

MICHIGAN FARMER

AND LIVE STOCK JOURNAL.
PUBLISHED WEEKLY. ESTABLISHED 1843.

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

VOL. CXLVIII. No. 9
Whole Number 3930

DETROIT, MICH., SATURDAY, MARCH 3, 1917

75 CENTS A YEAR
\$2.25 FOR 5 YEARS

Marquette County Potato Club Work

By L. R. WALKER

IN January, 1916, the County School Commissioner, Simon R. Anderson, and the County Agricultural Agent, L. R. Walker, of Marquette county, Michigan, had a conference and at that conference decided to try and organize four or five potato clubs in various parts of the county. It was thought best to not have over five clubs and to have these where the most interest was shown for this particular kind of work. Mr. Anderson sized up his schools and picked out the various places where he thought interest could be aroused and leaders obtained.

After the various localities were decided upon the school commissioner and county agricultural agent visited each school in the vicinity and talked over club work. Its many benefits were explained and discussed but not over-emphasized. In fact, the chances of losing and the drudgery of working when the fish were biting or the sun boiling were made more emphatic than the bright shining side. These places were left alone for several weeks so that the boys and girls could talk the plan over together, talk it over with their parents and also with the prospective leader or leaders.

At the second visitation an organization was perfected if interest warranted it. It was found that the boys and girls in every place chosen by the commissioner were enthusiastic for the club except in one locality where the parents had made sport of the idea and discouraged their children from entering into such foolishness. Another locality ten miles from one of the chosen places clamored for a club so our number (five) was obtained without any difficulty. Each club elected officers and held monthly meetings. The meetings were conducted according to parliamentary law and if there had been a total loss of potatoes the members of these clubs would have received a vast amount of good which will be of everlasting use to them. It was a very difficult task to get the members of a club to talk in order to carry on their first meeting but in six months' time they were able to carry on an hour's program without the least bit of trouble.

The county agricultural agent gave talks to the boys on potato culture and visited nearly every plot early in the spring and advised with each individual as to cultivation, planting and other care for his particular plot. Each club was visited at planting time and a demonstration was made on treating the seed with formaldehyde and on how to cut the seed. The boys were advised to use one variety of seed and out of thirty-two reports, twenty-four grew Green Mountains. The County Potato Association selected the Green Mountain as the one variety to be grown in this county. The boys have helped in getting the variety generally distributed as most of them had to buy their seed and now they have seed to sell.

The boys were again visited at digging time and given instructions on

how to select seed potatoes by hill selection. They were also shown how to pick out potatoes for show purposes. The boys were given three plot visits during the season and the county agent was usually accompanied by



A Group of Finnish Boys Treating their Potatoes for Seed.



A Club of Finnish Boys and Girls in Richmond Township.



Bernard Nelson's Plot of Potatoes at National Mine, Marquette County.

the school commissioner, the local leader or a potato expert and sometimes by all three.

Each club held a local potato show during the last week of October. The county school commissioner and county agent were assisted in the local show contests by the boys' and girls' state leader, E. C. Lindemann, and Assistant Leader of County Agents J. W. Weston. The contests were based on the regular club requirements, that is, each exhibitor had to bring in a complete record of his work, cost, etc., with a story on "How I Grew my Potatoes."

These were carefully graded, the potatoes were judged according to quality, the yields were reduced to acre plots and judged accordingly and then they were also judged according to profit made on this basis. This makes a four-point basis for judging: Quality, quantity, profit, and story. Each exhibitor showed his best peck of potatoes. Much enthusiasm was shown at each show. Prizes were offered of one dollar, seventy-five cents, and fifty cents. Speeches were made by Mr. Lindemann and others at each show. The best pecks were carefully packed by the boys and sent to the State Potato Show which was held at Escanaba the first week of November.

Thirteen counties were represented with boys' and girls' club exhibits. Sixty-eight club members exhibited potatoes. Seventy-eight dollars were offered to club exhibitors. Marquette county was fortunate in securing a goodly share of the prizes, and the prize money, receiving in all \$41.00 of the \$78.00 offered.

Verner Felt of National Mine, received first prize of \$5.00 for the highest yield, he having a yield of 402.6 bushels per acre. Verner also received first prize on profit, his profit amounted to \$503.30. Frank Van Elsacker, of Northland, received second prize, \$3.00 on profit, and Bernard Nelson, National Mine, fourth prize on profit, \$1.00. Cleo Farm, National Mine, received fourth place on quality, prize \$1.00. The State Championship competed on the four-point basis, including quality, yield, profit and report and story with the score of each are as follows:

First, Verner Felt, National Mine, Marquette county, score 93; second, Cleo Farm, National Mine, Marquette county, score 80.57; third, Frank Van Elsacker, Northland, Marquette county, score 77.2.

The prizes were \$8.00, \$5.00, and \$3.00. Verner Felt, the state champion, had an average yield of 402.6 bushels per acre. His profit on an acre basis was \$503.30. His story scored 80, and his quality scored 90.

The county championships were decided by taking the average score of each county on each point. On this basis Marquette county received first place with a score of 90.57 and a prize of \$10.

Out of six first prizes given, Marquette county obtained four, with two (Continued on page 289).

The Michigan Farmer

Established 1843.

Copyright 1917.

The Lawrence Publishing Co.

Editors and Proprietors

39 to 45 Congress St. West, Detroit, Michigan
TELEPHONE MAIN 4325.NEW YORK OFFICE—381 Fourth Ave.
CHICAGO OFFICE—111 W. Washington Street.
CLEVELAND OFFICE—1011-1015 Oregon Ave., N. E.
PHILADELPHIA OFFICE—261-263 South Third St.M. J. LAWRENCE.....President
M. L. LAWRENCE.....Vice-President
E. H. HOUGHTON.....Sec.-Treas.I. R. WATERBURY.....Associate Editors
BURT WERMUTH.....
FRANK A. WILKEN.....
ALTA LAWSON LITTELL.....

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

TERMS OF SUBSCRIPTION:

One year, 52 issues.....75 cents
Two years, 104 issues.....\$1.25
Three years, 156 issues.....\$1.75
Five years, 260 issues.....\$2.25
All sent postpaid.
Canadian subscriptions 50c a year extra for postage.

RATES OF ADVERTISING:

40 cents per line agate type measurement, or \$5.60 per inch (14 agate lines per inch) per insertion. No advt. inserted for less than \$1.20 each insertion. No objectionable advertisements inserted at any price.

Member Standard Farm Papers Association and
Audit Bureau of Circulation.

Entered as second class matter at the Detroit, Michigan, post office.

DETROIT, MARCH 3, 1917

CURRENT COMMENT.

Boys' and Girls' Club Work. Our leading article in this issue describes the activities of boys' and girls' potato clubs in Marquette county. This report in common with others of its kind well illustrates the great value of this line of work properly conducted in any community. The boys and girls who engage in this work get a new viewpoint of agriculture. Often, too, they give to their parents and neighbors a different angle of vision with regard to not only special projects in which they are engaged, but to the possibilities of the business as a whole, since in very many cases the yields secured by these boys and girls are very much superior to those secured by their older contemporaries.

This report also serves to illustrate one phase of the broad work in which county agricultural agents are engaged in different sections of the state. By promoting this kind of work in a county where agriculture has not been largely developed, its development can be materially hastened and the county and its people may thus be benefited to a degree out of all proportion to the local cost of the work itself. Unquestionably this and other types of junior agricultural clubs should meet with local support and encouragement in every case where the boys and girls become interested in such a project.

Government Price Fixing. The economic evolution started, or at least augmented, by the European war, is affording many examples of the application of extreme theories which would scarcely have received consideration in any county under normal conditions. As a result of the shortage of food stuffs and the menace of impending starvation in the belligerent countries, various expedients have been applied to avert such a calamity.

The first of these expedients consisted of government control of available food stuffs and the fixing of maximum prices at which same could be sold to protect consumers from exploitation by speculators. It soon developed, however, that these expedients were inadequate so far as providing for future needs of the population are concerned, and the latest development in this problem of supplying food stuffs for a large industrial population, is the recent announcement by Premier Lloyd-George, of Great Britain, fixing the minimum prices to be paid to farmers for staple agricultural products for the ensuing seven years. According to press reports, these maximum prices have been fixed as follows: 1917, wheat, \$1.81 per bushel; oats, \$1.16 per bushel; potatoes, 78c per bushel; 1918-19, wheat, \$1.66 per bushel; oats 97c

per bushel; potatoes, 78c per bushel; 1920-23, wheat, \$1.36 per bushel; oats, 72c per bushel; potatoes 78c per bushel.

This announcement is apparently designed to stimulate production to the greatest possible extent by guaranteeing the farmers of Great Britain compensatory prices for their products. At the same time agricultural labor has been safeguarded by the fixing of a minimum weekly wage. The result of this step will be far reaching, extending to the British colonies and affecting the market for these and other staples in other producing countries to some extent.

This is but the application of the principle that so far as necessities of life are concerned, price is a secondary consideration, the first consideration being a supply of such necessities adequate to the minimum needs of the people who must depend upon them. It is also a recognition of the fact that such an adequate supply is dependent upon a reasonable assurance of compensatory prices for the product.

It appears that the principle of government price fixing in another line of production is to be given a trial in our own country in the near future. Every reader is familiar with the abnormal situation in the print paper industry. The great and unprecedented advance in the price of print paper, and the difficulty of obtaining an adequate supply at the advance encountered especially by small publishers, led to a preliminary investigation of this industry by the Federal Trade Commission and a proposition by paper manufacturers, that after going into all phases of the situation a price schedule for the product be fixed by the commission, a proposition which now seems likely to result in an agreement for such action.

What the ultimate result of this modern tendency may be cannot well be predicted but its development will be watched with interest by economists everywhere and its application to products of the soil will be of especial interest to the farmers of America as well as to the world at large.

The Sugar Situation. The recent insurrection in Cuba promised for a time to cut off an important source of sugar supply to this country, since it was expected that large areas of sugar cane would be destroyed by burning as a result of the insurgent movement. So far, this damage has not been as great as was feared would be the case, although it is said upon good authority that next year's sugar crop in Cuba can hardly be a normal one under prevailing conditions. Under these circumstances, and with the prospect that the United States may become involved in the European war, there will certainly be urgent need for every pound of sugar which can be produced in this country, since our domestic sugar product represents only about one-half of our normal sugar consumption.

On this account, an amicable adjustment of the differences between sugar manufacturers and beet growers ought to be effected on an equitable basis at the earliest possible date, to the end that domestic production may not be needlessly curtailed. Since all our sugar factories running at capacity cannot anywhere near supply the needs for domestic consumption, both sugar manufacturers and beet growers are likely to be joint losers from any curtailment of acreage which limits the operation of our sugar factories next year to less than their normal capacity, while the consumers of the state and nation may be subjected to the hardship of limiting the sugar in their diet to a still greater degree than would be the case with a maximum domestic production of sugar. Viewed from this point, a normal sugar production for the ensuing year is really a factor in preparedness, as that term

has come to be generally used and understood.

In this connection a number of beet growers have requested the publication of the results attained by beet growers under the so-called Ohio contract which is used by some Michigan factories. This contract bases the final settlement for the beets on the average price of sugar for this territory as quoted by Willet & Gray, of New York, for the months of October, November, December and January, which average was \$6.804 per cwt., which would be the price per ton of beets at loading stations, while growers who delivered at the factory would get forty cents per ton more, or \$7.204.

From present prospects—barring an early peace movement in Europe, which is hardly even a possibility at this time—there is every probability that the sugar market will be higher next year than it has been this year. In this case the differences between beet growers and manufacturers where such differences exist will be more a dispute of the principle involved than a difference of results under the flat rate or sliding scale contract. This fact should make the adjustment of differences more easy of accomplishment.

County Agent Work. As bearing on the value of the work done by the county agricultural agents to the farmers

of their counties a recent report of the activities of county agents in the north and west will be of general interest. According to this report the following definite results were accomplished in that territory:

Yields of corn in fields managed as demonstrations under supervision of the county agents increased on an average 12.8 bushels per acre over the average yields for the region.

Yields of wheat in fields managed as demonstrations increased 8.4 bushels per acre.

Yields of oats in fields managed as demonstrations increased 11.7 bushels per acre.

Alfalfa was introduced on 11,311 farms.

Several score registered stallions and rams and several hundred registered bulls and boars were placed on farms.

Nearly a thousand fine bulls no longer useful in their communities because of danger of inbreeding were saved from the block and transferred to other communities.

One hundred and forty-three cow-testing associations, ninety live stock breeding associations, and 142 hog cholera control associations were organized.

More than 200,000 hogs were vaccinated against cholera.

Better farm management was promoted through assistance given to farmers in determining the factors that make for success or failure in farm enterprises.

Farmers' exchanges and co-operative marketing associations were organized and effected large savings to members.

Three hundred and twenty-one water supply systems were introduced into farm homes.

Club work was carried on with more than 299,000 boys and girls. Over 24,000 of these engaged in profit-making projects, producing over \$509,000 worth of food products.

SEMI-WEEKLY JOURNAL DISCONTINUED.

We have just received notice from the publishers of the Detroit Journal that they will suspend publication on their Semi-Weekly on or about April 15 and that all Semi-Weekly subscribers on their list at the present time will be entered pro rata for the Daily Journal. This is another effect of the cost of white paper.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The concentration of German forces along the Holland frontier is causing no little anxiety among the Dutch people, and it would not be surprising if this action of Germany, together with the destruction of Dutch shipping in the U-boat campaign would lead to the severance of relations between the two countries and possibly to a declaration of war.—The British troops are forcing a wedge into the German lines near Bapaume, an objective of the English forces since offensive operations were started last summer. The Germans continue to hold the salient south of Ripont in northern France which resulted from a thrust made two weeks ago.—There has been little reported from the other war fronts. Late last week the Germans made a surprise attack and gained entrance to Russian lines in Galicia, but the advantage was lost to the Czar's forces in a counter action.—The English troops in Mesopotamia have made further gains against the Turks, which has enabled them to cross the Tigris river.

Germany is urging China not to join in the effort to force a discontinuation of the U-boat campaign. In her note to China Germany declares unqualifiedly that the U-boat war will not be abandoned. She offers, however, to respect the lives of Chinese and their property.

Scarcity of leather is forcing the people, of London, England, to use the wooden shoe. Already the city's school children are wearing this type of footwear, which now costs 73 cents a pair.

Both Norway and Sweden are facing political crises. Norway is now contemplating the formation of a coalition cabinet, while Sweden is discussing the raising of funds for military purposes.

Cartridge making machinery from Japan has been delivered in Mexico and will immediately be put in operation. Japanese experts accompanied the shipment and will set up and operate the machinery.

The federal forces in Cuba have driven the rebels from Canagney and the successful troops will now march on Santiago.

The economic crisis which is threatening the Austrian dual empire was the subject of an important meeting of Austrian and Hungarian ministers at Vienna early this week.

National.

In a series of tornadoes that swept portions of Alabama, Georgia and Mississippi on February 23, thirteen persons are known to have lost their lives and more than 100 were reported injured.

Four persons were killed and three injured in a wreck on the Pennsylvania Railroad near Bristol, Pa., last Sunday.

Last week congress passed the post office appropriation bill which included a provision barring the shipment of all liquors into prohibition states. The measure has not as yet been signed by President Wilson.

An English trader arrived in Baltimore harbor early this week armed with a five-inch gun. This is the largest gun yet known to be carried by merchant vessels during the present war.

Seven freight steamships with cargoes valued at \$15,000,000 sailed from New York for the submarine danger zone on February 25. Six of these boats were loaded with munitions and the seventh with supplies for the Belgian Relief Commission.

The army general staff bill on universal service has been transmitted to the senate, and provides for the training of four million men. Under its provisions all male youths of nineteen years would be subject to one year of intensive military training. The cost is estimated at \$472,000,000 annually.

Riots in New York City, Philadelphia and other places last week resulted in bringing the food question in this country forcibly to the attention of the whole nation. As a result many relief actions have been started. The federal government promises to make a thorough investigation of the conditions surrounding the distribution of food stuffs. Municipalities like New York City have turned in reports showing that the country suffers because of the exportation of an unusually large amount of the food stuffs raised in this country. In some places motor trucks are being used to get food from producing communities to the cities where railroad transportation has been impaired. A raising of embargoes may assist slightly in overcoming the distress in eastern cities. Official reports of health boards are to the effect that much of the reported famine is a mere myth, and that fewer families are now in actual want than in most normal seasons.

Eradicating Granary Weevil

By DON B. WHELAN

NEARLY every farmer has, at some time during his experience, had his stored grain infested with "weevil." It is liable to attack by several species of insects, that unless checked or killed before it is too late, will destroy or seriously injure the grain in which they are working. Wheat is probably the most frequently attacked by these insects, although they are often found devouring corn, barley and oats. Ground feed, such as cereals, bran, chicken-feed and flour are also subject to their attacks.

The chief insect marauders of the grain bin are the granary weevil, rice-weevil, saw-toothed grain-beetle, confused flour-beetle, cadelle and a few others. These are generally spoken of as weevil and the control measures are the same for all.

The weevil will eat a small hole in a grain of wheat in which it deposits a small white egg, after which the cavity is closed and to all appearances no damage has been done. But soon this egg hatches and the little white, footless grub starts in to satisfy its enormous appetite. The inside of the grain is eaten, leaving practically nothing except the outer shell. As the insect develops holes appear in the individual grains which are used when the adult beetle emerges. As the season advances and the price of wheat gets better, the quality and quantity of the grain generally becomes reduced.

The observance of two rules will do more to protect against these pests than any other methods, and if carefully carried out fumigation will, in most cases, be unnecessary. First, never put new grain on old grain in the bins. Second, clean the bins of the granary thoroughly each year before putting in new grain. If, at threshing time there is any old wheat left in the bins it should be placed in a bin by itself, even if the presence of insects has not been noticed. Where the new wheat covers the old in a bin there is a greater attraction to the insects which are sure to be present there, if anywhere, in the granary. In many cases the insects are already in the old wheat when the new is added and they are ready to begin feeding at once. The work of these insects causes the new wheat to heat, which renders it more favorable for their development. When once they get a good start they will over-run everything around the granary. If one suspects the presence of insects in the bin just previous to filling it with the new crop he should clean out all grain in the corners, cracks and crevices and destroy. If necessary a good fumigation should be done at this time as it will cost less and be more thoroughly done than would be possible after the new grain has been put in. On the other hand, if no insects are present a good sweeping will be sufficient and at the same time see that any holes or large cracks are closed. Very seldom are these insects brought into the granary from the threshing machine. They are either there to start with or find it soon afterwards.

Control Measures.

Probably the best and most universal method of controlling these grain-destroying insects is by the use of bisulphide of carbon. This, when of good quality, is a clear, almost colorless liquid, which on being exposed to air is rapidly converted into a gas. This gas being heavier than air rapidly settles through the grain and becomes strongest near the floor where the insects themselves are the thickest. This fluid can probably be purchased at any local drug store, or through them. Almost any wholesale

drug company sells it and one can get it direct from them.

