish sowing on the 10th in the forenoon, but it rained all the afternoon. It has not been a downpour. The land is not packed so I console myself for the late sowing, thinking that the late sown wheat will stand just as good a chance as any. But I am not the only one to sow wheat late this fall. In fact, people are still sowing, and some will sow after this date, and perhaps keep on sowing till snow flies. It is surprising to see how anxious we all are to try and meet the demand for a world's shortage next year, caused by the great European war which transfers so many from the producing class to the consuming class.

There is no doubt in my mind about the anticipated demand next year. How can it be otherwise, even should the war stop as suddenly as it began, which it probably will not. The people of Europe can not, from the very nature of things, put in the usual acreage of grain, and the world needs a normal supply, hence it is the duty of the American farmer to try and make up for this by sowing an extra acreage. While I am satisfied about the demand I am not fully satisfied that we will make any profit out of this late sown wheat. It is sown, however, and we must take our chances.

I wanted, for once, to grow 100 acres of wheat. If we did not have to cut out the public road and a building spot and garden on one field I would have 100 acres, but probably 95 acres by tape line or chain measure would come nearer the exact measurement. We have got two 40 acre fields and a 20 acre field sown.

This acreage of wheat never could have been sown had it not been for the traction engine. Only 10 acres of this land had to be plowed. The rest was 40 acres pea stubble, 20 acres pea and oat stubble, seven acres of bean ground, 23 acres of corn stubble, and 10 acres of bean failure. We plowed 10 acres with horses in early September, when the engine was out of commission, and we fitted two side hills too steep to work the engine on and we harrowed 60 acres over with the spring-tooth harrow once ahead of the drill, when a little too wet for the engine to work well. This was all the work performed by horses in preparing the whole 100 acres for wheat, and I think that the whole area was as well fitted for wheat as any ground we ever sowed to wheat. Not only this, but all this work was done by one man. To my mind this is rather remarkable to have one man almost entirely prepare, and prepare well, 100 acres of land for wheat. And besides, the work was done so easily. Of course, we drilled the wheat with horses.

On the corn stubble we could not work a spring-tooth harrow on account of its clogging, so we hitched one big engine disk behind the other and once over the land fitted the ground well. One would not believe the transformation that was made by passing over the land once. The corn ground had not been any too well cultivated, ether. This was really equivalent to disking four times and anyone will agree that will work land up fairly well. Both the disks were double action disks, weighing over 1800 pounds each, besides we put on several good sized stones to weight them down. One man could fit 10 acres per day of this raw corn stubble and prepare it for the wheat drill.

It has been a splendid fall for the engine work. No rain, and we could go right along over any of the fields. Some times conditions are against traction power, but this fall conditions were very favorable.

It was necessary to stop filling silos to put in part of the wheat and so we haven't all the silage corn cut yet. If the weather goes against us we may lose on this job, but we are hoping for favorable weather to finish in.

COLON C. LILLIE.

NEWAYGO COUNTY CORN CLUB.

Newaygo county has without doubt, one of the most active and thorough-going boys' and girls' corn clubs in Michigan. It was founded several years ago by Commissioner Isabella M. Becker as an aid to the practical teaching of agriculture in the schools. Last year there were 92 exhibits placed in the show-room and the present enrollment numbers 152 boys and girls.

The county board of supervisors appropriated \$100 to be distributed in prizes and at the request of United States Agent Blandford an additional

\$75 to be used in the purchase of suitable seed, which was furnished free to all contestants.

The enrollment was so much larger than was anticipated that considerable trouble was experienced in securing sufficient seed corn. As the season was becoming somewhat late Mr. Blandford placed the seed in his motor car and distributed it in person among the various schools.

Beginning July 13 a series of field classes were held throughout the county. After a lively discussion as to the principles of correct corn growing at the schoolhouse, the class would whenever possible, adjourn to the plot of some member. It being a busy season many were not able to attend, but many others walked three and four miles over hot sandy roads to be present.

Newaygo county club members are conforming in every respect to the regulations of the U. S. Department of Agriculture. Each boy or girl grows one full acre of corn. The leading prizes are determined by the standing according to the following schedule: Yield, 30; profit, 30; exhibit, 20; story, 20; total, 100.

Special emphasis is being laid upon the proper selection and curing of seed corn. The young farmers will be expected to provide themselves with good seed corn for the coming year. Mr. Blandford will endeavor to aid them in disposing of the surplus at a profitable figure.

POTATO SHOW AT HOUGHTON.

The Houghton County Farm Bureau's first annual potato show opened October 16, with some 80 exhibits made, including 14 different varieties of tubers. The show was well attended by farmers, town people and school children and as a special feature hot baked potato was served by the domestic science department of the Houghton schools, with talks by Miss Helen M. Case, principal, on cooking and serving potatoes. It was declared that the paring of potatoes is a national waste and should be prohibited. Diggers, sorters and other potato machinery was shown and the potatoes were exhibited in shipping boxes, such as have been adopted by the Houghton County Potato Growers' Association, with the association label on each box.

An effort is being made by growers to specialize on a few varieties of round white stock, such as the Sir Walter Raleigh, Cobbler and Rural, and the Greeley and American Wonder, are also being tried out. The idea is to raise a good commercial type of potato of uniform size and quality, such as buyers will accept in carlots.

The judges awarded prizes for exhibits as follows:

Sir Walter Raleigh—First, J. G. Bertrand, Sr., Pilgrim; second, Dr. W. K. West, Painesdale; seed, Chas. V. Delfs, Lake Linden.

Irish Cobbler—First, W. B. McLaughlin, Houghton; second, Charles Lahuala, Liminga; seed, E. V. Benison, Pilgrim.

Early Varieties—First, J. B. Bertrand, Sr.; second, J. H. Foley, Dollar Bay.

Late Varieties—First, George Milenboch, Pilgrim; second, J. H. Rice, Houghton.

Sweepstakes—Best bushel commercial potatoes, J. G. Bertrand, Sr., Sir Walter Raleighs.

Most attractive bushel, any variety—John C. Morissette, of Chassell, Greeleys.

Houghton county will show the prize-winning potatoes at the state potato congress, to be held later.

Kent Co. ALMOND GRIFFEN.

The man who makes a cheap or unreliable article seldom boasts of it. It is the man who turns out something unusually well done who tells his story to the world.

Fremont Fall Festival.

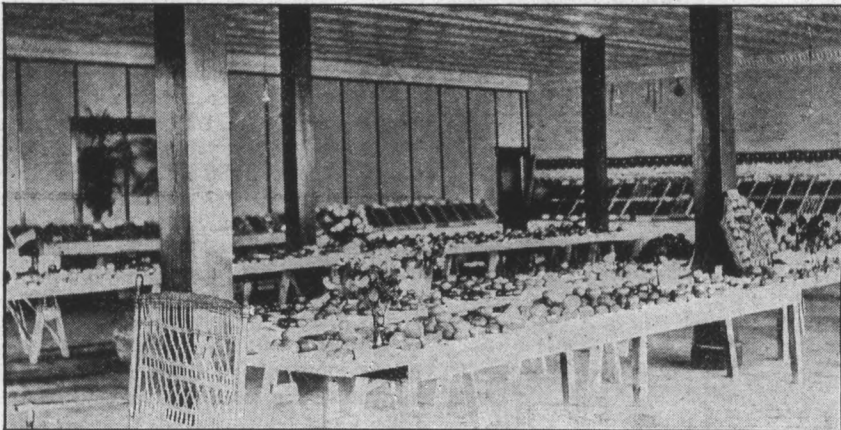
THE first annual Fall Festival which was held October 15-16, was a complete surprise in every way. The success of this venture lay in the backing of the Fremont Board of Trade and the untiring efforts of County Farm Agent H. B. Blandford, who worked night and day to make it a success, and it certainly was. The many exclamations of surprise that came from visitors over the wonderful coloring seen in the apples and not a few had seen apple exhibits at land shows, said that those exhibits had nothing on the Fremont show. True it is that color was the predominating feature of the Festival and three sides of the large show room were lined with box after box of red, yellow, and green fruit, while in the center were six large tables that fairly groaned with the load of plates exhibited upon them. But not only were apples in prominence, but also a fine exhibition of corn, potatoes and vegetables. The exhibit this year is only a beginning of what will happen in the future for already growers are planning on the next year's exhibit and many who have seen their mistakes this year are preparing to remedy them a year hence.

While the show was planned for potatoes, apples and corn, it turned out to be more of an apple show than the other two, and it is doubtful, had it not been for the inclement weather

seven bushels of apples from the thinned trees and seven and a half from the unthinned. When sorted there was one bushel of culls from the thinned and two bushels from the unthinned. Not only was the amount of culls the striking lesson, but the color of the apples from the thinned tree was so much better as to draw out a striking lesson in regards to thinning.

Over 30 boxes of potatoes were shown, with Carmen, Rurals, Petoskey and Sir Walter Raleigh the favorites. There were also 25 exhibits of corn, with Pickett's yellow dent in the lead, but other varieties of yellow and white corn on exhibition.

On Thursday afternoon, Mr. H. P. Davis, of the Department of Agriculture, Washington, D. C., gave an interesting dairy cow demonstration on the main street of Fremont, which was well attended. Three breeds of dairy cattle, Jersey, Guernsey and Holstein, were represented, coming from nearby dairy farms. Mr. Davis took up the type that is desired in the dairy cow with the animals at hand showed where the good points were and what the poor ones were. Following his work a class in animal husbandry from the Fremont high school, took the cattle and proceeded to do some judging work that was highly instructive. On Friday afternoon, Dr. Eben Mumford, of the M. A. C., talked to an interested group of farmers on



A Fine Apple Exhibit was a Feature of the Fremont Fall Festival.

early in the week, the entries of apples would have been so heavy that accommodations would have been lacking, for as late as Wednesday inquiries came in asking if they might bring down a box or two of this and that, which had not been entered on account of the weather.

For the first show there was a total of 67 farmers who made exhibits from one kind of apple to between 30 and 35. E. J. Taylor, John Jacklin, Wilkes Stuart and George, were the heavy exhibitors and all four showing excellent fruit and taking a heavy share of the premiums. E. J. Taylor had the best ten-box exhibit, and the largest collection of single-box apples. With nine boxes of fruit on exhibition, George Monroe had four firsts and three seconds. By actual count there were 520 plates of apples and 160 boxes, besides several baskets of seedling apples and a barrel or two showing packing methods. Of these apples on exhibition, the following were the favorites: Spy, Wagener, and Hubbardston, with Grimes Golden, Jonathan, Baldwin and Greenings following closely. A great deal of admiration was expressed for the excellent color shown in the Spy and Jonathan and not a few growers disposed of their crops of these apples on the spot for a nice sum. One of the striking examples of up-to-date methods of horticulture was shown in the products of two trees of Wageners, one thinned and the other unthinned. The trees grew on the John Jacklin farm and early in the season one was thinned by Mr. Blandford. From the two trees which stood side by side, came

the work that is being carried on in the county, and what is being accomplished and what should be accomplished.

Newaygo Co. K. K. VINING.

FLOOR FOR ROOT CELLAR.

Am building a root cellar and would like to use a concrete floor, but some who have tried same claim the potatoes will not keep on account of the moisture seeping through. Would it help to use a board floor on the cement?—Subscriber.

Much will depend upon the character of the soil in which this cellar is built, as to whether the moisture will seep through the floor to an extent which will injure the keeping quality of the potatoes. Where good drainage is provided, either through the open character of the soil or by artificial means, this trouble will not be experienced, but in very wet soils it is sometimes troublesome unless the floor is properly waterproofed. This waterproofing is accomplished by applying coal tar pitch or asphalt to the floor, then laying a layer of tarred paper, giving another coat of pitch and another layer of paper, then applying the pitch and putting a thin coating of cement over the whole. The cellar should be warmed up if possible, before this is done, and the pitch should, of course, be applied hot. It would be cheaper and perhaps quite as satisfactory to put in a false board floor as suggested, raising it up two inches from the other floor on scantlings; leaving a little space between the boards of this floor will aid in providing suitable ventilation,



Look Here Men

Just 50¢[¢] per Garment

At 50c per garment and \$1.00 per union suit "Hanes" is positively the biggest winter underwear value in the United States. Men have been so accustomed to pay \$1.00 per garment for winter underwear that they can scarcely understand how "Hanes" have crowded so much value into their product to sell at 50c per garment. All we want you to do is to examine "Hanes" Underwear at your local dealer's.

50c Per Garment
\$1 Per Union Suit

Note the elastic collarette that fits the neck snugly and prevents gaping. The improved cuffs that hug the wrist and cannot flare out.

The Unbreakable Seams—

Your money back or a new garment for any one returned with a broken seam. If our mills weren't right in cotton land, if we did not buy our raw materials direct in large quantities—if we did not specialize on one grade of underwear only, "Hanes" would cost you \$1.00 per garment instead of 50c.

If you can't find the "Hanes" dealer in your town, be sure and write us.

P. H. HANES KNITTING CO., Winston-Salem, N. C.

This label in every garment



Buy none without it

**MOVE EASIER
LIFT MORE
NEVER
BALK**

The Louden Litter Carrier

**THIS MAN TELLS
WHY HE PREFERS
LOUDEN CARRIERS**

will enable you to pick up the manure at each stall and convey it direct to the manure pit or to the spreader, without any hard lifting or pushing. A light pull on the hand chain will raise or lower the carrier to height desired, and it will stand firmly at any elevation, empty or loaded; has no trouble-making ratchets, brakes or clutches. Has the most powerful lifting gear of any carrier and moves easily on roller-bearing trolley.

No matter how small or what kind of barn you have, you'll find the Louden Carriers a profitable investment—they will pay for themselves over and over in labor and time saved.

We will send you sketches and suggestions free, for your new barn or remodeling your old one, if you will write us what size and kind of barn you need, also how many cows and other stock you wish to care for.

The Louden Line includes also Steel Stalls and Stanchions, Maternity Pens, Bull, Calf and Pig Pens, Alignment and Go-Right devices, Spring-balanced Mangers and Manger Partitions, Barn Door Hangers, Hay Tools, Power Hoists, Etc.

Write us for free illustrated catalog, or see your dealer.

LOUDEN MACHINERY COMPANY
1906 Briggs Avenue Fairfield, Iowa

DIRECT FROM MILL TO ROOF

WE PAY THE FREIGHT

Buy at the Wholesale Price

Don't buy any roofing 'till you get our free samples and prices. Compare them with any others. See how cheaply you can buy the Best quality galvanized steel roofing direct from the Mill—and keep the Dealer's profits in your own pocket. Our roofing resists fire, is proof against lightning and the elements, requires no repairing and gives longest wear. Can be laid over old shingles, prepared roofing or nailed to rafters. Anyone can put it on, without special tools. Strengthens old buildings and makes them look like new.

Guaranteed Steel Roofing

We Guarantee every sheet to be full weight, first quality open hearth roofing steel; coated by our exclusive process extra-thick, extra-tight galvanized coating, free from flaws and brand new—OR IT DOESN'T COST YOU A CENT.

Get our Free Samples and Steel Roofing Book before you buy ANY roofing. Test these samples in every way, notice the heavy galvanized coating which will not flake off nor crack. We want you to make every possible comparison, because we know it will prove to you that our roofing is the best and most durable.

We will send full instructions for measuring and applying.

WRITE US TODAY.

The Ohio Galvanizing & Mfg. Co.,

43 Ann St., Niles, Ohio



Use NATCO Drain Tile—Last Forever

Farm drainage needs durable tile. Our drain tile are made of best Ohio clay, thoroughly hard burned. Don't have to dig 'em up to be replaced every few years. Write for prices. Sold in carload lots. Also manufacturers of the famous NATCO IMPERISH-ABLE SILO, Natco Building Tile and Natco Sewer Pipe.

NATIONAL FIRE PROOFING COMPANY, Fulton Building, PITTSBURGH, PA.

Live Stock.

Beef in the Making.

A BUTCHER from the city came out and bought two bunches of fat steers. He paid 75 cents a hundred more for one lot than for the other. And Smith is pretty sore since he found it out. But I happened to see samples of meat from each of the two lots and am fully convinced that the butcher knows his business, and knows it much better than some farmers know theirs. I sympathized somewhat with Mr. Smith until I saw the meat in that butcher's shop. The two samples, one from each of two different animals, looked just about as much alike as the best of veal and bear steak. I had never before thought there could be so much difference in two pieces of meat of the same kind. It set me to thinking on the subject.

The influence which the kind of feed has upon the finished product is a question which deserves the most serious thought and attention of all farmers.

But there is another reason why those steers brought a low price. Of course, they demanded a low price because they would not make a good quality of beef. But there was a reason for this—and the steers were not to blame.

Those steers had been "roughed through" two winters and two drouths. Four times in their lives had they faced starvation for weeks at a time. Now, whenever a steer, or any other animal, undergoes such a hardship his whole anatomy is changed. His physiological makeup is changed to a form that is likely to withstand such hardships and allow the animal to live. It is only a case of the peculiar ability of an animal to adjust himself to his environment so as to preserve life. And such changes cause the flesh to be reconstructed to meet the emergency. This destroys the good quality of the meat, and makes the animal unable to lay on flesh. This is the reason you can't make anything out of a badly stunted animal. When he once fails and the different physiological structure is formed and a different physiological functioning of the system is well established he never returns to the normal state.

Such conditions are indicated more or less clearly by the outside appearance of the animal. While he may have been brought up to something like a respectable appearance by an expert feeder, still will his tell-tale hide show what lies beneath the skin. And the butcher had eyes.

Long hair, thick, heavy skin, a general, rough appearance, lanky, a raw-boned appearance in spite of the fat that has been piled on, rangy and generally awkward looking. "A bull hide never hides tender, fine-grained and fine-flavored meat." So my butcher friend declared. "I want a square, block animal," he said, "with a healthy coat of hair, a soft, pliable skin, a sharp eye, life in 'im, and neither a bull's neck or a bull's hide." And I thought as I looked at the meat, that he was guessing pretty close.

Some steers are naturally poor feeders. It isn't always possible to tell the badly stunted animal from such a one. But it isn't necessary to do so since neither are wanted for the feed lot. They look alike, act alike and feed out in just about the same manner. Good feeding and the best of attention will make a big change in the appearance of either, but chunks of fat cannot cover up the deficiencies completely.

The only animals that can make

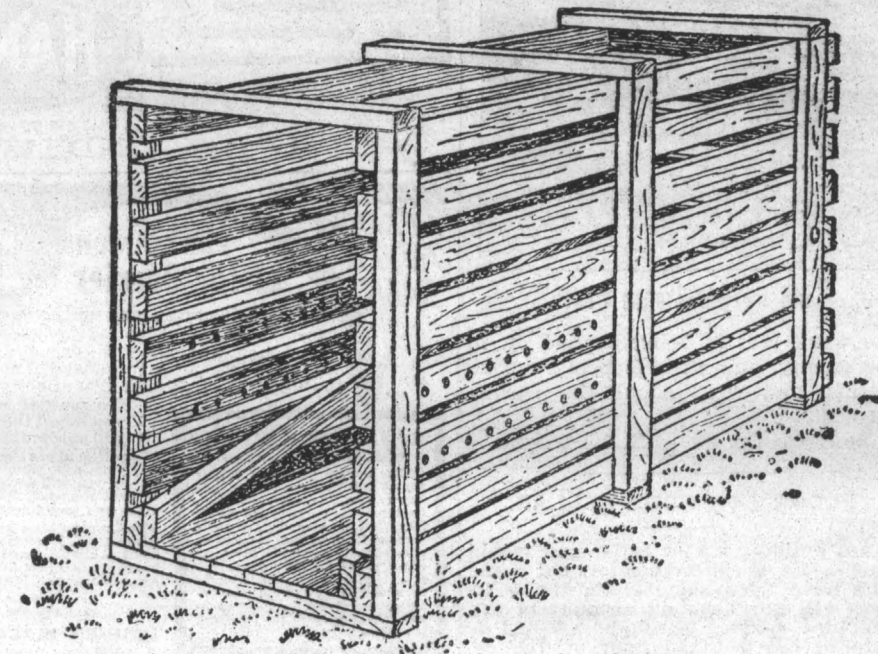
such meat are those that grow and develop steadily from calf-hood to the time when they are ready for the block. The stunted animal loses money for you every time. He costs as much in the end and sells for less. Those who try to economize on the feed bill by "roughing" young stock through are sure to lose money if the process is carried far enough for the animals to be stunted. Good growing feeds are comparatively cheap and may be raised on the farm so as to reduce their cost to the minimum.

Give enough feed to keep the animal growing steadily, pure, whole-some, untainted feeds so as not to impair either the fineness or the flavor. Pure water in sufficient quantity, and all supplied in sufficient amounts at all times to finish the steer completely and in good form at two years of age. Then if you don't make money on him it's somebody else's fault. Indiana. E. P. H. GREGORY.

BREEDING CRATE.

I am a subscriber of your paper and would like to ask where I can purchase a swine breeding rack. If you cannot tell me where I could get one, would you publish a cut of one in your paper? Saginaw Co. J. J. McI.

We reprint the description and illustration of a crate described in Farmers' Bulletin No. 205. The best size is 6 ft. long, 2 ft. 4 in. wide, and



2½ ft. high. It is made of 2x4-inch scantling, closed in front and open behind. On each side nail a 2x4-inch strip, reaching from the bottom at the rear end to a point about 14 or 16 inches from the top at the front end for the boar to rest his feet on. The holes in the side cleats are for an iron rod to run through, just behind the sow's hock joints. The cut shows the bottom boards put in lengthwise. If put in sidewise, the boar will not slip so much. Light slats nailed crosswise will prevent slipping.

FOOT AND MOUTH DISEASE.

An outbreak of foot and mouth disease among cattle in some of the northern counties of Indiana, and southern counties of Michigan, is seriously occupying the attention of the farmers. Dairymen are especially apprehensive. Secretary of Agriculture David F. Houston has ordered the establishment of a complete quarantine against the shipment of cattle, hogs and sheep from the affected territory on account of the outbreak. In

Laporte county, Indiana, 40 head of cattle have been ordered to be killed on account of the disease, but in St. Joseph county no orders to such an effect has as yet been received. Representative Barnhart has taken the matter up with Secretary Houston, and has been notified that the government will pay one-half of the expense of fighting the disease, but that the state must pay the other half.

A very serious outbreak of the disease has been discovered near Niles, Berrien county, Michigan, where at least 300 cows are reported to be affected. Prices of milk have not yet been affected, however.

So extremely infectious is the disease said to be that a farm occupied by diseased animals is not safe for other animals for several months after the disease has disappeared. The experts also claim that enough virus may be left along the road which diseased cattle have passed to infect other cattle that pass several hours later, and that small animals, such as dogs, cats, rats, and birds, or even boots or clothing of men, may carry the disease. Indiana. D. L.

FEEDERS' PROBLEMS.

Feed for Young Pigs.

Will you please tell us what to feed little pigs? We have about 20 and expect more soon. Am living on a new place, not much cleared, and so cannot raise as much corn and other things as I would like. Are cull beans and sugar beets good for winter feed for pigs? Gratiot Co. W. J. D.

In the absence of skim-milk there is nothing better for young growing pigs than wheat middlings. The best ration I know of is a mixture of skim-milk and wheat middlings and a little corn. Wheat middlings have a nutri-

tle corn also. As they grow older, increase the corn ration and when finishing for market the ration can be quite largely of corn. Get the pigs to eating sugar beets as soon as possible and give them all they will eat without waste every day.

Pigs in the winter time should have a warm, dry place to sleep and also to eat in, but allow them to run out during the day if they wish. If the weather is very cold it will pay to feed the middlings slop warm. You can use hot water to mix it up with little trouble. Pigs should not be compelled to eat ice cold slop in cold weather.

HANDLING BALKY HORSES.

There has always been something fascinating to me about buying, training and working with horses. I have studied and handled them all of my life and now I am 54 years old, and yet I am learning something new about "man's best friend" every day. I once owned a beautiful Clydesdale horse, one of the best and most faithful animals at times that ever tightened a tug, but he had a habit of getting balky once in a while, perhaps on account of former bad driving or abuse, which are the causes of balkiness in a good many cases. This horse seemed to get up "cranky" some mornings. When he was in this mood the points of his ears would almost touch each other, and this was the signal for trouble. The remedy was to hitch him up and keep puttering around the wagon, sometimes offering the horse beside him a handful of oats. This would take his mind off his sulky mood. He seemed almost to court punishment at such times and not to let on that you noticed him was a sure cure. After a few minutes he would start off and be all right for a long time. A few years ago I purchased a pair of horses that were very balky at times. I knew all about this when buying them and took a chance on reforming them. They were each different in disposition. One was as crafty as a fox and would not stand a bad driver. The other was a willing worker but had been abused. This is how I cured them, drove them around several times with the empty wagon, then I put on a very light load, after which I loaded them up gradually and after a time I had their confidence. I used them for five years and a better team to work I never owned. I find that a few horses are born with a balky streak, the same as others are kickers, but the majority of balkers and kickers are driven to it by careless drivers, overloads and abuse. A driver that does not know his business in nine cases out of ten starts to abuse and whip his horses when they get stuck with a load. This is the wrong thing to do. A good teamster knows when a team has done its best when in a bad place. Instead of abusing the animals, he does the very opposite, petting and encouraging them. It is wonderful how far a little judgment will go in getting a load out of a bad place. Sometimes it may be necessary to dig in front of the wheels or remove part of the load, but no one should ever let his temper allow him to abuse his team. It doesn't pay. Kind treatment has a more lasting effect than anything else in the great majority of cases. Illinois. W. M. HARDY.

At a recent race meet in the agricultural district of Brady township, Saginaw county, "Butcher Boy," a fast horse owned by Ed. Coppennoll, made a speed record of 2:08. Many good horses were in opposition, among them being a little brown filly named "Topsy Hal," owned by Julius Brown, of Shiawassee county. This association for sportsmen, started by Brady farmers, is going to make one of the greatest and most popular places for sportsmen's gatherings in the state of Michigan. Saginaw Co. C. J. BRAINERD.

Dairy.

CONDUCTED BY COLON C. LILLIE.

Holstein Sale a Success.

The seventh annual sale of registered Holstein-Friesian cattle in the dairy building at the state fair grounds in Detroit, was the largest ever held in the number of cattle sold. The attendance was good, considering the unfavorable weather, and the 155 head of cattle sold at prices satisfactory to both buyer and seller. The sales totaled \$34,370, making an average of \$221.74 per head. This is about \$13 less per head than the high average of last year.

The highest price paid was \$500 for Burdondale Countess Korndyke, a fine ten-months-old heifer calf raised by W. E. Fellows and bought jointly by W. B. Jones and J. F. Lentz. The lowest price paid was \$40 for a nine-months-old bull calf.

The following list gives the names of all the consignors, animals sold, approximate ages, names of buyers, and the prices received:

Consigned by E. M. Starkweather, Northville, Mich.

Females.—Katie De Kol Hartog (242201) to Fred S. Hall, Detroit, \$160; Calamity Mercedes Wayne (75101) to Dr. J. B. Patterson, Aloha, Mich., \$235; Decker Clothilde Beryl Wayne 2nd (242200) to J. B. Patterson, \$160; Decker Maid 3rd, to Irving H. Ellis, Washington, Mich., \$175; Decker Lass (68643) to J. C. Buth, Grand Rapids, \$155; Decker Maid (68644) to J. C. Buth, \$135; Mechthilde Inka Homestead (218185) to Thos. Reddick, Warren, Mich., \$265; Oakwood Calamity De Vries Pauline (201478) to E. A. Hardy, Rochester, Mich., \$155; Burdondale Mayo De Kol (186164) to Henry Miller, Richmond, Mich., \$175; Bonheur Margolyn (149-334) to James Nye & Sons, Pontiac, Mich., \$405; Peaceland Elzevere Corinne (189877) to James Nye & Sons, \$370; Queen Aspirante (63511) to Mark H. Piper, Flint, Mich., \$310; Queen Liza Korndyke De Kol (160179) to Jas. Nye & Sons, \$340; Ali Crescent Pietertje Granger (85397) to F. W. Savage, Belleville, Mich., \$190.

Males.—Beauty Pietertje Sir De Kol Burke (90528) to M. N. Johnson, Northville, Mich., \$145.

Consigned by H. W. Norton & Son, Howell, Mich.

Females.—Bell Crescent 2d's Canary (77805) to Wm. Kaboos, Ada, Mich., \$400; Belle Maid 3rd (108348) to Hoover Bros., Temperance, Mich., \$205; Belle Posch of Mapleside (229-765) to D. D. Aitken, Flint, Mich., \$205; Fairmount Elzevere De Kol (109890) to Martin Lamtin, \$395; Female to George W. Slaughter, Birmingham, Mich., \$130; Lady Abbecker Vale (195512) to Wabeek Farms, Pontiac, Mich., \$300; Mapleside Ann (185910) to Hoover Bros. \$285; Mapleside Calamity Countess (159402) to Lloyd Lake, North Branch, Mich., \$180; Mapleside Hartog De Kol (185-918) to Wm. Kaboos, \$300; Mapleside Pauline Maid (229762) to Wabeek Farms, \$135; Mapleside Pietertje Hartog (219577) to Wabeek Farms, \$185; Mapleside Queen Vashti (185913) to J. C. Buth, \$300; Mapleside Segis Belle (219573) to Wabeek Farms, \$215; Mapleside Segis Queen (220281) to Wabeek Farms, \$250; Mapleside Winona Princess (221011) to Addison Roe, Erie, Mich., \$200; Mapleside Winona Queen (221010) to T. J. Blanchard, Sand Lake, Mich., \$190; Vashti Beauty Queen De Kol (121733) to Wm. Kaboos, \$390; Vernie Abbecker Mercena (214191) to E. A. Ross, Imlay City, Mich., \$230; White Band De Kol Wayne (169355) to E. A. Ross, \$220; Yuma Pontiac De Kol, Hengerveld 237171 to Walter L. Warren, Washington, Mich., \$170.