To apply, first measure the bin to be fumigated and then get the number of cubic feet by multiplying length by the width and this result by the height. For every one hundred cubic feet in the bin use one pound of the bisulphide of carbon. The liquid may be poured directly on the grain by distributing it evenly over the surface. It will not injure the wheat for seed or for food after it has been aired. Probably a more general method is to place several shallow pans or plates on the surface of the grain and then into these pour the bisulphide. Evaporation will be a little slower but just as effective. If the grain is four or five feet deep, or deeper, it is advisable to get the fluid deeper in the grain. This can readily be done by means of a short piece of gas-pipe fitted with a wooden stick for its entire length. The pipe with the stick in place is thrust down nearly to the bottom of the bin, the stick withdrawn and the liquid poured down through the pipe. The stick merely prevents the pipe from becoming filled when thrust into place. If the bin covers quite a large floor space the above operation should be repeated in several places. As soon as the operation is finished quickly cover the surface with blankets or canvas and leave for twenty-four or thirty-six hours when it can be opened up and aired. The gas mixes very readily with air so that within an hour or so no odor can be detected. Do not take a lantern of any kind near the gas. It is highly inflammable and explodes when ignited and would be likely to cause a serious fire. If properly handled, keeping any light and animals away from the gas, no danger need be feared. Rats and mice as well as insects will be killed by this method of fumigation.

Where possible, any infested grain that is heated up to 130 degrees for a period of a few hours will kill the insect pests.

FARM NOTES.

Fertilizer for Corn and Beans.

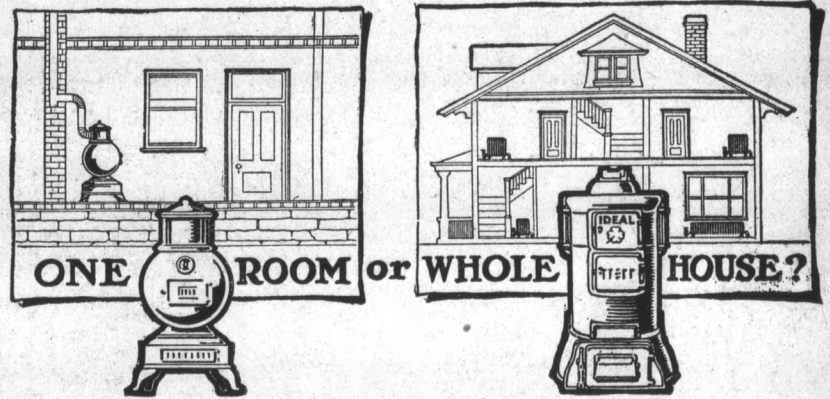
I bought forty acres of land last spring that had not been plowed for 17 years. It had not been pastured for three years, and I have plowed under a very heavy mass of clover and June grass and planted the field to potatoes and beans. I want to put it to corn and beans this year. Soil is dark sand with a good hard clay subsoil, very stony, and has a few scattering pine stumps left. Will it pay to use some kind of fertilizer, and how can I tell what to use or what plant food the soil may lack? How much should be used to the acre, and how should it be applied? Where can I send samples of the soil to be tested?

Isabella Co. E. E. K.

Practically all Michigan soils are deficient in phosphorus for the production of maximum grain crops, although a soil that has laid idle for so long is likely to be in a better balance so far as the elements of fertility are concerned than one which has produced grain crops frequently in a crop rotation. Having plowed under a heavy crop of clover and June grass, this should be fairly well supplied with humus and nitrogen, hence if a fertilizer is used, it is probable that a liberal application of acid phosphate would be the most certain to give profitable results.

An analysis of the soil is of little value in determining what plant foods to use, since such analysis does not differentiate between plant food which is in a condition to be available for plant use and that which is in forms not readily soluble and consequently unavailable for use of growing plants. The most profitable amounts of plant food to use on any given soil can be accurately determined only by repeat-

Do you want to heat-



You have fussed and shivered long enough—trying to heat your house with old fashioned methods which yield little comfort with great labor and many disappointments. Why not make your whole house just like June, even in below-zero weather? An IDEAL

heating outfit will do this for you and will last as long as the building stands and never need repair or overhauling.

The smallest cottage or largest building can be equipped at present attractive prices to suit anyone's pocketbook.

These IDEAL outfits heat the whole house with one fire and require no more care-taking than to run a stove for one room.

IDEAL Boilers burn fuels of any locality, hard coal, soft coal, screenings, pea coal, slack, wood, slabs, etc., and give heating results that open up the whole house with good, healthful heat throughout chilly days or bitter cold nights—not necessary to have a cellar or water pressure.

The lasting heat that costs the least

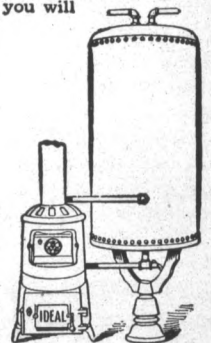
It is wise even to increase your borrowing at the bank in order to have IDEAL heating this winter for the comfort and savings that IDEAL heating will give you will make you more money than the bank interest you may pay.



AMERICAN Radiators and IDEAL Boilers change any house into a home.



A No. A30 IDEAL Boiler and 262 ft. of 38-in. AMERICAN Radiators, costing the owner \$210, were used to heat this farm house, at which price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions. The IDEAL outfit is the only feature of the house which is never worth less than you paid for it.



Our IDEAL Hot Water Supply Boilers will supply plenty of warm water for home and stock at small cost of few dollars for fuel for season.

Get this book about Ideal Heating

Don't put it off another day. Read up and get all the information as to comfort, cost, and fuel economy that an IDEAL Boiler and AMERICAN Radiators will give you. Write today and get a copy of "Ideal Heating." Puts you under no obligation to buy.

Sold by all dealers. No exclusive agents.

AMERICAN RADIATOR COMPANY

Write to Department F-3 Chicago

Red Seal Dry Batteries

Spark Strongest—Last Longest Try feeding fat, hot sparks from Red Seal Dry Bat-

teries and get the good, continuous service required to run your Auto, Gas Engine and Tractor most efficiently and economically. Red Seals give service plus power—and minus trouble. Are Guaranteed—

Best For Gas Engine and Automobile Ignition Also For Phones, Bells, Hand Lanterns, Etc.

Your dealer will gladly supply your wants and advise you of the superior qualities of Red Seals. Accept no other. The Guarantee Protects You. Ask Your Dealer.

Send For This Valuable Book

Send us your dealer's name and we'll mail you free and postpaid, copy of this book, which has been adopted as text book by 12 State Agricultural Colleges and numerous Agricultural High Schools. We will also send our catalog containing pictures and descriptions of Everything Electrical for Home and On the Farm.

Manhattan Electrical Supply Co., Inc. 104 S. Fifth Ave., Chicago

New York St. Louis San Francisco
Factories: Jersey City, N. J., and Ravenna, Ohio

Free

How To Run the Gas Engine—Simplified

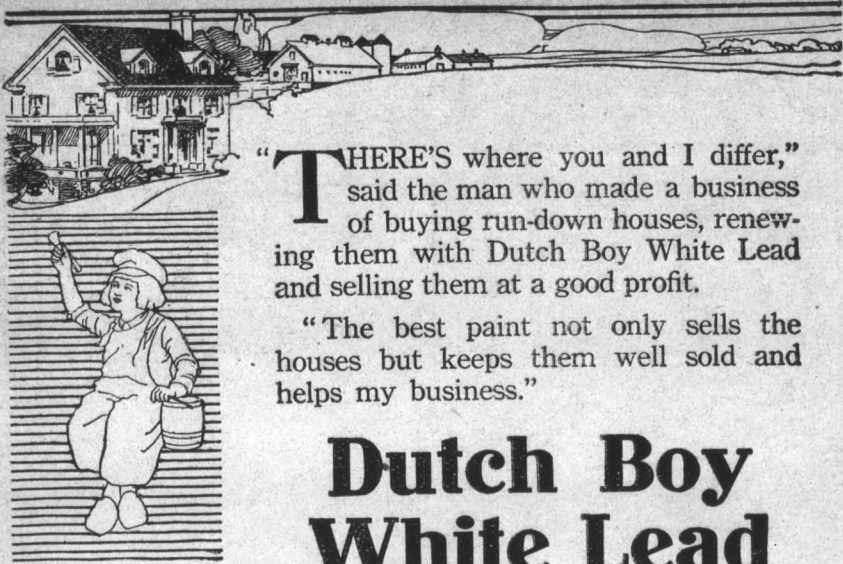
Write for Book Today



FARM WAGONS

High or low wheels—steel or wood—wide or narrow tires. Steel or wood wheels to fit any running gear. Wagon parts of all kinds. Write today for free catalog illustrated in colors.

ELECTRIC WHEEL CO., 35 Elm Street, Quincy, Ill.



"THERE'S where you and I differ," said the man who made a business of buying run-down houses, renewing them with Dutch Boy White Lead and selling them at a good profit.

"The best paint not only sells the houses but keeps them well sold and helps my business."

Dutch Boy White Lead

mixed with pure linseed oil makes the substantial, the economical, the lasting paint, whether you are painting for a customer or for yourself.

The white lead coat on the exteriors of all farm buildings covers them with a film that sticks unbroken through all extremes of weather. No blotches, no scraping or burning off when you want to repaint.

On inside walls and woodwork the white lead mixed with flattening oil makes possible in any home the soft, rich, velvety—and yet washable—finishes which give such a charming background to your furniture, draperies and pictures.

For valuable information on painting ask us for Paint Points No. 92

NATIONAL LEAD COMPANY



New York Boston Cincinnati
Buffalo Chicago San Francisco
Cleveland St. Louis
(John T. Lewis & Bros. Co., Philadelphia)
(National Lead & Oil Co., Pittsburgh)

Dutch Boy Red Lead

in paste form, for use on all metal work will save many times its cost by preventing rust. Simply stir in linseed oil and use like white lead paint.

HELPER MIXERS



MAKE CEMENT WORK EASY

Just the machine for putting in sidewalks, curbs, foundations, barn floors, etc. Built strong, mixes perfectly, and lasts years. Run by hand or power. Sold on trial. Write for free literature and prices.

SUPERIOR MFG. CO.,

925 Concrete Ave., Waterloo, Iowa

20 Packets Seeds—10c.

We want every reader to test "HARRIS SEEDS THAT HUSTLE." Send 10c. now—before you forget—for this mammoth collection. We send you 20 separate packets finest varieties—one each—of Beets, Carrot, Cabbage, Celery, Cucumber, Lettuce, Cress, Muskmelon, Watermelon, Onion, Parsley, Parsnip, Radish, Salsify, Spinach, Tomato, Giant Mixed Peppies, Calendula, Cosmos; also Children's Botanical Garden, a collection of flower seeds. With this collection we send rebate check for 10c. and big catalogue of world's finest seeds. HARRIS BROS. SEED CO., 950 Main Street, Mt. Pleasant, Mich.

WHITE SWEET \$3.60 CLOVER 3 Per Bu.

50 LBS. UNHULLED SEED, BAGS EXTRA 25 CENTS EACH
YOUNG-RANDOLPH SEED CO., Owosso, Mich.

CLOVER AND TIMOTHY 4.00 BU.

45 LBS., BAGS EXTRA 25C EACH, 20 PER CENT CLOVER
YOUNG-RANDOLPH SEED CO., Owosso, Mich.

CLOVER SEED

Write us and we will send free sample envelopes. Then send us a sample of your clover seed and let us make you an offer either machine run or after cleaning. W. L. IRELAND & CO., Grand Ledge, Mich.

Dakota Hardy ALFALFA
Does Not Winter Kill
Our Disco Alfalfa and Seed Book gives full information about Dakota Hardy, Baltic and Registered Alfalfas. Sent free. DAKOTA IMPROVED SEED CO., 804 Lawler Street, Mitchell, South Dakota

For Sale SEED OATS. New Victory just imported from Sweden. \$1.00 per bushel.
E. A. BLACK, R. 3, Howard City, Michigan

BARLEY VERMONT CHAMPION. Two rowed. First Prize at Michigan State Fair '15-'16. \$2.00 per bushel, bags included. Order early.
J. CARL JEWETT, MASON, MICH.

Seed Oats and Corn. Best Varieties.
Send for circular. F. A. Bywater, Memphis, Mich.

Isbell's First Choice Corn

Quick Maturing —Heavy Yield

Isbell's first choice corn matures in 85 days after planting. With its deep-rooted, hardy stalks it defies draught and is a consistent heavy yielder—an Isbell product famous for many years.

Nearly every stalk produces two large ears of golden yellow dent corn that weighs out more pounds of shelled corn per bushel of ears than most late varieties.

Isbell's First Choice

corn is only one of the many excellent varieties that we grow. We specialize in Seed Corn. Write for free samples and prices.

Isbell's Farm Seeds are Michigan grown, you buy direct from the growers—a money-saving feature. And you get high quality seeds.

Isbell's 1917 seed annual is now ready. Write for a copy. Free for the asking.

S. M. ISBELL & COMPANY
827 Pearl Street Jackson, Mich.

Eureka Potato Planter

Raise Potatoes This Year

Increase your profits by using our potato planter. Opens furrow, drops seed any distance or depth, covers, marks for next row—all automatically. Puts on fertilizer if desired. One man operates and seed seed drop. Made of steel and malleable iron, assuring long service and few repairs.

Send for Catalog

EUREKA
MOWER
CO.
Box 832
Utica,
N. Y.



Treated and air dried. **SEED CORN** With 95% Germination. Guaranteed upon arrival. Stock complete, nine varieties. Price \$2.50 per bushel. Big Four, Silver Mine, and Swedish select seed oats, stock fine, price \$1.00 per bushel. Also Barley and Buckwheat seeds. Write for samples and circular.
The Horn Bros., Co., Seedsmen, Monroeville, O.

ed experiments on the soil itself. For corn, however, fairly liberal applications of phosphorus will pay on average soils of this type. The writer uses from 300 to 500 pounds of acid phosphate sown broadcast for corn. A similar application might be equally profitable on beans, but probably better results in the bean crop would be secured if it were sown with a fertilizer drill adjacent to the row by using a drill feed on each side of the same for distributing fertilizer.

The question of supplementary fertilization is bound to be an individual one in practically every case, because of the great variety of conditions which obtain on different soils, both because of the variation in soil type and previous management which is a great factor in soil fertility.

Seeding Alfalfa.

I have a field that was summer-fallowed last year, 1916; it is clay loam. It is covered with stable manure, about 30 loads to the acre. Would you advise me to sow alfalfa on it; if so, how much to the acre?

Osceola Co.

J. F. C.

This enquirer does not make it wholly plain whether this land was sown to grain after being summer fallowed last summer. From the heavy application of stable manure that has been made to it, however, it would appear that this is not the case. Undoubtedly this kind of preparation would insure a profitable stand of alfalfa, and there is no doubt but that alfalfa is a profitable crop to grow on any Michigan farm. With the preparation which this soil has had, particularly since a large surface dressing of stable manure has been given, it would probably be better to sow alfalfa seed with a light nurse crop of oats or barley early in the spring as soon as the soil can be properly surface fitted. If good seed is obtained about ten to twelve pounds per acre will be sufficient.

It might be well to test this soil for acidity, and if an acid reaction is obtained it will be profitable to give a liberal application of lime. The application of this large amount of stable manure, however, may have obviated the necessity of applying lime, especially since some clay soils do not require this treatment for success with alfalfa. The soil or seed should be inoculated with the bacteria peculiar to the alfalfa plant for the best results.

Beans on Sod Ground.

I would like to know if it would be advisable to plant beans on timothy and clover sod from which two crops of hay have been harvested.

Gratiot Co.

SUBSCRIBER.

A clover sod is the best possible place to plant beans. A timothy and clover sod such as is described should give good results if plowed early and thoroughly fitted before the crop is planted. Plowing sod ground just before planting time is risky, for the reason that plowing disturbs the capillary connection between the soil and the furrow slice and unless there is plenty of rain the crop is very likely to suffer severely from drouth.

LILLIE FARMSTEAD NOTES.

All of our live stock are doing unusually well this winter. Cows, horses, young cattle, sheep and hogs, yes, and the hens also. I attribute this to three things. First, good feeding; that is, regular, systematic feeding by good careful men, men who have a notion how feeding should be done, who know the effect of having the feeding done every day alike, and at the same time of day as nearly as may be, also who know how to feed enough and not too much.

Second, plenty of good hay. Before we began to grow alfalfa it was no uncommon thing to be short of hay for so much stock and we had to feed straw once a day, etc. This year, however, we have had all the hay we needed and being cheap we have not stinted the hay ration at all. Good hay is

a mighty good foundation ration. Of course, we have had silage, but have not fed as liberal a ration as some years because there was not enough. We fed the last of the pea vine silage February 10, and are now feeding sweet cornstalk silage. Some of it spoiled around the edge of the silo at the top but it kept remarkably well and is good, the cattle like it very much. The cows get a ration twice a day but the young cattle only get silage once a day. By this means we will, I think, have enough to last till we have good pasture and perhaps until we get pea vine silage again.

Third, the weather has been good for feeding. Steady cold weather is a great tonic to keep up the appetite. It makes animals hungry and keeps them hungry. When we have open winters the animals don't seem to be as contented, and don't have as good appetites, and hence do not seem to thrive as well.

Of course, all of our live stock get a little grain, even if it is high in price. The cows are fed in proportion to the milk they give, but even dry cows get two pounds of grain per day. All our young cattle get a little, even the little calves that drink skim-milk, and besides all the cattle get a little dried beet pulp this year. They all like it and I think it is a good conditioner, even though the food value is not so very high.

Yet I must emphasize the fact that with all conditions good a poor feeder can not get results. The man is the main factor after all. A high-class man can get fairly good results, even where the conditions of feed and weather are not so favorable.

Wool.

A Grand Rapids lawyer, farmer, asked me the other day if I had sheep. I replied, a small flock, thirty ewes. He remarked that was just the size of his flock. "Do you know," he remarked, "we are going to get \$1.00 a pound for our wool this year?" He went on to remind me of the commandeering of all the Australian and New Zealand wool by the British government. It doesn't seem possible. We have all heard our fathers tell about \$1.00 wool in war times, but then we in the north could get no cotton. That would make a great difference. Many of us would wear cotton clothes rather than pay such prices for wool. Then again, we know how now to use shoddy to much better advantage than then. Old clothes shredded and mixed with wool make cloth that only an expert can tell from pure, genuine wool. Perhaps it is just as good as long as we don't know.

But at any rate, wool will bring a good price. The market now it seems is more than half the \$1.00 price, and many people seem to think that it will go higher. One reason why lambs and sheep are selling for such extra prices is on account of the value of the wool on their backs. And for the same reason cattle bring more than they would if leather was not so high. Well, the sheep man can afford to wear woolen clothes, and the cattle man leather, if any common people can. That is some satisfaction.

COLON C. LILLIE.

HOW TO BUILD A CONCRETE GRANARY.

In building a concrete granary never fill in under the floor with dirt, but use stone or gravel. Lay floor with four inches of grout then lay barbed wire both ways over the floor, spacing the same about sixteen inches apart. Then lay two inches of cement over grout and wire. Build side walls eight or ten inches thick to height desired for granary, then paint floor and inside walls with a hot liquid asphalt paint, and you will have a water and rat-proof granary good for a thousand years.

Lapeer Co.

J. W. SCHOCK.

Buying the Cow

WITH scarcity of feed and ever increasing price of grain many farmers are undecided as to the plausibility of buying feed or disposing of some of the less desirable cows. In a horse trade there is always a chance for a loose shoe, but in forced cattle sales of this kind, the chance for a trick is even greater. This article is not intended for those who are able to read a cow's reputation at a glance, but for the unsophisticated.

In buying a cow it is foolish indeed to ask the owner if the cow in question is a good cow, and gives a quantity of milk for a long period, and if she is a good tester, for the chances are he will say she is the best in the bunch, if you are unable to judge, it is wise to believe there is a reason.

A cow may have the appearance of being as gentle and calm as Mary's little lamb, and at milking time may conform closely to the beast mention-

if you find her tongue split, you may know she is beyond redemption. There may be none of these signs. She may have worn some of the advertised anti-sucking devices. Carefully examine her nose. If there are marks or anything that looks unnatural, call for an explanation. If you find the partition in her nose has been pierced you may know it was not done to add to her beauty. She may be headstrong and has carried a ring, and she might not lead at all. Examine her body carefully. If you should find by rubbing your hand over the body, small shot-like pimples, let her alone, it indicates tuberculosis. Examine her udder; if bunches, large or small, appear in any of the quarters, it indicates garget or mammitis. Not only a source of trouble, but is easily transmitted through the entire herd by the hands of the milker. If teats are not perfectly smooth and uniform, look for an opening on the side. If malformation



There Are Several Ways of Exercising the Sire.

ed in Revelations, not with seven heads and ten horns, but with seven hind feet.

There are many ways to determine a kicker. Step up to the cow and place your hand on her back and along the right side. If you find bumps and abrasions, the chances are she has been pounded with a milk stool. To substantiate this fact, stand well forward and with your left hand feel of her left leg, just above and below the hock. If you find bruises there it is evident she has kicked the milker and he has kicked back. Sometimes a cow's hind feet are stropped together. In such cases the hair will be rough below the ankles and worn off on the outside.

If only one foot seems to have been stropped, look at the skin at the base of horn on opposite side. If skin looks rough and brittle, you can bet she is a jumper and has been tied down. If she has no horns look at her nose. If the hair has been rubbed off by the noseband of the halter, you may form your own conclusions.

Again, there may be none of these telltale marks, and yet she may be a full cousin to the cow that jumped over the moon. Look at the back of her neck; if the hair is off and the skin worn smooth, she has carried a poke, and if skin on both shoulders, top of neck and brisket have been pierced with some sharp instrument, it is safe to venture a guess she has carried some device to keep her from crawling through the fence.

When hair is rubbed off from top of neck, it indicates something far more serious than jumping. She may suck herself. In such cases the hair will be worn from the sides of neck, caused by wearing a box around her neck, and her shoulders may be made sore by nails being driven into sides of box and sharpened. Open her mouth;

is present, milk will spurt from side of teat. Such cows are undesirable at any price. The writer has three such cows in his herd and knows whereof he speaks.

With the view of purchasing, never go to look at a cow in the morning. Make it a point to appear on the scene just before milking time at night. If you don't you may get a cow that leaks her milk for when the udder is not distended it is difficult to detect. A close observer will notice a few drops of milk beneath the cow. If this is not present, an odor different from that of the stable can be easily detected.

In buying a cow, the buyer must use his judgment, being governed entirely by the form of the cow. There is but one dairy type, and that type indicates dairy ability, and even at that the very best judges will be unable to select a good cow every time.

There are but four milk breeds. Guernseys, Jerseys, Holsteins and Ayrshires. Occasionally we find a dairyman with a herd of Durhams that show remarkable results at the pail, at the same time they belong to the beef class. Some draft horses show remarkable speed, the Clydesdale, for instance. They are not trotters, but are in the draft class.

The true dairy cow has large, full, mild, intelligent eyes, broad forehead, indicating nerve force, and nerve force is milk, and where we find nerve force, we find a rugged backbone, nature's way of protecting a large spinal cord. Between each section of the backbone a nerve branches off from the spinal cord, runs down between the ribs and connects with the mammary veins in the abdomen. The larger these nerves the farther apart will be the ribs. This is what gives the dairy cow the loose, lank appearance. She should have great depth of body, especially heart girth, and a wedge shaped body. The



Over a Million Users!

P. M. Sharples made the first separator in America (38 years ago). Sharples has been the foremost and highest-class American separator ever since. The Sharples Separator factories are the largest and longest-established in America. Sharples machines are found in every dairying country of the world. The reason for this popularity is that Sharples separators have invaluable patented advantages found on no other make.

SHARPLES

SUCTION-FEED

CREAM SEPARATOR

- the only separator that will skim clean at widely-varying speeds
- the only separator that gives cream of unchanging thickness—all speeds
- the only separator that will skim your milk quicker when you turn faster
- the only separator with just one piece in the bowl—no discs, easy to clean
- the only separator with knee-low supply tank and a once-a-month oiling system

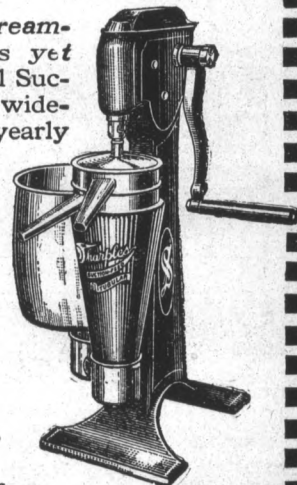
The Sharples has entered a new field of cream-saving which no other separator has yet touched. This is owing to the wonderful Suction-feed, which enables clean skimming at widely-varying speeds—which saves \$100 yearly (sometimes more) on the average farm, over every other separator.

The Sharples is not only capable of doing good work, but will always automatically do good work under the most unfavorable conditions. We have spent years of experiment in perfecting a separator that is an Insurance Policy against Carelessness. That ideal has been realized in the Sharples Suction-feed. Write for catalog to Dept. 18.

Sharples Separator Co., West Chester, Pa.

Also Sharples Milkers and Gasoline Engines

Branches: Chicago San Francisco Portland Toronto



KALAMAZOO SILOS

Will Solve Your Silo Problems

They're built to meet the exacting farmers' needs and are the best in design, material and workmanship—combining every desirable feature a silo should have and embodying the "know how" acquired through more than twenty years experience in silo building.

Glazed Tile Silos

This construction is fire-proof, frost-proof, storm-proof, decay-proof, vermin-proof. Galvanized reinforcing. Requires no paint, no upkeep expense or repairs. First cost is the last cost—a written guarantee goes with every one.

Wood Stave Silos

Your choice of four time-defying woods. The Kalamazoo is the only factory where this outfit is manufactured complete from the raw material to the finished product. Our silos are quickly and easily erected by inexperienced home labor.

All Kalamazoo Silos are made with Galvanized Steel Door Frames, continuous doors, forming safe ladder entire height of silo. Write today for our free descriptive booklet, and early sales plan. KALAMAZOO TANK & SILO COMPANY, Dept. 100 Kalamazoo, Mich.

A Guarantee That IS a Guarantee

When you select a pump be sure and get the right pump the first time. Our expert engineers will help you make a selection from more than 300

GOULDS PUMPS

FOR EVERY SERVICE

Hand, windmill, engine and motor driven. All rigidly tested. Send for our new free book. Pumps for Every Service. Address Dept. 19.

The Goulds Mfg. Co.
Main Office and Works
Seneca Falls, N. Y.

We guarantee every pump recommended by our Service Department for given conditions to operate successfully.

Goulds Fig. 1631 "Pyramid" Power Pump for pressure or elevated tank water systems

Goulds Fig. 1633 Lift and Force Pump for hand-pumping

Branches: New York Boston Philadelphia Pittsburgh Chicago Houston Atlanta

I MET HIM ON THIS VERY SHIP!



"Read this little story. It was my turning point as a manufacturer of cream separators."—Wm. Galloway.



It was within an hour of sailing time. I was on my way home from Europe five years ago. The Mauretania lay beside her Liverpool wharf. Everybody was hurrying to get on, as we were to sail at five o'clock. Suddenly, without warning—without a propeller turning—she commenced to pull away from her moorings. The gang planks cracked—broke loose—and there was quite a commotion as the mighty Mauretania tore loose from her moorings and floated out into the water. In the excitement I met a man who was leaning over the rail who looked at me and we laughed together. Then we just naturally got acquainted like people do when they are traveling. He was J. J. Berrigan of Orange, New Jersey, the famous cream separator expert and inventor. I had never seen him before but I had heard of him. I told him I was from Waterloo, Iowa, and he said, "You are Galloway." I soon found out he was the great cream separator expert and a man I was glad to meet. Naturally

WE BECAME WELL ACQUAINTED

He told me what he had done in perfecting cream separator patents and improvements. I told him we were just the man I was glad to get acquainted with. After the Mauretania had been lashed to her wharf again, the excitement was over, and we pulled out of Liverpool several hours late—Berrigan and I began to talk cream separator, and every day after that we spent several hours together visiting. I told Mr. Berrigan that we were perfecting what I thought was the best cream separator ever produced, and I also told him if he would come to Waterloo and put on the finishing touches, go over the separator, test it, criticize it, and fault with it wherever he could, and suggest any possible improvements, I would pay him well for his time. In a few days after we landed in New York he did come to Waterloo. He said our separator was one of the finest designs he had ever seen, and with the few recommendations which he made, he pronounced it O. K.—good as the best—and better than many of the separators on the market today. Our engineers, designers and separator builders had produced a machine with graceful lines, simplicity of construction, combined all the good features and left out all the faults. Mr. Berrigan commended us on the work and immediately put his stamp of approval upon this machine. That's why I say

WE PERFECTED THIS SEPARATOR

before we offered it on the market. We put out in the hands of farmers and dairymen enough of these separators to know that they would stand up under any test, whether operated and used in the kitchen, the milk house, the creamery or elsewhere, used two or more times per day, every day, week after week, month after month. I just want you to try it. If you like it, buy it. If you don't, send it back. We pay freight both ways. If the New Galloway Sanitary Separator is as good as I say it is you can't afford to buy any other kind. If it is not as good as I say it is, I could not afford to make this ninety day trial offer and I could not afford to guarantee it for ten years.

Get My New Low Prices

AND READ MY 1917 BOOK ABOUT CREAM SEPARATORS

It tells of how we took four years to design and perfect this separator, to build into it every good cream separator feature and retain its beautiful proportions. How we did not build it down to a price, but built it up to a high standard in our own factories right here in Waterloo. It tells how we build Galloway Sanitary Separators from the ground up. How they are designed and many other separator secrets and facts. A meaty, exact, concise, truthful book about cream separators, gasoline engines, manure spreaders, tractors and other implements we manufacture. Why, by selling direct, I can make a machine as good or better than any high priced separator sold through other systems. These are a few of the reasons why I want you to get this book. It tells the whole story. It tells the truth. It tells the

facts. Ask for it today. A postal gets it. Don't delay. A reading will save you dollars in buying.

Indisputable Proof!

Have operated several different kinds of separators. Galloway Sanitary skims as close and runs lighter than any. J. E. Ricketts, Paddensburg, Mo. I wouldn't exchange it for any high priced separator. E. F. Loughan, Carthage, Mo. Your No. 9 separates perfectly at rate of 800 lbs. per hour. (Only guaranteed for 750 lbs.) S. S. Brockway, Greenville, Pa.

Try a Galloway Sanitary Cream Separator in Your Dairy for Ninety Days

Stand it side by side with cheaper machines and you will see the difference in material and workmanship, design and skimming qualities. Stand it beside the highest priced machines, test them together for months! Higher priced machines will not run any easier or skim any closer and cannot be more perfectly sanitary or better built. We want you to be the judge—we will take your decision as final. Separators shipped from Waterloo. Council Bluffs, Kansas City, St. Paul, or Chicago, whichever is nearest to you.

Wm. Galloway, President

WM. GALLOWAY COMPANY

183 Galloway Station, WATERLOO, IOWA



Note these few strong, simple, sanitary parts. Easy to wash clean—no rough edges—no sharp corners. Bowl catches any foreign matter in the milk. Only two shafts in the whole gearing—both of high-carbon steel in long, perfectly fitted bearings. All gear shaft and both bowl spindle bearings supported by one casting—the gear case. All the working parts run spray of oil. Simple, effective driving clutch on crank shaft.

4 Good Sizes From 375 to 950 lbs. Capacity per Hr.

Cream Separator Manufacturing Specialists R-39

backbone should rise high between wide hips. This does not indicate any marked milking ability, but helps to insure ample room for organs of maternity.

The udder should extend well forward and well back, making a long connection with the body. The thighs should be thin and far apart. The flank high, and the teats of good size and far apart. Small teats in front and large ones behind are not desirable. Don't judge a cow entirely by the udder. A large udder usually goes with a good cow, but if she does not have dairy form, she can't fill the udder long enough to make her profitable to her owner.

Cows coming fresh for the first time are usually about two years old. At this age the teeth will show four permanent incisors and four temporary ones; at three years of age there will be six permanent incisors and two temporary ones, one on either side and both nearly gone; at four years of age there will be eight permanent incisors, and known as the full mouth at five years all teeth will show wear, the two center ones the most. After the age of five the teeth become permanently spaced and the only change will be from natural wear.

Van Buren Co. VAN V. RYNO.

HOLSTEIN BREEDERS MEET.

The West Michigan Holstein Breeders' Association held its annual meeting February 14 at Grand Rapids, with full attendance and much interest and enthusiasm shown. Officers were elected as follows: President, M. W. Willard, Grand Rapids; vice-president, B. E. Hardy, Owosso; secretary-treasurer, W. R. Harper, Middleville; executive committee, F. H. Williams, Allegan; Mort Booth, Grand Rapids; Wm. Anderson, Kent City; H. E. Rising, Woodland; T. F. Blanchard, Sand Lake.

President Willard, in his annual address, recommended that spring and fall consignment sales of blooded stock be held each year and it was voted to hold the next sale about June 15 and nothing but sound, healthy cattle that are right in every way will be accepted. Secretary Harper was elected as sales manager and he will be assisted by a committee composed of B. E. Hardy, of Owosso, P. Buth and E. W. McNitt, of Grand Rapids, and T. F. Blanchard, of Sand Lake.

The Short-time Tests.

President Willard in his annual message, strongly condemned seven-day tests and the craze for short-term records. He believes in publicity methods and recommends the showing of Holstein cattle at the fairs. Honesty and fair dealing as important factors in building up the Holstein business were discussed by the members and the thought was brought out that none can be crooked and get away with it. The West Michigan Association is aiming to make a friend of each purchaser at the consignment sale and to build up a substantial business that will draw buyers here from distant states.

The two leading speakers of the day were H. H. Halladay, of Lansing, president of the Michigan State Live Stock Sanitary Commission, and John B. Newman, of Chicago, the new publicity man for the Holstein-Friesian Association of America.

Michigan Cows Healthy.

Michigan live stock is in as healthy condition as that of any state in the Union, was the conclusion of Mr. Halladay. Much praise was given the leading Holstein breeders for cleaning up their herds and Michigan, following the lead of Wisconsin, is taking steps toward compiling lists of accredited herds. The dairy states are trying to get together on this plan but there has been trouble so far because of lack of uniform regulations. For example, one state requires five temperatures taken in tuberculin tests, another state six,

and still another seven. Mr. Halladay says that Michigan is willing to meet other states on some common ground and it is the desire to work out some plan of reciprocity with neighboring dairy states. When herds are shown to be free of disease and are on the accredited list tests will be necessary only once a year. Michigan breeders were advised to buy stock only from herds known to be subject to systematic tests. While the tuberculin test is not infallible Mr. Halladay says that it is the best method we have to date.

The National Association of Holstein breeders has appropriated the sum of \$5,000 annually, to cover the next five years, in exploiting milk and dairy products, especially Holstein milk, as a superior food, and John V. Newman, of Chicago, has been selected to tell of Holstein milk from the housetops and to lead in the publicity campaign. "Back me up, you breeders of Michigan, with quality," was the appeal of Mr. Newman at this meeting. "You are manufacturers of the greatest food product in the world. One-sixth of all food consumed consists of milk and dairy products. As to your sales, be honest and fear the law. You can't cheat a man and get away with it. This applies to the buyer of cattle as well and if he puts a clean animal into an unclean stable he must not blame anybody but himself. This country is really hungry to know where to go to get good dependable blooded Holstein stock. Tone up your public sales, make them gilt-edged, attract outside buyers and make friendships that will last.

Consumption of Milk Increasing.

"Great areas of this country are going dry in this prohibition movement, which will mean largely increased consumption of milk in shakes and various preparations at soft drink places, and of ice cream. French soldiers are now being fed large quantities of milk, after careful experiments at Pasteur Institute showing its wonderful food value. In Bulgaria, a country of six million people, 3000 of them are over 100 years old. The records show one Bulgarian who is 180 years old and still living, and others who are past the century mark and still able to work. The people there live on milk and coarse bread very largely. Milk is also the cheapest food, no peel, no core, no fat, no bone. All these facts we are putting into book and pamphlet form, which will be spread broadcast everywhere."

The West Michigan Association will hold its next meeting April 4 in Grand Rapids. ALMOND GRIFFEN.

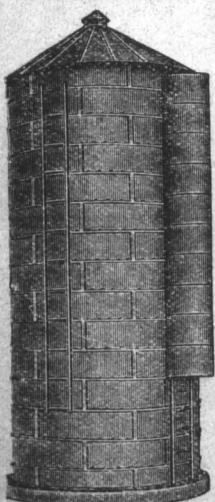
THE MICHIGAN DAIRY SHOW.

The Michigan Dairy Show will be held in the Armory at Detroit, March 6-7-8. All told, there will be nine distinct organizations connected with Michigan dairying, that will hold their annual or quarterly meetings on these three days. The general management of the event is in the hands of the Michigan Dairymen's Association, the parent organization from which the various branch organizations of butter-makers, ice cream manufacturers, market milk producers, etc., have sprung.

On the afternoon of the first day, March 6, a meeting of the Michigan Milk Producers' Association will be held at which addresses will be delivered by President N. P. Hull, Field Agent R. C. Reed, General Manager W. E. Skinner, of the National Dairy Council, and others. Prof. Anderson will deliver an address Thursday evening, March 8, on the "Cost of Milk Production."