Males.—Johanna Korndyke Count (120734) to Geo. Rattenbury, Northville, Mich., \$200; K S P H Johanna Korndyke (120345) to Elmer Dohany, Northville, Mich., \$335.

Consigned by D. H. Hoover, Temperance, Mich.

Females.—Allie Johanna (96906) to J. W. Worthington, Howell, Mich., \$330; Antioch Stienstra Wayne (121-313) to J. B. Patterson, \$320; Bessie De Kol Pet Rosewood, to E. W. McNitt, Grand Rapids, \$160; Briar Boon Posch to Fred S. Hall, \$155; Clarissa Queen Rosewood, to Wm. Kaboos, \$180; Clara Johanna Rosewood (157-094) to Jas. Nye & Sons, \$320; Glenda Pontiac Pet Rosewood, to Wabeek Farms, \$225; Hartog Canary Pietertje

Rosewood (223096) to J. E. McElwain, Hastings, Mich., \$225; Hartog Gelsche (196212) to J. W. Worthington, \$200; Jessie De Kol Jondine (77421) to J. C. Buth, \$235; Jondike Pietertje Rosewood, to E. W. McNitt, \$150; Jumbo Queen (79555) to S. M. Cron, Ann Arbor, Mich., \$105; Midnight Clothilde De Kol (152543) to E. W. McNitt, \$220; Pauline Hengerveld Bess (143-682) to Wm. Kaboos, \$360; Pontiac Burke Victor, to Fred Hall, \$175; Pontiac Nymph (121550) to J. B. Patterson, \$435; Queen Johanna Rosewood (157095) to Wm. Kaboos, \$275; Segis Bonheur Rosewood, to W. E. Fellows, Flint, Mich., \$210; Segis Pontiac Rosewood, to J. H. McClure, Royal Oak, Mich., \$150; Snowbound Lillian Hartog (121211) to J. B. Patterson, \$395.

Males.—Rosewood King Pietertje Clothilde, to J. H. McClure, \$40; Rosewood King Pietertje Wayne, to Ervin Lake, North Branch, Mich., \$80.

Consigned by J. E. Burrows, Flint, Mich.

Females.—Clover Farm Allie Nig (213964) to M. W. Willard, Grand Rapids, Mich., \$405; Eliza Beets Inka (246262) to Dewey C. Pierson, Hadley, Mich., \$180; Johan Eliza Mechthilde (232218) to T. J. Blanchard, \$180; Johan Lillie Lass (247927) to W. E. Fellows, \$340; Johan Zubrod Lass (219-282) to Walter T. Hill, Flint, Mich., \$185; Miss Winona Tryntje De Kol 2nd (221975) to Jas. Nye & Sons, \$140; Miss Yette Tryntje, to E. M. Starkweather, Northville, Mich., \$90; Netherland Uilkje De Kol (204575) to Dewey C. Pierson, \$340; Oak Valley Favorite Segis (200152) to P. F. Renner, Marysville, Ohio, \$290; Oak Valley Rosina Hengerveld Beets (226592) to G. L. Spillane, \$300; Segis Bessie Pauline (245926) to G. L. Spillane, \$155; Segis Cornucopia Lass (246265) to M. W. Willard, \$180; Segis Nudine Lass (247807) to E. W. Berry, Oak Grove, Mich., \$150; Segis Posch Lass (245927) to M. W. Willard, \$180; Segis Princess De Kol (247808) to Wm.

tondale Ophelia De Kol (227040) to Wabeek Farms, \$200; Fanny Pledge Wayne (228717) to J. C. Buth, \$125; Korndyke Maplebrook Dione (214167) to Wabeek Farms, \$305; Mildred Cornucopia Berna (214165) to Wabeek Farms, \$300; Pauline Drosky De Kol-paul 3d (233514) to Geo. W. Slaughter \$170; Princess Leo Netherland De Kol 4th (216658) to J. K. Barden & Son, So. Haven, Mich., \$280; Rosamond Artis Pietje (226578) to J. E. McElwain, \$350.

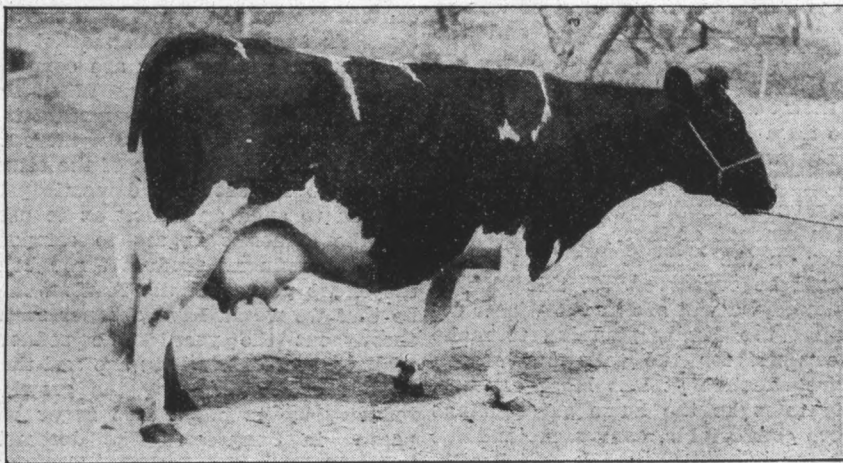
Males.—Burdondale Clifden Korndyke (138344) to Robt. Hansard, Wixom, Mich., \$115; Burdondale Korndyke King (138345) to J. C. Buth, \$200.

Consigned by Reed & Knowles, Howell, Mich.

Females.—Brightfaced Segis Mateal to Henry Miller, \$215; Cora Hengerveld (172892) to E. W. Berry, \$210; Lady Rosecliffe De Kol (137303) to C. P. Price, \$300; Medfield Countess Hengerveld (239879) to C. E. Hoag, Ypsilanti, Mich., \$180; Medfield Pel Johanna (239480) to F. Northrop & Son, Northville, Mich., \$115; Medfield Rachela Colantha (24587) to C. W. Hoover, Howell, Mich., \$175; Ophelia Segis, to Henry Miller, \$215; Pontiac Galatea Mateal, to Henry Miller, \$215; Queen Segis Mateal, to Henry Miller, \$215; Segis Queen Soldene, to Henry Miller, \$215; Vale Canary Belle (185-393) to Dewey C. Pierson, \$305; Wacanda Princess (197358) to J. E. McElwain \$355; Whittaker Canary (165-289) to R. E. Haeger, Algonquin, Ill., \$355.

Consigned by J. H. Johnson, Farmington, Mich.

Females.—Ardale Pontiac Colantha (144086) to Floyd G. Pierson, Flint, Mich., \$225; Glenburnie Canary Vale (163292) to S. M. Crom, \$165; Glenburnie Kaastra Pietertje (236431) to E. A. Ross, \$165; Glenburnie Pontiac Canary (221001) to D. D. Aitken, \$205; calf of same to Lloyd Lake, \$80; Jane Posch Hengerveld De Kol (139871) to S. M. Crom, \$245; Livonia De Kol



Pontiac Cloth—Typical of a well-Balanced Temperament. Seven-day Butter Record of 27.14 lbs. when Eleven Years Old.

Kaboos, \$150; Siloko De Kol (88300) to Walter T. Hill, Davison, Mich., \$300; Sir William Altomiwa 3rd (135-325) to Hoover Bros., \$195; Zubrod Uilkje, to R. R. Scott, Toledo, Ohio, \$120.

Male.—Segis Cynthia (136944) to W. D. Lake, Troy, Mich., \$175.

Consigned by J. Fred Smith & Sons.

Females.—Boyd Best Elzevere De Kol (141359) to J. C. Buth, \$200; Canary Barnum De Kol 3rd (126996) to Geo. S. Cole, Durand, Mich., \$215; Elzevere Apple (196643) to Henry Miller, \$265; Elzevere Hilton 2nd (222282) to E. W. McNitt, \$180; Elzevere Jelkje King, to Burt Fox, Utica, Mich., \$170; Elzevere King Sunbeam Alban, to Fred Bachman, Azalia, Mich., \$170; Elzevere Rose Cornucopia (185854) to E. Patchett, Durand, Mich., \$275; Elzevere Told Again 2nd (222283) to E. Patchett, \$190; Elzevere Told Again 3rd (222284) to T. J. Blanchard \$140; Grace Imperial Nudine 2d (183309) to Harry B. Clark, Northville, Mich., \$145; Grace Imperial Pontiac, to Fred Bachman, \$105; Howard Beauty Elzevere De Kol (142-923) to Geo. W. Slaughter, \$220; Jelkje Johanna (89021) to Geo. S. Cole, \$325; calf from same to Geo. S. Cole, \$105; Korndyke Beauty Princess (192948) to E. W. McNitt, \$155; Pietertje Bawn De Kol Clothilde (88-852) to Delos Eddy, Byron, Mich., \$235; Rose Princess De Kol, to J. C. Buth, \$150; Salina Moses 2nd Maggie (126603) to J. C. Buth, \$175; Silica Nudine Rauwerd (175572) to J. C. Buth, \$225.

Consigned by W. E. Fellows, Flint, Mich.

Females.—Abby Dell De Kol (141-046) to Dewey C. Pierson, \$235; Anna Mechthilde Korndyke (214164) to Wabeek Farms, \$305; Burke Colantha Pauline 2d (158157) to E. M. Moore, Wixom, Mich., \$150; Burdondale Countess Korndyke (248044) to W. B. Jones & F. T. Lutz, Oak Grove, Mich., \$500; Burdondale Gerster Segis (248045) to Wabeek Farms, \$190; Burdondale Hengerveld Changeling (248046) to G. L. Spillane, \$170; Bur-



You Can't Beat Galloway Prices Anywhere

You can't get Galloway quality at anywhere near my price. I get one small manufacturing profit, the rest of your dollar buys what you need. The other way your dollar pays the profit of the manufacturer, the jobber and the dealer. You have tried the old way. Now try my way and see what you save.



Five New Selling Plans

Cash, Credit, Note or Easy Payments.

One of these will suit your needs. Any plan allows you 30 days for trial of Engine, Cream Separator or Manure Spreader. If not satisfied that they are as good as any you ever saw or heard of, the goods come back to me and you're nothing out.

CATALOG FREE—Write for catalog you want. Get full particulars and my special prices, extra low on Engines, Separators and Spreaders. Address



Wm. Galloway, Pres. Wm. Galloway Co. 187 Galloway St., Waterloo, Iowa

SCOURS can now be CURED

The most dreaded ailment—the disease that takes ninety per cent of all calves born—can now be fully, quickly cured. You won't lose any of your calves with Scours if you give them Payne's Scours Special—a new, sure, complete cure for Scours in all animals. Harmless, easy to give and thoroughly guaranteed to cure or money immediately refunded!

Ask your dealer for Payne's Scours Special or send one dollar and we will send bottle prepaid. Do it now—and save your calves.

Read this:

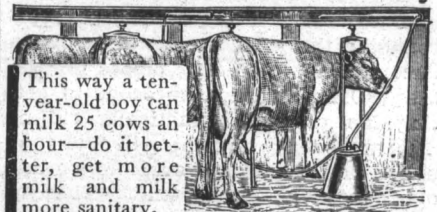
"Gentlemen:—I have used Payne's Scours Special for calf Scours with most gratifying results. Recently I had a valuable calf in very bad shape; one dose effected a complete cure. I consider this remedy a great boon to dairymen."—W. B. Whitney.

Send for Helpful Booklet on Scours—Free

The Calf Saver Corporation Spruce St., Gouverneur, N. Y.

PAYNE'S SCOURS SPECIAL

The HINMAN Milker Way



This way a ten-year-old boy can milk 25 cows an hour—do it better, get more milk and milk more sanitary.

The HINMAN Milker is Noiseless light, easily cleaned, no vacuum in pail, no pinning—just a simple drive-ro; only two moving parts. Pays 150% on investment. Milks 250,000 cows morning and night.

Write for free booklet before you turn page HINMAN MILKING MACHINE COMPANY 74-84 Elizabeth St., Oneida, N. Y.

KELLY DUPLEX GRINDING MILLS

Easiest Running Mill Made. Fully Guaranteed



Grinds ear corn, shelled corn, oats, wheat, barley, rye, kafir corn, cotton seed, corn in shucks, alfalfa, alfalfa, or any kind of grain. Bagger has a double spout attached to either side of mill. We furnish extra hopper for grinding small grain and ear corn at the same time. Only mill made with double set of grinding orburrs. Have a grinding surface of just double that of most mills of equal size, therefore, do twice as much work. Requires 25% less power. Especially adapted for gasoline engines. We make 7 sizes. Write for Free Catalog. DUPLEX MILL & MFG. CO., BOX 308 SPRINGFIELD, OHIO

WHOLESALE FEED

Save your money. Ask for price list. Everything in Feed. THE BARTLETT CO., 100 Mill St., Jackson, Mich.

Practical Science.

DISINFECTION AND DISINFECTANTS.

BY FLOYD W. ROBISON.
(Continued from last week).
What About the Fly?

Perhaps the most pernicious nuisance on the farm is the fly. However, he is there as a nuisance and not only a nuisance in the general acceptance of the term, but we believe one of the most dreaded enemies that man has. As yellow fever has been transmitted directly through the activity of a certain form of the mosquito, so it is quite definitely known that many times the fly is a transmitter from one individual to another of the dreadful disease, typhoid fever, and while these specific diseases that are of such pronounced type as to be distinctly destructive are known to follow in the wake of the activity of the fly, without doubt many other minor forms of diseases, results of the activities of other types of bacteria, are continually endeavoring to break down the barriers of defense set up by the cellular organisms of the body.

What to do on the Farm.

It is a pretty difficult matter, we are aware, on the farm to so thoroughly screen the premises that the fly nuisance is removed. This does not mean, however, that screening is an insufficient protection. Every place that is used for the storing of food materials should be very thoroughly and effectively screened and, of course, the home itself should be well provided with screens to prevent the entrance of these pests. But it is necessary, seemingly, that some conditions exist which are encouraging to the propagation of flies. It is pretty difficult in the disposal of manures on the farm and in the protection of stock, particularly hogs and poultry, to so house and protect them that they are inaccessible to flies. We think this may be done but it will probably entail some considerable expense and make it impossible on most farms. The only other remedy, then, is the employment of suitable disinfectants. If the stable where the horses and cows are kept is well arranged and is with frequency supplied with suitable disinfection material, flies will not inhabit these places. If it is not possible to place the manure under protecting sheds or in a screened enclosure, spraying the same material that is used for spraying the stable if applied at frequent intervals over the manure and over the fences, etc., surrounding the yard, these will be made uncomfortable breeding places for the flies. Once a farmer succeeds in getting his premises practically rid of flies, we believe that he will feel that under no condition would he permit old conditions to resume. The fly nuisance can be solved even on the farm, and it would be a comfort, indeed, to see a more strenuous effort on the part of many farmers to solve this problem.

Disinfecting the Poultry House.

Poultry is another source of nuisance on the farm unless the fowls themselves and the premises in which they are kept are frequently disinfected. It is fortunate indeed, that the employment of suitable disinfectants in poultry houses becomes a source of profit as well as a pleasure to the owner. We think there is no class of farm animals or fowls but what thrive better in cleanly surroundings. We know it is maintained at times that this is not true of hogs, but we believe this opinion is not the correct one. The probability of hog cholera infection, of cholera among chickens, etc., is very materially lessened when the stock and fowls are

kept in clean quarters, where clean feed is given them, and where suitable methods of disinfection are employed. There are now on the markets disinfectants, germicides, and insecticides for almost every purpose. These products are under rigid inspection by state and federal law and quite general dependence may be placed in the claims made for them by the manufacturer. Many of them are undoubtedly high in their selling price, but the more standard ones are so regulated by competition that the price asked by them in the retail store is not, as a rule, exorbitant.

Life Can be Worth Living on the Farm.

We think that farmers should pay more attention and give more study to making life worth living on the farm. It is surely a heritage worth while for a child to have the opportunity of being brought up on the farm in these days. There is no denying the fact that there is much drudgery on the farm, and all too frequently farm life means a life of drudgery to the women on the farm. We think that in many instances, if not in most instances, this is due to a lack of proper planning, as farmers and farmers' wives seem to pride themselves many times on the amount of energy they put into their work and the amount of physical labor they are able to command in the performing of their daily work on the farm and in the farm home. We think this is entirely wrong and that more pride should be taken in seeing how much may be accomplished with the minimum amount of labor, for, of course, labor on the farm is the item which should be conserved. If this plan is followed we will see in the winter evenings the family planning to make the work for the following season more effective at less labor expense, and to make the home surroundings more comfortable, convenient and the greater protection to life and health. Disinfectants and modern disinfection play an important part in this matter.

THAT SUGAR SITUATION.

In your issue of October 3, you publish an article by Mr. F. W. Robinson, on the "Sugar Situation." While the general tone of the article is sound and excellent there are a few inaccuracies in the statistics given, that I wish to take the liberty of calling to your attention.

The annual consumption per capita in the United States during 1913 was 85.4 lbs. instead of about 80 lbs. as is stated in the article.

Mr. Robinson writes: "The United States during the past year imported fully one-fourth of the total European supply of sugar. * * Cuba, Hawaii and the Philippine Islands supply us with our largest amounts of cane sugar, but aside from this, fully as much is undoubtedly imported from Europe, and what we import from Europe is not cane sugar but beet sugar." This statement is in error inasmuch as we do not import beet sugar in such quantities from Europe. The actual facts are that the 3,743,139 tons of sugar consumed in 1913 in the United States were derived from the following sources:

Louisiana & Texas, cane.....	207,708
Domestic beet	625,314
Maple	9,000
Molasses sugar	10,450
Hawaii, cane.....	506,555
Porto Rico, cane.....	331,103
Philippines, cane	44,620
Cuba, cane	1,990,831
Other countries	17,558

Of the total amount imported from 15,580 tons was raw beet sugar and

193 tons refined beet sugar, making a total of 15,773 tons of imported foreign beet sugar. The balance of the consumption in the United States, aside from the beet sugar produced in the United States and the few tons of maple and molasses sugar is derived from cane, of which 1,992,615 tons is imported from foreign countries. Of this amount Cuba supplies 1,990,831 tons and all other countries 1,785.

If Mr. Robinson's statements were correct regarding the sources of the United States' sugar supply, the present situation in the sugar world would not exist. If it were true that we imported large amounts of sugar from Europe, it is obvious that the price of sugar would be even higher than it is at the present time. As has already been pointed out, the large portion of our sugar supply comes from Cuba. All of this sugar has to pass through the refineries on the Atlantic seaboard before it is ready for consumption and the refining business of the United States is in the hands of a small group of men who have absolute control of the American sugar market during that portion of the year when there is no beet sugar on the market. In connection with this it might be well to note the fact that the price of sugar is beginning to decline. It should also be noted that this year's crop of beet sugar from Michigan and the western states is entering the market and competing with the foreign article. The whole sugar situation in the United States centers around these facts. When the domestic sugars enter the market the refiners of foreign sugar are compelled to reduce their prices. When the domestic sugars are off the market the refiners of foreign sugar increase their price. The solution of the situation is to increase the domestic production to such an extent as to enable the domestic sugars to compete with the refiners' product throughout the entire year, and the result would be that we would have cheaper sugar throughout the year. The refiners realized these facts long ago and they have sought to destroy the growing industry by having a free sugar bill passed in Congress. The domestic industry is on the decline. The production of domestic sugar will be less this year than it was last, and unless the present law is changed it will become insignificant after 1916 when this law is scheduled to go into effect.

The recent increase in the price of sugar was not caused by the United States being unable to obtain sugar from Europe. The actual facts are that England being cut off from Germany, her normal source of supply, entered the American market and purchased sugar which was required to meet the normal demands of the American people. These British purchases and the consequent decrease in the supplies available for the American market led directly to the increase in prices.

New York.

J. A. BROCK.

REMEDIES FOR POTASH SHORTAGE.

Various suggestions have been made in regard to the steps to be taken by farmers in reference to the shortage of potash in their fertilizers, caused by the greatly reduced shipments of potash from Germany since the first of August. Most of the fertilizer companies have endeavored to make the potash on hand go as far as possible by selling for the present brands of complete fertilizers containing only two or three per cent of potash and withholding from sale brands containing larger amounts.

The suggestion that some or all of the potash be replaced by phosphoric acid is absurd, for every school boy knows that one plant food cannot take the place of another. There are some indirect fertilizers, such as lime,

gypsum, and salt that can release a limited amount of potash from some soils that contain hydrated silicates of alumina and potash. But if these soils have already been treated with lime or have received repeated dressings of the usual forms of fertilizer containing soluble phosphate with its accompanying gypsum, then the potash in the hydrated silicates has to a large extent already been replaced and the use of more lime or gypsum or salt could not be expected to release much additional potash. Ground limestone or oyster shells act too slowly to be used as potash releasers.

The residue of soda left in the soil by nitrate of soda is more effective in releasing potash than is gypsum and hence goods, in which the nitrogen is largely in the form of nitrate of soda, may have a special value in the present emergency.

It is often stated that decaying organic matter releases potash from the soil, but there seems to be no direct evidence of this. On the contrary, Dr. S. Peacock states in the American Fertilizer of September 5, 1914: "Several thoroughly competent researches have shown that decaying matter has little effect on converting inert mineral plant food in the soil into available form."

In any soil the amount of potash capable of being released by these indirect means is a very small fraction of the total potash in the soil, most of which exists in a form about as soluble as window glass. There is no known profitable method for rendering this inert potash of the soil available fast enough to provide for profitable crops. Whatever temporary expedients we may employ in the present emergency, we must keep in mind that the potash thus removed from the semi-available soil reserves must later be replaced if we are to maintain the soil's productiveness.

There is danger in the statement that farmers have been using an excess of potash. Crops use on the average about two and one-half times as much potash as phosphoric acid, while the average fertilizer sold contains only half as much potash as phosphoric acid; yet no one claims that we are using too much phosphoric acid. The potash remaining from previous fertilization is practically nothing except in the limited areas where a ton or more of fertilizer has been used per acre on truck crops. Very rarely is half as much potash applied to the wheat, oats, corn, or cotton crop as the crop removes.

The potash mines are so numerous and the stocks on hand so large that supplies can be promptly sent forward as soon as European conditions permit freight shipments to be resumed.

New York.

H. A. HEUSTON.

TREATMENT OF NEW CONCRETE CISTERN.

Coat Inside with Paraffine.

In your issue of October 3, we notice an inquiry concerning concrete cistern trouble. The answer to this inquiry is somewhat misleading, inasmuch as properly constructed concrete cisterns are watertight and satisfactory in every respect, being one of the oldest established uses of concrete in this country. Where a lean, porous mixture of concrete is used and the construction work poorly performed, free lime is sometimes liberated in the form of efflorescence on the surface of the concrete, which tends to "harden" water for a short time. This condition may be corrected by coating the inside of the cistern with liquid paraffine, using two coats, the first coat being driven into the concrete by use of a plumber's blow torch. However, this or any other surface treatment is wholly unnecessary if the concrete is properly made and placed in the beginning.—H. H. Rice, Illinois.

Horticulture.

Storing of Winter Vegetables.

The storing of winter vegetables is economical and desirable. In the fall enough vegetables go to waste from the average farm garden to supply the table during the entire winter. The task of storing is not difficult if one has a knowledge of the conditions best suited for storage and is willing to perform a small amount of labor.

A dry, well-aired, not too dark, frost-proof room, cellar or sodhouse will serve the purpose. The most favorable temperature is not over 50 degrees F. Celery, cabbage and sweet potatoes should be stored in the coolest part of the room. Racks should be adjusted on which to place the storage boxes or barrels. This avoids the dangers of over-heating, excess moisture and prevents decay. All vegetables should be gathered before the frost, sorted, dried thoroughly before packing. For long storing reserve those of most perfect formation and firm textured. Each root or tuber should be placed a few inches apart in alternate layers with clean, dry sand. In removing those for use, care should be taken each time to recover any that may be exposed. The earth for packing should be clean and dry, and should be collected in dry summer season rather than after the heavy fall rains. Carrots, sweet potatoes, beets, turnips, parsnips, cabbage, salsify, celery, keep well stored by this method.

Vegetables less perfect in form, less firm in texture, should be reserved for immediate use. These may be stored in barrels or boxes with latticed bottoms.

Storing Cabbage and Celery.

Sweet potatoes should be well dried, wrapped in paper, packed in sand as indicated, and kept in coldest part of storeroom. Celery should be taken from ground on a clear day, transferred to boxes of clean dry sand. The tops and leaf portions should not be covered, but the bleached part should be well packed in the sand and placed in the coldest part of the storage room. Cabbage and cauliflower will keep for a long time if gathered and stored with the head and roots intact. The large outside leaves should be removed. Each head should be surrounded with clean dry straw and placed downward a few inches apart. Pack and store the same as celery.

If desired, parsnips and salsify may be allowed to remain in the ground all winter. They should be covered in the fall with clean straw. After the early spring thaw they may be removed, washed and stored in a cool place.

Parsley and watercress may be transplanted to flower pots or boxes and kept in good growing condition throughout the winter.

Keeping Tomatoes.

Tomatoes may be stored very late in the fall if the entire vine is carefully pulled up and hung over racks in the coolest part of the frost-proof room or the fruit may be picked from the vines and placed on racks several inches apart. By these methods a large portion of the green tomatoes will ripen and keep indefinitely.

If a satisfactory storage place is not available, the trench method is satisfactory for storing cabbage, turnips, carrots, parsnips, salsify, beets, etc. A well drained location should be selected and the trench should be about seven feet deep. Clean straw should be filled in to the depth of about one foot. The trench may be divided in sections for each variety of vegetables. The cabbage should be arranged as previously mentioned. In filling the trench the earth should be

firmly packed and well heaped. Two boards nailed together lengthwise to form a sloping roof should be placed over the top to shed rain and snow. Vegetables stored in a trench may freeze in a severe winter, and remain frozen until the spring thaw. The gradual extraction of the frost leaves the vegetables uninjured, but a sudden thaw will greatly impair the texture and flavor.

North Dakota.

M. A. S.

TROUBLE DEPARTMENT.

Fertilizers for Fruit Trees.

Would you advise me what kind of fertilizer to use for fruit trees, in what proportions, and when to apply? I have some manure but not enough. Trees are from two to three years old.—Subscriber.

It is very difficult to recommend the kind of fertilizers to be used for fruit trees, because the kind of soil in which the trees are growing should be taken into consideration in giving such information. For a general fertilizer there is nothing that equals barnyard manure, as it adds humus to the soil and also produces conditions in the soil favorable for the development of beneficial soil bacteria. However, there are orchards in which the trees are making a very vigorous growth where it would be unwise to use barnyard manure because it tends to produce wood growth instead of the formation of fruit buds.

A great deal of fertility may also be added to the orchard by the use of cover crops. These are usually sown in August, and may consist of any one of the clovers, vetch, oats or rye. If the trees are making rapid growth, one must use care in using any of the legume crops such as clover and vetch, as they tend to produce wood instead of fruit buds.

Commercial fertilizers generally do not produce as good results as manure or cover crops, but occasionally an application of nitrate of soda is indirectly beneficial, the nitrate of soda being used more for the purpose of encouraging the cover crop than for its effect on the trees. There are also rare cases where the soil is deficient in potash and phosphorus; in such cases applications of acid phos-



A Preventative for Split Trees.

phate and muriate of potash are beneficial.

If commercial fertilizers are used, they should be applied before or during the growing season, as all of the above mentioned fertilizers are quickly available and would almost entirely be lost by leaching if applied during the dormant season. Barnyard manure is best applied in the winter or early spring; if applied during the summer, it may cause a lot of growth of the trees which would not mature before the winter set in, and would undoubtedly be injured by the cold.

The amount of fertilizer to use, of

course, depends greatly upon local conditions, but for general purposes a good application of nitrate of soda is about 200 pounds per acre. For a complete fertilizer 100 pounds of nitrate of soda, 500 pounds of acid phosphate and 200 pounds of muriate of potash is considered good. Three to four tons of barnyard manure makes a good light application per acre. It is better to make frequent light applications than a few heavy ones. The barnyard manure may be supplemented to advantage by about 1,500 pounds of unleached wood ashes, or 200 pounds of muriate of potash. Do not mix the manure and the ashes as the lime in the ashes will set free the nitrogen in the manure.

If a legume cover crop is used an application of 200 pounds of muriate of potash and 500 pounds of acid phosphate might be of value. The cover crop practically furnishes only nitrogen, so the other fertilizers will tend to make the fertilization a more balanced one.

NATURAL BRACE FOR APPLE LIMBS.