Other organizations meeting during the three days of the convention are: Creamery Owners and Managers, Butter-makers, Ice Cream Manufacturers, Market Milk Dealers, Milk and Dairy Inspectors, Poultry, Butter and Egg Shippers, and Pontiac East-Michigan Holstein-Friesian Association.

A copy of the program, giving list of prizes offered for cheese, creamery and dairy butter will be mailed on request to Secretary George H. Brownell, 142 Lafayette Boulevard, Detroit, Mich.



ROSS METAL In-de-str-uct-o SILO

The Silo that fills a long felt want. Results obtained from the use of a Metal Silo are far beyond expectation. Silage contains by far a larger percentage of food value, more uniform preservation, taste and color, naturally far more productive in results. The Most Permanent Silo because it

Can't Blow Down, Buckle, Twist or Collapse

Resists fire to the fullest extent and is storm proof. No skilled labor required to erect it. Can be increased in height at any time. Special IN-DE-STR-UCT-O Metal is warranted not to be affected by acid in silage or climatic conditions. The users of Metal Silos are our references. Our Testimonial and Construction Catalog is worth asking for, especially to those who desire to erect a Silo from the standpoint of permanency and 99% food value preservation. Agents wanted who are able to produce results.

THE E. W. ROSS CO. Box 314 Springfield, Ohio

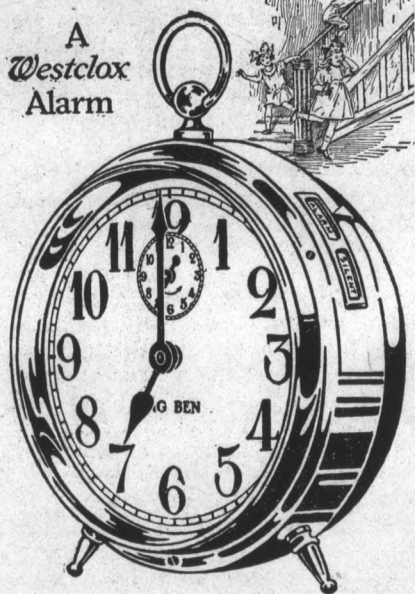
Est. 1850-87 Years Experience

We also make Ross Wood Silos and Ross Silo Fillers

Please mention the Michigan Farmer when you are writing to advertisers and you will do us a favor

Big Ben

A
Westclox
Alarm



SEVEN A. M.—BIG BEN at his best—opening little folks' eyes—there's a race to hush him—a pillow battle—merry laughter—and mother to tidy the kiddies for school.

For the rising generation there's no better get-up. Big Ben's little men bubble health and cheer, and they feel as big as Daddy with a clock all their own.

He gets 'em to school long before the last gong and this habit lingers when the children grow up.

You'll like Big Ben face to face. He's seven inches tall, spunky, neighborly—down-right good.

At your jeweler's, \$2.50 in the United States, \$3.50 in Canada. Sent prepaid on receipt of price if your jeweler doesn't stock him.

Western Clock Co.

La Salle, Ill., U. S. A. Makers of Westclox

Other Westclox: Baby Ben, Pocket Ben, Bingo, America, Sleep-Meter, Lookout and Ironclad

BRAVE THE WIND AND STORM

in the best wet weather togs ever invented
the **FISH BRAND REFLEX SLICKER**

(PATENTED) \$3.50

and **PROTECTOR HAT 85¢**
Dealers everywhere.
Our 80th year.
A. J. TOWER CO. BOSTON



LEADER Churns in 2 Minutes

New scientific principle. A few easy turns of the crank brings the butter. A child can operate it. Easy to clean. Sanitary.

30 Days' FREE TRIAL

Don't send a cent until the 30 days are up. If you are not satisfied then, send it back. We'll pay return express charges.

Order From This Ad

Just place a check in square before site you want. Sign your name and address on the margin—free out and mail to us today. We ship churn free for 30 days trial. Send no money.

You cannot equal these prices anywhere

3 Gal. \$4.25 5 Gal. \$4.75 8 Gal. \$5.25

Churns 1-2 Gal. Churns 3 Gal. Churns 4 Gal.

Why pay more? Money cannot buy greater churn value. You pay express charges. Send today sure.

NOVELTY MFG. CO., Box 514, Abingdon, Ill.

World's Largest Exclusive Churn Manufacturers

AT ONE-THIRD COST Ross 14-inch power feed cutter. Revolving knives and shredder-head. Perfect condition. \$25 f.o.b. H.M. Ferry, 418 W. Canfield, Detroit, Mich.

DAIRY PROBLEMS.

Bitter Butter.

What can I do to correct bitter butter in the late fall and winter time? I always have so much trouble with my butter after the cows go on the dry feed, but I have no trouble when the cows are on grass. It may not be exactly bitter but has a stale taste, which is very displeasing to me. I scald the milk night and morning. Our cows are fed on mostly cornstalks and corn, with a little hay.

St. Clair Co.

M. M. D.

I believe that your trouble comes more from keeping the cream too long before churning than anything else. If cream is kept long in cold weather it gets bitter. The remedy is to churn oftener. Don't mix warm and cold cream together, have it all of practically the same temperature before mixing, and then do not leave it for more than three or four days at the longest. You must churn at least twice each week to get good butter. The best butter is made when one has sufficient cream to churn every day.

Ground Oats and Wheat Bran.

Please balance a ration for my dairy cows. I am feeding silage, mixed hay and corn fodder, for roughage, ground oats, wheat bran and dairy feed, equal parts. Is there any other feed that will give better results than the above feed, that is, any cheaper?

Allegan Co.

W. R. T.

If you will mix ground oats and wheat bran, equal parts by weight, you have as good a grain ration as you can get. The trouble with the average proprietary dairy feeds is that they are balanced rations, or nearly so, in themselves, whereas we want a grain ration to help balance our roughage ration, which is nearly always deficient in protein.

Feed all the hay, silage and cornstalks the cows will eat and give them the oats and wheat bran, one pound to every three or four pounds of milk produced. If they are good dairy cows they will give you a good account of this liberal grain ration.

Borrowing Money to Buy Cows.

We would like to get a start in good Jerseys as we have had them before. We could keep 25 head of stock easy, as we have the place and help. I have heard that business men would furnish capital to buy with. If that is so and they would do that for the farmer, there would not be such a scarcity of cattle as there seems to be, and it would make better business all around. I notice that in Wisconsin the bankers and business men bought carloads of thorough-bred stock for the farmer and he signed a note that half the cream check would go toward paying for them until they were all paid for, and at six per cent interest. I would like to keep my boys on the farm and we could all make good, but if we can't get the stock some of them will stay in town. Although my boys like the work in town they would come home and help. Have four that are not married, so we could take care of a lot of stock.

Mecosta Co.

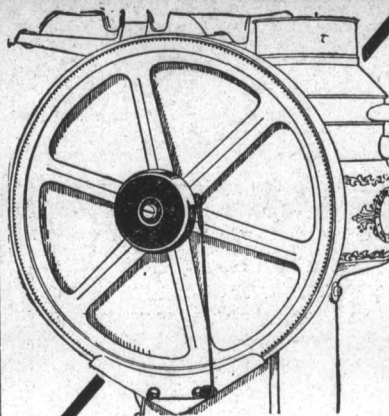
F. M. F.

This plan of purchasing cows has been a common practice in many localities. Most any banker will do this. Years ago some of our bankers loaned considerable money in this way. They furnished the money, took the farmer's note, containing a clause whereby the farmer consented to have the creamery pay the banker one-half the receipts from the cows every pay day.

The plan works satisfactorily to both parties. I am sure most any banker would be willing to do this. I suggest that you try your banker.

Just a short time ago the newspapers reported that the Business Men's Association of Cadillac, offered to furnish money for all farmers who would purchase pure-bred cattle. Money is plentiful and cheap now, and a bank in most any Michigan community would, I believe, be willing to help in such work as this. Bankers and business men generally are realizing more and more that prosperity for the farmer means prosperity for all, and that farm property is good to invest in.

COLON C. LILLIE.



This "Warning Signal"

Insures proper speed on every NEW De Laval Cream Separator

NINE people out of ten turn the separator handle too slowly. Thousands of tests with experienced separator operators show this to be the case.

Other tests made by the highest authorities have shown conclusively that there is a big cream loss when the cream separator is not turned fast enough.

You will avoid such a possible cream loss if you buy the New De Laval. The Bell Speed Indicator on the New De Laval is a "warning signal" that insures proper speed at all times. No matter who runs your De Laval, this "warning signal" will tell you when the speed is not right. You hear it, and do not need to see it. This one feature alone may easily save you the cost of a cream separator in the next few months.

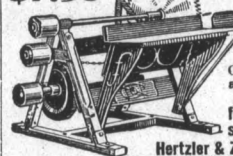
But that is only one of the big advantages of the New De Laval. Other advantages are greater capacity, closer skimming and easier turning, simpler bowl construction, and easier washing.

If you haven't the spare cash right now, that need not stand in the way of your getting a New De Laval right away. We have an arrangement with De Laval agents which makes it possible for any reputable farmer to secure a De Laval on the partial payment plan—a small payment at the time of purchase and the balance in several installments—so that your De Laval will actually pay for itself while you are using it and getting the benefit from it.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for any desired information.

The De Laval Separator Co. 165 Broadway, New York
29 E. Madison St., Chicago
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

As low as \$7.90



\$10,000.00

Backs this Hertzler & Zook Portable Wood SAW

This is the cheapest saw made. Only \$7.90 saw frame to which a ripping table can be added. Guaranteed 1 year, money refunded and all charges paid if not satisfactory. Write for catalog. Hertzler & Zook Co., Box 23, Belleville, Pa.

Owens Transplanter

Only Self-Setting machine. Transplants sweet potatoes, tomatoes, tobacco, strawberries, cabbage, nursery cuttings, etc. Any desired depth. Better than hand. As plant is released, water valve opens, then closer rollers press dry soil around plant! Holds moisture but leaves no wet surface soil to bake. J. L. Owens Co., 1143 Dartmouth St., Minneapolis, Minn.



Are Your Cows a BURDEN?

Many cows are a constant drag on their owners when they could just as well be good producers—if properly handled.

Don't forget that your cows can get physically "off color" just as you sometimes do. Watch the milk yield; if it is going down without apparent reason, something is wrong with the cow. Overfeeding is likely to make the condition worse; she needs a medicine that will clear up and strengthen her organs of production.

Kow-Kure is making thousands of new friends among the best dairymen every year, because it supplies this great need. It is a cow medicine, pure and simple—not a food. It has great curative and tonic powers that immediately act upon the digestive and genital organs and enable the cow to thrive on her natural food. Kow-Kure has back of it twenty years of success in making backward cows profitable and in the prevention and cure of Abortion, Barrenness, Retained Afterbirth, Milk Fever, Scouring, Lost Appetite, Bunches and other common ills.

You can buy Kow-Kure from the best feed dealers and druggists. Sold in 50c. and \$1.00 packages.

DAIRY ASSOCIATION CO. Lyndonville, Vermont

KOW-KURE



FREE BOOK

"The Home Cow Doctor" This useful book that should be in every farmer's library is yours for the asking. It may be worth hundreds of dollars in a critical moment.

When writing to advertisers please mention the Michigan Farmer.



Thousands of Satisfied Users

Testify to the efficiency and economy of the Caloric Pipeless Furnace. We've a book of letters written by people who once struggled to keep warm with stoves or old-fashioned heating systems and who finally installed the one-register Caloric. The satisfaction these letters express is absolutely convincing. Here is one that is typical of many:

"I have a large three-story, eleven-room house and can show 72 degrees in third story rooms before 7 A. M. The Caloric produces more heat from less coal than any other kind." MAHLON FRETZ, Sellersville, Pa.

This is concrete, direct-to-the-point evidence. It establishes the



The Original Patented Pipeless Furnace

as the most sensible and economical furnace built. Why not install one in your own home, add to your comfort, lessen your labor and cut your fuel cost? This can be done without inconvenience at any time.

The Caloric heats from *one register*, so there is only one register hole to cut. Saves 35% of fuel because its heat is direct, and because a patented triple casing prevents radiation into the cellar. There is no furnace in the world so easily installed as the Caloric or so absolutely satisfactory. The original pipeless furnace is backed by a broad guarantee.

There is a Caloric dealer in your town—see him soon. If you don't know who he is, write us and we will tell you.

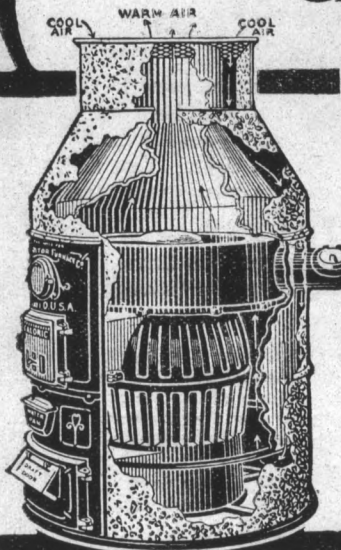
Let us send you a free booklet containing our remarkable guarantee.

The Monitor Stove & Range Co.

2025 Gest St. Cincinnati, Ohio

WRITE OUR DISTRIBUTORS

Morley Bros., Saginaw, Mich.



Corn as a Stock Food

By J. HUGH MCKENNEY

WITH the development of live stock interests the home consumption of practically all farm crops has become an established condition. Farms are growing smaller and the land more valuable as intensive methods are introduced. The question then presenting itself is not so much the money value of a crop, but rather, "How much feeding value will it produce an acre?" It is not a matter of bushels or pounds or tons to an acre, but the amount of total digestible nutrients produced. The great majority of farmers can only grow profitably the carbonaceous part of a ration; the nitrogenous part can be obtained most cheaply in the open market. Corn is the one cereal adapted to the situation. Moreover, it lends itself readily to improvement. When it comes to increasing the yield, the corn crop is more readily increased than any other, and therefore offers the greatest possibilities.

Utilizing the Crop.

There are, at least, four ways in which the corn plant may be utilized in the feeding operations of the stockman, viz., fodder corn, corn stover, corn silage and grain. In the first two we have the dried product. By the first is meant the corn plant, including the ears; the second refers to the stalks with the ears removed. Analysis shows a great deal of similarity in composition between fodder corn and timothy hay and also between corn stover and oat straw. Yet if we consider the immensely greater yield per acre of the corn than of the timothy or straw something of the possibilities of this crop can be realized. Seldom is there a year when every crop in the rotation yields its maximum of grain or fodder. Where the conditions are at all favorable to corn growing it has been my experience that we have had fewer failures with it than any crop we can grow. Hay and straw form a valuable roughage in wintering live stock, but I have often found it necessary to supplement a shortage in the supply of these materials with stover and corn fodder. In actual practice I was convinced that the latter combination gave equal, if not a little better results than the former.

Corn Silage Valuable for All Live Stock.

It is, however, corn silage that the modern feeder depends upon most largely for supplying the bulky part of his ration. It can be utilized in both summer and winter and in all extremes of temperature found in America. While especially valuable for the dairy cattle it can also be used to good advantage in the case of fattening cattle, and a moderate amount may be fed to horses and sheep. Its succulent nature makes it palatable and in furnishing a winter substitute for the pastures is beneficial to animals. Regarding the relative value of silage and dry corn fodder many discussions have arisen. Extensive investigations show that the losses incurred in the field-curing of fodder corn and in the process of fermentation which corn undergoes in the silo, are not materially different. As to feeding results, it has been shown that the acceptability of a succulent ration has an influence upon the milk yield of a cow. At the Vermont Experiment Station, silage produced 11 per cent more milk than the dry corn fodder from an equal area. At the Wisconsin Experiment Station it produced five per cent more milk and nearly seven per cent more fat than the dry fodder from an equal area.

Corn silage increases the carrying capacity of the land very materially, especially in sections where pastures cannot be relied upon. Reference has been made to the large yield per acre from the corn plant. This may be il-

lustrated in another way. It does not take a very heavy crop of corn to produce twelve tons of silage to the acre. Twelve tons of corn silage contains approximately 336 pounds of digestible protein, which is equal to the digestible protein contained in ninety bushels of oats, eighty-three bushels of barley, or 560 bushels of turnips. Twelve tons of corn silage also contain 3,408 pounds of digestible carbohydrates, which is equal to the digestible carbohydrates contained in 199 bushels of oats, 109 bushels of barley, or 7,012 bushels of turnips. It will be noticed from these comparisons that the great value of the corn plant lies in supplying a large amount of carbohydrates. The deficiency in protein must be supplied in a judicious use of other foods to get the best results.

Corn is Our Best Carbonaceous Grain.

In corn (grain) we have an important carbonaceous concentrate. Like the other parts we have referred to it is a one-sided food; that is, it is a heating and fattening food, ideal for certain purposes, but not well-balanced and suited, by itself, to the needs of the various classes of live stock. For fattening matured animals no cereal grain equals corn. In the case of very young animals which are rapidly building up muscle and bone it should be fed in conjunction with some nitrogenous food.

From corn we have several important by-products. Gluten feed is one of the most common of these. It is composed of the gluten of the corn and the bran or outside skin ground together, being the residue occurring in the manufacture of starch from corn. Gluten meal is another by-product of the starch factory and consists of the gluten of the corn without any bran. Both these materials contain a high percentage of protein and are exceedingly valuable foods for dairy cows. Another by-product is hominy feed, which is obtained in the manufacture of hominy. It consists of the bran or hull of the corn, together with some of the starchy matter; is low in protein, fairly high in carbohydrates, and very high in fat. This food is palatable and has considerable value for fattening purposes.

It will be seen that the corn crop, to be fed in part or as a whole, must be understood to be fed to advantage. Corn as a food has its strong and its weak points. Used understandingly it has a wide range of usefulness.

CARE OF THE COLT'S FEET.

The care of a horse's feet should commence when he is a colt, that is, before he is weaned. Untrimmed hoofs usually grow long and uneven, and a crooked foot, or worse, a crooked leg is the result. Failure to regulate the length and bearing of the foot may make a straight leg crooked or a crooked leg worse, while intelligent care during the growing period can gradually improve a leg that is crooked at birth. When picking up a colt's foot teach him to stand on three legs and not depend on the one holding up his foot for the fourth point of support. The handling of a colt's feet begins with the near front foot. Tie a rope around the pastern, grasp the rope close to the foot, push gently against the shoulder, and quickly lift the foot. The lifting of the foot must be simultaneous with the weight shifting to the other feet. Gentle the foot and leg and let it down. Repeat several times and then trim and level the hoof.

It stands to reason that hogs, like other animals, have a much better chance of withstanding this disease given plenty of fresh air and sunlight and provided with quarters that are kept sanitary.



A Ventiplex Housing FREE for Two Labels

Read the Particulars

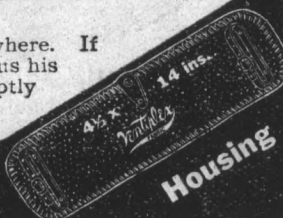
In order to introduce the Ventiplex Collar Pads to more horse owners, we shall give away absolutely free a Ventiplex Housing to all who send us two full labels from Ventiplex Collar Pads and five cents in stamps to pay cost of mailing. Size of housing 4 1/2 x 14 inches.

Ventiplex Pads and Housing are made of special material and ventilated—curative, cooling, sanitary.

Ventiplex Collar Pads are sold by dealers everywhere. If your dealer does not carry them send us his name and we will see that you are promptly supplied. We make the famous Burlington Stay-on Stable Blankets.



Burlington Blanket Co.
Dept. 4 • Burlington, Wisconsin



SAVES FEED - MORE MILK AND MEAT

Cooked feed means bigger profits from your horses, cattle, hogs, sheep and poultry. The feed tastes better, is more digestible, bigger in bulk and more nourishing.

"FARMER'S FAVORITE" Feed Cooker and Boiler

Take the chill off water in winter and feed cooked vegetables and grain. Use it to boil sap, render lard, sterilize milk cans, boil spraying mixtures, etc. Will boil four bushels of potatoes in ten minutes. Cooks quickly. Little fuel—coals to chunks. 2 to 100 gal. capacity—six sizes. Set up anywhere. Guaranteed everywhere. Interesting, convincing circulars free.

Lewis Mfg. Co.,
64-78 Owego St., Cortland, N.Y.

LOW-COST POWER For pumping water

Model 12

STAR WINDMILL

Equipped with NO-OIL-EM Bearings requires oil but once a year. HAS NO EQUAL FOR PUMPING ECONOMICALLY. Talk it over with your dealer, or write us for FREE catalogue giving complete information.

FLINT & WALLING MFG. CO.
KENDALLVILLE, INDIANA.

LEARN AUCTIONEERING at World's Original and become independent with no capital invested. Every branch of the business taught in 5 weeks. Write today for free catalog. JONES' NAT'L SCHOOL OF AUCTIONEERING, 28 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

THE CRESTLINE TINY WHALE

Most wonderful value offered the fruit grower; adapted to the fruit grower with small acreage as well as large grower. One man outfit, perfect in every detail. Will work more economically than any power sprayer. The Crestline Mfg. Co. Dept. M. Crestline, O.



E-B PLANTER

Gauge shoe on the runner insures even depth of planting—increases the yield. Edge drop—accurate—no slips even at high speed. Automatic as hill or drill drop. Foot lever control of runners. E-B Corn Planters are one of the many implements in the E-B line. Ask your dealer. Look for the E-B trade mark on the implements you buy. It's our pledge and your guide to quality.

Emerson-Brantingham Implement Co. (Inc.) 78 W. Iron St., Rockford, Ill.

Please send me free literature on articles checked:

- | | | |
|--------------------------------------|---|---|
| <input type="checkbox"/> Plows | <input type="checkbox"/> Hay Tools | <input type="checkbox"/> Tractors, Kerosene |
| <input type="checkbox"/> Harrows | <input type="checkbox"/> Listers | <input type="checkbox"/> Engine Plows |
| <input type="checkbox"/> Cultivators | <input type="checkbox"/> Gas Engines | <input type="checkbox"/> Steam Engines |
| <input type="checkbox"/> Mowers | <input type="checkbox"/> Wagons | <input type="checkbox"/> Thrashers |
| <input type="checkbox"/> Sprayers | <input type="checkbox"/> Ruggies | <input type="checkbox"/> Corn Shellers |
| <input type="checkbox"/> Drills | <input type="checkbox"/> Auto Trailers | <input type="checkbox"/> Saw Mills |
| <input type="checkbox"/> Planters | <input type="checkbox"/> Potato Machinery | <input type="checkbox"/> Baling Presses |

Name _____

Address _____

A LONG-LASTING PAD - MORE SERVICE-GREAT- ER SATISFACTION

This Form of At-
tachment Found
Only on Pads
Made
by Us.



Patented in
U. S. Dec. 1
1914
Patented in Canada
April 6 1915.

New staple and felt reinforcing device makes hooks stay on longer. Ask your dealer for Tapatco booklet. Shows pads in colors and contains many valuable horse remedies. If he hasn't it, ask him to write us direct.

The American Pad & Textile Co.
Canadian Branch: Chatham, Ontario
Greenfield, Ohio

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's Caustic Balsam

IT HAS NO EQUAL

For — It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Rheumatism, External Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
Diphtheria
Sore Lungs
Rheumatism
and all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
OTTO A. BEYER.
Price \$1.50 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.



Protect Your Buildings and Stock

from destruction by fire and from impure, disease-breeding water; also from ice cold winter water which chills them, and in cows reduces the flow of milk. Get a modern water system. It pays big dividends on the investment. The

Milwaukee Air Power Water System

brings water "Direct from the Well" for use in house, barn or yard. Just turn a faucet. No stored water and NOTHING TO FREEZE. No more water to pump or carry. Saves much time and hard work. Helps both the farmer and his wife. So simple any farmer can understand it. Reasonable in price.

Send for this new, FREE book "Private Water Systems" and the Information Blank, which enables you to learn just what a Milwaukee Air Power Water System will cost you. Write today.
MILWAUKEE AIR POWER PUMP CO.
868 Third St., Milwaukee, Wis.



I will condition a Horse or Cow in twelve days. Put flesh on its bones. Give it life and vigor. Can add 50% to looks and value. Satisfaction guaranteed or no pay. Send postal for free offer.
P. M. FAUST, BRYN MAWR, PA.

FEEDERS' PROBLEMS.

Ration for Growing Pigs.

I am feeding five-months-old pigs which will average about 135 pounds in weight. I have been feeding middlings and skim-milk night and morning and corn in the bundle. Will it pay me to feed these pigs shelled corn at \$1.10 per bushel? If so, how should it be fed? I have a cement floor in my hog house; would it do to feed on the floor, or would it be best to grind the corn and feed in the slop? Would it pay to feed middlings to pigs of this size at \$2.25 per cwt.? Also, would it be profitable to sow rape with barley and pasture with hogs and lambs after the barley is harvested? If so, how much seed ought I to sow per acre, and how should it be sown?

Eaton Co.

J. R. L.

There is no doubt but that with skim-milk available as a supplementary feed, it will pay to finish these pigs with corn at \$1.10 per bushel at present prices of pork. With middlings at \$2.25 per cwt. some of this feed can profitably be used to add variety to the ration, but it would be more economical to make it a less prominent factor in the ration and increase the corn, provided skim-milk is available so that it can be fed in connection with the corn. For hogs of this weight 100 pounds of gain should be made on from 400 to 450 pounds of grain fed. It will readily be seen that with pork selling at present extremely high prices, this would be a profitable feeding operation.

Recent trials at the Iowa station, made on an extensive scale, indicate that more economical gains will be made where corn and other concentrates are fed on the so-called free choice plan by placing some in separate compartments of a self-feeder to which the hogs are given free access. Good results can, however, be secured by intelligent hand-feeding.

Rape with Oats or Barley.

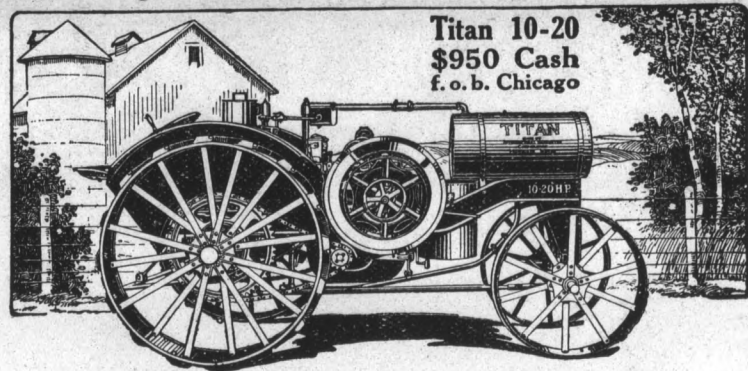
In normal seasons rape sown in the early spring with oats or barley will make excellent pasture after these grain crops are harvested, for both hogs and sheep. Of course, the amount of green forage produced will depend a great deal upon climatic conditions, but with a reasonable moisture supply a large amount of forage will be produced. The seed should be sown broadcast at the rate of three to five pounds per acre when sowing the grain. A good way is to distribute it through the grass seeder just ahead of the drill hoes. Care should be taken in purchasing rape seed this year, owing to the fact that there is a scarcity of Dwarf Essex seed and a tendency to adulterate it with the seed of annual varieties which are much less valuable for forage purposes.

LIVE STOCK NEWS.

An authority on the Chicago stocker and feeder market, remarked recently that such cattle would advance in price as spring draws near. He added that for several years past there has been a good time during the last half of February and the first of March to purchase a good class of medium to half fat steers in the different markets of the country at reasonable prices, including a class of steers weighing anywhere from 900 to 1150 pounds. Such cattle would require to be held, probably, from four to five weeks until the good weather set in. They could be put on full feed at once and marketed during May or June, or they could be fed corn on grass and marketed during July or August, or just before the western range cattle are ready to start marketward.

Recent receipts of hogs in the Chicago market have averaged in weight 202 pounds, comparing with 194 pounds one year ago and 225 pounds two years ago; and naturally buyers stand ready to pay a good premium for heavy hogs. Considerable purchases are made at times of hogs for shipment to Canada, buyers paying a premium for "single" hogs over prices paid for other light weights.

Warren T. McCray, widely known as a Hereford cattle breeder, says that for a number of years he fed steers for the market and that he always noticed the ones to take on flesh the fastest were the ones with white-face blood in them, and the better they were bred, the better they fed.



Titan 10-20
\$950 Cash
f. o. b. Chicago

The Final Answer

To the Tractor Fuel Question

WE believe that a farmer who buys a kerosene tractor costing hundreds of dollars is entitled to get what he pays for.

We know that Titan tractors are real kerosene tractors. When you buy a Titan tractor you are safe. You have the written guarantee of a responsible Company that your tractor will do good serviceable work, using common coal oil as fuel at all loads. That is the final answer to the tractor fuel question.

Titan tractors are now built in three sizes, 10-20-H. P., the 3-plow outfit; 15-30-H. P., for 4 and 5 plows; and 30-60-H. P. for the heaviest work of the largest farms. All operate on kerosene.

The 10-20-H. P. size is a two-speed tractor, 1.85 and 2.50 miles per hour, with a smooth running twin-cylinder engine, slow speed, mechanically oiled, starting and running on magnet. It can be used for any field work you would expect nine or ten horses to do, and it will run any machine that takes up to 20-H. P. at the belt.

If you place your order soon you can have a guaranteed Titan tractor for the heavy spring work. Drop us a line so we can send you full information at once. Don't wait. Write now.

International Harvester Company of America

(Incorporated)



CHICAGO

Champion Deering McCormick Milwaukee Osborne Plano

U S A



SUPERIOR

"Even Sowing Means Even Growing"



Superior Drills will do your work the way it should be done, no matter where you live or what your seeding conditions may be. **Superior Drills** save time, seed, labor and repair bills.

Superior Drills are noted for Even Sowing, Light Draft, Simplicity, Ease of Operation, Great Strength, Choice Materials and Workmanship.

Every Superior Drill is Warranted to be and do all claimed for it

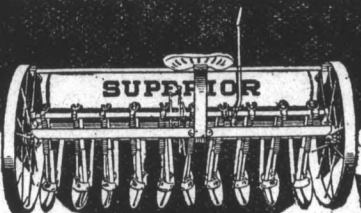
Made in all sizes and styles for sowing large and small grains, with or without fertilizer, in 4, 6, 7 and 8 inch rows.

Send for the Superior catalog. Read it. Note the Warranty. Then go to your Local Dealer, and insist on seeing the SUPERIOR.

Are you considering sowing your wheat and other small grains in 4 inch rows instead of 6, 7 or 8 inch? Ask your Implement Dealer for information on the Superior 4 inch Grain Drill or write us for descriptive pamphlet.

The American Seeding-Machine Co.
Incorporated
Springfield, Ohio

SUPERIOR GRAIN DRILLS



**SEED
BUYERS
SAVE
MONEY**

FIELD SEEDS AT 25% LESS MONEY

You will be astonished at our low prices for extra high quality, tested seeds. Sold on approval. Satisfaction or money back. If we can't save you money we don't want your orders. Don't pay two prices for Grass Seeds. We have recleaned Timothy \$2.25 per bu., Clover \$8.25, Alfalfa \$7.00, Sweet Clover \$3.75, Alsike Clover and Timothy \$4.00 per bu. and all other Field Seeds at proportionately reduced prices. We are Grass and Field Seed Specialists and sell on a Profit-Sharing Plan, at bedrock prices. Write for our big Seed Guide, the most complete, scientific, practical planter's guide ever printed. Write for our Free Samples of Seeds you want to buy. Our Guide explains how you can save money on Seeds, get better quality, share in profits. It's money to you. **AMERICAN MUTUAL SEED CO. Dept. 281 43d and Robey St., CHICAGO, ILLINOIS**

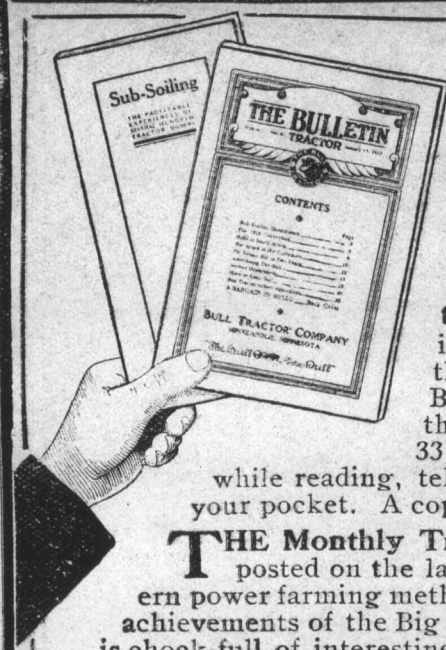
**Pull
Out The
Stumps**

**With The Hercules
All Steel, Triple
Power Stump Puller**

Biggest stump pulled in five minutes or less. Clears an acre of land a day. Makes your stump land money land. 30 days' free trial—3 year guarantee. Get our new book and special low price offer now.

Hercules Mfg. Co., 937 25th St., Centerville, Ia.





Which Do You Want?

OUR New Book on Subsoiling

—written by practical farmers who tell, in their own words, how the subsoiling feature of the Big Bull Tractor increased their crop yields 10% to 33 1/3%. Mighty well, worth while reading, tells how to put money into your pocket. A copy is yours for the asking.

THE Monthly Tractor Bulletin keeps you posted on the latest developments in modern power farming methods and the new uses and achievements of the Big Bull Tractor. Every issue is chock-full of interesting and helpful information. Three month's subscription free.

"The Bull" with the Bull

is the most popular tractor in the world today—because of its many unique features—the subsoiling feature of the long spade lugs on the drive wheel which runs in the bottom of the furrow ("the best way of subsoiling known up to the present time," uses no extra power and charges nothing for its work) its low fuel and upkeep cost—its ability to work fast and continuously for many hours, day and night, without overheating, its self-steering device, its simplicity, accessibility and sturdiness.

WARNING! If you want a "Big Bull" for this season's work, get your order or reservation in at once. There's a distributor at your farm implement trade center.

Write us today whether you want the Subsoiling Book or the Monthly Tractor Bulletin.

BULL TRACTOR COMPANY,

2642 University Ave. S. E., MINNEAPOLIS, MINN.



Winter Meeting of State Fruit Growers

THE Berrien County Horticultural Society and Benton Harbor have again added to their reputation as hosts to the Michigan State Horticultural Society, for the mid-winter meeting held there February 20-21, was said by many to be the best meeting ever held by the State Society. Secretary R. A. Smythe got together a most excellent program, and the large attendance and the interest shown was an indication of the fact that the program was appreciated.

One can expect many of the future meetings to be of the best-ever kind, for under the leadership of President C. A. Bingham the society has taken on a new spirit of enthusiasm and progress which was so evident at this meeting. The fruit growers of this state are beginning to realize again the value in mutual helpfulness and inspiration of such an organization as the state society. A large number of new memberships were added to the roll and in a friendly contest Berrien and Oakland counties were practically tied with about thirty new life members each.

Essentials of Peach Growing.

After being heartily welcomed to Benton Harbor by W. H. Seitz, president of the Chamber of Commerce, the program opened with a talk on "The Essentials factors in the Peach Business," by Roland Morrill, who is well known as Michigan's Peach King. He said that if one set suitable varieties in suitable soils he could expect his peach orchard to increase in value at the rate of \$100 per acre per year for five years, when it would be in good bearing. Good soil was essential and a clover sod turned under and put in good tilth was the best preparation before setting the orchard. In buying trees the tendency has been toward cheapness rather than quality. We should make price a second consideration but should insist on getting good trees. In the development of the tree the root growth is important. Observation showed Mr. Morrill that at the time the pit of the fruit hardened there were present many fine hair-like roots which undoubtedly were of value at this stage of fruit development. One should be careful not to injure these roots by cultivation and should conserve the moisture by frequent and shallow cultivation. To add to the revenue from the orchard the grower should pack his fruit honestly and in an attractive manner. The reputation gained by such action would be cumulative and coupled with good management would increase receipts so that the profits would be double those of an orchard under common care.

Money in Grapes.

"Making Money Out of Grapes" was the subject discussed by Joseph Burkhard, who is president and manager of a company which owns and operates a large commercial vineyard south of St. Joseph. This company has been paying six per cent on the investment besides making improvements and caring for plantations not yet in bearing. They set their vines twelve feet apart in rows nine feet apart. The Kniffen or arm renewal system of pruning is used and the amount of spraying done depends upon the season. If the weather is bad three applications are made, but if the season is not favorable to the development of fungus troubles only one application is made. Good cultivation is necessary and for fertilizers manure and commercial fertilizers are best. Mr. Burkhard frequently plows both in spring and in fall, but does not use cover crops of any sort. For cutworms he uses a mixture of forty pounds of middlings to one pound of Paris green. A spoonful of this is spread at the base of each vine. Mr. Burkhard said that in order that honest grape growers had a fair show the law to prevent the shipping of imma-

ture grapes must be strictly enforced. Mr. James Nicol, who is secretary of the South Haven Fruit Exchange, one of the most successful co-operative associations in the state spoke on the "Present and Future of Co-operative Fruit Selling in Michigan." This talk on the most popular and essential phase of successful fruit culture will be given verbatim in one of our future issues.

Western Fruit Conditions.

"Some Western Fruit Regions," was the subject of a very interesting talk by Prof. H. J. Eustace, of the Agricultural College. This talk gave Prof. Eustace's observations after a recent and thorough tour of inspection. As in the east many orchards are not receiving the care they should have.