To prevent the splitting down of apple trees with a heavy load of fruit,



Needed a Brace.

we are told to select the scaffold limbs at the time the tree is first planted and pruned. If the are spaced six or eight inches apart when the tree is young, there will be little danger of the tree splitting down later.

However, many trees can be found in which this forked trunk is established, and the habit can not be corrected without spoiling the shape of the tree. In such cases it is often the practice to use iron braces of various sorts, as well as bolts below the fork. Both of these are good and trees have been saved by their use even after the splitting had apparently spoiled them.

Another method of treating forked trees which will prevent future destruction if practiced in time, is to twist together branches from opposite limbs, which will later grow into a living brace. Sucker growth will be suitable for this purpose. Take two watersprouts and twist them around each other in the spring, and by the fall they will have united at various places along the surface of contact. As the trees get older the brace thus formed will enlarge in diameter, and effectually prevent the parting of the trunk due to lateral strains from loads of fruit or snow.

In pruning the trees, it would be well to perform this safeguarding operation first, since it is customary to remove most of the small interior branches in pruning. However, if no branches are available from opposite limbs for twisting together, one may use a single branch, cutting off the end and preparing two sloping flat surfaces; this end may then be inserted under the bark through an incision made for the purpose in the other limb. Union will then take place at the point of insertion, provided the wound is covered with a dressing of grafting wax.

Benzie Co.

E. H. BROWN.



THE POST OFFICE

nearest to you is the connecting link between you and a Safe, Strong Bank--

A Bank with policies that are nationally recognized as safe banking standards--

A Bank with a Capital and Surplus of \$5,000,000.00--

A Bank that now has over 100,000 depositors--

A Bank that pays you Four percent Compound interest.

Write for free booklet on "Banking By Mail," or write for any other information on Banking subjects.

The Cleveland Trust Company
Euclid and East Ninth Streets,
Cleveland, Ohio
F. H. GOFF,
President

Be Weatherwise

When you work in the rain wear the

FISH BRAND REFLEX SLICKER

Waterproof through and through. Cannot soak up water and get heavy. Our patented Reflex Edges stop water from running in where the fronts overlap and button. The best wet weather coat your money can buy.

\$3.00 EVERYWHERE

TOWER'S FISH BRAND SATISFACTION GUARANTEED Catalog Free

A. J. TOWER CO. BOSTON

LILLIE'S SPECIAL BRANDS BUFFALO FERTILIZER

Made from best material. Always reliable. Lime, Potash, Acid Phosphate, Nitrate of Soda. Agents wanted in unoccupied territory. Ship direct to farmers in carlots. Fertilizer questions answered and farm soil surveys made on request. Colon C. Lillie, Sales Agt., Coopersville, Mich.

LIME

Pulverized magnesian lime rock for "sour" soils. Write for LOW Summer Prices direct to you from Muskegon and Benton Harbor, Michigan. LAKE SHORE STONE CO., Milwaukee, Wis.

LIME

You should get the highest grade of limestone manufactured. Buy it upon the basis of analysis. We manufacture the highest grade pulverized limestone sold in Michigan. Let us prove it. Ask for sample and analysis. CAMPBELL STONE CO., Indian River, Mich.

PULVERIZED LIMESTONE

Extra Quality—Quick Service—Attractive Price. D. O. MARKLEY, 862 Division Ave. S. Grand Rapids, Mich.

FALL Planting is BEST

for all kinds of Fruit and Shade Trees, Shrubs, Grape, Currants, Gooseberries, Blackberries, Everbearing Strawberry Plants, Bulbs, etc. Send for Free Catalog. ERNST NURSERIES, BOX 2, EATON, OHIO.

SEED WHEAT.

GOING WHEAT—A bearded variety of red wheat. Splendid yields, very hardy, stiff straw, never lodges. The best wheat I ever grew. Send for sample and prices. COLON C. LILLIE, Coopersville, Michigan.

The Michigan Farmer

Established 1843 Copyright 1914

The Lawrence Publishing Co.

Editors and Proprietors

39 to 45 Congress St. West, Detroit, Michigan
TELEPHONE MAIN 4525.

NEW YORK OFFICE—41 Park Row.
CHICAGO OFFICE—604 Advertising Building
CLEVELAND OFFICE—1011-1015 Oregon Ave., N. E.
PHILADELPHIA OFFICE—214-218 Twelfth St.

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

I. R. WATERBURY.....Associate
BURT WERMUTH.....Editors
F. A. WILKEN.....
ALTA LAWSON LITTELL.....

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.

We never, unless through error, send The Michigan Farmer beyond the date subscribed to—our subscription price being always due in advance, and sample copies always free. No bills will ever be sent should a subscription through error be continued after expiration.

RATES OF ADVERTISING:

40 cents per line agate type measurement, or \$5.60 per inch (14 agate lines per inch) per insertion. No adv't in serial for less than \$1.20 each insertion. No objectionable advertisements inserted at any price. Entered as second class matter at the Detroit, Michigan, postoffice.

DETROIT, OCT. 31, 1914.

A FEW LEADING ARTICLES OF THE WEEK.

- Solving the Good Roads Problem.**—A history of the progress being made toward the solution of this problem in various sections of Michigan369
- Fremont Fall Festival.**—An account of a successful community event participated in by farmers and business men of Newaygo county371
- Beef in the Making.**—Emphasizing the importance of proper feeding and care from calfhood to the maturing of the beef steer.....372
- Storing Winter Vegetables.**—A description of methods suited to the keeping of different garden vegetables for winter use.....375
- What May be Done by Co-operating.**—Citing the work of the California Fruit Growers' Exchange as an example of successful co-operation384
- Selecting Layers for the Winter.**—Practical pointers on selecting and caring for profitable winter laying birds386

CURRENT COMMENT.

Foot and Mouth Disease. The discovery of foot and mouth disease in the flocks and herds of northern Indiana and several counties in the southwest part of Michigan brings the farmers of a wide section face to face with a serious condition. Early reports from the seat of the difficulty indicate that the infection is much more widespread than was the case in 1908, when there was an outbreak of this serious live stock disease in eastern Michigan. In that outbreak, as in the present one, both federal and state authorities got exceedingly busy as soon as the presence of the disease was known, and by the adoption of vigorous methods which included the slaughtering of diseased and exposed animals, and the establishment of a rigid quarantine about the infected territory, the disease was stamped out with a minimum of loss. The maintenance of such a strict quarantine was a considerable hardship to the farmers of the entire state, since the normal movement of live stock was necessarily restricted thereby, even outside of the infected territory.

The quarantine which is necessarily established in such cases also prevents the movement of other commodities, such as forage crops, as well as live stock, out of the infected territory, and is thus far reaching in its

effect. There should, however, be a general recognition of the fact that this is the only adequate method of eliminating this disease and forestalling future loss which would be many times greater than the cost of stamping out the disease at its inception. There should, for this reason, be the fullest co-operation from the farmers of the states infected, and particularly from those residing in or around the infected district, since the sooner the disease is stamped out, the less will be the loss entailed by the outbreak. Official quarantine notices have not yet been received as we go to press, but we urge every reader to observe the well known rules which are always imposed by federal or state authorities in cases of this kind, and refrain from any movement of live stock or the driving of cattle, sheep or hogs upon the public highway at or near any point in the state where the disease has been reported, to the end that the infection may be confined strictly to its present limits, thus making its eradication more easily and quickly accomplished.

In separate comments published in previous issues, we have urged

Conservative Marketing. Michigan Farmer readers to practice conservative marketing, particularly of wheat, beans and potatoes. As the season advances there is increased reason for emphasizing the wisdom of such a course. The European war which many well informed people contended would be of short duration, is broadening in its scope of operations each week, and preparations for its continuation are being carried out on such a gigantic scale as to indicate that it has really only just begun. In the meantime crop news from the seat of the trouble is, of course, very fragmentary and unsatisfactory. Such crop news as is received from the countries of continental Europe is, however, of pessimistic character, indicating not only that there has been an unavoidable waste of this season's crops because of difficulty in harvesting them, but as well that great difficulty is being experienced in preparing the land for seeding and in getting in the fall grain crops on account of the great scarcity of both men and horses. Indications generally point to a large future demand from Europe which warrants a continuation of conservative marketing of staple food stuffs, including all grains, beans, etc. The fairly well sustained wheat market at the advance which occurred soon after the opening of hostilities indicates that an unusual degree of conservatism has been practiced by wheat growers in the marketing of this staple, and there is every indication that this conservative policy will be continued.

The bean market has been more disappointing, however, and greatly needs the support of growers at the present time. Later reports of bean yields indicate that early estimates of the crop were not too pessimistic, and there is every reason why growers should be receiving better prices for this product than prevail at the present time. With a proper degree of conservatism in marketing the bulk of the crop, we believe that prices for this commodity will improve in the not distant future. There is every indication that the future of the bean market is in the hands of the growers if they will but exercise their conservative judgment in the marketing of the crop.

The potato situation is somewhat different, owing to the perishable character of this product. Harvest field reports from very many sections of Michigan indicate that the yield will be below early expectations, yet the early market has been unsatisfactory from the growers' standpoint and undoubtedly will continue to be so long as supplies come forward liberally at present prices. The crop situation, coupled with a normal demand, should insure considerably bet-

ter prices than prevail at the present time. Growers who are in a position to hold the bulk of their crop for the future market will be taking almost no chance at all so far as their probable income from the crop is concerned, since it is comparatively certain that prices will not fall below present values, and there is every reason to believe that they may advance materially in the not distant future, if conservative marketing is generally practiced by growers in Michigan and other heavy producing states.

The Good Roads Problem.

The leading article in this issue tells how the good roads problem is being solved in various part of the state. One point in particular mentioned in this article is worthy of special emphasis at this time, and that is that experience is teaching the people of various sections of the state the particular method which gives most satisfactory and economical results in the solution of the good roads problem in that section. The showing which is being made toward the solution of the highway problem in Michigan during the present year must be considered quite satisfactory by anyone who has observed closely the efforts which are being made and the results which are attending them in various parts of the state. One frequently sees unfavorable comparison made between Michigan and adjoining states in the matter of good roads work, but by proceeding slowly in the solution of this problem, costly mistakes are being avoided which have been made in some other states, and good roads sentiment is generally being increased more rapidly than would have been the case under a less conservative policy. The progress which has been made in the solution of this problem in Michigan is, we believe, a matter for sincere congratulation and is strong in its promise for the future solution of this problem along satisfactory and economic lines.

The Farmer's Duty at the Polls.

No man should forget that the exercise of the elective franchise is a duty which is incumbent as well as a privilege which he enjoys under our form of government. This does not mean simply that it is his duty to go to the polls and vote as he perhaps has been in the habit of voting for the candidates of the political party with which he has, by chance or purpose, affiliated himself, but rather that he should carefully consider the problems involved in all their phases, the peculiar fitness of the men who are seeking his support for the respective offices for which they are candidates, the principles for which they stand, their records in public and private life, etc. In addition it is every voter's duty to carefully consider other propositions affecting public welfare which are submitted for his approval at the polls, including constitutional amendments upon which comments have been previously made, or any other question of public policy which may be submitted by the state or minor municipality at the general election; the doing of one's duty at the polls includes all of these things. The farmer's duty is, of course, no greater in this regard than that of any other man, but from the nature of his environment it requires greater sacrifice for the farmer to discharge this duty than for the average urban resident. This, however, instead of being an excuse for its neglect makes the duty more incumbent upon him.

Agriculture has received suitable recognition in the organization of the

Federal Reserve Bank for the Chicago district, by the selection of Mr. E. T. Meredith, publisher of "Successful Farming," of Des Moines, Iowa, as a member of the Board of Directors of this institution. The selection of Mr.

Meredith for this place by the Federal Reserve Board is a matter for congratulation, not alone because he is a man who, in addition to being individually well qualified, has long been identified with agriculture and in close touch with the farming interests of the country, thus insuring agriculture proper representation in this new and important organization. This is another evidence that government officials and business men generally are coming to realize that the agricultural interests and their spokesmen are a tremendous force in this country, and that they are entitled to consideration equal to that accorded to other interests sometimes spoken of as "big business."

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The positions of the different armies have not changed materially the past week. While the Germans are reported to have crossed the river Yser near Dixmude, Belgium, after a stubborn resistance of ten days, the Allies have made gains at other points along the 300 miles battle front from the North Sea to the Meuse River in France. The heaviest fighting during the past week has been in Western Belgium, where it appears the Germans are making a determined effort to break through the line of the Allies. The British battleships have been of great assistance in holding the invaders in check. In the east a great battle is reported in south Poland. It is estimated that 300,000 Germans and 500,000 Russians are engaged. To the north the centers of the two armies are in close conflict, while the extreme left of the Kaiser's forces are said to have been driven back to the west of Skierniewice, and is now offering little resistance to the Slavs. The contest between the Balkan Allies and the Austrian troops in Bosnia is still violent, with little advantage gained by either side.

Fighting continues in Mexico. News has just reached the states of an attack on the mining town of Taral, by 1200 Carranza soldiers, which was defended by 1000 soldiers who fought under Gen. Villa's colors. After four hours' fighting the invaders were routed.

The Mexican peace conference reconvened Monday. It is unofficially announced that through an agreement between Villa and the Zapata delegates, Gen. Carranza will be deposed as first chief of the constitutionalists.

The British government has officially disclaimed any intention of interfering with shipments of American cotton. The product is not held as contraband by any of the belligerents. This announcement will aid greatly in relieving the extremely bearish condition of the cotton market.

National.

Announcement has been made by Secretary of the Treasury McAdoo that the new banking system will become operative throughout the United States November 16. It is predicted that an easier money market will follow the establishment of the new plan and that it will relieve the present financial stringency. This will be accomplished by increasing the reserve money \$400,000,000, thereby adding to our credit facilities by that amount.

Probably 20 persons were drowned at San Antonio, Texas, Sunday. A five-inch rainfall in less than three hours flooded the river bottoms and swept away a number of small dwellings. The property loss is estimated at \$150,000.

The Interstate Commerce Commission now has under consideration the appeal of the railroads for a further advance in railroad rates. It is expected that an early decision will be made.

Further gold discoveries in Alaska are reported. These deposits are located north of Seward.

It is estimated that \$100,000 worth of live stock will be killed in southern Michigan and northern Indiana in an attempt to eradicate foot and mouth disease, which has become more or less prevalent in that section. The federal government has 50 field men employed to make every effort to stamp out the disease.

England and France are in need of automobile trucks, and an agent is now in Detroit making arrangements for 9,000 of these vehicles to assist the Allies in the European war.

The Nineteenth Annual Meeting of the American Association of Farmers' Institute Workers is to be held at Assembly Hall, of the Raleigh Hotel, Washington, D. C., November 9-11. Many phases of the Institute problem will be discussed by speakers of national reputation during the two days' session.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

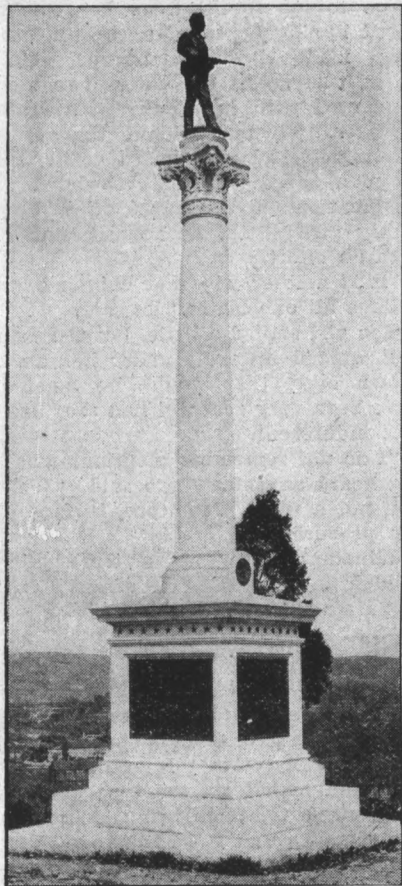
MICHIGAN FARMER
AND **LIVE STOCK**
PUBLISHED WEEKLY
JOURNAL
ESTABLISHED 1843.

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

As the last swish of the knife announced the successful removal of the skin from the antelope, Cato, the Indian lad, was heard to remark: "Me some day go back to Eagle's Nest, where they say I was born, where my ancestors used to catch deer, and drag their canoes on the Tennessee—the river with the big bend."

Cato was almost grown. His father was an old Indian chief among the Cherokees, and in the early part of



"No Monument White Man Build to my Race."

the year 1830 migrated, reluctantly, to the west from the hills of Eastern Tennessee. Cato's tribe had been enjoying limited freedom in the new territory; game was fairly abundant, but that inward feeling of restraint was almost intolerable to the Chief of the Cherokees.

To the east of Blue Duck Creek, where the Cherokees were now situated, was a settlement of pale skins—innocent families, and bent on eking out a living from the soil. Their presence irritated the Cherokees until the latter worked themselves into a rage of passion. Running Deer, Cato's father, and his uncle, Blue Cat's wrath was intense. After three years of retrospection they wished to scalp some pale faces, but there were no material on which to work, excepting the poor white immigrants to the east, at the little settlement of Kingfisher. Cato had sold a few articles previously to the settlers at Kingfisher, and had learned to love the pale faces. Notwithstanding the fact that day after day he listened to his elder's plans for annihilating these same white people at Kingfisher. Ten years were consumed in making definite plans for the attack, and Cato was determined to aid—to aid the pale skins to escape.

The white settlers at Kingfisher at first were compelled to seek their substance from the soil—the substances

Cato the Descendant.

By ROBERT SPARKS WALKER.

that nourished and protected the human body. Cato had swapped beads, blankets, and other articles for grain, medicines, pocket knives, lamps and books.

The day finally came when Cato moved in the direction of Kingfisher, not on a trading errand, but as a messenger of war and peace. But that part of the day was night for Cato—the sun shone, but it was black in his sight. The father's fury was a heavy black cloud overhanging his sky.

With bow and arrow in hand, Cato pretended to go in quest of game. As he gazed steadfastly to the west one mile away, he saw the prancing of fifty ponies, and bows, spears, and feathers, pointing angrily—a vignette view against the horizon. And then Cato's leisure movements took the form of long strides which soon brought him to Kingfisher.

As Cato came in sight of the village where more than one hundred families were quietly at work, he laid his weapons at the root of a shrub.

"Where are your wares for barter?" demanded an elderly gentleman with whom Cato had traded for several months past.

"My wares are in my mouth," breathed Cato.

"What?" asked Williamson of Cato in excitement, as he staggered back a few paces.

"My wares today are words—and they are free!" gasped Cato.

"Deliver them hastily," requested Williamson.

"You love your homes, your wives, your children, your neighbors, and yourselves—then prepare at once for a bitter assault."

"My God! what is coming?" gasped Williamson.

"My whole tribe—led by my father and Blue Cat."

"In peace or in wrath?"

"As angry as any wounded lion in the west."

"And half my men away from the camp," sighed Williamson.

middle-aged man, of some education, and with more experience in dealing with Indians than any other man in the whole settlement. Williamson collected his nerves, and in a calm and deliberate manner notified all his neighbors to prepare immediately for an attack.

There was no natural or artificial protection at Kingfisher. The small settlers' cabins would not withstand an attack such as Cato had predicted and pictured. The teams were hitched to the wagons, women and children piled in, and following the suggestion of Cato were hurried to what is known as the trenches. These trenches were natural excavations, made by centuries of soil erosion, and were for the most part thirty feet deep, and so abrupt were the banks, that it was impossible to scale without the use of a ladder. Happily to the west, like the small end of a funnel, the opening was shaped to form a point of defense. The remainder of the trenches were globular in shape, closed and sealed by nature unmercifully against all intruders. The opening was blocked with two immigrant wagons, while women and children were tucked away in nooks, protected and sheltered by overhanging sod.

Scarcely had the clinging chains from the harness of the hitched teams died away, when a cloud of dust loomed into western view. Williamson climbed a ladder, and watched the wriggling and noisy Cherokees invade the deserted settlement—then in an apparent dazed condition—every Indian stopped his pony. Their war whoop died away, and things looked peaceful. But scarcely had mind time to think, when one sharp-nosed red-skin scented a trail, gave a piercing yell, and pointed to the trenches.

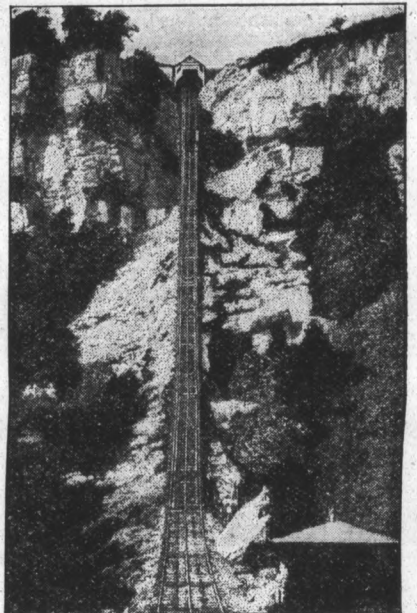
The war whoop resumed, and the trenches echoed and re-echoed with angry, turbulent, Indian voices. Williamson ordered the sharpshooters to the front. Concealed beneath the covers with bags of cotton for breast-

As the dead bodies tumbled to the ground, the rest of the Indians shied around the wagons, and one succeeded in scaling the formidable bank, taking a shot at a baby which had wandered from the earthen hover below.

The mouth of the trenches was not attacked again, their unfortunate comrades stretched out as grave warnings for their brothers, who were sensible enough to take heed.

But the bank was scaled by all remaining, including Cato's father and Blue Cat. As six sturdy fellows leveled down on the wounded child, Cato emerged from the hover, grabbed up the child, placed it on his head and said "Shoot."

Running Deer and Blue Cat were



"White Man, no Trail; no Trail, no Romance, no Ambush, no Tragedy. All Open, no Secret."

sick. They were prone to say that Cato had been transplanted into the enemy's camp by the Gods. When their own kinsman was recognized, the irate Indians slackened their bows.

Running Deer concluded his boy Cato was held prisoner, and he immediately sought a peaceful conference with Williamson. This resulted in a proposal for the signing of a treaty of peace with the Kingfisher settlers for aye, upon the deliverance of Cato to his father. Williamson agreed. He held a hasty conference with Cato under the sodden hover, and Cato grasped his hand and said: "I am glad."

"How can I ever repay you?" demanded Williamson.

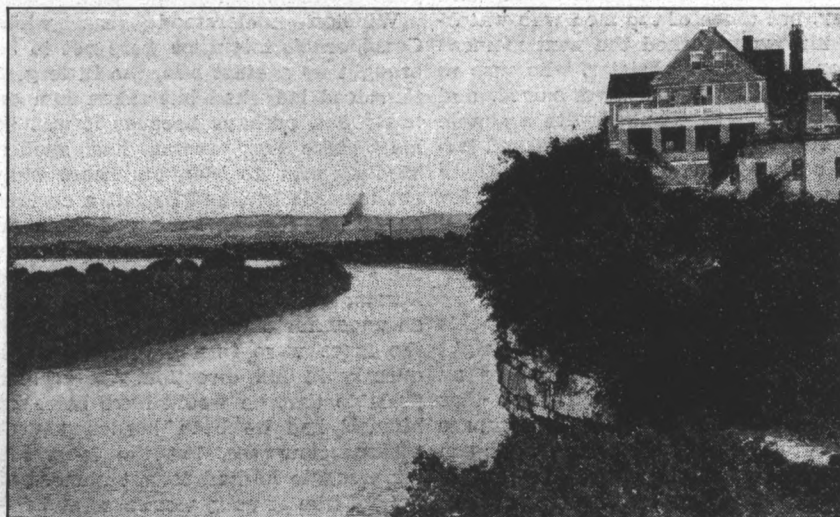
"Accompany me to the Eagle Nest," said Cato as he smilingly gazed into the face of Williamson.

"I'll do it, but Running Deer must go, too," suggested Williamson.

"All right, next spring," and with this agreement, Cato joined his father's tribe, and departed.

The next spring at Eagle's Nest found Cato, a well-dressed young Indian man, who had been well educated in the government schools. His old father, Running Deer, and their friend, John Williamson, accompanied him. They visited points now a part of a large city, but once the home of Running Deer and his happy tribe.

As they came to the forsaken Indian trail up Lookout Mountain—Running Deer, shaking his old shaggy head in disappointment, said: "White man no trail; no trail, no romance, no



"White Man Build Homes Big, but Not so Charming as Me Wigwam."

"Arrange, arrange—or flee, there is no time to lose," warned Cato.

"No use to flee, we would be overtaken," suggested Williamson.

"Load your guns—notify your men," suggested Cato.

Williamson was a stalwart, hale,

work, they occupied a fine strategic point. As the first mad parade of rushing horses came by, the wagon covers were pierced with flying arrows; but at the same time the blaze from three muskets left three Indian ponies without masters.

ambush, no tragedy. All open, no secret."

"Yes," wedged in Cato, the American educated Indian, "it is far superior to the methods of our own tribe."

"But let us find the old trading spot in the river," suggested Cato.

Running Deer found little or nothing to see that looked like it did when he had left the country years before. But as they walked on the long bridge where his race used to swap skins for various articles, and where their canoes were always anchored, there was nothing excepting the water which looked natural. Shaking his head ominously, he remarked: "White man build houses big, but not so charming as me wigwams."

Running Deer was so disappointed in the changes which he considered rude in his old trading town, that he cared not for further visits to the transformed spots, but expressed a wish to go to Orchard Knob. Here his tribe once camped, and used the

point as a watch tower and for a place of worship. It presented quite a different spectacle. From the knob jutted dozens of monuments into the blue sky above, but none to the memory of his tribe. As Running Deer glanced up into the sky, surveying the tallest monument, he said: "Stone grows high into air, a memento of wars, but my tribe planted the seed. No monument white man build to my race."

"I am your loyal son, Father," said Cato, "but remember the sneaking attack on Kingfisher. This new government does not build monuments to the memory of warriors who waged unfair attacks. Both sides engaged in the war to whose memory these stones are erected, fought fair and square in battle. I am glad that there is nothing left to perpetuate the treachery of my ancestors."

As Cato spoke a tear was seen trickling down the wrinkled cheek of Running Deer.

yielded to a curious impulse, and, stooping, kissed the little withered fingers.

"I have," he said, "to thank you for a welcome that does not match my poor deserts, madam."

Then Dane, standing beside his leader, saw the grimness grow a trifle less marked in his eyes. "It is in the blood," he said half-aloud, but Dane heard and afterwards remembered it.

In the meanwhile Miss Barrington had turned from the stranger to her niece. "It is a very long time since you have seen Lance, Maud, and though I knew his mother well, I am less fortunate, because this is our first meeting," she said. "I wonder if you still remember my niece?"

Now Winston had been gratified by his first success, and was about to venture an answer that it was impossible to forget; but when he turned towards the very stately young woman in the long black dress whose eyes had a sardonic gleam, and wondered whether he had ever seen anybody so comely or less inclined to be companionable, it was borne in upon him that any speech of the kind would be distinctly out of place. Accordingly, and because there was no hand held out in this case, he contented himself with a little bend of his head. Then he was presented to the Colonel, who was distantly cordial, and Winston was thankful when the maid appeared in the doorway again, to announce that dinner was ready. Miss Barrington laid her hand upon his arm.

"You will put up with an old woman's company tonight?" she said.

Winston glanced down deprecatingly at his attire. "I must explain that I had no intention of trespassing on your hospitality," he said. "I purposed going on to my own homestead, and only called to acquaint Colonel Barrington with my arrival."

Miss Barrington laughed pleasantly. "That," she said, "was neither dutiful nor friendly. I should have fancied you would also have desired to pay your respects to my niece and me."

Winston was not quite sure what he answered, but he drew in a deep breath, for he had made the plunge and felt that the worst was over. His companion evidently noticed the gasp of relief.

"It was something of an ordeal?" she said.

Winston looked down upon her gravely, and Miss Barrington noticed a steadiness in his eyes she had not expected to see. "It was, and I feel guilty because I was horribly afraid," he said. "Now I only wonder if you will always be equally kind to me."

Miss Barrington smiled a little, but the man fancied there was just a perceptible tightening of the hand upon his arm. "I would like to be, for your mother's sake," she said.

Winston understood that while Courthorne's iniquities were not to be brought up against him, the little gentle-voiced lady had but taken him on trial; but, perhaps because it was so long since any woman had spoken kindly words to him, his heart went out towards her, and he felt a curious desire to compel her good opinion. Then he found himself seated near the head of the long table, with Maud Barrington on his other side, and had an uncomfortable feeling that most of the faces were turned somewhat frequently in his direction. It is also possible that he would have betrayed himself had he been burdened with self-consciousness, but the long, bitter struggle he had fought alone, had purged him of petty weakness and left him the closer grasp of essential things, with the strength of character which is one and the same thing in all men who possess it, whatever may be their upbringing.

During a lull in the voices, Maud Barrington, who may have felt it incumbent on her to show him some scant civility, turned towards him as

she said, "I am afraid our conversation will not appeal to you. Partly because there is so little else to interest us, we talk wheat throughout the year at Silverdale."

"Well," said Winston, with a curious little smile, "wheat as a topic is not quite new to me. In fact, I know almost more about cereals than some folks would care to do."

"In the shape of elevator warrants on Winnipeg market margins, presumably?"

Winston's eyes twinkled, though he understood the implication. "No," he said. "The wheat I handled was in 250-pound bags, and I occasionally grew somewhat tired of pitching them into a wagon, while my speculations usually consisted in committing it to the prairie soil, in the hope of reaping forty bushels to the acre and then endeavoring to be content with ten. It is conceivable that operations on the Winnipeg market are less laborious as well as more profitable, but I have had no opportunity of trying them."

Miss Barrington looked at him steadily, and Winston felt the blood surge to his forehead as he remembered having heard of a certain venture made by Courthorne which brought discredit on one or two men connected with the affairs of a grain elevator. It was evident that Miss Barrington had also heard of it, and no man cares to stand convicted of falsification in the eyes of a very pretty girl. Still, he roused himself with an effort.

"It is neither wise nor charitable to believe all one hears," he said.

The girl smiled a little, but the man still winced inwardly under her clear brown eyes, that would, he fancied, have been very scornful had they been less indifferent.

"I do not remember mentioning having heard anything," she said. "Were you not a trifle premature, in face of the proverb?"

Winston's face was a trifle grim, though he laughed. "I'm afraid I was; but I am warned," he said. "Excuses are, after all, not worth much, and when I make my defense it will be before a more merciful judge."

Maud Barrington's curiosity was piqued. Lance Courthorne, outcast and gambler, was at least a different stamp of man from the type she had been used to, and, being a woman, the romance that was interwoven with his somewhat iniquitous career was not without its attractions for her.

"I did not know that you included farming among your talents, and should have fancied you would have found it—monotonous," she said.

"I did," and the provoking smile still flickered in Winston's eyes. "Are not all strictly virtuous occupations usually so?"

"It is probably a question of temperament. I have, of course, heard sardonic speeches of the kind before, and felt inclined to wonder whether those who made them were qualified to form an opinion."

Winston nodded, but there was a little ring in his voice. "Perhaps I laid myself open to the thrust; but have you any right to assume I have never followed a commendable profession?"

No answer was immediately forthcoming, but Winston did wisely when, in place of waiting, he turned to Miss Barrington. He had left her niece irritated, but the trace of anger she felt was likely to enhance her interest. The meal, however, was a trial to him, for he had during eight long years lived for the most part apart from all his kind; a lonely toiler, and now was constrained to personate a man known to be almost dangerously skillful with his tongue. At first sight the task appeared almost insuperably difficult, but Winston was a clever man, and felt all the thrill of one playing a risky game just then. Perhaps it was due to excitement that a readiness he had never fancied him-

Winston of the Prairie

BY HAROLD BINDLOSS.

Copyrighted by Frederick A. Stokes Company.

Synopsis of Previous Chapters.

Farmer Winston, having failed as a homesteader and driven to desperation, accepts a proposal to simulate Lance Courthorne, an adventurer; through the consummation of which Courthorne and his pals, after a struggle with the police, during which Trooper Shannon is killed by Courthorne, who leaves evidence pointing to Winston as the murderer, are able to smuggle through some illegal distillery products. The scene shifts to Silverdale, a settlement founded by Colonel Barrington, to which Maud Barrington, his niece and ward, has just returned after a visit to Montreal. Her questions elicit the information that the Colonel is worried over a fall in wheat prices, especially in the face of his advice to her to hold her share of that commodity; and also over the coming advent of Lance Courthorne, Miss Barrington's cousin, to Silverdale to claim his share of his father's estate. Maud Barrington learns more of her cousin's unsavory past. Winston, in the meantime, pushes on to Montana, is held for Courthorne by an officer of the government patrol, who discloses to him the belief on the part of the police that Winston is the murderer of Shannon. Mail for Courthorne is opened by Winston. Complying with instructions in the letter he meets and confers with a lawyer respecting Courthorne's inherited acres at Silverdale, visits the colony and is received as graciously as could be expected.

CHAPTER VIII.—(Concluded).

"I have no doubt we shall weather them as we have done before," said the Colonel. "Still, I can't help admitting that just now I feel—a little tired, and am commencing to think we should have been better prepared for the struggle had we worked a trifle harder during the recent era of prosperity. I could wish there were older heads on the shoulders of those who will come after me."

Just then Maud Barrington glanced at them, and Dane, who could not remember having heard his leader talk in that fashion before, and could guess his anxieties, was a little touched as he noticed his attempt at sprightliness. As it happened, one of the lads at the piano commenced a song of dogs and horses that had little to recommend it but the brave young voice.

"They have the right spirit, sir," he said.

"Of course," said Barrington. "They are English lads, but I think a little more is required. Thank God we have not rated the dollar too high, but it is possible we have undervalued its utility, and I fear I have only taught them to be gentlemen."

"That is a good deal, sir," Dane said quietly.

"It is. Still, a gentleman, in the restricted sense, is somewhat of an anachronism on the prairie, and it is too late to begin again. In the usual course of nature I must lay down my charge presently, and that is why I feel the want of a more capable successor, whom they would follow because of his connection with mine and me."

Dane looked thoughtful. "If I am not taking a liberty—you still consider the one apparently born to fill the place quite unsuitable?"

"Yes," said Barrington quietly. "I fear there is not a redeeming feature in Courthorne's character."

Neither said anything further, until

there was a tapping at the door, and, though this was a most unusual spectacle on the prairie, a trim English maid in white-banded dress stood in the opening.

"Mr. Courthorne, Miss Barrington," she said.

Now Silverdale had adopted one western custom in that no chance guest was ever kept waiting, and the music ceased suddenly, while the stillness was very suggestive, when a man appeared in the doorway. He wore one of the Scandinavian leather jackets which are not uncommon in that country, and when his eyes had become accustomed to the light, moved forward with a quiet deliberation that was characterized neither by graceful ease nor the restraint of embarrassment. His face was almost the color of a Blackfoot's, his eyes steady and gray, but those of the men who watched him were turned the next moment upon the Colonel's sister, who rose to receive him, slight, silver-haired, and faded, but still stamped with a simple dignity that her ancient silks and laces curiously enhanced. Then there was a silence that could be felt, for all realized that a good deal depended on the stranger's first words and the fashion of his reception by Miss Barrington and the Colonel.

Winston, as it happened, felt this too, and something more. It was eight years since he had stood before an English lady, and he surmised that there could not be many to compare with this one, while, after his grim lonely life, an intangible something that seemed to emanate from her gracious serenity compelled his homage. Then as she smiled at him and held out her hand, he was for a moment sensible of an almost overwhelming confusion. It passed as suddenly, for this was a man of quick perceptions, and remembering that Courthorne had now and then displayed some of the grace of by-gone days he

yielded to a curious impulse, and, stooping, kissed the little withered fingers.

self capable of came to him in his need, and, when at last the ladies rose, he felt that he had not slipped perilously. Still, he found how dry his lips had grown when somebody poured him a glass of wine. Then he became sensible that Colonel Barrington, who had apparently been delivering a lengthy monologue, was addressing him.

"The outlook is sufficient to cause us some anxiety," he said. "We are holding large stocks, and I can see no project of anything but a steady fall in wheat. It is, however, presumably a little too soon to ask your opinion."

"Well," said Winston, "while I am prepared to act upon it, I would recommend it to others with some diffidence. No money can be made at present by farming, but I see no reason why we should not endeavor to cut our losses by selling forward down. If caught by a sudden rally, we could fall back on the grain we hold."

There was a sudden silence, until Dane said softly, "That is exactly what one of the cleverest brokers in Winnipeg recommended."

"I think," said Colonel Barrington, "you heard my answer. I am inclined to fancy that such a measure would not be advisable or fitting, Mr. Courthorne. You, however, presumably know very little about the practical aspect of the wheat question."

Winston smiled. "On the contrary, I know a great deal."

"You do?" said Barrington sharply, and while a blunderer would have endeavored to qualify his statement, Winston stood by it.

"You are evidently not aware, sir, that I have tried my hand at farming, though not very successfully."

"That at least," said Barrington dryly, as he rose, "is quite creditable."

When they went into the smaller room, Winston crossed over to where Maud Barrington sat alone, and looked down upon her gravely. "One discovers that frankness is usually best," he said. "Now, I would not like to feel that you had determined to be unfriendly with me."

Maud Barrington fixed a pair of clear brown eyes upon his face, and the faintest trace of astonishment crept into them. She was a woman with high principles, but neither a fool nor a prude, and she saw no sign of dissolute living there. The man's gaze was curiously steady, his skin clear and brown, and his sinewy form suggested a capacity for, and she almost fancied an acquaintance with, physical toil. Yet he had already denied the truth to her. Winston, on his part, saw a very fair face, with wholesome pride in it, and felt that the eyes which were coldly contemptuous now could, if there was a warrant for it, grow very gentle.

"Would it be of any moment if I were?" she said.

"Yes," said Winston quietly. "There are two people here it is desirable for me to stand well with, and the first of them, your aunt, has, I fancy already decided to give me a fair trial. She told me it was for my mother's sake. Now, I can deal with your uncle, I think."

The girl smiled a little. "Are you quite sure? Everybody does not find it easy to get on with Colonel Barrington. His code is somewhat Draconic, and he is rather determined in his ways."

Winston nodded. "He is a man, and I hope to convince him I have at least a right to toleration. That leaves only you. The rest don't count. They will come round by and by, you see."

The little forceful gesture, with which he concluded, pleased Maud Barrington. It was free from vanity, but conveyed an assurance that he knew its own value.

"No friendship that is lightly given is worth very much," she said. "I could decide better in another six

months. Now it is perhaps fortunate that Colonel Barrington is waiting for us to make up his four at whist."

Winston allowed a faint gesture of dismay to escape him. "Must I play?"

"Yes," said the girl, smiling. "Whist is my uncle's hobby and he is enthusiastic over a clever game."

Winston groaned inwardly. "And I am a fool at whist."

"Then it was poker you played?" and again a faint trace of anger crept into the girl's eyes.

Winston shook his head. "No," he said. "I had few opportunities of indulging in expensive luxuries."

"I think we had better take our places," said Maud Barrington, with unveiled contempt.

Winston's forehead grew a trifle hot, and when he sat down, Barrington glanced at him. "I should explain that we never allow stakes of any kind at Silverdale," he said. "Some of the lads sent out to me have been a trifle extravagant in the old country."

He dealt out the cards, but a trace of bewildered irritation crept into his eyes as the game proceeded, and once or twice he appeared to check an exclamation of astonishment, while at last he glanced reproachfully at Winston.

"My dear sir! Still, you have ridden a long way," he said, laying his finger on a king.

Winston laughed to hide his dismay. "I am sorry, sir. It was scarcely fair to my partner. You would, however, have beaten us, anyway."

Barrington gravely gathered up the cards. "We will," he said, "have some music. I do not play poker."

Then, for the first time, Winston lost his head in his anger. "Nor do I, sir."

Barrington only looked at him, but the farmer felt as though somebody had struck him in the face, and, as soon as he conveniently could, bade Miss Barrington good-night.

"But we expected you would stay here a day or two. Your place is not ready," she said.

Winston smiled at her. "I think I am wise. I must feel my way."

Miss Barrington was won, and, making no further protest, signed to Dane. "You will take Mr. Courthorne home with you," she said. "I would have kept him here, but he is evidently anxious to talk over affairs with some one more of his age than my brother is."

Dane appeared quite willing, and, an hour later, Winston sat, cigar in hand, in a room of his outlying farm. It was furnished simply, but there were signs of taste, and the farmer who occupied it had already formed a good opinion of the man whose knowledge of his own profession astonished him.

"So you are actually going to sell wheat in face of the Colonel's views?" he said.

"Of course!" said Winston simply. "I don't like unpleasantness, but I can allow no man to dictate my affairs to me."

Dane grinned. "Well," he said, "the Colonel can be nasty, and he has no great reason for being fond of you already."

"No?" said Winston. "Now, of course, my accession will make a difference at Silverdale, but I would consider it a friendly act if you will let me know the views of the colony."

Dane looked thoughtful. "The trouble is that your taking up the land leaves less for Maud Barrington than there would have been. Barrington, who is fond of the girl, was trustee for the property, and after your estrangement from your father—everybody expected she would get it all."

"So I have deprived Miss Barrington of part of her income."

"Of course," said Dane. "Didn't you know?"

Winston found it difficult to answer. "I never quite realized it before. Are there more accounts against me?"

"That," said Dane slowly, "is rather a facer. We are all more or less friends of the dominant family, you see."

Winston laid down his cigar and stood up. "Now," he said, "I generally talk straight, and you have held out a hand to me. Can you believe in the apparent improbability of such a man as I am in the opinion of the folks at Silverdale getting tired of a wasted life and trying to walk straight again? I want your answer, yes, or no, before I head across the prairie for my own place."

"Sit down," said Dane with a little smile. "Do you think I would have brought you here if I hadn't believed it? And, if I have my way, the first man who flinks a stone will be sorry for it. Still, I don't think any of them will—or could afford it. If we had all been saints, some of us would never have come out from the old country."

He stopped and poured out two glasses of wine. "It's a long while since I've talked so much," he said. "Here's to our better acquaintance, Courthorne."

After that they talked wheat-growing and horses, and when his guest retired Dane still sat smoking thoughtfully beside the stove. "We want a man with nerve and brains," he said. "I fancy the one who has been sent us will make a difference at Silverdale."

It was about the same time when Colonel Barrington stood talking with his niece and sister in Silverdale Grange. "And the man threw that trick away, when it was absolutely clear who had the ace—and wished me to believe that he forgot!" he said.

His face was flushed with indignation, but Miss Barrington smiled at her niece. "What is your opinion, Maud?"

The girl moved one white shoulder with a little gesture of disdain. "Can you ask—after that! Besides, he twice wilfully perverted facts while he talked to me, though it was not in the least necessary."

Miss Barrington looked thoughtful. "And yet, because I am watching him, I do not think he plays cards well."

"But he was a professional gambler," said the girl.

The elder lady shook her head. "So we—heard," she said. "My dear, give him a little time. I have seen many men and women—and can't help a fancy that there is good in him."

"Can the leopard change his spots?" asked Colonel Barrington, with a grim smile.

The little white-haired lady glanced at him as she said quietly, "When the wicked man—"

(Continued next week.)

NAME GUESSING CONTEST.

BY L. M. THORNTON.

A name-guessing contest is a clever form of entertainment for a company of people who are very well acquainted with each other. The questions should be prepared beforehand by the hostess and the answer to each should be the name of some guest present.

While no questions and answers can be outlined that would apply to any gathering, the following are given as suggestions to make clear the plan:

Who is a Biblical name and a color?—Esther Brown.

Who is a sorrow and pleasure?—Ruth Joyce.

Who is a queen of Troy and a sea-son?—Helen Spring.

Who is a month and a city?—May Hanover.

Who is a cloak and a worker of metals?—Paul Smith.

Who is an attribute and a meadow?—Frank Mead.

Who is a document and a general?—Will McClelland.

Who is a permission and two birds?—Grant Robbins.

The more ludicrous the questions can be made the more amusement the game will afford.

You like to go Hunting Fishing Trapping

Then surely you will enjoy the National Sportsman Magazine with its 160 richly illustrated pages, full of overflowing with interesting stories and valuable information about guns, dogs, fishing tackle, camp-outfits—the best places to go for fish and game, and a thousand and one valuable "How to" hints for Sportsmen. The National Sportsman is just like a big camp-fire in the woods where thousands of good fellows gather once a month and spin stirring yarns and compare notes about their experiences with rod, dog, rifle and gun. All this for 15c a copy or \$1.00 for a whole year, with Watch Fob.

Special Offer
Send us 25c, stamps or coin, and we will send you the National Sportsman for 3 months, also one of our heavy bound Gold Watch Fobs, as here shown, with seal grain leather strap and gold-plated buckle.

NATIONAL SPORTSMAN
102 Federal St. Boston, Mass.

FARMING FOR PROFIT

Operate your farm on a money making basis. Learn what it costs you to run it. Find out your exact profits or losses on cows, chickens, wheat, corn, pigs, horses and every thing else you raise. You can do it by a careful study of the



COST SYSTEM

This has been carefully worked out by practical farmers who now offer to any farmer anywhere a complete course of study. Eight text books, card index system and all supplies included. Instructions given, questions asked, answers checked and system thoroughly taught by correspondence. Work directed by actual farmer business men of recognized standing. The Avalon Farm Cost System is extremely simple and by its use you eliminate all guess work. Write for new free folder telling all about it.

The Cleveland Correspondence School Co.
% 4402 Euclid Ave. Cleveland, Ohio

DON'T Pay Two PRICES HOOSIER Stoves Ranges FREE

To try in your own home for 30 days. Show your friends. Freight paid by us. Send it back at our expense if you do not want to keep it. You can get the best at actual factory prices. Are heavily made of the highest grade selected material, beautiful ornamentation and finish, with improvements that absolutely surpass anything ever produced. The Best in the World. Guaranteed for Years by a Two Million Dollar Bond. You can save enough on a single Hoosier Stove to buy your winter's fuel. All HOOSIER STOVES Guaranteed for years. Send Postal today for Large Free Catalog "and prices." Large assortment to select from. No Obligations.

HOOSIER STOVE CO.,
181 State St., MARION, IND.

Wolverine Chemical Closet

GUARANTEED
Odorless and Sanitary.
No Water. No Sewer.
Indorsed by all Health Boards.

This is your opportunity to make your home sanitary and comfortable at a very small cost. Easy to install, will last a lifetime. Will not FREEZE. Write today for Descriptive Catalog.

AGENTS WANTED.
Dall Steel Products Co.
710 Kalamazoo St.,
LANSING, MICHIGAN

Special Trial Order.

A one cent post card will deliver—Charges Prepaid

To Try Before You Buy

In your own home one of our regular \$10.00 combination DUST-VAC VACUUM CLEANERS and CARPET SWEEPERS. If entirely satisfied, take orders from only two of your neighbors for \$7.50 each and keep yours FREE. Every machine guaranteed five years—Delivered prepaid. You run no risk, send no money. Try before you buy. Agents wanted everywhere. Liberal commission.

THE LACE-OMETER CO.
Adrian, Mich.

FIRE PROOF SAFETY DEPOSIT BOX

FOR THE HOME. Delivered, Parcel Post, on receipt of price—\$5.00. Size—5x7x16 inches. Guarantee satisfaction.

SAFETY DEPOSIT BOX CO., Battle Creek, Mich.

Government Farmers Wanted:—Age 21 to 60. Monthly. Write, OZMENT, 17 F. St. Louis, Mo.

WANTED State Agent for Farmers' Account Book. Thousands of dollars made annually. Big winner. Address, L. L. SYPHERS, Fort Wayne, Indiana.



Woman and Her Needs

At Home and Elsewhere



Plain, Practical, Pretty Pillow Covers.

By ELLA L. LAMB.

WHEN it comes to refurbishing up our sofa pillows, we house-mothers must not allow ourselves the luxury of a fit of the blues if we find that even the most simple of embroidered pillow-covers are beyond our powers to encompass; for with a little time and ingenuity we can evolve quite a variety of pillow covers, which, while in no way elaborate, are in good taste and meet all the demands of the farm home.

Linen crash makes durable covers, and lends itself to stenciling, which may be very quickly done, with good effect. A stenciling outfit, complete with directions, will be found useful in many ways about the home; though one can, with little trouble, make one's own stencils, also the dyes from the tube oil colors thinned with turpentine or wood alcohol. Indeed, I know of one young lady who did very creditable work with common house paints thinned with gasoline.

Plain art denim, which comes in many shades, is neat with a quaint design in outline stitch or with figures cut from flowered cretonne deftly obliqued upon it with buttonhole stitch. Nor is that old standby, the shepherd check gingham ornamented with simple cross stitch, to be scorned; for to be all that a pillow should be, the covers should come each time from the wash looking like new. Really, that snare and delusion, the ornate, awe-inspiring sofa pillow, upon which the bravest dare not lay his head, should be forever banished from the realms of thoughtful housewives.

Stitch, with the machine, bands of contrasting color, about two inches from the edge, on each side of a square of plain denim or chambray gingham, letting them cross at the corners. Two or three rows of narrow bias folds, found ready to apply at the stores, sewed on in the same manner, make an attractive finish.

There is almost certain to be the making of several pillow covers among the odds and ends of almost any household. Many of the pieced blocks of our mother's and grandmother's quilts were truly quaint and artistic and can well be copied in contrasting colors, or different shades of the same color.

A gay strip of cretonne would look well between two strips of plain goods, or vice versa, and might be feather-stitched along the seams, though that is not imperative.

If there are pieces of striped goods, cut four large half squares, with the long edge crossways of the goods, having the stripes exactly the same on each short side of each piece, so that when sewed together with the points in the center, the stripes meet at the four seams, which may be finished with bands of one stripe of the material, stitched on both sides over the seams.

The edges of the pillows may be left plain or a hem of two inches or more may be turned on all four sides of both front and back and the two sewed together at its top on three sides, while hook and eyes are added to the fourth. A cord is a pretty finish for pillows, though some prefer a frill, either all around the cushion, on the sides only, or just around the corners. Woven fringe seems to be the

most popular way to finish the long pillows, which are much in favor just now.

If duck or goose feathers are not to be had to fill our sofa pillows, we farmers' wives can easily obtain chicken feathers, which can be made much more fluffy if, after being thoroughly washed, they are allowed to freeze dry. A pint pillow fills a room with a delightful spicy fragrance and is believed to be useful in the treatment of colds and catarrh, while a pillow filled with hops is often recommended to those suffering from nervousness or insomnia.

In hot weather excelsior proves a good substitute for feathers in the pillows to be used about the porch or

materials or work being needed until ready to unite all together. A center of this kind made of heavier thread, and increased by several rows of wheels makes one of the most beautiful between-meal spreads for the dining-table of dark wood that can be imagined because of its open, lacy appearance. Made of carpet warp these wheels form a splendid pattern to follow in making a bedspread, the work being speedy, and without the intricacies so many designs present. Strips or bands may be formed of the wheels if preferred. In fact, their uses are innumerable.

The smaller wheels are made in this way: Chain 20, and join. Single crochet 32 times over this chain. Ch 3 to start the first loop, and 7 more to form the loop, and double crochet into circle, proceeding thus until there are 8 loops surrounding the circle. Sc 12

a small wheel with two of the one adjoining. This leaves three loops of each wheel to be used in making the additional row. Join a wheel to the outer of each trio. Now fasten the thread to the adjoining loop on each outer wheel, ch 8, sc into central loop of trio, ch 8, and into opposite loop of next wheel. Sc over each ch 16 times. Again fasten thread into loop just below, ch 10, sc into center of above loop, ch 10, sc into center of next loop, ch 10, and sc into opposite loop of next wheel. Sc 24 times over each loop. Beginning at same point this last row of loops started ch 12, sc into central loop above, ch 12, and sc into opposite wheel. Sc 40 over each of these loops.

HARD WOOD FLOOR FINISH.

BY EMMA GARY WALLACE.

Hard wood floors are exceedingly popular because of their beauty and sanitary qualities. Many fine floors have been spoiled because of improper finishing. The following method has stood the test of time.

After the floor is down and thoroughly scraped and sandpapered, do not allow walking on it as this raises the grain of the wood. Apply at once a good liquid floor filled tinted just enough to take away the raw look of the wood. Floors darken with time and show the dust when they are dark, so finish as light as possible. Allow to dry 24 hours. Sandpaper lightly with a fine sandpaper.

Go over the entire surface with a soft cloth to remove the dusty surface then oil with boiled oil, applying with a paint brush. The oil feeds the filler and prevents it chipping out of the grain of the wood. Allow to dry 48 hours.

Next give a heavy coat of a guaranteed hot water resisting varnish, spreading evenly. Allow this to stand 24 hours. The varnish will hold the filler in place and protect the wood so that stains will not penetrate.

The quality of varnish used must be high grade so that snow, umbrella drippings, etc., will leave no mark and the color will be elastic to resist heel marks.

When the varnish is set, sandpaper again with fine sandpaper and wax with a good floor wax, using a weighted brush. Re-wax once a month.

This surface will last 20 years and is free from many of the objections urged against hard wood floors.

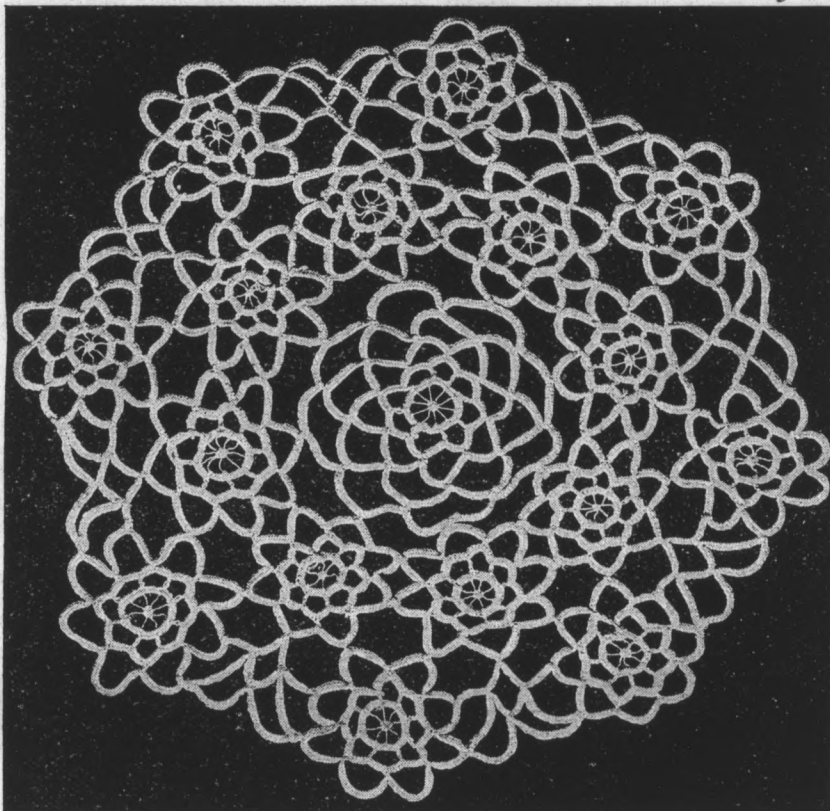
HOME QUERIES.

Household Editor:—Please print a way of renovating strong lard to make it so that it can be used for cooking. I have heard that it could be done.—Mrs. J. M.

Lard that is not too bad can be clarified by putting it on the back of the range to heat slowly, and, when hot, dropping in a few thin slices of potatoes. Let remain until the potatoes are browned, then strain through a cheesecloth. Perhaps some reader can give other ways.

Household Editor:—Will someone please tell me if there is any market value to a mirror 100 years old?—Mrs. S., Huron.

If you will send me a self-addressed and stamped envelope I will send you the address of an expert in antiques who can tell you. In writing the expert, describe your mirror, the size, sort of frame, clearness of glass, where it was purchased, the maker, in short, tell all you know about it.



Simple but Attractive Crocheted Centerpiece.

hammock. But good, fresh-cut, sun-dried hay is better yet for it is easily removed at any time and has a fragrance all its own. For this purpose the fine, tough, wiry June grass, of so little use for feeding, is best, and, of course, someone will think at once, of adding various sweet scented herbs or dried flower petals.

For rough outdoor use try a few burlap pillow covers. Nothing elaborate is necessary. Leave them plain, feather-stitch or cross-stitch with gay silk, or stencil with bright colors. They will save your other pillows much wear and tear and incidentally your time and nerves.

WHEEL CENTERPIECE IN CROCHET.

BY MAE Y. MAHAFFY.

A charming centerpiece, of D. M. C. cotton of moderately fine quality, is shown in the accompanying illustration. It is composed of a large central wheel, surrounded by 16 smaller ones, with the necessary connecting links. Since each wheel is made separately they form a delightful pastime for odd moments; no large quantity of

times over each loop, and fasten off thread.

For the next row fasten the thread in center of a previously made loop, ch 12, sc into center of next loop, ch 12, and so on around the wheel, then cover each loop with 20 ch sts.

The web which forms the center of each wheel is made with a needle and thread, after the manner of lace webs. Carry the thread across the circle from side to side at equal distances apart until three threads have been laid. In placing the fourth and last carry it only to the center and knot it about the other threads, weaving it under and over them round and round three times. Finish by carrying the thread to the edge.

The large central wheel of the piece is made like the smaller ones, but with the addition of two more rows made as follows: Having fastened the thread at the central point of one of the outer loops, ch 14, and catch in next loop, proceeding thus around the wheel. Cover each loop with 23 sc sts. For the outside row ch 20 for each loop, and cover with 30 sc.

In uniting the wheels use a needle and thread, joining the outer loop of

Farmers' Clubs

Associational Motto:

"The skillful hand with cultured mind is the farmer's most valuable asset."

Associational Sentiment:

"The Farmer: He garners from the soil the primal wealth of nations."

CLUB DISCUSSIONS.