Over capitalized orchard projects were common in the west and are hindrances to the full development of the fruit industry there. While the west has considerable to contend with in the way of insects and diseases, and distance from market, they have developed their market system to the highest degree of efficiency.

A discussion of the need of National and State Packing and Grading Laws was taken up by W. W. Farnsworth, of Ohio. He said that proper grading and packing was the means of getting better prices for fruit. The central packing house is in most cases, the most convenient and practical way of getting uniform and good grading and packing. When the consumer gets apples which have been packed in a deceptive way he becomes disgusted and thereafter is inclined to buy more of oranges and such fruits. The natural apple growers and shippers associations have co-operated in the endeavor to get uniform grading and packing laws. In eight states they are endeavoring to pass a standard law. To put the apple business on the proper basis we must have a national law.

An Evening's Entertainment.

Tuesday evening the Oakwood School of Music and Fine Arts furnished an entertainment of music and readings. Each number on the program was given by an artist and bespoke well of the character of training given by this school, which is headed by Mrs. R. A. Smythe. Mr. A. G. Proctor, of St. Joseph, the only surviving delegate of the convention which nominated Lincoln, gave one of the most eloquent addresses on Lincoln and the troublesome times of the Civil War that one is privileged to hear.

Wednesday morning was given over to the control of insects and diseases. S. L. Simonton, of the United States Department of Agriculture, who has been doing special work on pear psylla in this state, gave a very interesting talk on that subject. This insect is prevalent in this country from Maine to the Mississippi and from the Canadian line to Virginia. The first indication of it is a yellowish discoloration of the foliage and afterwards the sooty appearance is taken on. The fruit is small and drops before the proper time for maturing. The honey dew secreted by the insect neutralizes most any spray material used and therefore makes it difficult to use certain measures during the growing season. For control three operations are necessary. The rough bark must be scraped off, rubbish in the orchard should be burned, and spraying done at proper times. The best time for spraying is in fall, about November, and the best mixture is twelve ounces of nicotine sulphate, four pounds of fish oil soap, 100 gallons of water. Nicotine sulphate, 12 ounces, lime-sulphur 11 gallons, and water 89 gallons is also a good mixture but is not as effective because the mixture does not spread as well. Spring spraying gives good results if done just as the blossom clusters separate. (Continued next week).

GARDEN SEEDS
are bright, clean and plump—the result of over 60 years' seed-growing experience. Just to get acquainted, we make this

1917 Economy Offer
One full-sized packet each of Prizehead Lettuce, Rose Gem Radish, Detroit Beet, Tall Nasturtiums and California Mixed Sweet Peas—5 packets—a regular 10c value, only **10c**

Free Farm and Garden Guide
Will help you to reduce "the high cost of living." Lists reliable seeds for every need in garden and field. Send now for this handsome 80 page book.

The Page-Philipps Seed Co.
Box 170 Toledo, Ohio

IRON AGE
Farm, Garden and Orchard Tools
Answer the farmer's big questions:
How can I grow crops with less expense and labor? How can I grow fancy fruit at low cost? The

IRON AGE Barrel Sprayer
(horizontal) solves the spraying problem for the busy farmer. Can be used in any wagon, cart or sled. Reliable easy-working pump placed outside the barrel—prevents rusting—all parts easy to reach. 100 to 125 pounds pressure with two nozzles. 50 and 100 gallon sizes. We make a full line of sprayers. Write today for our free booklet.

Bateman Mfg Co., Box 24E, Greenclo, N.J.

GOOD SEEDS
GOOD AS CAN BE GROWN
Prices Below All Others
I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.

Big Catalog FREE
Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.

R. H. SHUMWAY, Rockford, Ill.

Hill's Evergreens Grow
Best for windbreaks and hedges. Protect crops and stock. Keep house and barn warmer—save fuel—save feed. Hill's evergreens are hardy, nursery-grown. Get Hill's free illustrated evergreen book and list of 50 Great Bargain Offers—from \$4.50 up per thousand. 56 years' experience. World's largest growers. Write **H. HILL NURSERY CO.,** Evergreen Box 2302 Dunder, Ill. Specialists.

Millions of Trees
PLANTS, VINES, ROSES, ETC.
The oldest, largest and most complete nursery in Michigan. Send for catalogue. Prices reasonable.

I. E. ILGENFRITZ' SONS CO.,
THE MONROE NURSERY, MONROE, MICHIGAN

EVERGREENS
FOR WINDBREAK AND LAWN.
CATALOG of Flowering Shrubs and Bulbs FREE.

VAL KATZENBERGER, Saginaw, Michigan

Fruit Trees and Garden Seeds. Guaranteed true to name at an honest price. Send for catalogue.
Allens Nursery & Seed House, Geneva, Ohio.

Get these SPRAY Booklets FREE
Every apple grower should have them. Help you to raise perfect fruit, and shows how to keep trees free from Aphids, Red Bug and other soft-bodied sucking insects.

BLACK LEAF 40 kills by contact. Equally effective when used separately or with other sprays. Write at once, and get Spraying Chart and Free bulletins.

The Kentucky Tobacco Product Co., Incorporated Louisville, Ky.

Kills Aphids

Black Leaf 40
40% Nicotine

AA QUALITY
MORE MONEY
for tenant more money for owner, in our Active Fertilizers.
Just ask nearest office for booklet. Agents wanted.

The AMERICAN AGRICULTURAL CHEMICAL COMPANY
New York, Baltimore, Buffalo, Philadelphia, Boston, Detroit, Cincinnati, Cleveland, etc.

OATS SENSATION-Record 123 bu. per acre. Also SEED CORN. Samples and catalogue free. Theo. Burt & Sons, Metro, O.

Hundreds of Farmers

in the Middle West have very profitably increased their yields by the use of Darling's Animal Matter Fertilizers.

A. L. Siedentop, Herscher, Illinois, is one of many leading farmers of Northern Illinois who has increased his yields at a profit and at the same time built up his soil with the aid of

DARLINGS ANIMAL BASE FERTILIZERS

He has done this for over five years.

We Want Agents

in territories where we are not represented. Drop us a postal card today and get our attractive selling proposition.

DARLING & COMPANY
Dept. 110
Union Stock Yards, Chicago, Ill.

FIELD FORCE PUMP CO.
The Leader
"OSPRAYMO"
LINE OF SPRAYERS
ELMIRA, N. Y.

THIS MARK
will never be found on a poor sprayer. For 35 years it has been a symbol of our knowledge and skill in the making of spray rigs.

Each season a large percentage of "Ospraymo" sales are made to neighbors of "Ospraymo" owners. That tells the story.

Bucket, knapsack, barrel or power rig, whichever you need, will do your work as you want it done.

Send for Handsome Free Catalog and spraying schedule.

FIELD FORCE PUMP CO.
Dept. L Elmira, N. Y.

SPRAY for bigger, better crops

Get the ...ghest market prices for your fruit and vegetables. The

DEMING

line of sprayers covers all requirements. A complete guide on "How to Spray" with every outfit, large or small. Catalog free.

THE DEMING COMPANY
197 Depot St. Salem, Ohio
Over 1000 types and sizes of pumps for all uses

RHODES DOUBLE OUT PRUNING SHEAR

Cuts from both sides of limb and does not bruise the bark.

Made in all Styles and Sizes
All shears delivered free to your door. Send for circular and prices.

RHODES MFG. CO.
615 S. Division Ave. GRAND RAPIDS, MICH.

IS THE SAN JOSE SCALE DISAPPEARING?

Last summer I quite often heard men, who have small orchards on their farms, say that the San Jose scale was leaving the trees; was dying out or being destroyed. Some even went so far as to say that they did not think it necessary to spray for scale insects in the future. I couldn't think of any reason why the scale should leave unless the trees were dead, but on investigation I could see that these men had some ground for their argument.

What led them to believe that the scale was leaving was the fact that last spring there were fewer scales on the trees than there had been for some time. I had examined trees in many orchards with which I am familiar and I noticed this same condition in every case. I also noticed several old orchards, that were nearly done for by the scale, make a very good start in the spring and summer. On inspecting these orchards in the fall I found that there were as many live scale insects on the trees as there ever had been. Most of the twigs were fairly crusted.

In no case do all the scale insects survive through the winter. In a normal winter probably forty to sixty per cent of them die, due to various causes. In an abnormal winter the death rate is much higher. The winter of 1915-16 was abnormal and that is why we found so few scales on the trees in the spring of 1916.

During the winter of 1915-16 we had several severe ice and sleet storms. limbs of the trees were thoroughly coated with a layer of ice. The ice stuck to the scales and when it fell it pulled them off in large numbers. The insect, if it did not fall with the scale, was unprotected and soon died. Such storms always cause a material thinning out of the San Jose scale in our trees, and several such storms decrease the number in proportion.

But we must remember that never all of the insects are killed, even during the severest winter. No matter how severe or unfavorable the weather, there are always some that survive. Even though ninety-nine per cent are killed, the one per cent left is sufficient to reproduce enough to cover the trees by the end of the summer. One female and her progeny, in this latitude, where three generations are produced, and sometimes four if the season is favorable, will produce by the end of the summer, over three billion individuals. A few hundred individuals left in the spring will thoroughly cover the trees by fall.

We cannot depend on weather conditions to keep the San Jose scale in check. It was introduced into this country without its natural enemies. In China, where it was introduced from, the ladybug kept it from being troublesome, but it has developed no important insects enemies in this country. Here the only possible control is thorough spraying, so that every bit of the tree is covered with a coating of lime-sulphur. Man is its only enemy, so all we can do is to hope and spray, but above all things spray.

Ingham Co.

E. J. FREY.

The enhanced value of garden products increases the importance to the farmer of an accurate knowledge of the vitality of the seeds he uses in the production of these crops. Because of the large amount of hand-labor given to the garden plot it is relatively more important to make certain that the garden seeds be tested than it is to try out the seed corn. However, both should be carefully done and during the days before actual field work starts it is a very wise farmer who not only secures his seeds and grades them, but who also makes germination tests of every kind he is to plant or sow.

ATLAS EXPLOSIVES

Get Stumps Out With Less Work

Pulling stumps is slow and costly. "An explosive reduces the labor of clearing land to the minimum. It may be used by any intelligent man," says Minnesota Farmers' Bulletin 134. Get any stump out quickly, and at the same time split it into pieces easily handled, by using

Atlas Farm Powder

THE SAFEST EXPLOSIVE
The Original Farm Powder

Atlas Farm Powder is made especially for farm use. It is easy to use—no experience needed. Just bore a hole, load, fire, and work that otherwise would take hours or days is done instantly! Ask your dealer about Atlas Powder today.

You can save money and make money by using Atlas Farm Powder to blast out stumps and shatter boulders, break up hard-pan, do ditching and make beds for trees. It is the cheapest farm hand you can possibly find.

Send for "Better Farming" Book—FREE
Our illustrated book, "Better Farming," tells how to improve the fertility of the soil, how to grow bigger crops, reclaim waste land, improve orchards, etc., with Atlas Farm Powder. Valuable to every land owner. Mail the coupon.

ATLAS POWDER COMPANY
General Offices: Wilmington, Del.
Sales Offices: Birmingham, Boston, Houghton, Joplin, Knoxville, Kansas City, New Orleans, New York, Philadelphia, Pittsburgh, St. Louis

FREE BOOK COUPON
ATLAS POWDER CO., Wilmington, Del.
Send me your 74-page book "Better Farming." I am interested in the use of explosives for the purpose before which I mark X. MF2

<input type="checkbox"/> Stump Blasting	<input type="checkbox"/> Tree Planting
<input type="checkbox"/> Boulder Blasting	<input type="checkbox"/> Ditch Digging
<input type="checkbox"/> Subsoil Blasting	<input type="checkbox"/> Road Building

Name _____
Address _____

Burpee's Seeds Grow

and are grown not only to sell but to grow again. The fact that 1916, our fortieth anniversary, proved to be our banner year, shows that confidence in the House of Burpee continues to grow.

Burpee's Annual for 1917
The Leading American Seed Catalog is brighter, better and bigger than ever before. We have added twenty-two pages, making in all 204 pages, and best of all, you will find thirty Burpee Specialties illustrated in color. Burpee's Annual is mailed free upon request. A postcard will bring it. Write for your copy today and mention this publication.

W. ATLEE BURPEE & CO. Burpee Buildings Philadelphia

Better Trees for Less Money Direct to You From Kalamazoo

EVERYBODY OUGHT TO PLANT TREES IN THE SPRING.
GET CATALOGUE AND WHOLESALE PRICES NOW.
A GIFT with every early Order. When you buy Trees, Shrubs, Roses, Vines and Plants direct from **CELERY CITY NURSERIES**, you get the best at growers' prices. We have thousands of satisfied customers, and adding more every day.

SEND TODAY FOR PARTICULARS. STUDY YOUR REQUIREMENTS NOW.

CELERY CITY NURSERIES
BOX 50. KALAMAZOO, MICH.

Green's Trees

NORTHERN GROWN AT ROCHESTER
We want to reach farmers who want healthy, hardy fruit trees, and also want to save money in buying. Green's Trees are sold direct to you at

Half Agents' Prices
Green's Fruit Trees are hardy, sure-bearing and true to name. We have a good supply on hand, including apple, peach, pear, quince and cherry. Also ornamental trees, roses, plants, new fruits, etc. We sell only by catalog. Send for our new catalog and learn how you can save money by buying direct.

GREEN'S NURSERY CO., 31 Wall St., Rochester, N. Y.

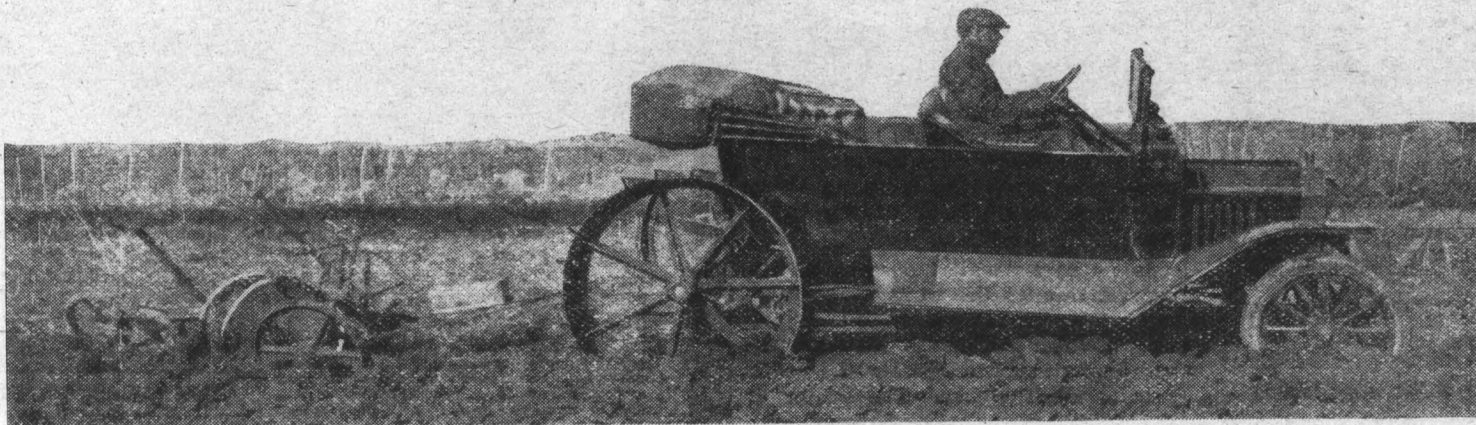
HARDY NORTHERN GROWN TREES AND PLANTS
Hundreds of thousands of strong thrifty trees, plants, shrubs, small fruit plants and vines, grown in our own nursery in northern Ohio. Send for catalog.

T. B. WEST, MAPLE BEND NURSERY, Lock Box 108, Perry, Ohio.

The Auto-TRACTOR

\$115 Set Down at Your Station

That means we prepay the freight to any point east of the Rockies and to the Rockies for any point beyond. Just think, only \$115, the price of a second rate horse for a machine that will do the work of the best team of horses on your farm—do it better, faster and never falter. Write at once and get the facts.



The photographs reproduced here were taken on the large dairy farm of M. S. McElroy in Oklahoma. Two inches below the surface, the ground was frozen several inches deep—yet the 16-inch plow bottom was pulled 10 inches deep. It is inconceivable that any farmer would ever need to put his machine to a test anywhere near so severe.

RIDE out into the field in your auto with the Auto-Tractor attachment hitched on behind, then just back your auto over the attachment, remove the wheels, slip on the pinions, tighten the clamps and presto—in a few minutes you are off with an efficient light tractor that will do work that the best team on your farm can do—plowing, harrowing, discing, seeding, cultivating, harvesting, hauling, grading, etc. Does not pack the soil.



Being geared 11½ to 1, the Auto-Tractor has as much or more power than any similar attachment—and is easier on the power plant. Its capacity is limited only by the power of your auto.

It is the simplest tractor attachment on the market to put on and take off—you can prove that—and when it's off, it's all off—there's not a lot of iron left on your car to haul around. Neither do you have to drill any holes in the frame of your car—the pull and strain is all carried by the strong steel frame and drive wheels of the Auto-Tractor attachment.

Think what it means to be able to turn your pleasure car into such an efficient tractor—especially during rush seasons or emergencies. You can't afford to have a Ford on the farm and not have one of these attachments.

Shipped Direct from the Factory

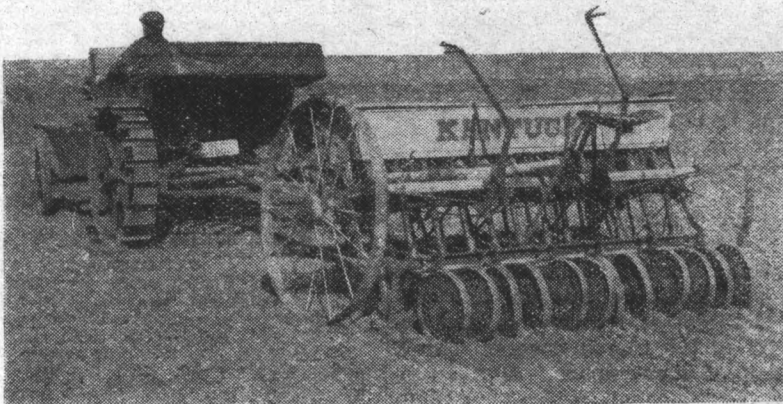
That's why you can buy it at such a low price—no more than the cost of a worn-out horse. No agents or middlemen get any part of the price you pay—and no one can get it cheaper than you can.

We, the manufacturers, guarantee the Auto-Tractor. It is made from good materials by skilled workmen.

You can not buy a better-built, more efficient, stronger, more simple or more durable tractor attachment at any price—and our direct selling plan saves you \$40 to \$80.