Cheap Recreations and the High Cost of Living.—Mr. and Mrs. Glen Shaw entertained the members and friends of the Odessa Farmers' Club at the last meeting, which was called to order by President Foght. The first number was a song, "America," by the Club. John Klahn read his paper, "How far are the present low prices of recreation and amusements responsible for the high price of Living?" "Somewhat, but not altogether, five-cent shows, Sunday excursions and base ball take money and are not elevating. They are here, we cannot hinder them. We must have recreation and amusement, but it can be carried too far. Farmers as a rule, do not have too much recreation. Ball playing is carried too far sometimes. A speaker in our town not long ago said: 'Every school ought to have a piece of land to teach pupils how to work and for exercise.' This paper was intensely practical and was well received and thoroughly discussed. Mrs. B. F. Carter read an item concerning the war, from a daily paper, and men discussed it.

Co-operation Discussed.—At a recent meeting of Napoleon Farmers' Club, L. G. Palmer gave a fine talk on "Co-operation." He spoke of the fear expressed by many farmers of the trusts, but does not think they have raised the prices as much as the farmers feared they would, citing the American Harvester Company as an example. He spoke of co-operative creameries, while not at all successful in some places, they have been a great success in others. Potato growers in the northern part of the state are forming organizations for the protection of their interests, and farmers around Litchfield and Quincy are co-operating for the selling of live stock. "Farmers are said to be the hardest of all people to organize, chiefly owing to the diversity of their interests. Perhaps the best results can be obtained through the organizations we already have, the Farmers' Clubs, Granges and Gleaners. An excellent address was given by Miss Olive Rogers, and Mrs. M. H. Covert followed with a reading entitled, "The Black Sheep." The subject of "The winter care of poultry" was then taken up and quite thoroughly discussed. Mrs. Ruth Watson then read a pleasing selection, "Love Lightens Labor," and the meeting closed with singing by the Club.

Hear About Reforestation.—The Salem Farmers' Club held its September rally at the pleasant home of Mr. and Mrs. Wm. Geigu. About 50 guests and members of the Club met and enjoyed the day. A larger number of gentlemen than usual were in attendance and as the day was beautiful they occupied the hour before the dinner in out-of-door games and sports. After dinner the program was taken up, consisting of music, vocal and instrumental, and other exercises. The main feature of the afternoon was an address by Postmaster J. E. Beal, who is also regent of the University of Michigan. He spoke on the reservation and conservation of our forest lands, also the work of the Public Domain Commission in planting our poor and cut-over lands to young forest trees. He spoke of the success of this work, not only in other states of the Union but in countries of the old world. Many questions were asked and much information obtained.

Corn Contest and Club Fair.—The Club held its October meeting at the pleasant farm home of Mr. and Mrs. Wm. Smith. After the usual bountiful dinner, President Thompson called the meeting to order and an excellent program was given. A very able paper by Chas. Ross discussed the question of the war in Europe, and its deplorable effects. The president then gave notice of our corn contest work to be reported at the next meeting and awards to be given. The meeting will be held at the town hall. A general invitation is given to farmers to bring anything they have which they wish to exhibit, making the meeting a sort of Club fair. The boy raising the best ten ears of yellow corn is to receive a prize of \$10; second prize \$5, also \$2.50 will be given to the farmer bringing the best ten ears of yellow corn, and \$2.50 to the farmer bringing best ten ears of white corn.—H. C. Thompson, Reporter.

Grange.

Our Motto—"The farmer is of more consequence than the farm, and should be first improved."

NOVEMBER MEETINGS.

State Lecturer's Suggestions for First Meeting.

Opening song.
Surprise feature in charge of the young people.
What are the main points to insist upon in building a farm house? With sketch of plan of house.
Reading, "The man and the houses he built."
Song, by quartette.
"How I raised my biggest corn crop."
"How I sold my best potato crop."
Roll call, responded to by each answerer, "What do you think true co-operation means as applied to country people?"
Closing song.

AMONG THE LIVE GRANGES.

A Program Contest between the ladies and gentlemen of Harmony Grange No. 1451, was the feature of their first October meeting. Although the ladies won, the men created a great deal of merriment. The ladies' part of the program consisted of victrola selections, readings, vocal and instrumental solos, a discussion on "The Uses of Old Metaphors," and a roll call in which each lady responded by giving some labor-saving recipe. The men started their program with victrola selections, after which they tried to sing, but the organist being absent, they did not make much of a success of it. They finally finished the song amid much laughter from the audience. Comic and serious recitations, vocal solos, and a discussion on corn improvement was also included in their part of the program. Their roll call consisted of each man giving a recipe of his favorite dish. Three of the men furnished samples of their favorite dish, made by themselves, which were devil's food cake, baked sweet apples, and candy.

The Mancelona Grange Fair held October 3 in the town hall, was a very successful exhibition of the products of the garden and farm and domestic art, although there was not as large an exhibit of fruit as usual on account of the failure of the two largest exhibitors in fairs heretofore held to attend. Three rows of tables extended the whole length of the hall, on the sides and down the center, and these were all covered with the fine display. The total number of exhibitors was about 50. The attendance of visitors was very large and all expressed themselves well pleased with the Grange fair.

At a Reception held in honor of four of its members the Charlotte Grange served the following unique menu: The last of Old Dog Trey (sandwiches); magic circle (doughnuts); wheel of Cinderella's couch (pumpkin pie); symptoms of love (pickles); a hot time (coffee); splinters of fun (toothpicks); also cream.

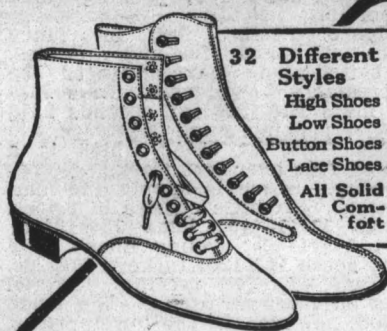
The Proposed Amendment to the state constitution to be voted on at the next election were the chief subjects of discussion at the second October meeting of the Keene Grange. It was the consensus of opinion that the amendment with reference to fraternal insurance should be voted down. The Granges of this state also favor the defeat of the amendment giving the Legislature the power to issue bonds for the purpose of raising money for the construction of public highways. The Grange does not object to good roads, in fact, has declared for them, but they do object to the proposition of taking away the right of the people to vote on bonding issues and placing it solely in the hands of the Legislature. The question of raising large sums of money should always be left in the hands of the people and the proposed amendment will undoubtedly be defeated.

COMING EVENTS.

The next meeting of Eaton County Pomona Grange will be held at Vermontville, North Kalama assisting in the entertainment, on October 31.

Gratiot County Pomona Grange will meet with Newark Grange, November 7. There will be a state speaker present.

The date of Oneida Grange fair and exhibit is set for November 20. There will be a large display of fancy work, aprons, vegetables and live stock. A chicken-pie supper will be served.



32 Different Styles
High Shoes
Low Shoes
Button Shoes
Lace Shoes
All Solid Comfort

Don't be Defrauded—get the Genuine.

Take no substitute—there's only one real comfort shoe that gives perfect foot-ease and lasting wear—the genuine

Mayer

Martha Washington Comfort Shoes

These wonderful shoes afford positive relief for aching, tired, sensitive, itching, burning feet. Martha Washington Comfort Shoes will give you genuine comfort and a perfect fit.

WARNING:—Always look for the name Martha Washington and the Mayer trade mark on the sole. If dealer cannot supply you, write us.

We make Honorbilt shoes in all styles for men, women and children; Dry Sox wet weather shoes; Yerma Cushion Shoes.

F. MAYER BOOT & SHOE COMPANY
Milwaukee

No buttons or laces—they slip on and off at will.



VELLASTIC

Ribbed Fleece-Lined Union Suits

FOR protection against colds and draughts—you can rely on the thick, warm fleece of VELLASTIC.

Lighter than ordinary heavy fleeced underwears, but equally warm. Ribbed for strength and elasticity—fleece-lined for comfort and warmth. The fleece cannot wash off, knot or mat.

For Men, Women and Children
Union Suits or Separate Garments 50c up. Look for the name VELLASTIC.
Write for Bodygard Book No. 3.

UTICA KNITTING CO., Utica, N. Y.

New KEROSENE LIGHT BEATS ELECTRIC OR GASOLINE

10 Days FREE—Send No Money

We don't ask you to pay us a cent until you have used this wonderful modern light in your own home ten days, then you may return it at our expense if not perfectly satisfied. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests at 14 leading Universities show that it

Burns 50 Hours on One Gallon
common coal oil (kerosene), no odor, smoke or noise, simple, clean, won't explode. Three million people already enjoying this powerful, white, steady light, nearest to sunlight. Guaranteed.

\$1,000.00 Reward
will be given to the person who shows us an oil lamp equal to the new Aladdin in every way (details of offer given in our circular). Would we dare make such a challenge if there were the slightest doubt as to the merits of the Aladdin? **GET ONE FREE.** We want one user in each locality to whom we can refer customers. To that person we have a special introductory offer to make, under which one lamp is given free. Write quick for our 10-Day Absolutely Free Trial Proposition and learn how to get one free.

MANTLE LAMP COMPANY, 614 Aladdin Building, Chicago, Ill.
Largest Manufacturers and Distributors of Kerosene Mantle Lamps in the World

Learn Auctioneering at WORLD'S GREATEST dependent. Winter term opens December 7th following International Stock Show. Class limited to 100 students. Write today for free catalogue. JONES NAT'L SCHOOL OF AUCTIONEERING, 28 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

Cider Barrels For Sale. Whiskey barrels, half barrels and kegs for cider. Mich. Barrel & Bag Co., 233 Franklin St., Detroit. Phone M 3192.



A. P. of H. EMBLEM

For the Buttonhole.

Handsome rolled gold and enamel. Sent free for two subscriptions to the MICHIGAN FARMER either kind. The great special offer—3 years for \$1 or at 50 cents a year. Send orders to the MICHIGAN FARMER, DETROIT, MICH.



DON'T PAY TWO PRICES
HOOSIER Stoves
Ranges
Heaters **FREE**

To try in your own home for 30 days. Show your friends. Freight paid by us. Send it back at our expense if you do not want to keep it. You can buy the best at Actual Factory Prices. Are heavily made, of the highest grade selected material, beautifully finished, with improvements that absolutely surpass anything ever produced. The Best in the World. Guaranteed for years by a Two Million Dollar Bond. No matter where you live, you can try a HOOSIER in your own home thirty days, without a penny's expense or obligation to you. You can save enough on a single HOOSIER STOVE to buy your winter's fuel. Write or send postal today for Large Free Catalog "and prices" showing large assortment to select from. No Obligations.

HOOSIER STOVE COMPANY,

131 State Street, MARION, IND.



Markets.

GRAINS AND SEEDS.

October 27, 1914.

Wheat.—Notwithstanding the fact that foreigners have bought wheat liberally in this country during the past week, prices have not shown a tendency upward, and on Monday and Tuesday there were declines. Last week the producing countries of the world shipped ten million bushels of wheat and of this amount eight million bushels came from the United States. European buyers seem to be more anxious about their supplies. Frost is also reported to have damaged the Argentine crop. The bearish feature of the trade is the liberal delivery of wheat by farmers in our winter wheat states. Flour is in moderate demand. The general condition, however, would indicate that prices should be maintained on the present basis. One year ago the price for No. 2 red wheat was 93c. Quotations for the past week are:

	No. 2	No. 1	
	Red.	White.	Dec.
Wednesday	1.13	1.10	1.17½
Thursday	1.13	1.10	1.17½
Friday	1.14	1.11	1.18½
Saturday	1.13½	1.10½	1.17½
Monday	1.12½	1.09½	1.16
Tuesday	1.11½	1.08½	1.15

Chicago, (Oct. 26).—No. 2 red, \$1.14½@1.15½; Dec., \$1.15½; May \$1.20½.

Corn.—This cereal is selling higher in spite of the good weather for securing the crop. Where husking is well along complaints are being made that corn is not yielding as well as was anticipated. Reports were current last week that a number of vessels carrying corn from South America had been sunk by German warships. On the local market receipts are light and the demand easy. One year ago No. 3 corn sold here at 73c per bushel. Quotations are as follows:

	No. 3	No. 3	
	Mixed.	Yellow.	
Wednesday	75	77	
Thursday	75	77	
Friday	76	78	
Saturday	78	80	
Monday	77	79	
Tuesday	76	78	

Chicago, (Oct. 26).—No. 2 yellow, 74½@74¾c; Dec., 68½c; May 71½c.

Oats.—While the trade suffered a reaction last week through profit taking, the market has been well supported by an active home and foreign demand and prices now rule higher than a week ago. The visible supply increased about a third of a million bushels during the week. One year ago standard oats were quoted at 42½c per bushel. Quotations are as follows:

	No. 3	
	Standard.	White.
Wednesday	50	49
Thursday	51	50½
Friday	51	50½
Saturday	51½	51
Monday	51	50½
Tuesday	51	50½

Chicago, (Oct. 26).—Standard oats 49½c; Dec., 50½c; May 53½c.

Rye.—This grain is firm at 93c for No. 2, which is 2c higher than last week.

Clover Seed.—Market is quiet and easy. Prices are lower. Prime spot quoted at \$8.90; December \$9; March \$9.20; prime alsike sells at \$8.60.

Toledo.—Prime cash \$9; Dec. \$9.10; March \$9.27½; prime alsike \$8.55.

Beans.—Trading is moderately active with prices easy. Detroit quotations are: Immediate and October shipment \$2.15. Chicago.—Market is firm. Demand is good for pea beans. Pea beans, hand-picked, choice, are quoted at \$2.50; common at \$2.25@2.35; red kidneys, choice \$3.25@3.50.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$6; second \$5.50; straight \$6; spring patent \$6.20; rye flour \$5.80 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$24; standard middlings \$25; fine middlings \$32; coarse corn meal \$31; corn and oat chop \$28 per ton.

Hay.—Carlots on track at Detroit are: New, No. 1 timothy \$16@16.50; No. 2, \$14@14.50; No. 3, \$11@12.

Chicago.—Choice grades are in good demand and higher, while common is easier. Choice timothy \$16.50@17; No. 1, \$15@16; No. 2, \$12.50@13.

Straw.—Steady. Rye \$7.50@8; oat straw \$7@7.50; wheat straw \$7@7.50 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Good butter is firm at unchanged prices. Extra creamery 30c;

firsts 28c; dairy 19c; packing stock 18c per lb.

Chicago.—Feeling firm for fancy grades and steady for under grades. The better grades have advanced. Extra creamery 30½c; extra firsts 28@29c; firsts 25½@26½c; seconds 23½@24½c; packing stock 20@20½c.

Elgin.—Sold at 31½c which is a raise of 1½c over last week.

Poultry.—In ample supply and market easy, with little change in prices. Springs 13@13½c; hens 13@13½c; ducks 14@14½c; young ducks 14@14½c; geese 11@12c; turkeys 19@20c.

Chicago.—Large receipts lowered prices on most all kinds. The trade is good, however, at the lower prices. Quotations on live are: Fowls 10@11c; spring chickens 10½@11c; ducks good stock 13c; guinea hens, per dozen \$3.50; young guinea hens \$2@4; turkeys 13c; geese 12@13c per lb.

Eggs.—Market steady with prices advanced 2c. Fresh stock sells at 25c per dozen; current receipts 23½c.

Chicago.—Fresh eggs are in demand at higher prices while for the under grades the trade is only fair. Miscellaneous lots, cases included, 18@24c; ordinary firsts 21½@22½c; firsts 23½@24½c.

FRUITS AND VEGETABLES.

Fruits.—Pears, Bartletts, \$1.75@2 per bu; common 50@75c; grapes 15@16c for blue, per 8-lb. basket.

Chicago.—Pears, Bartletts \$1.50 per bu; Seckel \$1.50; Keiffers 40@60c; quinces \$2@4 per bbl, \$1@1.40 per bu; black grapes 15@16c per 8-lb. basket.

Vegetables.—Home-grown cabbage, 75c@1 per bbl; new beets 60@65c per bu; radishes \$1@1.25 per hundred bunches; tomatoes \$1.25@1.50 per bu; onions 70c per 100 lbs. in bulk.

Potatoes.—Michigan 40@45c per bushel in sacks; carlots \$1.25@1.30 per sack; at Chicago Michigan white bulk, are quoted at 38@46c per bu.

Apples.—Supply is liberal and demand is fair. Average receipts 50@75c per bu; \$1.50@2.50 per bbl.

Chicago.—A fair trade in good stock but the ordinary kind is not moving. Peddlers handling bulk stock mostly. This moves fairly well at easy prices. Western boxes plentiful and easy. Baldwins \$2@2.25; Wealthy \$1.75@2.50; Kings \$2.25@2.75; Wageners \$2@2.25; Jonathans \$3.50@4; Greenings \$2@2.25; Northern Spy \$2.50; bulk apples 30@80c per 100 lbs., according to quality. Western box apples are selling for 80c@1.50 per box.

WOOL.

The domestic wool market is exceptionally strong, and a majority of the dealers are of the opinion that higher prices will be realized before the first of the year. Coarse wools are now exceedingly active, while the fine grades have very little demand. This is the reverse of the situation since the early part of the season, and is due to the increased consumption of these wools for the manufacture of goods for military purposes. Fleece wools, however, are moving fairly well at firm prices at Boston. Michigan unwashed delaine is quoted at 27@28c; do. combing 23@29c; do. clothing 23@26c. The sales there for the week amounted to nearly 5,000,000 lbs. The recent London sales developed prices that exceeded the expectations of the most optimistic dealers.

GRAND RAPIDS.

The potato market has sagged during the past week and even Greenville, the home of top prices, quotes at 30@32c, while payments at other loading stations have ranged somewhat below 30c. Many potatoes will go into storage unless prices mend. Potatoes sell on this market in a small way at 40@45c. Beans are quoted on hand-picked basis at \$1.90 for white and \$2.40 for red kidneys. In meat, dressed hogs are quoted at 10½@11c; live fowls at 10c; prime calves 100 to 120 lbs., 13½@14c. Fresh eggs are worth 25@27c; dairy butter 22c. Hay continues at \$11@13. Grain prices follow: No. 2 red wheat \$1.02; oats 47c; rye 80c; corn 90c; buckwheat 80c.

DETROIT EASTERN MARKET.

There were fewer teams on the market Tuesday morning than for any Tuesday for a long time past. Cold weather gave a little more snap to business. Former prices are being maintained. Potatoes are offered liberally, and selling at 55@60c per bu. Apples are moving more freely at 50c@51 per bu; cabbage 25c for common and 45@50c for red; sugar pears 75c; tomatoes \$1; onions 60@75c; celery 12@25c per bunch, according to size. There was no hay on the market, with nominal quotations at \$17@19 per ton.

The German government has decided to regulate the export of sugar in such a manner that the major portion of the crop will be retained for home consumption.

THE LIVE STOCK MARKETS.

Buffalo.

October 26, 1914.

(Special Report of Dunning & Stevens, New York Central Stock Yards, Buffalo, N. Y.)

Receipts here today as follows: Cattle 250 cars; hogs 120 d. d.; sheep and lambs 85 d. d.; calves 1300 head.

With 250 cars of cattle on our market here today and the weather rough and stormy, we will repeat what we said to the trade last Monday, that this was the worst market yet, all the better grades of cattle selling from 15@25c per cwt. lower, and in many instances the medium butcher cattle sold 35@40c per cwt. lower than last Monday, and at the close there are at least 20 loads of cattle yet unsold.

We had a fairly liberal supply of hogs today, and with moderate demand trade opened dull and lower, but closing little more active and a good clearance was made, but nothing gained from the opening as to price. A few decks of selected and medium weight hogs sold at \$7.75, with the bulk of the transactions at \$7.70; pigs and lights \$7.50@7.65, as to weight and quality. Roughs \$6.50@6.75; stags \$5@6.50. Our prices look plenty low on everything but pigs and if anything like a moderate supply balance of the week, would look for a little stronger trade, but would not pay too much attention to any advance.

The market was active today on lambs and slow on sheep, with prices a quarter lower than the close of last week; choice handy lambs selling at \$7.80@7.85. We look for steady to shade higher prices last of week.

We quote: Lambs \$7.75@7.85; cull to fair \$6@7.70; yearlings \$6@6.50; bucks \$3@4.25; handy ewes \$5.15@5.25; heavy do \$4.75@5; wethers \$5.50@5.75; cull sheep \$3.50@4.25; veals, choice to extra \$11@11.25; fair to good \$9.50@10.50; heavy calves \$6@9.

Chicago.

October 26, 1914.

Cattle. Hogs. Sheep. Receipts today. 18,000 33,000 50,000 Same day 1913. 33,545 34,513 67,695 Last week 65,473 139,530 128,002 Same wk 1913. 52,487 131,891 172,754

The recent large declines in prices for cattle caused a lighter supply today, the receipts embracing 5,000 western rangers, and prices were largely a dime or more higher. Choice beefs were especially scarce and strong. Hogs were active and 5@10c higher at \$7@7.70. Hogs received last week show further reduction in weight, the average weight being 228 lbs. Sheep and lambs are plentiful today, but choice live muttons are scarcer, and so are the best class of feeders. Aside from the better class of offerings, the market promises to close 10c or more lower.

Cattle receipts last week were greatly increased in number, causing further bad breaks in prices, prime corn-fed beefs alone remaining unchanged, and this was due wholly to their great scarcity. With receipts the largest of the year, and a Monday run of over 30,000 head, the decline in values was unusually large, a flat break of 15@25c catching the principal part of the Monday offerings. Cows and heifers were particularly depressed in prices, with sales during the latter part of the week largely 40@50c lower than a week earlier. The bulk of the native beef steers went at \$7.75@9.75, with the extreme range of sales at \$6.10@10.95. Steers of the choicer class of heavy weights brought \$9.80@10.95, while the commoner lots of grassy steers of light weight sold for \$6.10@7.75. A fair to middling class of steers brought \$7.80@8.45, medium class steers going at \$8.50@9.10 and steers that classed as "good" at \$9.15@9.75. Yearlings were popular with buyers when the cattle were good and fat, desirable offerings going at \$9.25@10.60, while sales were made all the way down to \$7.75@8.75 for ordinary to medium grades of these youngsters. Butchering cows and heifers had a slower sale than usual at \$5@8.75, a few selling at \$8.80@9.50, but sales above \$8.75 were not worth mentioning. Cutters sold at \$4.60@5, canners at \$3.50@4.55 and bulls at \$4.50@7.65. Big declines in prices in the large offerings of thin stockers and feeders started up better buying, with the former selling at \$4.65@8 and the latter at \$5.75@7.85, while stock and feeding cows and heifers brought \$4.90 and above. Calves sold at \$4.50@11; milch cows sold moderately at \$60@90 each. Grass-fed cattle made up the principal part of the receipts. A state of panic prevails in northern Indiana and southern Michigan because of extensive prevalence of foot and mouth disease, and federal and state inspectors have quarantined cattle and caused large numbers to be slaughtered.

Hogs have been declining in prices as fast as ever for still another week, with the average sales at the lowest values recorded since the last part of December, 1912, and many hogs sold below \$7.25. The rapid decline has

been stimulating the marketing of hogs very appreciably, and this accounts for the fast declining average weight of the daily receipts, as owners, in view of the prospective further downward movement in prices and the dearth of corn, are not disposed to put heavy weight on their swine at this time. The recent receipts have averaged 230 lbs., or 24 lbs. less than late in August and seven pounds less than early this month. Light weight averages at this time in recent years are explained by the prevalence of hog cholera, causing the sacrifice of many pigs and underweights. Four years ago, however, when hogs were healthy and the best sold as high as \$9.35, receipts averaged 257 lbs. Medium weight hogs have been selling the highest. At the close of the week hogs brought \$6.90@7.60, the lowest level yet reached, with pigs at \$4@7. Hogs weighing 220 to 320 lbs. sold the highest, while prime light lots sold about a dime below the top figures. A week earlier hogs sold at \$7@8.05.

Sheep and lambs developed strength in prices last week because of declining receipts and a good general demand. Receipts from the ranges ran largely to feeders, and these met with a lively country demand, the best feeding lambs going a little higher. In a few weeks more the range shipping season will close, and thereafter there will be a better show for flocks of sheep and lambs from the feeding districts. Prices for both sheep and lambs have been ruling much higher than at corresponding dates for several years, and prospects are regarded as bright for fat flocks for many months. Closing prices were much the same as a week earlier, lambs going at \$6@7.85, yearlings at \$5.50@6.50, wethers at \$5.35@6, ewes at \$3@5.25, breeding ewes at \$5@6.50 and bucks at \$3.50@4.25. Feeding lambs brought \$5.50@7.15 and feeding ewes \$3.75@4.60.

Horses were received in much larger numbers last week, and prices developed more or less weakness, as demand was only fairly large. Inferior animals sold slowly around \$60@85 per head, while a large part of the offerings went between \$100 and \$200, with wagoners and expressers taken at \$150@200. A few horses brought \$210@250, and one sale was made at \$287.50.

CROP AND MARKET NOTES.

(Continued from page 385). grains were below normal yield, except where sown early. The yield and quality of the potato crop varies greatly. Most of the fall plowing is done, and efforts will be made to plant every possible field. Grass is abundant and still good feed. Cattle, hogs and sheep culls are ready for market. Wheat 95c; potatoes 35c by the carload.

Missouri.

Warren Co., Oct. 18.—Early planted corn is a light crop, late planted fair. Beans and clover seed are short on account of dry weather, but late potatoes are a fine crop. Apples are plentiful and prices unsatisfactory. A large acreage of wheat and rye was sown, and looks fine. Cattle and hogs scarce, but all are in good condition. Wheat \$1; rye 90c; oats 50c; corn 90c; hogs 8c; cattle 10c; eggs 22c; butter 30c; butter-fat 29c; potatoes 75c; chickens 12½c.

St. Louis Co., Oct. 18.—Weather is fine for fall plowing, and wheat seeding was delayed in order to avoid the Hessian fly. The rains in September helped the late corn, which will be a fair crop. More silos were filled than last year. There are no home-grown potatoes; peaches and apples very plentiful. Eggs 45c and hard to get.

Nodaway Co., Oct. 19.—No great amount of wheat will be sown on account of the Hessian fly. Some rye will be sown. Pastures and meadows are fine, and stock is doing well. There are few cattle on hand, but a great many hogs. Corn will be a good yield. Potatoes and apples were a complete failure.

Kansas.

Trego Co., Oct. 16.—Weather is dry and rain is needed to start the wheat growing, an unusually large acreage of which is being sown. Corn yielding 20 to 40 bushels per acre and of good quality. About the usual amount of live stock, all in good condition. Plenty of good feed on hand. Wheat 85c; corn 70c; cream 25c; eggs 17c; apples are being shipped in for 85c per bushel; potatoes \$1.

Washington.

Klickitat Co., Oct. 18.—Weather is fine for fall work, which is completed. Corn is a fair crop, though this is not a corn country. Potatoes, onions and beans are good. Clover seed scarce and high in price. More wheat and rye sown than last year. Live stock is in fine condition. Apples and other fruit, such as pears, quinces and prunes are a good crop. Potatoes 1½c lb; onions 1½c; beans 5@6c lb; pork, dressed 11@12c; lambs 11@12c; butter 34@40c; eggs 40c.

THIS IS THE FIRST EDITION:

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

October 22, 1914.

Cattle.

Receipts 1938. Market slow at Wednesday's prices; canners steady with last week; all other grades 25¢ to 50¢ lower.

We quote: Best heavy steers \$8; best handy weight butcher steers \$7.50@7.75; mixed steers and heifers \$6.50@7; handy light butchers \$6.25@6.75; light butchers \$6@6.25; best cows \$6@6.25; butcher cows \$5@5.50; common cows \$4.50@5; canners \$3.50@4.50; best heavy bulls \$6@6.75; bologna bulls \$5.25@5.50; stock bulls \$4.75@5; feeders \$6.25@7; stockers \$5.50@6; milkers and springers \$40@90.

Roe Com. Co. sold Kamman B. Co. 23 butchers av 1058 at \$6.50; to Bresnahan 4 do av 630 at \$5.75, 10 do av 647 at \$6; 2 cows av 975 at \$4.25; to Mich. B. Co. 4 bulls av 1390 at \$6.75, 2 do av 1100 at \$6.25, 1 do wgh 610 at \$5.50; to Rattkowsky 2 cows av 1065 at \$5.25, 4 do av 1020 at \$5.50, 1 do wgh 780 at \$3.50, 4 butchers av 780 at \$5; to Parker, W. & Co. 3 steers av 1020 at \$7, 5 butchers av 616 at \$6, 3 cows av 810 at \$4.50, 2 do av 1010 at \$4.50, 15 butchers av 770 at \$6.75, 2 cows av 1020 at \$4.50; to Mich. B. Co. 10 do av 1113 at \$6.25, 1 do wgh 1100 at \$5, 2 do av 930 at \$6; to Lachalt 2 butchers av 565 at \$5.75; to Newton B. Co. 4 do av 750 at \$5.50; to Sullivan P. Co. 1 cow wgh 1000 at \$6, 1 canner wgh 900 at \$4.25, 3 do av 850 at \$4.25; to Bresnahan 4 heifers av 607 at \$5.75; to Heinrich 17 steers av 940 at \$6.90; to Bordine 13 stockers av 606 at \$6.10; to Watts 17 feeders av 888 at \$6; to Sullivan P. Co. 9 steers av 991 at \$7, 7 cows av 1004 at \$5.75; to Bresnahan 11 canners av 850 at \$4.50.