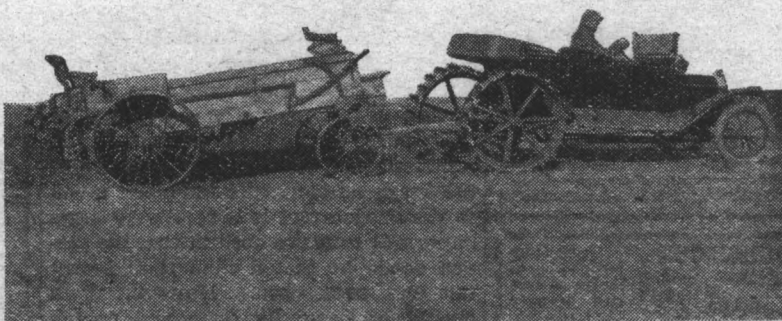
Write at once for full information. We will fill orders in rotation—first come, first served. The demand is already so great that you will have to act quick if you want to get one in time for your Spring work.

The Auto-Tractor Company,
306 Plymouth Bldg., Minneapolis, Minn.



FRUIT GROWERS

will find the Auto-Tractor especially adapted to orchard work—ideal for cultivating, etc.—easy to work with between the rows of trees, does not pack the soil, turns sharp corners, does the work quickly, efficiently, economically.



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

WE consider sacred every fold of the tattered flag carried by our soldiers in the great battles of our country, but we allow to pass into the gloomy charnel house of oblivion the records of the noble deeds and achievements of our pioneers, that resolute and dauntless army who met and overcame the foes of malaria, privation, isolation and barbarism. Today we enjoy the spoils of those battles.

In the vanguard of this army we find Rev. F. C. Blades, of Detroit. A consumptive child, he came to Michigan with his father and mother, William and Charlotte Blades, in May of the year 1835, from western New York. Detroit at that time was only a large

A Pioneer Circuit Rider

By MARY L. DANN

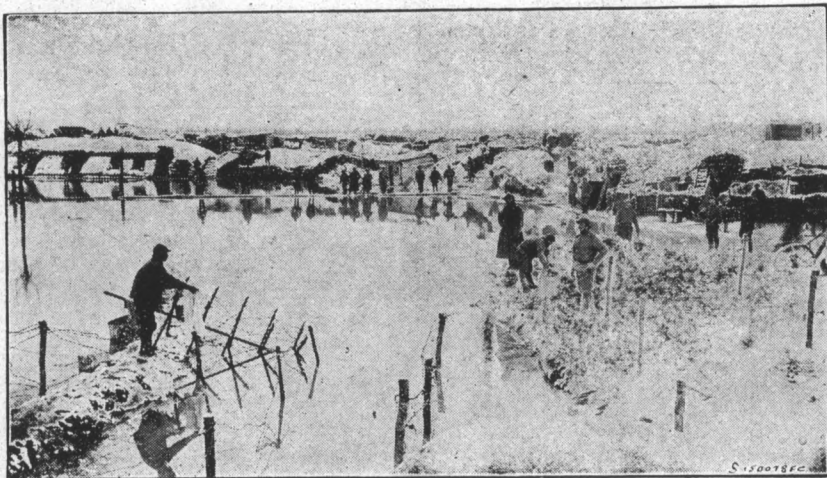
village and what is now Woodward avenue was then known as the Saginaw Pike and was just being put through.

Mr. Blades states that his father took his immigrant wagon from the boat, loaded on their belongings and started for Genesee, leaving there at nine o'clock in the morning; and that the first day revealed to them the longest mudhole they had ever seen, extending from Detroit to Senator Palmer's farm, a distance of seven miles, which was the road covered the first

day, with teams and travelers tired out at night. Lucky for us that these early pioneers caught the vision of the future, and realized that though conditions were bad, it did not necessarily follow that so must they ever be. At the Palmer farm was a small inn kept by a woman known as "Mother Handsome," who, Mr. Blades declares, "knew how to keep a hotel and make everybody behave themselves and mind their own business while on her premises."

From this place it took the Blades family two and one-half days to reach Grand Blanc, Genesee county, through the Michigan mud. By this time Mrs. Blades had arrived at the conclusion that anybody who would deliberately locate in such a country must be single minded or even less than that. Upon arriving at Grand Blanc, they moved into an old Indian trading house, which they first considered as a godsend, but later feared that it was only another trick of the Prince of Darkness. The Indians, believing that they had a perfect right to enter their old trading house, made themselves so perfectly at home that Mrs. Blades was constantly being embarrassed by early

WORLD EVENTS IN PICTURES



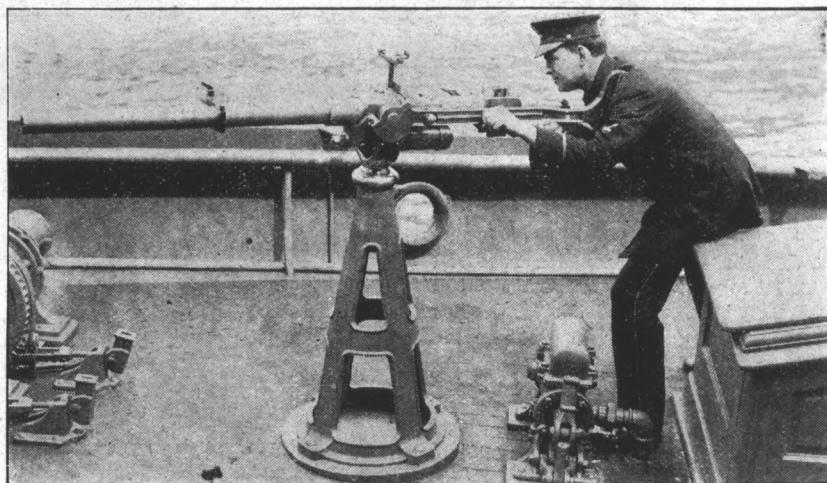
Snow, Ice and Water Invade Russian Camp on French Front.



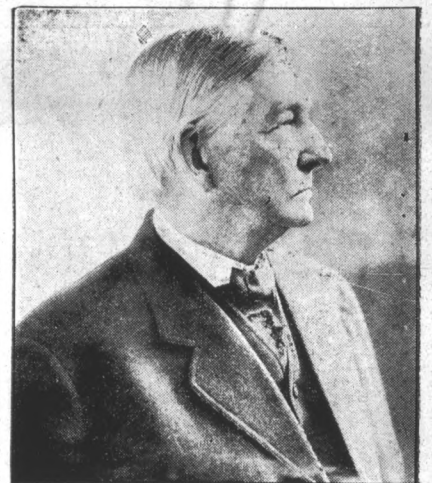
Pershing's Army Returns to Columbus, Followed by Crowds of Refugees.



American Sculptress Commissioned by Canada to make Statue of Edith Cavell



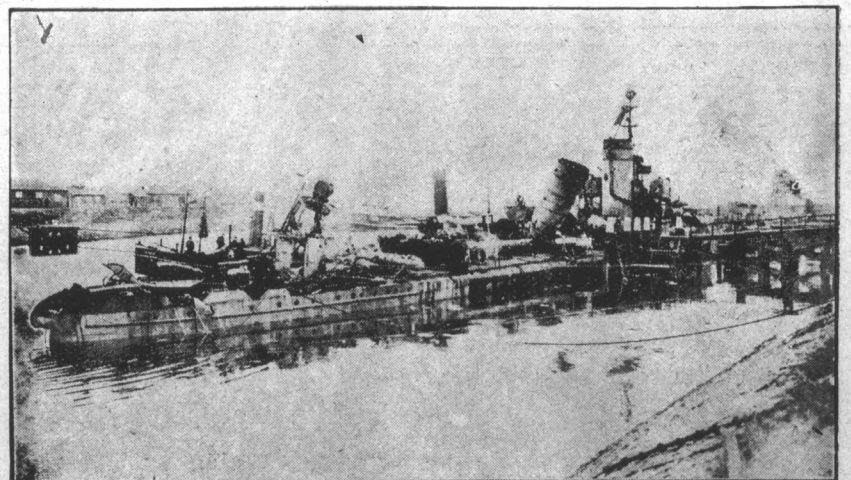
Operating 1-lb. Gun on Deck of Police Patrol Boat of New York Harbor.



Senator Stone, of Missouri, who Heads Foreign Relations Committee.



Scene Showing Rescue of Shackleton's Men from Elephant Island in 1916.



German Destroyer U-68 After Recent Battle with British Boats.

Copyright by Underwood & Underwood, New York



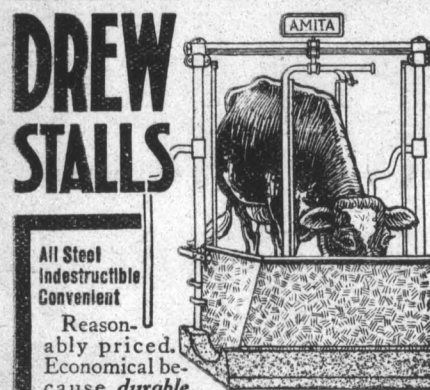
\$49.50
and up
Kirstin Stump Puller
10-Day Trial

This KIRSTIN Horse Power Puller, used by the KIRSTIN METHOD, is the cheapest and fastest way known for clearing land ready for the plow. We will guarantee you a saving of 10% to 50% over any other method. Over 40,000 in use. All steel construction combines great strength and light weight. Clears two acres from one anchor. Easily moved. Can be used with single, double, and triple power as needed. Will pull any size stump. Guaranteed fifteen years, flaw or no flaw.

Automatic take-up for making quick hitch. Foot for foot of cable, KIRSTIN covers more ground than any other machine. Easy on horses and man. Ten-day trial in your stump field.

Now—today—quick—write for our special Profit Sharing Plan to early buyers and our big Free Book—"The Gold in Your Stump Land."

A. J. KIRSTIN COMPANY
5953 Ludington St. Escanaba, Mich.
Largest makers in the world of Stump Pullers—both One Man and Horse Power.



All Steel
Indestructible
Convenient

Reasonably priced. Economical because durable and trouble free.

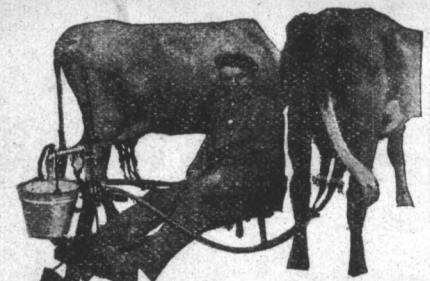
Drew Steel Stalls are better because they're equipped with a sure-stop on each side to guide the animal's head into the open stanchion.

Another important feature about the new DREW Stall is that the stanchion lock is always connected. Even when the stanchion is open there is still a solid connection between lock and arm. Every sanitary feature, every time, labor and money saving device that has proven best in cow stall construction has been included in the new DREW Stalls and Stanchions.

Your cows will be healthier, your barn work easier, your satisfaction and profit greater. If you fit out with Drew Stalls. Complete line of other Barn Equipment.

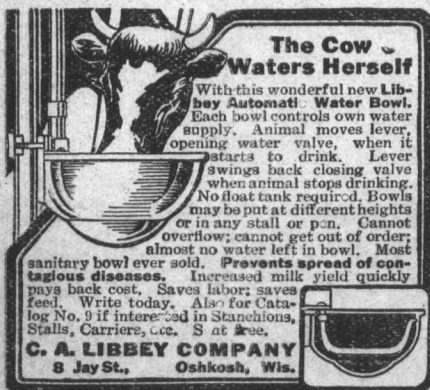
WRITE for large illustrated book on Dairy Barn Equipment. 53
Drew Carrier Co. Dept. 119 Waterloo, Wis.

WHO AM I?



I am the fellow that milks With MEHRING'S MILKER

It makes me smile when I see poor guys pulling away by hand. GO WAY BACK AND SIT DOWN! You have made no progress since the days of Noah! You are a back number sure! Ha! Ha! There is more truth than nonsense in the above words. A dairy man is certainly foolish who does not avail himself of one of Mehring's Milkers. It will milk one or two cows at once. 20 cows per hour. A child 12 years old can operate it. Price \$70 cash or \$75 on trial. Also engine power milkers. W. M. MEHRING, Keymar, Maryland.



The Cow Waters Herself

With this wonderful new Libbey Automatic Water Bowl. Each bowl controls own water supply. Animal moves lever opening water valve, when it starts to drink. Lever swings back closing valve when animal stops drinking. No float tank required. Bowls may be put at different heights or in any stall or pen. Cannot overflow; cannot get out of order; almost no water left in bowl. Most sanitary bowl ever sold. Prevents spread of contagious diseases. Increased milk yield quickly pays back cost. Saves labor saves feed. Write today. Also for Catalog No. 9 if interested in Stanchions, Stalls, Carriers, etc. S at free.

C. A. LIBBEY COMPANY
8 Jay St. Oshkosh, Wis.

Sweet Clover and Ky. Blue Grass
Prices and circulars on request. Everette Barton, Box 129, Fairmount, Henderson, County, Ky.

callers before she had time to get her hair out of curl papers. These same intruders afterward proved themselves her staunch friends.

Chief Fisher, of one of the tribes, had a charming daughter who was greatly attracted to the "white squaw," as they called Mrs. Blades. The tribe was on its way to Saginaw to get the government money, when the daughter was taken sick and was left with Mrs. Blades, who cared for her as she would her own child. When the tribe returned, the daughter of their chief was so much improved and had so many good words for her treatment at the Blades home that the Indians never forgot it. About a year after this incident Chief Fisher and some of his braves called at the house, finding every member of the Blades family but F. C. himself, prostrated with ague. The malaria, which was nearly being the death of the rest of the family, seemed to be curing the consumptive boy. A rather heroic remedy and one never destined to become popular. Chief Fisher inquired for food, and upon being told of the empty shelves in the Blades pantry, grunted Indian fashion and went away. In a few hours he returned with a saddle of venison, and every now and then afterward would appear and inquire if there was anything needed.

Some years later, Rev. F. C. Blades, believing the scripture that "whoso findeth a wife findeth a good thing and obtaineth favor with the Lord," married Miss Helen Brown, of Grand Blanc. This marriage was for life, as second helpings in matrimony were not so much approved by our pioneers as by their descendants. Soon after their marriage, as they were returning from a visit to their parents in Genesee county, they came to what was known as the Miller settlement. There they observed several Indians grazing their ponies by the roadside. The rest of the tribe were lying about in the shade of the trees. When Mr. and Mrs. Blades were in the midst of them, a stalwart Indian sprang to his feet with a blood-curdling whoop and rushed up to the buggy, where Mrs. Blades was shaking with fright. He grasped Mr. Blades' hand, shouting "Boo-sheu ne-con-nis?" (How are you, my friends?) He was Mash-quet, the successor of the chief whose daughter Rev. Blades' mother had befriended. After hugging Mr. Blades, Mash-quet sent for four wives and all his papooses and Mrs. Blades, having recovered from her fright, clambered down and shook hands with every Mash-quet, from the least to the greatest. The chief then called all the Indians about them and related the story of how the "white squaw" had befriended the Indian girl.

In 1844 Rev. F. C. Blades received his first appointment under the old Michigan conference of the Methodist Episcopal church, to the Shiawassee six weeks' circuit. This appointment carried with it the promised princely salary of one hundred dollars, but an actually realized one of thirty-eight dollars. This appointment also conferred upon the appointee the privilege of traveling on horseback close to three hundred miles every six weeks, topping twenty-eight times to dispense the "milk of the Word" to thirsting souls. This circuit included Wolverton's school house near Fentonville, Byron, Vernon, Shiawassee town, Cornuna, Dewey's, Bennington, Pitt's, Morrice, Perry, Shafts, Fuller's in Ingham and Rogers', Ramsdells' and Boutwell's school houses in Livingston. The people on this circuit lived in log houses, allowing themselves an occasional luxury such as whitewashing the stones on either side of the walk or painting the front door pale blue. However, poverty is sometimes opportunity and perhaps some of us need a taste of it to get us into the habit of living up to the best there is in us. Rev. Blades in after years had many honors awarded him, but he says: "I have met courtly

people in all the great cities of our country, and have enjoyed the hospitality of many, but none of them, while sitting at luxurious boards, could out-do the old pioneers in home-making hospitality."

At one time, during the year 1847, Rev. Blades paid a visit to Lansing township, Ingham county, to view the proposed site of the state capitol. Here he met Mr. Glen, one of the commissioners appointed to stake out the exact location of the capitol building. Mr. Glen, feeling that Rev. Blades was not in politics and, therefore could be trusted, asked him to locate the point for him. To this Rev. Blades agreed and determined to find a point or make one. After some deliberation he drove a stake on the exact ground where our beautiful state building now stands. Together the two men returned to Page's Mill just as the dinner horn blew. They took dinner with the mill workers. After dinner they joined with Rev. Blades in the singing of a hymn from memory, after which he offered a short prayer and talked to them for a half hour. This is probably the first sermon ever preached in Lansing.

Rev. Blades was afterward controller of Detroit and held many responsible positions, but he has always looked back on those early pioneer days as the proudest of his life, and those evenings spent with those plain boys and girls in homespun, when they separated into pairs around great baskets of walnuts, butternuts and hickory nuts, and the boys cracked the nuts while the girls picked the meats out, as the happiest he ever knew.

MAKE-BELIEVE LAND.

BY MILDRED G. PEASE.

There's a beautiful land of make-believe

Where I go and I shut the gate
In the high fence that's built between

That place and this world of hate.
When I enter there I leave my griefs
And temper and tears behind,
For everyone there is loving and good,
Patient and gentle and kind.

There are beautiful fields in that wonderful land—

Level and green and fair—
Where never a thorn or briar can grow
Nor the weeds of hate and despair.
But after a time when my soul grows calm

I long for my home once more,
With my own door-yard and the ones I love
And my vine-clad cottage door.

There are wonderful castles in that fair land

Towers and terraces fair,
Built with more than an artistic grace

And furnished with taste so rare.
But after I've rested a while in that place

And forgotten my sorrow and care
I'm glad to be back by my kitchen fire
With my loved ones and the old arm-chair.

Such beautiful flowers grow in make-believe land—

No exotic is half so fair—
And the song of the birds winging high above,

With melody fills the air.
But when I get back to the one I love
His voice makes the music for me
And the kiss of our boy is sweeter far
Than the perfume of flowers could be.

I wish I could take the ones I love
To that wonderful place with me—
We would shut the gate and we wouldn't come back.

Our troubles and trials to see.
But together we'd stay in that beautiful land

Loving and good and glad
And we'd soon forget we ever were here,
Selfish and sick and sad.

It is good to go into that make-believe land

And then to come back again
With strength and courage and faith renewed

To take up life's burdens and pain.
And I'm thinking perhaps when our life work is done

And we enter the heaven so grand.
Together we'll be in the place I now call

My beautiful make-believe land.

REDUCE FUEL COSTS ONE-HALF

FOR FORDS AND ALL OTHER CARS!!

Start Easy in Coldest Weather!!!

30% to 50% More Power and Mileage!!!