Bishop, B. & H. sold Rattkowsky 6 cows av 880 at \$5.25; to Shaparo 13 do av 970 at \$5.25; to Bresnahan 31 canners av 700 at \$3; to Parker, W. & Co. 3 cows av 800 at \$4.50; to Rattkowsky 5 do av 1015 at \$5.50, 3 do av 1100 at \$5.60; to Bresnahan 3 canners av 1030 at \$4.85, 3 do av 950 at \$4.60; to Grant 17 stockers av 550 at \$5.35; to Breitenbeck 24 butchers av 900 at \$5.25; to Grant 6 do av 480 at \$5; to Jones 8 stockers av 560 at \$6; to Sullivan P. Co. 3 cows av 1033 at \$5.25, 2 oxen av 1195 at \$6.35, 2 canners av 795 at \$3.75, 2 heifers av 815 at \$6.50, 3 do av 570 at \$5.50, 2 steers av 1085 at \$7.35, 2 do av 875 at \$7.25, 4 do av 1182 at \$7.50, 4 do av 805 at \$6.50; to Parker, W. & Co. 11 cows av 860 at \$4.50, 35 do av 838 at \$4.50, 3 bulls av 1207 at \$6; to Bresnahan 3 stockers av 633 at \$6, 16 do av 625 at \$6, 3 cows av 943 at \$4.25; to Grant 17 butchers av 522 at \$5.35; to Rattkowsky 3 cows av 1036 at \$5.60; to Goose 16 do av 872 at \$5.60; to Kull 24 butchers av 760 at \$6.25; to Hammond, S. & Co. 4 do av 775 at \$6, 2 steers av 835 at \$7; to Mich. B. Co. 7 steers av 872 at \$7, 2 cows av 1105 at \$6, 19 butchers av 874 at \$6.25; to Mason B. Co. 10 do av 985 at \$7; to Heinrich 8 do av 790 at \$6.75; to Bordine 8 stockers av 684 at \$6.40; to Marx 9 steers av 925 at \$6.65.

Veal Calves.

Receipts 617. Market 25¢ lower. Best \$10@11; others \$6@9.50.

Spicer & R. sold Rattkowsky 7 av 140 at \$10.50; to Parker, W. & Co. 9 av 170 at \$11, 6 av 140 at \$10.25; to Kull 3 av 150 at \$11, 1 wgh 190 at \$11; to Nagle P. Co. 4 av 120 at \$9, 7 av 180 at \$11; to Rattkowsky 3 av 150 at \$10.60, 1 wgh 350 at \$8.50.

Haley & M. sold Parker, W. & Co. 31 av 160 at \$11, 1 wgh 230 at \$9; to Rattkowsky 2 av 260 at \$6.50; to Sullivan P. Co. 2 av 145 at \$11; to Rattkowsky 10 av 156 at \$11.25.

Sheep and Lambs.

Receipts 8715. Market steady. Best lambs \$7.50@7.60; fair do \$7@7.35; light to common lambs \$6@6.25; fair to good sheep \$4@4.75; culls and common \$2.50@3.50.

Spicer & R. sold Mich. B. Co. 17 lambs av 75 at \$7.25, 21 do av 75 at \$7.25, 20 do av 60 at \$6.75, 4 sheep av 105 at \$4.25; to Parker, W. & Co. 188 lambs av 75 at \$7.50, 21 do av 64 at \$6.50; to Sullivan P. Co. 21 sheep av 115 at \$4, 60 lambs av 75 at \$7.40; to Kull 38 do av 75 at \$7.50; to Thompson Bros. 58 do av 80 at \$7.50, 35 do av 70 at \$6.75; to Nagle P. Co. 70 do av 82 at \$7.40, 29 do av 70 at \$7.50, 34 do av 95 at \$4.25, 30 do av 90 at \$4.50; to Thompson Bros. 50 sheep av 95 at \$4.40.

Hogs.

Receipts 6854. Market 30¢ to 35¢ lower than last week; prospects none. Pigs \$7; others \$7.35@7.45.

Bishop, B. & H. sold Hammond, S. & Co. 2175 av 190 at \$7.40, 1200 av 160 at \$7.35.

Haley & M. sold Parker, W. & Co.

575 av 190 at \$7.40, 125 av 150 at \$7.35.

Spicer & R. sold same 670 av 200 at \$7.40, 120 av 145 at \$7.35.

Roe Com. Co. sold Sullivan P. Co. 135 av 195 at \$7.40.

Friday's Market.

October 23, 1914.

Cattle.

Receipts this week 2185; last week 1444; market dull at Thursday's prices. Best heavy steers \$7@8; best handy weight butcher steers \$6.75@7.50; mixed steers and heifers \$6.50@7; handy light butchers \$6.25@6.75; light butchers \$6@6.50; best cows \$5.50@6; butcher cows \$5@5.50; common cows \$4.50@5; canners \$3@4.50; best heavy bulls \$6.25@6.75; bologna bulls \$5.50@6; stock bulls \$4.50@5.25; feeders \$6.50@7; stockers \$5.50@6.50; milkers and springers \$40@90.

Veal Calves.

Receipts this week 765; last week 600; market steady. Best \$10@11.25; others \$7@9.50.

Sheep and Lambs.

Receipts this week 11,870; last week 8578; market dull at Thursday's prices. Best lambs \$7.50; fair lambs \$7@7.35; light to common lambs \$6@6.75; fair to good sheep \$4@4.75; culls and common \$2.50@3.50.

Hogs.

Receipts this week 9603; last week 6854; market steady to 5¢ higher. Pigs \$6.50@6.75; others \$7.35@7.45.

Veterinary.

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

Distemper.—I bought a horse two months ago; he took distemper, seemingly recovered from it, but has not thrived. When trotting he whistles some. W. J. D., Royal Oak, Mich.—Apply one part tincture iodine and four parts spirits of camphor to throat once or twice a day and give him a tablespoonful of Donovan's solution at a dose three times a day. If he is a confirmed roarer, it will be necessary to perform a surgical operation on throat before he can be cured.

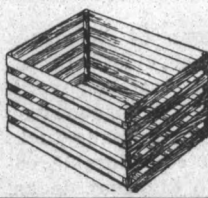
Bunch Between Fore Legs—Cow Does Not Come in Heat.—I have a mare five years old that has a bunch between her front legs; this came on her four or five weeks ago; this swelling opened once, discharged pus, but healed, leaving a bunch. I also have a cow that calved three months ago, which has not since been in heat. J. R., Saginaw, Mich.—Apply one part iodine and nine parts fresh lard to swelling three times a week. Give cow 1 dr. ground nux vomica and 3 drs. ground capsicum at a dose in feed twice a day.

Ringbone.—My nine-year-old mare commenced showing lameness in left hind leg last June; a bunch is growing on pastern and is now pretty much around the whole leg. I forgot to say that she shows more lameness when starting than at any other time. D. H., Elmira, Mich.—Give your mare rest and apply one part red iodine mercury and four parts lard; or you can safely use any of the spavin or ringbone remedies that are regularly advertised in this paper.

Feeding Brood Mare—Hernia.—I am feeding oats and hay to mare with a two-months-old colt by her side and the colt eats small amount of both. I neglected to treat its navel at birth, now there is a soft bunch which feels as if it contained water. W. H. W., Royal Oak, Mich.—Your mare should be fed grass or some clover in addition to oats, bran, middlings, etc. Your colt may have a surgical rupture, if so the remedy is a surgical operation.

Impure Blood.—I have some pigs that appear to be stunting; their mouth, nose and ears are dark colored, the skin appears to peel off and I would like to know what to do for them. S. H. W., Dorris, Mich.—Give your pigs some hypo-sulphite of soda three times a day, and as you do not

(Continued on page 388).



Bushel Crates

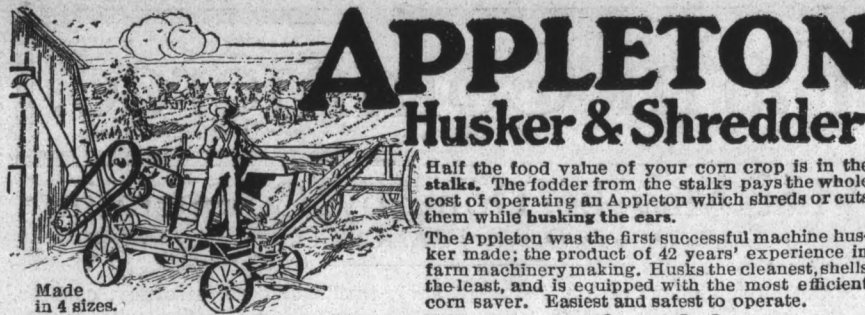
Made from Elm Timber. Knocked Down or Nailed Up. Nail them yourself. Save Money. Large or small orders receive prompt attention. Struthers Cooperage Co. Romeo, Michigan.

FARMS IN GLADWIN CO. MICH.

500 Acre Stock and Grain Farm.....\$25,000.
280 " Dairy " " ".....\$14,000.
400 " Stock " " ".....\$20,000.
640 " Stock Ranch " ".....\$11,000.
2000 " Unimproved Lands \$10 to \$20 per acre.
Small payment down, 10 years time on balance. Many other farms. U. G. REYNOLDS, Gladwin, Mich.

CADILLAC TOURING CAR BARGAIN.

1914 model, first-class condition, cost equipped \$2300. Complete 7 passenger model, seat covers, tire pump, shock absorbers, 37 in. x 5 vacuum cup tires, skid chains, two extra castings, four extra tubes, etc., etc. A high class outfit throughout. Priced now \$1500, and will take first-class non-interest bearing note payable March 1, 1915. No trades considered. Address MARSHALL AUTO COMPANY, Flint, Mich.



Made in 4 sizes.

Guaranteed to do more and better work with less power than any other husker of same size, working under equal conditions. Built by Appleton standards, it gives years of service; yet one season's income from it pays its cost. Send now for the Appleton Husker book—it's free. APPLETON MFG. CO., 520 Fargo St., Batavia, Ill., Est. 1872.

Make Your Own Drain Tile

THE FARMERS' CEMENT TILE MACHINE

Makes tile 8 to 10 inches in diam., 12 1/4 inches long. One man or boy operates it by hand or power. 500 tile per day by hand, 1,200 by power. Tile thoroughly cured by patent process. No tamping or use of pallets. This machine and tile used by Experiment Stations of Agricultural Colleges and the U. S. Dept. of Agriculture. 5,000 farmers have doubled the yield of land by underdrainage, and saved 75% of cost by using our Machine. You can do the same. Save cost of hauling and breaking. Make perfect tile \$3 to \$5 per thousand. MACHINE SOLD DIRECT FROM FACTORY TO YOU. TEN DAYS' FREE TRIAL. SEND NOW for 36-page Illustrated Catalogue. Tells you about great benefits of underdrainage, how to take levels and get grades, make and lay your tile at low cost.

FARMERS' CEMENT TILE MACHINE CO.

Box 307, ST. JOHNS, MICH.

300,000 APPLES

Budded on whole roots of French seedlings 6-7 ft., 12c.; 5-6 ft. 9c.; 4-5 ft. 6c.; 3 1/2-4 ft. branched, 4c.; 200,000 Peaches 9 1/2c.; 7c.; 4 1/2c.; 3 1/2c.; and thousands of Pear, Plum, Cherry, Quince, Grapes, Roses and small fruits. Book order, now, pay in Spring. Buy from the man who grows his own trees and save disappointment later. Catalog free to everybody. Send card today for yours THOMAS E. SHEERIN, NURSERYMAN, 26 Main St., DANVILLE, N. Y.

FREE Write To-day

Kresge's Catalog illustrates thousands of the world's best 5 and 10 cent bargains in lace, embroideries, dry goods, notions, enamelware and household necessities—nothing over 10 cents. It doubles the buying power of your nickels and dimes. All orders shipped promptly.

Kresge guarantees to please you or return your money. Write to nearest point, Detroit, Mich., or St. Paul, Minn., for a copy of Kresge's Free Catalog of the world's best 5 and 10 cent bargains.

Our References: Any Bank in the world and millions of customers.

Address: Office B-47-B

S. S. KRESGE CO., Detroit, Mich. St. Paul, Minn.

The Original Parcel Post 5 and 10 Cent Store

With over 100 Branches

Michigan Livestock Insurance Co.
Capital Stock—\$100,000. Surplus—\$100,000.
Home Office—Charlotte, Michigan.
Only Home Co., in Michigan.
COLON C. LILLIE President.
H. J. WELLS, Secretary-Treasurer.

MINERAL
In use over 50 years
CURES HEAVES

Booklet free

\$3 Package CURES any case or money refunded
\$1 Package CURES ordinary cases. Mineral Heave Remedy Co. 463 N. Fourth Ave., Pittsburgh, Pa.

PURE FEEDING MOLASSES

We are first hands and can quote you absolutely bottom prices, delivered your station, in lots of anywhere from one barrel to a trainload. Write for booklet.

THE MEADER-ATLAS CO.

N. Y. Office 107 Hudson St., New York City.

SEED CORN—Won 1st at 1914 Michigan State Fair on Yellow Dent (northern counties). Matures in 100 days. Is yielding at rate of 150 bushels to acre. Sample ear, post paid 25 cents, bu. \$2.00. A limited supply. H. W. SCHULTZ, Middletown, Mich.

Bankers Quality Trees. Not by the million but a fine stock of all kinds for fall and spring delivery; free from disease and guaranteed true to name. Learn my prices and get a square deal. I grow my trees and I know what they are. D. G. BANKER, Danville, N. Y.

LIVE POULTRY, BROILERS, FRUITS, POTATOES, ONIONS, ETC.

Let us handle your poultry, fruits, farm products. Our 25 years in the same store assures your satisfactory results.

CHAS. W. RUDD & SON, Detroit, Michigan.

HAY Ship your Hay to Pittsburgh and to Daniel McCaffrey Sons Company Pittsburgh, Pa. Ref.—any bank or Mercantile Agency.

FARMERS—We are paying five to eight cents above highest Official Detroit Market quotation for new laid eggs shipped direct to us by express. Write us for information. It will pay you. American Butter & Cheese Co., 31-33 Griswold St., Detroit, Mich.

Griggs, Fuller & Co., Wholesale Commission House, potatoes, poultry and rabbits. Quick returns.

HAY—We pay highest market price for car lots. E. L. Richmond Co., Detroit.

APPLES AND POTATOES MAKE YOUR E. L. RICHMOND CO., Detroit, Mich.

ALFALFA HAY, Wanted of Good Quality. JAMES MURRAY, 150 Orleans St., Detroit, Mich.

PERCHERON STALLIONS FOR SALE.

15 two and three-year-olds, black. These are good weights and desirable horses of our own breeding. We sell direct to the farmer at reasonable prices, and invite inspection.

A. A. PALMER & SONS, R. R. Station Orleans. P. O. Belding, Mich.

FOR SALE—Registered weanling Stallion Colts from our best Percheron Mares. Write, R. S. HUDSON, Michigan, Agricultural College, E. Lansing, Michigan.

Registered Percherons, BROOD MARES, FILLIES AND YOUNG STALLIONS at prices that will surprise you. L. C. HUNT & CO., Eaton Rapids, Michigan.

Pigeon Pony Farm—Reg. Shetland Ponies, mostly spots, 1 spotted stallion and young stock for sale. Dr. W. T. Morrison, Pigeon, Mich.

For Sale, Reg. Percherons Blacks and Grays, 16 head to select from, 13 mares and three stallions. Priced right. Write, J. M. Hicks & Sons, R. 2, St. Johns, Mich. Bell Phone 1114

Farms and Farm Lands For Sale

MICHIGAN FARMING LANDS

Near Saginaw and Bay City, in Gladwin and Midland Counties. Low prices. Easy terms. Clear title. Write for maps and particulars. STAFFELD BROTHERS, 15 Merrill Building, Saginaw, (W. S.), Michigan.

FOR SALE—In whole or part, 320 acre Good soil, buildings and fences. Immediate possession. O. S. SCHAEFER, 214 Dewey Ave., Swissvale, Pa.

Barry County Farms The most profitable general farming section in Mich. We have real bargains. Write for list. A. BENHAM & TRIM, Hastings, Michigan.

DAIRY FARM FOR SALE OR TO RENT ON SHARES, 120-acre farm. Fine soil, large barn, good buildings, windmill, 1 mile from good town. Address E. W. HOLLIDAY, Clare, Mich.

DELAWARE FARMS

Fruit, live stock, alfalfa. Best land near best markets. Address, State Board of Agriculture, Dover, Delaware.

Sunny Tennessee. 265 Acres, 125 a. in cultivation. bal. timber; 3-room dwelling and tenant house. An ideal stock farm. Price \$3000. Similar bargains; free list. Jenkins & Son, Huntingdon, Tenn.

MARYLAND—The State for Thrifty Farmers Delightful, healthy climate. Good Land, Reasonable Prices. Close to big markets of large cities of the East. Send for free descriptive pamphlet with map. STATE BUREAU OF IMMIGRATION, Hoffman Bldg., Baltimore, Md.

Rich Ohio Farms at Farm Prices

NICE LEVEL 70-ACRE FARM. Good location, new house, barn and orchard. Price \$3,850. Very easy terms.

EXCELLENT 108-ACRE FARM. One mile from town. Two sets of good buildings, two orchards, sugar grove, good timber, rich land. Price \$6,950. Terms, \$2,500 down, balance very easy. GET OUR LARGE LIST OF FARM BARGAINS. S. W. WILSON, ATWATER, OHIO

Here Is The Bargain To Dissolve Partnership. 147 acres, 2 barns, basements, 40 cow stalls, 6 horse stalls, hen house, wood house, ice house, silo, 8 room house, \$500 worth saw timber. One mile to R. R. town. All for \$3000, \$1200 cash. Hall's Farm Agency, Owego, Tioga Co., N. Y.

Go To Idaho

The state of diversified farming—fruits, grains, grasses, alfalfa, sugar beets, etc., also stock raising—the State where you have many real comforts on the farm, that are not available in many other sections. Electricity at low cost is used for lighting, heating, cooking and for power on many farms, and in most towns in Idaho.

There are many tracts of land—irrigated and nonirrigated—suitable for all kinds of farming, for sale cheap and on reasonable terms. I will give complete information to you free for the asking.

R. A. SMITH, Colonization and Industrial Agent, Union Pacific R. R. Co., Room 382, Union Pacific Bldg.

OMAHA, NEB.

Farm Commerce.

What May be Done by Co-operating.

By D. W. FRANCISCO.

IN the advancement of any industry the wise promoter realizes that a study of the successes and failures of the proceeding and present efforts along the same lines may be equally, if not more, valuable than first hand experience. Where others have succeeded is there any reason why I cannot do equally well, or if they have failed, will that not mark their pitfall to be avoided? In other words, we simply pursue the moss covered policy that we may excuse a mistake the first time, but that its repetition is unpardonable. We profit by each other's experiences.

The road traveled by the country's pioneer co-operative marketing organizations is strewn with the wrecked examples of what not to do. Let us overlook these for the present and look to the end of the road where the leading exponents of co-operation are blazing the way for those who follow. If we are to seek the successes which have been proven possible we may well confine our attention to the California Fruit Growers' Exchange which is conceded one of the most, if not the most, flourishing example of a co-operative organization, and whose annual report is available. Under the guiding genius of its manager, G. Harold Powell, this exchange has been piloted to the top of the ladder, and while it operates under conditions somewhat different from those of our own state, it affords a striking example of what it is possible to accomplish by co-operation.

Does a Big Business.

During the year ending August 31, 1914, there were 11,262,185 boxes of citrus fruits shipped through this exchange. This includes 1,105,461 boxes of lemons and 10,156,724 boxes of oranges, which makes a total of 28,193 carloads. The exchange members have forwarded 61.9 per cent of the citrus fruit shipped from California and the money returned to California through the exchange amounts to \$19,246,757.00. This makes a general average of \$1.71 per box f. o. b. for every box shipped. The delivered value of the exchange fruit is \$29,434,402.40.

Prorata Cost Low.

The operating cost to the shipper who utilizes the facilities of the exchange, including the salaries and entire expense of the 70 selling agencies, the maintenance and expense of the general office in Los Angeles, including the general manager's and assistant general manager's offices, the sales, traffic and legal departments, the cost of the daily telegraphic market-news service, and all other operating departments, the exchange share in the Citrus Protective League, and all other expenses, is approximately four and one-quarter cents per packed box. This selling cost represents one and three-fifths per cent on the gross sales. In addition to this operating cost the exchange has expended one and one-half cents per box for advertising its leading brands, or three-fifths of one per cent of the gross value of the fruit. This, it will be seen, is partly an operating cost and partly an investment for the sale of future crops. This brings the total cost to five and three-fourths cents per box, or two and one-fifth per cent on the gross sales.

Through the medium of the exchange, and without personal profit to anyone, 6,500 growers conduct their operations with the lowest marketing cost of any agricultural crop in the world. The salary expense of the Los Angeles office, including the general manager and assistant general man-

ager, traffic officers, attorney, cashier, sales agents and all assistants, is only three-fifths of one per cent per box.

Through the aid of the traffic and legal departments \$108,428 for overcharges, breakage and damage has been paid to the shippers. Under ordinary conditions the individual shipper operating alone would have encountered great difficulty in securing even a portion of these adjustments.

Benefits of Publicity Work.

The officials of the exchange are ardent believers in the benefits accruing from advertising and have spent large appropriations in this work. As a result there are few people who are not familiar with "Sunkist" oranges which are the number one grade fruits, or the fanciest brand. While the population of the United States has increased 21 per cent during the past decade the consumption of California oranges increased 74.6 per cent. During that interval the orange became a staple food product.

In speaking of the advertising of the products of the exchange, Manager Powell says: "Primarily the

posed of through the order of the shipper, who determines the price at which his car shall be sold. Every brand sells on its own merits. Membership is voluntary and the exchange makes no attempt to regulate shipments, to eliminate competition, divide the territory or business, or to influence prices. Its functions are to keep the associations informed daily regarding the shipments from the state; the general movement of exchange cars, the general conditions of the different marketing points; the prices at which the exchange fruit is sold; and the furnishing of such other information as will enable the growers and shippers through their association and district exchange to decide the question of distribution and marketing for themselves. The exchange business is conducted on a cash basis.

Such an organization with its tremendous success, must certainly be an incentive to those in sympathy with co-operation. We see what may be done and it matters little whether the product at hand be oranges or apples. The citizens of California have come to realize the enormous benefits derived through the existence of such an organization within its boundaries and there is co-operation with co-operation as a result. The feeling is well expressed by the exchange manager in a plea for continued co-operation which found outlet in a recent western trade paper and follows:

"The California Fruit Growers' Ex-

the orchards and transfer the fruit to the boat cheaper than the farmers are able to haul it. This has been made possible by the greatly improved good roads system of Michigan.

A great amount of fruit is yet being gathered along the lake shore by the light draft fruit tenders. These boats may land at places where the big craft is not able to touch. The tenders do not cross the lake, as a rule, they transfer their loads to the big boats and claim about 40 per cent of the total freight charge.

At Benton Harbor, claimed to be the most extensive fruit and vegetable shipping point in the world, considering the length of the season from the beginning to the end, the local trolley lines are the big factor in gathering the crops from the fields. Big fruit schooners, a cousin of the old prairie schooner, still are used to go out in the country to haul in the crops. These are employed by the steamship companies, but this style of vehicle is giving way to the still more efficient and powerful motor truck. The fruit schooner is drawn by a team of horses.

The fruit growers are diverting their crops to more big markets than formerly, this, of course, in the hopes of getting better prices and to avoid the glutting of the market at Chicago. This year big lake boats carried a great deal of fruit across to Milwaukee where it was both consumed and distributed to many other markets in the northwest.

More shipments were made by rail, both steam road and trolley. The electric lines, in addition to hauling trains to Indiana and Michigan markets, switched the refrigerators of the steam roads almost, if not quite, inside the orchards where they were loaded. Some of these loaded cars reached points as far distant as St. Paul and Minneapolis.

The fruit growers with scarcity of help find that it is about all they can do to pick and pack their fruit without having to haul loads all the way from five to ten miles. The loading work at shipside at such places as Central dock in Benton Harbor, lasts until midnight. Some of the farmers who haul in their own loads do not get to bed until midnight, some of them even later than that. These are some of the reasons why transportation must reach out closer to the orchards.

Illinois.

J. L. GRAFF.

POTATOES IN THE GRAND TRAV- ERSE REGION.

The middle of October, and schools are closed for a two weeks' vacation, in order that all hands may help in the potato harvest. The men dig and women and children help to pick up.

The "digger" used is almost exclusively a man with a six-tined fork. The horse diggers are not popular with the help, as the potatoes are mixed with the loose dirt, and have to be uncovered by hand. A good man with a fork will dig from one-half to one acre a day, much depending on the condition of the soil.

To many the crop this year is a disappointment. The bugs were the worst in 20 years, and it was a fight during July to save the crop from being devoured by them.

In the latter part of August and during September, many fields were struck by the blight, or "wilt," as the experts have called it, and that has cut down the yield. Some fields which gave promise of excellent returns have been very disappointing when the test of digging has been applied. We hear of a few fields that are yielding 300 bushels per acre, but the great majority will go below 100 this year.

Early potatoes sold up to 55 cents, but as soon as the main crop began to come in the price dropped quickly to 30 cents, and then advanced to 35 cents. At present most are being plac-



Big Boats Employed in the Transportation of West Michigan's Fruit Crop.

function of our advertising is to increase the consumption of citrus fruits. To do this it is necessary to have a brand around which we can build our advertising arguments. This brand is the consumer's protection. It is his guaranty as to the quality of the fruit. In other words, we want him to feel that all he needs to know about an orange or lemon is that it is Sunkist. We must make the consumer realize that the name Sunkist on an orange or lemon means just what the mark Sterling means on silver. The success of the citrus industry depends upon getting a sufficient number of people to use oranges and lemons and this can most thoroughly and economically be accomplished by giving the public the reasons why they should use them, and suggesting to them the various ways in which they can be served."

So efficiently has this organization been operated that in the last year the estimated losses from all causes have totalled only \$355, or 1.542 of one per cent of the \$19,246,757 returned to California. Through the Fruit Growers' Supply Company, which does its business at an operating expense of three-fourths of one cent on each dollar of business transacted, the growers have purchased \$3,319,062.04 of supplies.

Territory is Districted.

The exchange has a total of 116 local associations which are grouped into 17 district exchanges subservient to the central exchange. Of the total shipments, one-third are sold at public auctions, the remainder being dis-

change is vital to the permanent stability of the two hundred million dollars invested in the citrus industry. It is the one predominating factor, formed and managed by the growers at the cost of operation for their own benefit, that has solved the most important fruit-marketing problems for the industry in the past. It has developed an international advertising permanence of the grower's investment. Only when the growers stand shoulder to shoulder in meeting their problems systematically, can they be worked out successfully."

IMPROVING CARRIERS OF FRUIT.

Michigan fruit crops are demanding more and bigger lake boats on which to carry these crops to many markets. During the present season more big ships are being used than ever before.

This last year at some of the places big boats have gotten closer to orchards. The United States government dredged out the Kalamazoo river which forms the harbor at Saugatuck, allowing steamers of considerable capacity to land at two different docks. Packages have been unloaded from the wagons direct to the deck. To such an extent was the improvement made, that the largest lake liners are now making use of Saugatuck as winter quarters.

The fruit growers, however, will be brought closer and closer to the ships. It will not be long until powerful motor trucks will be operated by the steamship companies to run out to

ed in storage to wait for better prices. Some farmers have their own storage rooms, and the towns have storage bins to rent. The little town of Beckley, in Wexford county, has storage rooms for nearly 100,000 bushels, and three miles away along the railroad in the woods, another storage house is being built. The storage houses are built with double walls. They are divided into bins that hold 1,000 bushels. These bins rent for \$20, whether the potatoes are kept for one month or six. Most of the storage houses have 20 or more bins. A stove at each end of the house keeps the temperature right.

These storage houses cut quite a figure in regulating prices. If the whole crop was to be dumped on the market during September and October the prices would probably go to 20 cents, if not lower, but with the hundreds of thousands of bushels placed in storage to wait for more favorable prices, the grower is able to secure better returns for his crop. For the Grand Traverse region the potato is the chief money crop.

Some years it is necessary to wait for frosts kill the tops so that the tubers will ripen up, and this sometimes results in digging from under several inches of snow. At this date, October 14, there has been no frost to harm the tenderest plants, like tomato vines, and some are still waiting for the potato crop to ripen sufficiently to dig.

As the crop will undoubtedly be below the average, well informed growers are confident they will get 50 cents or more for the crop in the spring, and if the war continues they may realize much more than that.

Wexford Co. APOLLOS LONG.

CROPS IN WEST CENTRAL MICHIGAN.

In an extended trip through Kent, Newaygo, Mecosta and Montcalm counties, notes were taken on crop conditions and general affairs pertaining to farming. As to the potato crop in Kent and Montcalm counties, we found farmers fairly well along with harvesting, while in Newaygo and Mecosta counties, this work had just begun. Although the majority of growers seem to be afraid of the future market, or else are in need of money and are therefore drawing the crop directly from the field to the market, quite a few are pitting with the idea of marketing later. On October 23rd the Greenville market was paying 30 cents per bushel, which seemed to be on a parity with other markets of this section. The crop is not yielding as well as was earlier expected, many farmers complaining that their fields are running below estimates.

The apple crop was pretty large in this section. There is, however, a considerable portion of the fruit being uncared for, and a very large amount of that being picked is taken to the cider mills. Canning factories are also using a fair portion. Most of the loads being marketed were delivered in bulk and while some of this was barreled at the stations, the greater per cent went forward to the larger marketing points in bulk. In very few instances did we observe apples being barreled in the field. Fancy apples appear to be rather scarce.

Wheat could hardly be better. Field after field seemed to be in perfect condition. The acreage one would estimate to be fully as large, if not larger, than normal. Rye is also looking fine, and has been sown in good supply.

There having been a fairly good distribution of moisture through this section during the growing season, corn developed into a good crop. The fields shocked well, and the lateness of the season enabled the ears to become thoroughly matured. Farmers are shy on help, and as a result only a very small portion of the corn crop has been husked. Huskers are being used

more generally now, and to have shredded stalks keep, it is necessary to allow the corn to stand out until the fodder is thoroughly cured. This likely accounts for many fields being untouched.

We observed several fields of buckwheat; the crop was in shock and the majority of the patches showed a good stand of straw.

This section has made remarkable progress in introducing alfalfa. Special campaigns have been conducted looking toward a more liberal sowing of this seed. Farmers have been informed of the best methods of culture, and through this knowledge a number of very excellent stands have been secured. Rather remarkable stories are told of the large amount of feed being secured from fields of the more favorable locations. To illustrate how rapidly farmers are introducing this crop, five years ago Newaygo county had 96 acres, according to the United States census taken that year. It is estimated that the county now has 2,500 acres seeded to this legume.

Silos are being introduced very rapidly; on every hand a goodly number of new structures could be seen. Combining silage with alfalfa the farmers through here are finding a way to cheapen the cost of meat and dairy products.

Bankers stated that they were loaning farmers considerable money for the purpose of making improvements; these improvements consist largely of better buildings, better fencing, and needed tile drains in certain localities. Good roads are becoming common throughout these counties, and automobiles are quite as plentiful in this section as in other agricultural districts of the state.

Those in a position to know state that the turkey crop of the region, which furnishes a large number of birds for the holidays, is much smaller than usual this year.

In all, it seems that the farmers here have had a very good summer, and should the prices for potatoes and apples go up, it will likely prove to be the best year in the history of the counties as viewed from the standpoint of the agriculturist.

Crop and Market Notes.

Michigan.

Mecosta Co., Oct. 16.—Farmers have had ideal weather for gathering their crops, and are nearly done digging potatoes, also husking corn and picking apples. Potatoes an average crop and of good quality. Corn is a good crop. Apples not very good quality. Rye and wheat, also young clover is going into winter in good shape. Potatoes quoted at 35c per bushel but not many being sold at that price. Rye 80c; hogs 8c; veal 8c; fat cattle 5c; butter-fat 26c; eggs 20c.

Hillsdale Co., Oct. 16.—All crops are being harvested in fine condition, the weather being favorable. No frost yet to kill corn, some yet to cut, the acreage is large and the crop good. Wheat is looking fine, and more sown than usual. Pastures and all seeding very fine. A fair amount of clover seed is being harvested. Potatoes a good crop. No stock being fed, as grain is high. Cows scarce and high in price. Hogs \$7.60; hay \$11@12; oats 39c; wheat 95c@11; eggs 24c; butter 30c.

Lapeer Co., Oct. 16.—Corn averaging about 90 bushels of ears per acre. Potatoes good, some yielding 200 bushels per acre. Bean crop short of last year. Apples are plentiful. A large amount of wheat and less rye sown than usual. Fall grains look fine. Stock generally in good condition. Wheat 94c; oats 42c; rye 70c; eggs 26c; butter 26c; potatoes 30c.

Southeast Mecosta Co., Oct. 17.—More wheat and rye sown than usual. Yield of corn good; late potatoes are poor; beans two-thirds of an average crop. Very little clover seed cut and none threshed yet. Apples poor crop. About the usual amount of live stock on hand, and quality above the average. Cows \$50@75; horses \$150@250; potatoes 35c; eggs 22c; butter 27c.

New York.

Niagara Co., Oct. 19.—Corn, potatoes, white and red beans are good. There is no clover seed. Apples are a large crop, but sorting badly on account of new law in this state. Av-

erage price for A No. 1 stock \$1.65, canning stock 50c per cwt., vinegar stock 15c per cwt. Large quantities are being placed in storage. There is the average acreage of wheat, and it is looking good. Wheat \$1; eggs 28c; butter 30c.

Genesee Co., Oct. 19.—Most corn is yielding very well. Late potatoes are a big crop. Beans below normal. A large acreage of wheat has been sown. Not much live stock, but it is in good condition, as pastures have been fine this fall. Apples are a bumper crop. Creamery butter 33c; dairy 30c; pork 11c; hogs 8c; eggs 30c; chickens 12@14c; ducks 14c; wheat \$1; potatoes 30@35c; Danish cabbage \$8; oats 50c; beans \$2@2.75; loose hay \$11@13.

Ohio.

Greene Co., Oct. 19.—More wheat than usual sown, and mostly up and looking fine. Not as much rye as usual. Corn husking has begun, and the quality is good, though the yield varies from very poor to extra good. Potatoes are not yielding well, and some are being shipped in. There are plenty of hogs, but cholera is raging in some sections. Wheat \$1; hogs \$7.50; eggs 25c; butter 30c.

Guernsey Co., Oct. 20.—Corn will be about 75 per cent of an average crop. The large acreage of wheat sown is looking fine, though some is yet to be sown. Very little rye sown. Potatoes 75 per cent of a crop. No beans or clover seed. There will be plenty of fall pasture. There is the usual amount of live stock all in good condition. Apples are plentiful and are cheap. Much of the stock will be used for cider, which brings 15@20c per gallon retail. Wheat \$1; oats 50c; fat cattle \$9; hogs \$10; eggs 20@25c; butter 22@30c; potatoes 75c at wholesale.

Shelby Co., Oct. 18.—Corn is all cut and is a good crop. Potatoes are poor, clover seed half a crop. Wheat is looking good, and a fair acreage was sown. Live stock is looking good, though a few cases of hog cholera are reported. There are no apples. Wheat \$1; oats 43c; corn \$1.03 per cwt; eggs 28c; butter-fat 27c.

Carroll Co., Oct. 19.—Wheat growing nicely after the recent showers. Farmers are busy picking apples, which are plentiful but small on account of the dry summer. Late potatoes are nearly all dug, and are a good crop. Corn is very poor.

Ashtabula Co., Oct. 19.—Fine weather prevails, and fall work is well advanced. Corn is cut and is a fair crop. Potatoes are being dug and marketed, price offered is 40c per bu. Wheat and rye are looking good. Not much poultry or butcher stuff to be disposed of. Butter 28@30c; beef, dressed 8@10c; hogs, live 8½c; veal 10c; eggs 28c; oats 48c; corn 90c; baled hay \$10.50.

Brown Co., Oct. 19.—Corn is all cut, and is a good average crop. We have had considerable rain but no frost, and pastures are good yet. Late potatoes are turning out well, also the sweet potatoes. There are few late apples, but peaches were a good crop. Wheat \$1.05; corn 70c; oats 45c; rye 85c; butter 20c; eggs 22c.

Columbiana Co., Oct. 19.—Corn is a fair yield considering the dry summer. Wheat and rye are looking good after the recent rains. Potatoes are not all dug; the yield is good. Apples are plentiful and the market dull. There has been little live stock marketed lately. At public sales cows brought good prices but horses sold low. Wheat \$1; oats 50c; corn 90c; hay \$15; potatoes 50c; eggs 28c; butter 28c.

Fairfield Co., Oct. 20.—Corn is all cut and will be two-thirds of an average crop. Seeding is nearly done, and the usual acreage of wheat sown; very little rye sown; potatoes half a crop; clover seed very light crop; beans a fair crop. There are not many fat cattle ready for market; about the usual number of hogs being fed. Some cholera is reported. Hay \$15; hogs \$8.25; cattle \$9; butter 28@33c; eggs 25c; hens 12c; turkeys are scarce at 18c; potatoes 80c; clover seed \$10; beans \$2.

Indiana.

Jay Co., Oct. 19.—There is 15 per cent of wheat and rye sown. All the fields look green, and no fly reported. Some report 85 bushels of corn per acre, but 55 bushels is the average yield. Late potatoes will be 75 per cent of a crop. There is a large acreage of clover seed, and the yield is fair. Some silo men are going to other states and buying stock for feeding. Orchards where sprayed are showing up well, but there is considerable cider stock. Wheat \$1; corn \$1; oats 44c; rye 80c; clover seed \$8; timothy \$2.75; butter 25c; chickens 10@14c; ducks and geese 8c; hay \$9.50@11; hogs \$8; cattle \$7; sheep \$2@7; calves \$10.

Wisconsin.

Pierce Co., Oct. 14.—We are having ideal fall weather, late planted corn has ripened and the yield is normal. Threshing is finished. The small (Continued on page 382).

GIVEN TO YOU

We want to give you this handsome mahogany-finished, plush-cushioned chair—without cost! Buy from us, the manufacturers, at store-prices, our guaranteed "Satisfaction—or Your Money Back" household supplies, and we'll give you your choice of a catalog-ful of fine furnishings! You can buy in small quantities, as you buy at stores. All you do is

"Just Join a Larkin Club"

and order through it the foods, soaps, toilet- and kitchen-supplies you now buy at stores. You spend only the money you now spend. But with each order, you get the profits you now give to middlemen. This lovely chair is the profits on a few weeks' home supplies. Larkin Clubs are in your neighborhood. Our Catalog tells all about them.



FREE CATALOG

Shows 700 Larkin home supplies, and a wide variety of Larkin Premiums given with them. Fill out and mail coupon NOW.

Given with Larkin Products
Larkin Co., Buffalo, N. Y.
Chicago, Ill. Peoria, Ill.
Send Catalog No. 32, and particulars of the Larkin Club.
NAME.....
ADDRESS.....
F. C. 3.....

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 we 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.

Cut YOUR Feed Bills

Get 25 per cent more milk and eggs, fatten your hogs quicker, save your time and labor in a hundred different ways with a

"Farmers' Favorite"

Feed Cooker and Boiler

It saves enough to pay for itself every two months in the year. That's 600 per cent interest on your investment. A 30 days' free trial proves it. Satisfaction guaranteed. 25 to 100-gal. capacity. 4 sizes between. Let us prove our claims now. Write today for printed matter and price list. LEWIS MFG CO. 64-78 Owego St., Cortland, N.Y.

9½ CORDS IN 10 HOURS



OAK and HICKORY BY ONE MAN. Proven by sworn witnesses. It's KING OF THE WOODS. SAVES MONEY and BACKACHE. SPRING PRESSURE and GUIDE, adjustable to boy or man, now used on end of saw, a BIG 1915 IMPROVEMENT, KEEPS SAW FROM FLOPPING and makes thin, straight cut. Send for free catalog X44 showing LATEST IMPROVEMENTS. First order gets agency. Folding Sawing Mach. Co., 161 W. Harrison St., Chicago, Ill.

A Portable Outfit that can be depended

ency. Will save more upon in every emergency. Will save more fuel and work better than other types. Power is better, stronger and steadier because of the double opposed construction. Send for catalog. Heer Engine Company, 45 P St. Portsmouth, O.



STATIONERY FOR FARMERS

Make your correspondence business-like. For \$2.50 we offer 500 letter heads and 500 envelopes of good bond paper, each printed with your name and address. Send for samples.

ROSE & COMPANY

4130 Congress St., Chicago, Ill.

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.

THE RATCHET WIRE SPlicer

Wraps large or small wire in narrowest space in woven fence. Sample by mail post paid 50c. Agents wanted. Free illustrated circular. A. B. PROBACCO, Lebanon, O.

Railway Mail Clerks, Clerk-Carriers and Rural Carriers wanted. I conduct Examinations can help you. Trial Examination Free. Osment, 17 R. St. Louis.

RECLAIM THAT ATTIC



With CAREY CEIL-BOARD

It comes in sheets 32 and 48 inches wide and 7 to 12 feet long. Is nailed to studding or over flat surfaces. Can be applied in freezing weather. Put it up yourself. Can be painted or papered. Moisture, sound, heat and cold proof. Shipped from fifty warehouses in principal cities.

FREE SAMPLES.

THE PHILIP CAREY COMPANY
21 Wayne Avenue, Lockland,
CINCINNATI, OHIO.

Steel Shoe Book Saves \$20!

1 Pair Outlasts 3 to 6 Pairs All-Leathers FREE

If you are tired of wet, sore, calloused feet—Rheumatism and Gout—hard, twisted, leaky leather—Big Doctor and Shoe Bills—loss of time, money, health and comfort—TRY FREE my Latest Triumph—Leather Tapped "Steels" Light, Springy, Comfortable, Economical, Waterproof, Warm in winter—Cool in summer—Adjustable Leather Taps, instantly renewed—FREE BOOK tells how you can try "Steels" ten days FREE and save \$10 to \$20 shoe money.



H. M. RUTHSTEIN—Steel Shoe Man—Dept. 26, Racine, Wis.

BOOK ON Dog Diseases AND HOW TO FEED

Mailed Free to any address by the author
H. CLAY GLOVER, V. S.
118 West 31st Street New York

E. D. TOWNSEND & SONS, NORTHSTAR, MICH.
Can furnish a few families with their winter supply of honey, in gallon syrup cans by parcel post. Those wanting to buy direct from the producer should write them before their crop is sold.

POULTRY.

BOURBON RED TURKEYS For Sale by
MRS. O. L. MAGEE, Boyne Falls, Michigan.

HERE'S YOUR OPPORTUNITY Fawn and white runner ducks and drakes or pure white runner drakes, best in U. S.
RIVERVIEW FARM, R. No. 8, Vassar, Mich.

Pekin and Indian Runner Ducks—Stock and prices will please you.
H. V. HOSTETLER, Route No. 1, St. Johns, Mich.

BRO. FARMERS. We have just what you want in Barred and White P. Rock chicks. From extra laying strain, large handsome fellows, farm raised. For prices write. **RIVERVIEW POULTRY FARM, Box 798 Union City, Michigan.**

Barred Rocks—All prize winners and breeding stock at half price. Won 20 prizes last winter.
W. C. COFFMAN, R. No. 6, Benton Harbor, Mich.

ROSE COMB BLACK MINORCA COCKERELS and HENS for sale. Fine Birds. Low prices.
E. D. VAN NATTER, R. D. 3, Standish, Michigan.

SILVER LACED GOLDEN and WHITE WYANDOTTES—A fine lot of White cockerels weighing 6 to 8 lbs. at \$2 and \$3 each. Browning's Wyandotte Farm, Portland, Michigan.

S. L. WYANDOTTE EGGS—From great laying strain of Blue Ribbon Birds. Satisfaction guaranteed. **F. E. Cowdrey, Ithaca, Mich.**

LILLIE FARMSTEAD POULTRY
B. P. Rocks, R. I. Reds, and B. C. W. Leghorn eggs for sale. 15 for \$1.25; 25 for \$2.00; 50 for \$3.50.
COLON C. LILLIE, Cooperville, Mich.

PINE CREST WHITE ORPINGTONS—The great winter State Fair, pullets, cockerels, hens, also collie puppies. Mrs. Willis Hough, Pine Crest Farm, Royal Oak, Mich.

PLYMOUTH Rock cockerels 5 to 11 lbs., according to age, hens 5 to 8 lbs., 15 eggs \$1. Mammoth Bronze Tom Turkeys 8 to 35 lbs. according to age. Price \$3 to \$25. 10 eggs \$3. **A. E. CRAMTON, Vassar, Mich.**

DOGS AND FERRETS.

FOX, COON AND RABBIT HOUNDS
Broke to gun and field. Prices right. Fox and Coon hound pups \$5 each. Stamp for reply.
H. C. LYTLE, Frederickburg, Ohio.

Trained Running Fox Hounds—30 Fox and Coon hound pups, 500 Ferrets, Ponies. Send stamp. **W. E. LECKY, Holmesville, Ohio.**

Fox and Wolf Hounds
of the best English strain in America
40 years experience in breeding these fine hounds for my own sport. Save your pigs sheep and poultry. Send stamp for catalog.
T. B. HUDSPETH, Sibley, Jackson County, Mo.

FOR SALE: Thoroughbred Scotch Collie puppies from pedigreed stock. Fine marked. Natural heelers. Price \$5 & \$8. **E. H. Haller Box 127, Hillsdale, Mich.**

2000 Ferrets for sale. Write for price list. It's free. Guarantee safe delivery. **DeKleine Bros., Box 41, Jamestown, Mich.**

White and Brown Ferrets for Sale Prices free. Will drive rats, rabbits, minks, and all small animals out of holes. **Burt Ewell, Wellington, O.**

When writing to advertisers please mention The Michigan Farmer.

Poultry and Bees.

Selecting Layers for the Winter.

OCTOBER is the time to select the hens and pullets which are to be kept for winter layers. It is unnatural for birds to lay in cold weather, therefore certain specific conditions must be created if we are to get winter eggs. To this end one should be very careful in selecting the birds to be kept over. A hen that does not lay from August until the next March, is a poor piece of property, likewise pullets which do not commence to lay until nearly spring have started with a big handicap against making any profit for their owner. Too many farm flocks are composed of this kind.

The Kind to Fatten.

In the first place, year-old hens should make profitable layers if they are bred from the right strain, and other conditions are favorable. Ordinarily I do not believe in keeping hens after the second year. Fowls which have the moulting process well completed by the latter part of September, if at the same time they are in good condition and not over-fat, should make good winter layers. The hen that is late in getting her new

fore the severe cold comes on. I like to have them start the latter part of November or the first of December. The earlier birds that begin in September and October are apt to lay a month or so and shut down for the winter. I would select winter layers from birds hatched not earlier than April. This applies to the American breeds, which, after all, seem to me to be the most dependable for winter eggs.

Having selected the flock, the next thing is to get them into the best possible condition. The first point is to separate the pullets from the hens. Old birds worry and tyrannize the pullets, also the young birds need a rather different ration. Early maturity is the object sought. On the range much in the line of animal food will be picked up, late in the fall, but it is a good plan to have a dry mash where the birds can peck at it whenever they see fit. This may be composed of wheat bran, corn meal and beef scrap in equal quantities, with the addition of bone meal at the rate of ten per cent of the entire bulk. Charcoal to the amount of about five per cent may



Grain Should Supplement Free Range.

winter coat will not lay much before next spring. This is perhaps the principal point to be considered in selecting the old hens to be kept. If the trap nest is used and individual records are kept, even if only in a desultory and spasmodic fashion, much valuable knowledge as to the laying qualities of the hens will be available and should be taken into account when making the selection. There is not much danger of finding the year-old birds too fat at this season of the year, especially if they have enjoyed free range during the summer. Moulting makes a considerable demand upon the system, and unless they have been fed almost exclusively upon corn without sufficient exercise, none should be over-fat. On the other hand, a bird that is skinny and half naked in September will not make a winter layer. Better shut such fowls in a restricted pen and fatten them a few weeks, for they serve no practical purpose, unless it be in a fricassee. To sum up: year-old birds to be kept for winter eggs should be in good condition and have the moulting process well completed in September.

Use Care in Selecting Pullets.

In selecting the pullets, the well-built birds—not the angular and awkward—should be selected. There are always a certain number of culls in every flock. These should be put into the fattening coops and go for roosters with the cockerels. Any bird that has developed slowly or shows any marked variation from the type being bred, should not be kept. In order to get good results the pullets should be old enough to commence laying be-

fore the severe cold comes on. I like to have them start the latter part of November or the first of December. The earlier birds that begin in September and October are apt to lay a month or so and shut down for the winter. I would select winter layers from birds hatched not earlier than April. This applies to the American breeds, which, after all, seem to me to be the most dependable for winter eggs.

Cleanliness and Kindness Pays.

Pullets having free range often continue the habit of roosting out of doors, if allowed to do so as chickens. As cold nights come on the birds should be induced to go inside. The house must be clean and inviting, else they may persist in staying outside. It is a good plan to keep the pullets tame. This may be done by frequent handling. Let nothing frighten them. Chasing by dogs or children may do more to retard their growth than weeks of care and attention can remedy.

I believe in making an early selection of the winter layers for by so doing I am able to get the birds into a better condition, as I know just what object I am aiming at.

N. H.

CHAS. H. CHESLEY.

FALL CARE OF THE FLOCK.

Both hens and pullets need to be well cared for during the fall months, if winter eggs are wanted. But as a rule, the pullets are in better condition when winter sets in, than are the hens; because the hens have to moult while the pullets do not.

Of course, it is not advisable to keep hens that have outlived their usefulness; but if farmers would take

better care of the hens during the moulting season, especially after the nights begin to get frosty, there would be fewer complaints about "old" hens being unprofitable, as layers. Leghorn hens are often good layers when other hens would, at the same time, be only fit for hatching out and raising chicks. But even a Leghorn will not lay without care.

Care of the Moulting Hen.

If hens have not been getting much grain through the summer, they come through the moult in poor condition to begin laying, unless some extra care is given "at the last minute." Hens that lose all their feathers at once, so to speak, suffer greatly from cold unless a good house is provided for them. If they have been roosting outside, they should be forced to roost where they will not be exposed to cold winds, rain and snow. A moulting hen is in no condition to brave the cold weather if it happens along in the late fall months.

Get the Pullets Used to their Winter Quarters.

A poultry house that is not perfectly tight on the north and west sides will not protect the hens properly during a blizzard. A house should be free from drafts, but not air-tight. Plenty of ventilation is needed. It is never advisable to keep hens and pullets in the same roosting quarters. If they cannot have a separate house, then put a partition through it, or use netting. Pullets are timid while some hens are abusive. Before the winter is over, they will be so accustomed to seeing each other, through the wire, that they will cease their warfare. It is not a good plan to wait until winter is here, and then scare the fowls by catching them when they have to be put into winter quarters. It is better to feed them in the houses a few times until they learn to go in of their own accord.

Feeding the Moulting Hens.

If the floors are clean, as they should be, the litter can be easily swept aside, before scattering the grain. We never throw grain in the litter, except in winter when the hens need exercise.

We do not feed moulting hens the same ration we use for other poultry. For instance, when making up the morning mash we add a little oil meal or beef tallow along with the corn meal, bran and cooked vegetables. Both hens and pullets are given some sour milk once a day; it is beneficial to both. It helps the pullets to develop while it encourages the growth of new feathers on the hens.

Keep Late Hatched Pullets.

Sometimes the very early hatched pullets go through a partial moult, late in the fall. This is very noticeable in the Leghorn. This moult will sometimes retard laying and for this reason we think it best to hatch the Leghorn chicks later than others.

We never send a late-hatched pullet to market merely because she was not hatched early. If she has no other faults, the chances are she will make a layer, sooner or later. If she does not begin as soon as the rest, she will probably be "on the job" when the others are not.

Feed Plentifully.

Give the birds a generous amount of feed, at least twice a day, when they have free range. When cold weather sets in increase the ration. Don't be afraid of over-feeding. Hens can scarcely get enough to satisfy their appetite when they are moulting. But be sure to provide plenty of sharp grit and don't feed dry oats. We use it (boiled in the mash when a warm mixture is wanted at night). We feed whole corn. We never knew how much to feed hens, until we measured it, allowing a certain amount for each hen. Since then we have had better and more economical results.

Ohio.

ANNA W. GALLIGHER.

DRIED BEEF PULP PAYS

Because it Increases the Production and Lowers the Cost.

It is a vegetable feed and is not adulterated.

Order of your dealer or write.

T. F. MARSTON, Bay City, Mich.

Screenings, Salvage Grains

HOG FEEDS, SALVAGE

FOR SALE AT ONCE

Three cars yearling steers and heifers—few two years old—in prime condition for feeding or for block.

MITCHELL BROTHERS CO., Missaukee Co. Jennings, Michigan.

ONE HUNDRED HEAD OF Stock Cattle ready for sale at once. Five cars of two-year-old steers will be ready for sale Oct. 15, 1914.

J. B. GARDNER, Cadillac, Michigan. L. B. 437.

Profit From Hogs. Our free book, "The Hog from Birth to Sale," tells how to make big profits. Send for it today. THE L. B. SILVER CO., 196 Vickers Bldg., Cleveland, Ohio.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN ANGUS

Bull calves and yearlings ready for service. Sired by Louis of Viewpoint II. Closely related to five Grand Champions—Brother, Sister, Sire, Sire's Brother and Grandfather. International Grand Champion for three years in succession. Prices \$75 up. Will meet prospective purchasers either at Somerset, Addison or Addison Junction.

You are bound to get good calves from these bulls even with strongly dairy type grade cows.

GEO. B. SMITH & CO., ADDISON AND SOMERSET, MICHIGAN.

ABERDEEN-ANGUS

HERD FOUNDED IN 1900. Strains represented consist of Trojan Eras, Blackbirds and Prides, only. Black Quality Ito, a bull of rare individuality and merit, heads the herd.

WOODCOCK STOCK FARM, Ionia, Mich.

AYRSHIRES—One of the foremost dairy breeds. The most economical milk producers. Calves for sale. White Leghorn cockerels; Duroc Jersey swine. Michigan School for the Deaf, Flint, Michigan.

FOR SALE, 3 REGISTERED GUERNSEY BULLS. Cheap if taken soon the best breeding yet. Write JOHN EBELS, Holland, Michigan.

Guernseys. Bulls from 15 mos. down. From Imported Sire and Dams in A. R. test. Excellent breeding prices reasonable. On farm of President Snyder, M. A. O. Address P. E. Noble, Manager, R. No. 9, Lansing, Mich.

We have for sale a number of pure Guernsey cows, heifers and bulls, also Berkshire hogs. VILLAGE FARM, Grass Lake, Michigan.

Guernseys—Famous May Rose Strain. A select herd. Tub. Tested. Several A. R. Cows. J. K. Blatchford, Windermere Farm, Watervliet, Mich.

MILO D. CAMPBELL, CHAS. J. ANGEVINE.

BEACH FARM GUERNSEYS

To whom it may concern:

I have just completed a tuberculin test of 80 head of Beach Farm Guernsey stock, not one of which showed the least sign of reaction. Signed Dr. Thos. L. Borr, Vet.

Pure Bred Bulls and Grade Heifers from the above stock for sale

CAMPBELL & ANGEVINE, COLDWATER, MICHIGAN.

Buy Guernseys for Profit

Your investment in GUERNSEYS will return a larger profit than that from any other dairy breed.

WRITE FOR LITERATURE.

Guernsey Cattle Club, Box 25, Peterboro, N.H.

BIGELOW'S HOLSTEIN FARMS

Three Fine Young Bulls

1. 9 and 10 months old, from 18, 20 and 20 pound cows, each one giving over 10,000 lbs. milk a year—prices, \$100, \$125 and \$150. The two oldest—finely marked—the other has black back and sides, with some white. DeKol 2nd, B. B. 3rd, and King of the Pontiacs' blood.

BIGELOW'S HOLSTEIN FARM, Breedsville, Mich.

\$25 DELIVERED.

Handsome Bull Calf

seven-eighths white. Thoroughbred, but not eligible to registry. By 24-lb. butter bull, out of 12,000-lb. milk cow.

ROUGEMONT FARMS, DETROIT, MICH.

ESPANORE FARM, Lansing, Michigan. Offers for sale

Two Holstein Bull Calves

Excellent breeding and fine individuals. Write for particulars.

CHASE S. OSBOEN, ADAM E. FERGUSON, Owners, L. M. HATCH, Supt.



Purebred Registered HOLSTEIN CATTLE

Twenty-five cows and one bull, all purebred registered Holsteins, were recently unloaded at Williams, Minn. They were purchased by the Security State Bank of that place, and sold to farmers on easy terms. These far-sighted financiers selected purebred registered Holstein cattle because they were sure that it was for the best financial interest of the community. They acted on their knowledge of Holsteins as producers as compared with other breeds. If purebreds were good for them, why not for you?

Send for FREE Illustrated Descriptive Booklet. Holstein-Friesian Assn., F. L. Houghton, Sec'y. Box 164, Brattleboro, Vt.

HATCH HERD REGISTERED HOLSTEIN-FRIESIANS

YPSILANTI, MICH., offers HERD HEADERS from choice A. R. O dams and King Pontiac Jewel Kornelkye. 50 dams in his pedigree average 31.25 pounds in 7 days. Average per cent of fat of three nearest dams 4.37. Sires in first three generations in his pedigree have 500 A. R. O. daughters. Prices reasonable. Make your own selection at Ashmoor Farms, Tecumseh, Michigan, R. D. No. 2, or address HATCH HERD, YPSILANTI, MICHIGAN.

Holstein-Friesian Breeder—The best families of the breed represented. D. D. AITKEN, Flint, Michigan.

HEREFORD BULLS 2 six months old 1 18 months old ALLEN BROS., Paw Paw, Michigan.

10 HOLSTEIN BULLS

FROM 1 to 3 YEARS OLD

Ten Bull calves, two to ten months old. Ten cows, Your Choice from my entire herd. Don't let anybody make you believe he can sell you a better bull for less money than I can. Don't delay the purchase of bull until the other fellow gets the one you want. Write me or come at once.

L. E. CONNELL, Fayette, Ohio.

I Will Buy and Sell Holstein Cattle on commission. Large acquaintance among the breeders. Bank references. Freeman J. Fishbeck, Howell, Mich.

For Sale Pure Bred Holstein Heifers and Bulls.

De Kol and Landry Girl Butter Boy strain. LEWIS NELLER, - Lansing, Mich.

"Top-Notch" Holsteins.

Extra large fine young bull, 3/4 white, born Oct. 4, 1913. Dam has official record of 29.40 lbs. butter in 7 days, 17.50 lbs in 30 days. Sire's dam is a 22.64 lb. 4 yr.-old daughter of a 30.59 lb. cow.

MCPHERSON FARMS CO., Howell, Michigan.

REGISTERED HOLSTEINS—Herd headed by Albina R. Bonte Butter Boy No. 93124, whose dam has semi-official yearly record, Butter 8 1/2 lbs. Milk 1862 lbs. as a 2-yr.-old. No stock for sale. W. B. Reader, Howell, Mich.

Holstein-Friesian Cattle. Young bulls ready for service out of A. R. C. cows. Satisfaction guaranteed or money refunded. Jones & Lutz, Oak Grove, Mich.

50 gets 8 weeks old bull, 27 lb. sire. Dam traces direct to De Kol 2d 10 times, twice to Pontiac Kornelkye. M. L. McLAULIN, Redford, Michigan.

MICHIGAN HOME AND TRAINING SCHOOL LAPEER, MICHIGAN. Breeder of High Grade Holstein Cattle. Lists and prices upon application.

IXI-ON FARMS offer choicely bred young Holstein Bulls, \$75 to \$100 each, with all papers. S. O. RATHFON & SON, R. F. D. 5, Ypsilanti, Mich.

HOLSTEIN BULLS READY FOR BUSINESS. World record stock \$100 to \$300. LONG BEACH FARMS, Augusta, Kalamazoo Co., Michigan.

SPECIAL. \$40 each buys 3 registered Holstein bulls, 5 months old. Delivered free, safe arrival guaranteed. Good enough to use in grade herd. Quick sale only, worth more, need the milk. Hobart W. Fay, Mason, Mich.

First Draft for \$125 buys two unregistered 10 mos. old Holstein Heifers, good ones. f. o. b. CHAS. S. RILEY, R. No. 1, Metamora, Mich.

Lillie Farmstead Jerseys

Bulls ready for service, several from Register of Merit Cows. Four bred heifers, good ones. Herd Tuberculin tested. Prices reasonable.

COLON C. LILLIE, Coopersville, Michigan.

Jerseys. Heifer calves, not eligible to registry cheap. Reg. J bull calves. Barred Rock cockerels \$1.50. Mammoth Bronze turkeys. PETER H. DOUMA, R. 2, Holland, Mich.

THE WILDWOOD HERD REGISTERED JERSEYS, Herd headed by Majesty's Wonder 90717. For sale a Grand-son of Royal Majesty, and out of a cow that produced over 500 lbs. butter in one year. Born Oct. 24th 1913. Write for prices or come and see. ALVIN BALDEN, Capac, Mich.

CROUSE'S OLD HOMESTEAD JERSEYS All my surplus Full Blood Jerseys are sold. J. B. CROUSE, Hartland, Michigan.

Jerseys. Bulls ready for service, extra quality sired by Jacoba's Fairy Emanon. No. 107111, from high producing dams. SMITH & PARKER, Howell, Mich.

For Sale Jerseys—Heifers from Register of Merit of St. Lambert breeding. Also cows with Register of Merit records. Waterman & Waterman, Ann Arbor, Mich.

Jersey Bulls for Sale from high-producing dams, with testing Assoc. records, also on semi-official test. O. B. Wehner, R. 6, Allegan, Mich.

NOW IN SERVICE—A Son of the \$50,000 sire King Segis Pontiac Alcatraz, GREGORY & BORDEN, Howell, Michigan.

MAPLE Lane Register of Merit Jersey Herd—Tuberculin tested by U. S. Government. For sale, Register of Merit cows, also bulls, bull calves and heifer calves, having from 3 to 7 Register of Merit dams in their pedigrees. IRVIN FOX, Allegan, Michigan.

JERSEYS—For list of stock for sale and Jersey facts write A. P. EDISON, Sec. M. J. C. B., 328 W. Bridge, Grand Rapids, Mich. If a breeder and a member of M. J. C. O. send list of stock for sale to the above.

JERSEYS—YEARLING BULL READY FOR SERVICE. Also bull calves. Brookwater Farm, R. F. D. No. 1, Ann Arbor, Mich.

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

Young Shorthorn Bulls And Oxford Down Yearling Rams for sale. H. B. PETERS, Burton, Michigan. R. R. Elsie.

Shorthorns—Dairy or beef bred. Breeding stock all ages for sale at farmers' prices. C. W. Crum, Secy. C. nt. Mich. Shorthorn Breeders' Assn., McBride, Mich.

SHORTHORN BULLS FOR SALE—Red and Roans, 10, 100 lbs. milk and 518 lbs. butter with first calf in one year. Reasonable price. Write, F. W. Johnson, Custer, Mich.

SHORTHORNS: 6 CHOICE YOUNG BULLS FOR SALE. W. W. KNAPP, Howell, Michigan.

SHEEP.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS

Parsons Pure Bred Sheep. I sell and ship every-where and pay express charges. I will start one man in each town. Write for club price list. Oxford, Shropshire, Ram-bouillet and Felled-Delaine.

PARSONS, Grand Ledge, Michigan R 1

Rams and Ewes from the first prize flocks of Cotswolds, Leicester, Lincoln and Oxford Downs; two years old rams and ewes; yearling rams and lambs, either sex. Some of these are unbeaten this year. Harry T. Crandell, Cass City, Mich.

RAMS—SHROPSHIRE OXFORDS AND HAMPSHIRE. Good strong well woolled fellows ready for business. Shipped to you without the money. Isn't that fair? If so write KOPE KON FARM, Kinderhook, Michigan.

POLLED DELAINE RAMS FOR SALE—Big heavy shearers. F. L. BROKAW, Eagle, Michigan.

Ohio Delaines & Merinos—Bred in line 40 years, size, quality, heavy shearers. Priced right. S. H. SANDERS, Ashtabula, Ohio.

Oxforddown Yearlings and Ram Lambs M. F. GANSSLEY, Lennon, Michigan.

OXFORD Down Ram and Ewe Lambs, and Reg. Berkshire's, either sex. Priced to move quick. CHASE'S STOCK FARM, R. 1, Mariette, Michigan.

Registered Oxford Ewes & Rams, at greatly reduced prices, as I have sold my farm and must sell my whole flock. B. F. MILLER, Flint, Michigan.

THE MICHIGAN AGRICULTURAL COLLEGE offers for sale 10 bred Rambouillet ewes and 4 rams; 4 Hampshire ewes and 2 rams; 1 Oxford ram; 2 Aberdeen Angus cows, heavy in calf, and 1 bull; 8 months old; 1 Hereford cow, with heifer calf; 1 Shorthorn cow and 2 heifers, 1 year old. Address, Geo. A. Brown, Dept. Animal Husbandry, E Lansing, Mich.

Shropshire Yearling and Ram Lambs, large frames, Wool and Mutton type. Also O. I. C. swine. G. F. ANDREWS, Danville, Michigan.

SHROPSHIRE—Am offering a few choice rams at reasonable prices. C. J. THOMPSON, Rockford, Michigan.

MAPLESHADE FARM SHROPSHIRE—Imported stock ram. Ram and ewe lambs of choice breeding. W. P. PULLING & SON, Parma, Michigan.

INGLESIDE FARM offers fifteen choice recorded breeding ewes of good ages, also yearling and lamb rams. HERBERT E. POWELL, Ionia, Mich.

SHROPSHIRE RAMS AND EWS FOR SALE. DAN BOOHER, R. No. 1, Marion, Michigan.

REG. SHROPSHIRE—Rams and ewes. Prices reasonable. HARRY POTTER, R. No. 5, Davison, Michigan.

THE MAPLES SHROPS—We offer 20 extra yearling rams, a 2-yr.-old stock ram bred by Campbell, also ewes. E. E. Leland & Son, R. 9, Ann Arbor, Mich.

HOGS.

Berkshires—Orders booked for sows to be bred for next spring farrowing. Fall pigs \$6 each now. B. B. REAVEY, Akron, Michigan.

ROYALTON BRED BERKSHIRES—Fine April sows, with papers, \$20 to \$25 each. D. F. VALENTINE, Supt., Temperance, Michigan.

BERKSHIRES—Choice spring sows and gilts, priced to move quick. Farmers stock. ELMHURST STOCK FARM, Almont, Mich.

Berkshires—Reg. Berkshire Boars ready for service also spring pigs, either sex at farmer's prices. White Oak Farm, R. No. 4, Brown City, Mich.

BERKSHIRES—Some Choice Gilts of May farrowing to let go at once. A. A. PATTULLO, Deckerville, Michigan.

HAMPSHIRE SWINE—Choice young stock for fall breeding, both sexes, prices reasonable. West Wind Farm, Pontiac, Mich. E. P. HAMMOND, Owner. N. A. WISER, Manager.

CHESTER WHITES. August and September pigs, from C'sires as Chickasaw Bud, Modler, Bronson King. A certificate of registry with each pig. John Gintling, Bronson, Michigan.

Chester Whites—Reg. Bred Gilts—Orders taken for spring pigs and Collier pups. Holstein Bulls at Bargains. RAY B. PARHAM, Bronson, Mich.

O. I. C. Swine—1 stock boar, also 3 and 5 months old pigs from good thrifty stock. Prices reasonable. N. H. WEBER, Royal Oak, Mich.

O. I. C.—Bred sows and spring pigs, large and growthy. GLENWOOD STOCK FARM, Zeeland, Mich.

O. I. C.'s—Large boned, shipped on approval, pairs not akin, registered free. J. W. HOWELL, Elsie, Michigan.

O. I. C.'s—For 12 years I have been breeding Big Type O. I. C. swine and now have one of the best Big Type herds in the land, quality considered. Herd boar, Lengthy Prince No. 3817, 19 O. I. C. record, a 700 lb. boar in breeding condition, White Monarch No. 42058, vol. 16, O. I. C. record, a 500 lb. Jr. yearling. Dams of equal size and merit. Young stock for sale at all times. Prices reasonable. Will ship C. O. D. NEWMAN'S STOCK FARM, R. No. 1, Marietta, Michigan.

O. I. C.—Service boars, fall pigs, pairs not akin. Holstein Bull Calves. CLOYER LEAF STOCK FARM, R. No. 1, Monroe, Mich.

O. I. C. March, April and May pigs; the big, growthy kind that always makes good. LEMUEL NICHOLS, R. F. D. No. 2, Lawrence, Mich.

O. I. C.—Choice spring boars of March and April farrow. Prices right. JOHN BERNER & SON, Grand Ledge, Michigan.

O. I. C. and Chester White Swine.

We won this year at Ill. State Fair, nine first prizes, four second and five Champions including both Grand Champions; at Wis. we won twelve first prizes, five seconds and all Champions. We have over 700 pigs on hand of every age. All stock is shipped on their own merits. O. I. C. KOLLING VIEW STOCK FARM, R. No. 2, Cass City, Michigan.

O. I. C's—We are still breeding and shipping the Big Bone, Long Bodies, Short Heel and Straight Back O. I. C. Hogs. We have some dandy gilts and boars for sale, also Sept. pigs registered in your name. My hogs are Cholera immuned. J. W. WAY, Pompeii, Michigan.

O. I. C's—Spring pigs, pairs and trios, no akin, from state fair winners. AVONDALE STOCK FARM, Wayne, Michigan.

O. I. C's—Growthy spring boars. Satisfaction Guaranteed. A. R. GRAHAM, FLINT, MICHIGAN.

O. I. C. Swine—May I have the pleasure of receiving your order for a pair or trio, not akin, of April and May farrow. They are bred right. Satisfaction guaranteed. A. J. GORDEN R. No. 2, Dorrr, Mich.

O. I. C's—I have extra fine lot of last spring boars and a lot of this fall pigs, either sex, not akin, will have a bred sow sale in Jan. 1/2 mile west of Depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C. Boars ready for service. Also spring gilts, stock recorded in Goshen, Ind. H. W. MANN, Danville, Michigan.

O. I. C.—Choice boars ready for service, also open gilts and Aug. pigs. Pedigrees furnished. Medowbrook Farm, East Jordan, Mich.

O. I. C. Choice Gilts for Spring Farrow. Not bred. May pigs. Choice serviceable boars the long bodied kind. ALVIN V. HATT, Grass Lake, Mich.

Duroc Jersey Boars

From Prize-Winning Stock.

Write, or better still, come.

Brookwater Farm, Ann Arbor, Mich., R. F. D. 7.

DUROC JERSEYS, Spring Pigs For Sale

CAREY U. EDMONDS, Hastings, Michigan.

Duroc Jerseys—Boars ready for service, some spring guaranteed or money refunded. Write or come and see. Wm. D. McMullen, 67 Madison St., Adrian, Mich.

DUROC BOARS For Sale, breeding right about 15 lbs. April & May farrow \$25 while they last. H. G. KEESLER, R. R. No. 5, Cassopolis, Mich.

Duroc Jerseys—25 choice boars, some fine March gilts and a few bred sows for October farrow. W. C. TAYLOR, Milan, Michigan.

DUROC JERSEYS—Fall pigs for sale either sex, also some fine April and May gilts. BERT SWEET, R. R. No. 1, Hudsonville, Mich.

Duroc Jerseys—Aug. pigs, either sex. Also Holstein bull calf from tuberculin tested dam at reasonable price. E. H. Morris, R. 2, Monroe, Mich.

KORN-EL STOCK FARM now offer Duroc Jersey pigs of either sex at reasonable prices. E. B. CORNELL, Howell, Michigan.

DUROC JERSEYS—Spring pigs of either sex at reasonable prices. Pairs not akin. W. J. BAUMAN, Burr Oak, Michigan.

DUROC JERSEYS—Spring pigs either sex at reasonable prices. S. C. STAHLMAN, Cherry Lawn Farm, R. 2, Shepherd, Mich.

Duroc Jerseys—For sale, of the heavy boned type. A few choice boars and fall pigs. M. A. BRAY, Okemos, Ingham Co., Michigan.

DUROC JERSEYS—25 fancy boars and gilts of popular blood lines, good individual quality. Special prices for 30 days. JOHN MCNICOLL, Sta. A. R. 4, Bay City, Michigan.

HAMPSHIRE Swine—Breeding stock of all ages from most popular strains. Write for breeding. Inspection invited. Floyd Myers, R. 9, Decatur, Ind.

POLAND CHINAS—Spring pigs either sex. From growthy stock and large litters. L. W. BARNES & SON, Byron, Michigan.

POLAND CHINA BOARS—March and April farrow and some summer pigs. Prices right. J. W. HOLTON, R. No. 11, Kalamazoo, Mich.

P. C.—4 choice big type boars from litter of 10 of "Lady Jumbo." Sire "H's Big Bone." Dam "Lady Jumbo." Priced to sell, write for full description and snap shot. Thos. Barnett, R. 1, Pontiac, Mich.

BIG TYPE POLAND CHINAS For Sale—Spring Gilts by that great 1000 lb. boar, Hillcrest Wonder. They make great brood sows. Have also some splendid fall pigs. HILLCREST FARM, Kalamazoo, Michigan.

Poland China Pigs—March and April farrow, large boar. H. H. CONRAD, R. 4, Lansing, Michigan.

FOR SALE—A choice bunch of Poland Chinas, all ages, over fifty head to choose from. Prices right. CLYDE FISHER, St. Louis, Mich.

For Sale, Poland China Pigs—April and Sept. farrow, either sex. Shipping point, Carson city. A. O. Shinabargar, Crystal, Mich.

Poland Chinas of the big type. March and April farrow. The kind that please our customers. A. A. WOOD & SON, Saline, Mich.

Poland Chinas, either sex, all ages. Something good at a low price. Bargains in boars ready for service. P. D. LONG, R. F. D. 8, Grand Rapids, Mich.

Plum Creek Stock Farm now offer choice heavy boned Duroc Jersey Boars ready for service. Fall pigs, pairs not akin. Also Shropshire Rams. F. J. Drott, R. No. 1, Monro, Mich.

THE FARMERS' HOG—Butler's Big Boned Profilo Poland Chinas grow big, keep easy, mature early, ready for market at 6 months. Why? Because we've bred them that way for more than 20 years. 50 big boned, long bodied, high class boars at farmers' prices. Buy one and make more money on your hogs. P. C. History Free. J. C. BUTLER, Portland, Michigan.

LARGE TYPE P. C.—Largest in Mich. Fall pigs all sold, order a spring pig sired by the largest boar in the U. S., weight 900 lbs., 24 months old. Come and see. Expenses paid if not as represented. W. E. LIVINGSTON, Parma, Mich.

LARGE STYLE POLAND CHINA SPRING AND FALL PIGS. Dairy Bred Shorthorn Bulls and Oxford Buck Lambs. Prices right. Robert Neve, Pierson, Mich.

BIG TYPE POLAND CHINAS—Boar pigs for new homes. They are corks and insured. WM. WAFFLE, Coldwater, Michigan.

Mule Foot Bred sows, bred gilts and boar pigs, not related, for sale. Satisfaction guaranteed. G. C. KREGLOW, Ada, Ohio.

Yorkshire Swine—We have some nice May pigs, both sexes. Write for description and prices. OSTRANDER BROS., Morley, Michigan.

YORKSHIRES

(Continued from page 383).

state age or weight, I am unable to tell how much of a dose you should give them. The dose for hogs is from 30 to 60 grains and it should be given three or four times a day. Apply one part carbolic acid and nine parts glycerine to sore parts twice a day.

Loss of Appetite.—I have two brood sows one year old, each had nice litter of pigs early part of September; thrived well until lately, since then they have almost completely lost their appetite. They appear to be most fond of sweet apples and cucumbers; these sows must be weak for they stagger around some. G. E. J., Lansing, Mich. —Give each of your sows 10 grs. of ground nux vomica, 40 grs. of ground gentian and 40 grs. of hypo-sulphite of soda at a dose, either in feed or in some water as a drench three times a day. If their bowels are costive, give them 3 ozs. of castor oil, or 3 ozs. of epsom salts at a dose daily until their bowels move freely.

Light Milker.—My three-year-old cow came fresh four weeks ago, giving six quarts of milk daily for some weeks, then she suddenly dropped to three, but appears to be in perfect health. Do you believe it will pay me to keep this cow for dairy purposes? H. L., Tustin, Mich. —She will prove unprofitable for dairy purposes and if I owned her I should fatten her for beef.

Hard Milker.—What can I do to make my cow milk easier? The openings in two of her teats appear to be growing smaller. R. A. U., Crosswell, Mich. —By passing different sized sounds through teat canal, they can be dilated; however, a tough milker usually remains such. Some people use milking tubes, but, of course, they must be kept perfectly clean, or if not the udder is pretty sure to become infected.

Obstructed Teat.—I have a heifer just fresh and the milk from one teat comes out in the form of a spray, instead of a clear stream, and I would like to know how to remedy this ailment. J. H. G., Lansing, Mich. —Carefully dilate opening in teat with a tapering probe of polished steel.

Poor Milker.—My two and a half year old P. C. brood sow farrowed one week ago today, and I might add that she had a sick spell three weeks before that, at which time she suffered from fever the result of constipation, but came all right. Her pigs were very weak at time of birth; all of them have died but one and I would like to know what caused their death. Do you think it will pay me to breed her again for spring pigs? I might say that previously she had raised nice litters of pigs. She is coughing some and I would like to know what to give her. She had nine pigs this time and 27 her three previous litters. E. D., Nottawa, Mich. —I know of no reason why you should not breed your sow again. Mix together equal parts of ground gentian, ginger and licorice and give her a teaspoonful at a dose three times a day. Pregnant sows should be allowed to exercise before farrowing time.

Worms.—I have some pigs now two months old that are troubled with worms. O. K., Sebawaing, Mich. —Mix together equal parts fluid extract of spegelia and fluid extract of senna and give each pig a teaspoonful or two at a dose twice a day for a few days.

Wounded Teat Canal.—I have a cow that recently came fresh that has an opening in side of teat which discharges milk at milking time. R. E. F., Owosso, Mich. —You will find it difficult to close this opening; however, the edges of wound should be made raw, the edges sewed together with either sterilized silk or linen, then apply surgeons' plaster to hold the edges of wound together. She should be milked through a milking tube.

Rheumatism.—During hot weather last summer my dog became heated and went into cold water; since then has been somewhat rheumatic. Shows little soreness during hot weather, but stiffens after swimming in water. A. H. W., Paris, Mich. —Give 5 grs. of sodium salicylate at a dose in feed three times a day and keep dog out of water.

Sow Died of Paralysis.—I had a brood sow taken lame in hind legs, could not get up, seemed to have some pain, and died in a short time. Her pigs were three weeks old at time of sow's death; now one of the pigs shows lameness and similar symptoms to those of her mother before death. These pigs have a large range, plenty of good water and alfalfa; also all kinds of clover, apples and milk. H. S., Mayville, Mich. —Feeding too much fat-producing food, want of sufficient exercise, foul air, filthy damp basement pens, are principal exciting causes of paralysis and partial loss of power, and rheumatic ailments in hogs. Give pig 1 gr. sodium salicylate at a dose three times a day. Rub back with one part turpentine and three parts camphorated oil every day.

Miles of Economy

Multiplied Mileage

MILEAGE—all kinds of mileage, without sacrifices—that is the key to Firestone leadership.

Miles of Economy—because of the Firestone endurance—which means length of tire-life, freedom from repairs, most car protection.

Miles of Comfort—because of Firestone extra quality and extra quantity of rubber—full of life and "give" and easy riding.

Miles of Security—with Firestone Non-Skids—because of the massive letters right angled against skid in any direction.

Miles of Comfort

Miles of Security

Sent Free on Request

Write us the name and address of your dealer and the make of tires you use and we will send you, free, a fine waterproof and oil proof Tube Bag. It will keep your Inner Tubes fresh and dry. Every car-owner needs one. Also get our valuable free book on care and selection of tires. Your dealer has Firestone Tires and Tubes, or can get them for you promptly. We will have them sent to you if necessary. Write today for Tube Bag and Our Book No. 25

Firestone Tire and Rubber Company
"America's Largest Exclusive Tire and Rim Makers"
Akron, Ohio—Branches and Dealers Everywhere

Firestone

Non-Skid Tires
Most Miles per Dollar

BIRMINGHAM FENCE

Made from tough, heavy galvanized steel wire. Heavyly galvanized by our B. B. Special Analysis Treatment. Strong knots hold wires firmly. No slipping—no sagging. Over 100 styles for every use. Also lawn fences and gates. Buy direct from mill—buy from Birmingham, the new heart of steel industry. Write for catalogue, sample and prices.

E. Birmingham Iron Roofing Co.
Fence Dept. 5, Birmingham, Ala.

WE PAY FREIGHT

PUMP GRIND SAW Made for Hard Use

Wood Mills are Best. Engines are Simple

Feed Grinders, Saw Frames, Steel Tanks

CATALOGUES FREE AGENTS WANTED

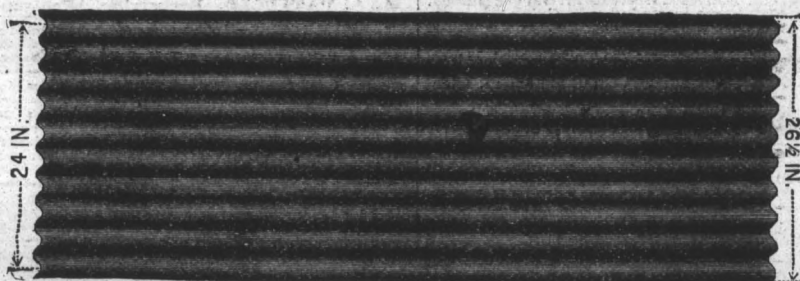
Perkins Wind Mill & Engine Co. Est. 1860
135 MAIN ST.
Mishawaka, Ind.

Michigan White Cedar FENCE POSTS

GEORGE M. CHANDLER, Onaway, Mich.

THE NILES IRON & STEEL ROOFING CO.

WORLD'S BEST ROOFING



We are Manufacturers of Galvanized and Painted Steel Roofing.

If you buy direct from us you save the jobber's profit and at the same time you receive new, bright, clean roofing.

OUR GALVANIZED ROOFING

is TIGHT COATED, the galvanized metal being evenly spread so that every inch of the roofing is covered in such a uniform way that makes our roofing positively non-corrosive.

OUR PAINTED ROOFING

is made from the black sheets, each sheet being washed and thoroughly cleansed and painted both sides with the very best metallic red paint.

FOR THIRTY YEARS

we have been manufacturing galvanized roofing in all the different styles. We have maintained the standard of quality all these years which is known to the users of galvanized roofing as

THE WORLD'S BEST ROOFING

We believe it is to your interest to use our roofing for many reasons. First, our roofing is PROOF AGAINST FIRE, WIND, LIGHTNING AND RAIN

This alone is worthy of your consideration. It is much cheaper than slate or shingles, and will give better satisfaction than any other kind of roofing you can possibly buy.

Write us today for our FREE CATALOGUE

and prices. Satisfaction GUARANTEED.

THE NILES IRON AND STEEL ROOFING COMPANY, NILES, OHIO



Get The Hidden Treasure From Your Stump Land

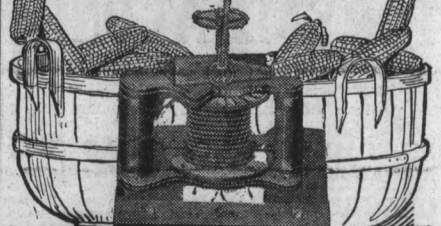
Every stump on your farm takes up from 100 to 400 sq. ft. of rich ground that would be yielding bumper crops. Take out the stumps! New land often yields \$200 to \$300 profit the first year.

HERCULES

All Steel Triple Power Stump Puller

Clears an acre a day. Make money clearing neighbors' farms. Sold on trial 30 days. Three years Guaranty. Special introductory price on immediate orders. POSTAL BRINGS BIG FREE CATALOG.

HERCULES MFG. CO.
137 23rd Street Centerville, Ia.



Feeding Roots:

More and Better Milk—Beef Mutton

ALL animals improve in condition and increase their product of flesh, milk, wool, etc., by being fed liberal rations of cut roots. No matter what else you feed, cut roots will improve the ration. They add a zest which means increased consumption of roughage and aid in digestion and assimilation. They put a top finish on market sheep and lambs. They put color and richness in milk and cream resulting butter.

Banner Root Cutters

for both hand and power, prepare roots in the best possible way. Cut so fine as to prevent all choking of animals. It's done with the "Non-Choke Curve Cut." Made in seven sizes. Write for free illustrated booklet. Every animal condition will be improved by feeding a ration of cut roots.

O. E. Thompson & Sons
Ypsilanti Michigan

Harvey Bolster Springs

prevent damage to eggs, garden truck, fruits or live stock on road to market. Make any wagon a spring wagon. Soon save cost—produce brings bigger prices—wagon lasts longer—horses benefited. Thousands in use. "My wagon rides like auto" says one user.

MADE LIKE FINEST AUTO SPRINGS

Same principle—same care—same high-quality steel in Harvey Bolster Springs as in finest automobile springs. In resiliency, durability and appearance they cannot possibly be excelled. The Standard Springs of America since 1889. Get a pair at your dealer. If not at dealer's write us. Insist on Harvey's. 40 sizes—fit any wagon—sustain any load to 10,000 lbs. Catalog and list of proof free. HARVEY SPRING CO., 752 17th Street, Racine, Wis.



Galvanized or Painted Roofing

Made of high grade open hearth metal. All galvanized Roofing and Siding have heavy coating of galvanized. Write to-day for free sample and mill price list No. 206. Send size of building, length of ridge, length of rafters and we will furnish free complete estimate of cost—without obligation on your part to buy—then make comparison and see the big saving. Also makers of galvanized shingles for houses.

30 Year Guaranteed Galvanized Roofing

Made of selected best grade No. 24 gauge basic open hearth metal with an extra heavy tight coating of GALVANIZED and FINE TIN. Write today for price list No. 60. When you buy from us you buy from the manufacturer.

Established 1877

THE SYKES METAL LATH & ROOFING CO.
511 Walnut Street, Niles, Ohio

DIRECT FROM MILL AT MILL PRICES

SAVE YOUR BACK

Stop lifting into wagon bed four feet from ground, as you do with high wooden wheels. Lift only two feet by equipping with low-EMPIRE STEEL WHEELS. ONLY 2 FEET FROM THE GROUND. Lifting reduced 50 per cent. No repair bills. No 30-day break-downs. Full easier over soft roads. DAVE and HENRY. Sizes to fit any axle. Write to TRIAL day for 80 Days' No Risk Free Trial Offer. EMPIRE MANUFACTURING CO. Box 890 Quincy, Ill.

As low as \$10

\$10,000.00

Backs This HERTZLER & ZOOK SAW

Portable Wood

This is the cheapest saw manufactured. Only \$10 saw to which a ripping table can be added. Guaranteed. A year money refunded and all charges paid if not satisfactory. Write for catalog. HERTZLER & ZOOK COMPANY Box 23 Belleville, Pa.