Air Friction Carburetors use cheapest grade gas and even a mixture of gas and coal oil or kerosene—with excellent results!!! 250,000 enthusiastic users. Start your car immediately while motor is still cold!!! No "sputtering", "popping" or "missing". End your carburetor troubles.

AIR-FRICTION CARBURETORS

NEWLY PERFECTED 1917 MODEL

Attached to any gasoline motor without changing operating mechanism.

SEE YOUR DEALER TODAY!!!

If he cannot supply you, write or wire us at once, sending his name and the name and model of your car.

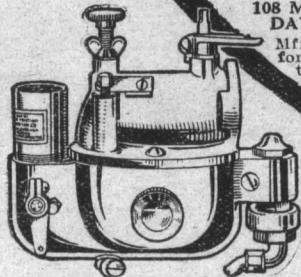
Ask Us About Our 30 Day Trial Offer!!!

30% off List Price Where No Special Representative is ALREADY APPOINTED!!!

THE AIR FRICTION CARBURETOR CO.

108 MADISON ST. DAYTON, OHIO

Mfr. of carburetors for pleasure cars, trucks, tractors and motor boats



Dealers: Write or Wire For Our BIG Proposition.

BIG BLUE HEN BROODER

\$14.50 size large as many others rated as thousand capacity. Warms large floor space.

Big in Size Big in Value Big in Results

Big, powerful heater with quick, sure, automatic control. Top and bottom drafts. Fire can't burn too high or down too low.

Money Back Guarantee

500 chick size—\$14.50*
1000 chick size—\$19.50*

New Brooder Book

shows why The Blue Hen raises more chicks at less cost. Get it to-day with special offer to dealers and farmer agents.



Watson Mfg. Co.

Drawer 48

Lancaster, Pa.

Makers Blue Hen Mammoth Incubators with Automatic Egg Turners. Catalog Free.

Seven Cows Kept One Year On 1 Acre

of Ross' Eureka Corn. This corn yielded 70 tons and 800 lbs. of best quality ensilage on one acre. Look for our trademark on every package—the man holding the stalk of corn.

EUREKA CORN
grows tallest, has most leaves—more ears

Sudan Grass—the latest forage crop grows 7 to 9 feet. Cattle, horses and pigs eat it readily. Produces 2 or 3 crops a year. Write for big new catalog today, number limited, quotations and list of our wonderful varieties of big-yielding corn and seeds.

ROSS BROS. CO.

37 Front Street Worcester, Mass.

Choose your silo filler now

Blizzard Ensilage Cutter

WRITE for free books

1917 catalog—"What Users Say," "Making Silage Pay Better"—all free.

The Blizzard Ensilage Cutter is easy running, fills highest silos; big capacity; cuts evenly. Very strong and durable.

The Jos. Dick Mfg. Co., Box 24, Canton, Ohio

A Big Opportunity!

Be your own boss. Take orders for the nationally advertised Dyneto Electric Lighting Outfits from farmers and suburbanites. Easy work. Liberal commissions. No experience necessary. Write at once for details. No obligation. Dyneto Electric Company, Syracuse, N. Y.

"Mister 44" By E. J. RATH

The Indian was dozing the forenoon away, up by the camp-fire. Stoddard went to where he sat and shook him by the shoulder.

"I'm going up to the station," he said, dropping his voice to a low key. "Tell the lady I will be back. Put yourself at her orders and take good care of her."

John nodded and resumed his doze. The launch swung away from the island, with Stoddard aboard and his canoe towing astern.

Mrs. Stoddard did not revert directly to the desire of her heart, which was to tear her son away from this uncouth wilderness and carry him back to the life luxurious. But she did talk of Estelle Wallace—casually always, yet persistently and adroitly. It was astonishing how easily Estelle slipped into the conversation. At first Stoddard paid no attention; but later he found himself listening in quiet amusement at his mother's skill.

At Deepwater Station Stoddard, excusing himself for a moment, sought Billy Mason, the stationmaster, and drew him into a secluded corner. Looking him steadily in the eye, Stoddard asked:

"Are you hunting a lunatic for a reward, Billy?"

Mason's eyes squinted and twinkled. "I guess I could find him if I needed the money," he chuckled.

"Does anybody else know?"

"I don't think so."

"Well, I made an awful mistake, Billy. But for Heaven's sake don't give me away. You won't lose a cent."

"Oh, I knew there was some mistake, Mr. Stoddard. But I was fooling about that reward. Lord, I wouldn't give you away!"

"Just the same I'll see you don't lose anything," declared Stoddard, gripping the stationmaster's hand. "Just forget you ever say or heard anything."

"Sure thing."

Uncle Harry's private car, into which Mrs. Stoddard, Betty, and Larry Livingston had already fled that they might escape from an unwelcome world, was fitted much after the manner of a steam yacht on wheels. If not actually the last word in luxury, certainly it belonged somewhere in the last paragraph.

To this trio of travelers the sensation of boarding it once more was like that of a return to the Garden of Eden. To Stoddard, who followed them after his interview with Billy Mason, it was a sybaritic irritation. He did not despise comfort, nor even luxury; but in the woods-country these things were of a different kind.

Larry had already retired to the stateroom assigned to him and was effecting a change of costume, having recovered the clothes he had checked in his grip at Deepwater Station.

There was a delay in departure that was interminable to Stoddard. The special engine did not appear for more than an hour, and after this came a long wait for telegraphic orders and the clearance of a right of way.

Mrs. Stoddard and Betty found their son and brother indifferent company. He was preoccupied, talked in a rambling, absent-minded fashion, and evinced little interest in the trip concerning which they poured forth pleasing predictions. He wanted to be off and away to his island and what awaited him there.

It was midafternoon when the car pulled out, in the presence of a group of interested loungers. The parting between Stoddard and Livingston was of the briefest character. The former was still harboring his resentment at the incident of the morning, and Larry

did not venture a further reference to it.

There was, however, a quiet smile on his lips as he joined Mrs. Stoddard and Betty on the rear platform and waved a good-by to the big man who stood in the middle of the track, looking after them. Larry believed he had played a part in guiding Destiny. In his narrow way he was shrewd; he had confidence in his own judgment of human nature. He was willing to abide the result.

Stoddard did not wait for the car to disappear from sight, but went down to the landing, where his canoe lay, and began his ten-mile journey down the Northeast Arm. It was midafternoon.

He neither hurried nor loafed, but laid to his work methodically, his head bent and his mind filled only with thoughts of the wonderful thing that had come into his life. He was glad to be alone.

Two hours later he sprang ashore upon the island and hurried up to the camp. Neither Sadie nor John was there. With eager steps he set off along the shore. She would be somewhere by the water's edge, he knew, watching her wonder-country. What he would say he did not know; there was no speech framed on his lips. He knew only that the words would come when he found her.

A complete circuit of the island brought him back to the camp with no sign of Sadie. He raised his voice in a halloo, but no answer came. Then he noticed that the Indian's canoe was missing.

CHAPTER XVIII. The Flight.

When Stoddard had satisfied himself that he was the sole tenant of the island his state of mind was anything but placid. His immediate sensation was that of disappointment. He was impatient now. He feared, too, for what she must think of him—a lagard in love.

For Sadie, he knew, understood what was on his lips and had been waiting for it tremulously; he had seen that in her eyes, had felt it in the warm clasp of her fingers. He cursed Livingston for a marplot; he cursed himself for having fled with his love unspoken.

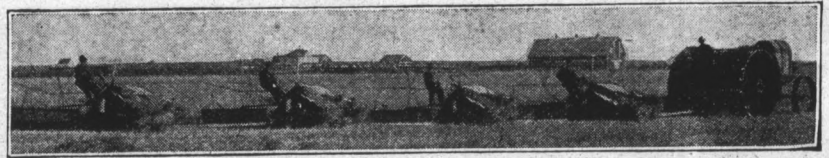
It was not until an hour passed and the sunset had come that he began to be alarmed. John had doubtless taken her fishing somewhere in the birch-bark canoe, he knew; but it was past time for them to return. What delayed them?

For the first time he was experiencing the apprehensions that can flood the mind of an uneasy lover. He had visions of mishaps to a frail canoe. He thought of every conceivable disaster that might befall the traveler in the Deepwater country. He pictured Sadie in the grip of some unhappy and perilous circumstance, and the fact that John was careful and competent did not serve to lighten his forebodings.

When he could stand the suspense no longer he leaped into his canoe and made a reconnaissance. Whither to go, however, he could not tell, so his search consisted merely of a trip around the island, which brought him back to the landing-place with no glimpse of the missing ones nor the birch-bark craft. The red ball of the sun was hidden now and the shadows were long and gray.

He fell to packing the narrow limits of the camp like a creature in a cage. He tried to tell himself that this was a childish anxiety laying hold upon him; yet he could not shake it off. He want-

Go Get a Homestead Free this spring



No matter where you have been farming, a fortune awaits you if you go now and get one of the recently surveyed 160 acre homesteads in the rich districts reached by the Canadian Northern Railway, the newest transcontinental railroad of America, "The Road to Opportunity." Here you can make a fortune at growing grain and mixed farming, raising cattle, hogs and poultry.

Western Canada's improved, easily accessible markets and recent extension of railways makes conditions and opportunities of settlement excellent.

"You Can Do What Others Are Doing"

George Rupp says: "I came here from Hudson, Iowa. I can stand on my windmill and count no less than a dozen grain elevators. I can stand in my yard in the Fall and count as many threshing machines. My horses and cattle have run outside all winter."

(In 1915 Alberta produced 107,741,000 bu. of oats or an average of 66.35 bu. per acre. The total value of all crops in 1915 was \$114,186,000.00.)

Mr. A. Taylor of the Rhein District in Saskatchewan, says: "I had 30 acres in wheat that averaged 50 bu. an acre, 315 acres in oats, that averaged 88 bu. an acre, 20 acres in barley that averaged 50 bu. an acre."

(In 1915 Saskatchewan produced 195,042,000 bu. of Spring Wheat or 28.54 bu. average per acre—total value of all crops for the year was \$382,845,000.00.)

W. Loat says of the Kenville District in Manitoba: "I had 200 acres of wheat that averaged 43.5 bu. an acre, 17 acres of oats that averaged 65 bu. 25 acres of barley that averaged 50.5 bu. an acre."

(In 1915 Manitoba produced 96,062,000 bu. of Spring wheat or an average of 28.83 bu. an acre. Total value of all crops for 1915 was \$201,100,000.00.)

Charles Draper says: "I came from Nebraska with no capital—and have not had a poor crop for seven years. Any man willing to work can succeed here."

Mr. C. D. Schnauffer says: "I came from Illinois in 1907. Today I am worth \$50,000—I cleared \$120 from the tilters from one sow last year."

(In 1915 British Columbia produced 3,033,000 bu. of potatoes or an average of 247.28 bu. per acre; the total value of all crops was \$11,889,100.00.)



Canadian Northern Ry.

F. N. WOOD, G. A.
214 Park Bldg.
Pittsburgh, Pa.

R. N. CLARK, G. A.
64 West Adams St.
Chicago, Ill.

\$7.50 Down After 30 Days Free Trial

Think of it!—Only \$7.50 if satisfied after trial—then a few monthly payments—and you keep the Genuine Belgian Melotte separator with the wonderful, self-balancing bowl. The Melotte turns so easily it will run 30 minutes after you stop cranking unless you apply brake. Write for catalog—it explains everything. Now—read our offer.

Not a Cent in Advance. Just ask for a 30-day free trial. Then we ship the Melotte. No salesman calls to bother you. Use the machine in every way. After 30 days, send it back at our expense if you wish. Or keep the great Melotte on our rock-bottom offer—\$7.50 down and balance in the same monthly payments. Write for free catalog and details.

Save \$15.25 Valuable Book

No Duty Now Free

The high tariff, which has heretofore kept the great Melotte out of reach of the American farmer has been cut right off. The Imported Belgian Melotte now comes in free of all duty. Extra reduction now of \$15.25. We offer you these separators at the rock-bottom, before the war price—the same price charged in Belgium plus only \$1.75 water freight. Seize this opportunity. Send for catalog.

Write today for "Profitable Dairying" written by Professor Benckendorf and Hatch, the two great, practical dairy scientists. 88 pages; no advertising. Tells how to feed and care for cattle—how to increase dairy profits.

Write Today We'll also send the new Melotte catalog and details of our free trial, no money down, easy payment offer. Write while this offer lasts.

The Melotte Separator

H. B. BARSON, U. S. Manager.
Dept. 4813 19th & California Ave., Chicago



Just write me a postcard with your name and address and I'll send you my big new 1917 Buggy Book. Just out! Shows 150 newest styles of genuine Split Hickory Buggies all at money saving prices. More than a quarter of a million of these famous rigs now in use. Every one guaranteed for two years and shipped on—

30 DAYS FREE ROAD TEST!

This year I am putting out a world beater called the Split Hickory Special—the finest buggy ever built. You ought to see it. Send for Free book today.

H. C. Phelps, Pres.
The Ohio Carriage Mfg. Co.
Station 32
Columbus, Ohio

SPLIT HICKORY Two Years GUARANTEE



THE GENUINE SMITH STUMP PULLERS
W. SMITH GRUBBER CO.
CATALOG FREE—DEPT. 42 LA CRESCENT, MINN.

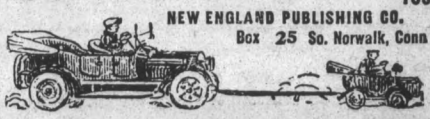
ENORMOUS PROFITS TAKING ORDERS FOR



TOILET ARTICLES, PERFUMES, SPICES, FLAVORS, SOAPS, AND SPECIALTIES. Over 90 big every day sellers. Wanted in every home. Good repeaters. Exclusive territory to MEN OR WOMEN. All or spare time. Why be a laboring drudge when you can enter an easy permanent business with a big income? NO CONTRACT, NO RIG REQUIRED. NEED NOT INVEST ONE CENT. OUTFIT FREE. EXPERIENCE NOT NECESSARY. Full instructions given. The chance of a lifetime. Don't miss it. Territory going fast. Write for particulars giving age and occupation. DUO FACTORIES, Dept. H.2, No. Java, N.Y.

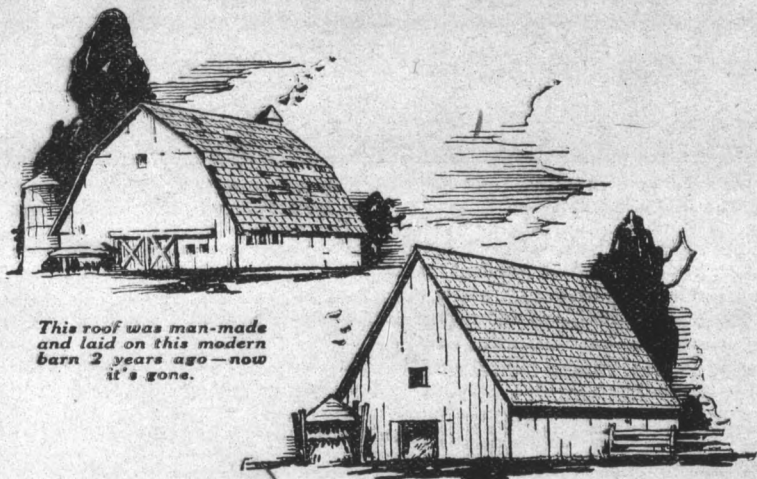
New Ford Joke Book 1917

All the latest jokes on the Ford Auto. Hundreds of them and all good ones. Spring a new one on your neighbors. Large book with colored cover by mail, 10c



NEW ENGLAND PUBLISHING CO.
Box 25 So. Norwalk, Conn.

VERMONT SEA GREEN SLATE



This roof was man-made and laid on this modern barn 2 years ago—now it's gone.

This old barn has been safely sheltered by Vermont Sea Green Slate for 30 years.

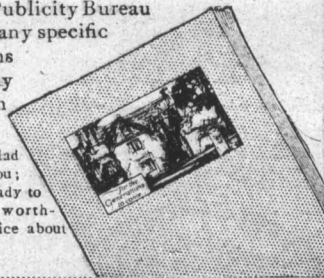
The Man-Made vs. The Nature-Made Roof

NO wonder wise men are going "Back to Nature" for roofing! Vermont Sea Green Slate has been thousands of years in the making and it cannot be destroyed in a lifetime.

When you roof with Vermont Sea Green Slate, your mind is relieved. Thoughts of fire and leaks; repairs and paint—are forgotten. A strong, sturdy roof that will last for you—your children—and your children's children.

Our big book, "For Generations to Come," will tell you the facts you want to know about roofs. Actual costs and plans; photographs and tests. Send for the book, of course, but do more than that. Write to the Vermont Slate Manufacturers' Publicity Bureau and ask any specific questions you may have in mind.

Always glad to help you; always ready to give you worthwhile advice about your roof.



THE VERMONT SLATE MANUFACTURERS' Publicity Bureau N. Granville, N. Y.

Please send me FREE your handsomely illustrated book, "For Generations to Come." I am interested in roofing a (kind of building) _____

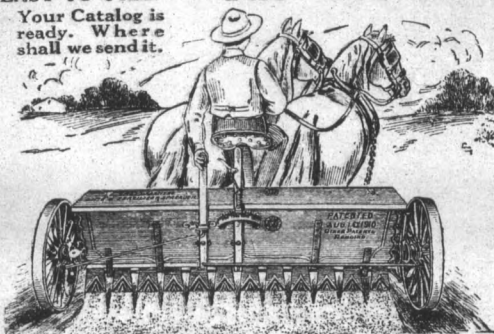
Name _____

Address _____

"LOW AND EASY TO FILL." Your Catalog is ready. Where shall we send it.

The Guarantee Spreader

"HARD TO WEAR OUT."



The picture tells the true story. Note! How evenly the material is being spread.

Imagine a giant of powerful strength, then you have a mighty good vision of the new Guarantee Lime & Fertilizer Spreader.

Consider, please, the superior features, such as the super-feed, shifting clutch, and spreading device.

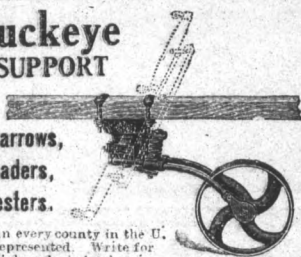
For durability, simplicity and practicability, gentlemen, there never has been a spreader that could equal her, for spreading lime, Ground Limestone, commercial fertilizer, etc., evenly, or if you so desire she will sow the material in rows at a moment's notice. She works with ease, but what I like about her most is the special patented features and how sturdy she is built.

Place your order early to avoid the rush. You can save \$15.00 by being the first one in your county to purchase the Guarantee Spreader. Better write us today. Thank you.

GUARANTEE MFG. CO., Dept. B 62, Baltimore, Md.

The Buckeye TONGUE SUPPORT

for binders, mowers, disc harrows, manure spreaders, and corn harvesters.



AGENTS wanted in every county in the U. S., except where represented. Write for circulars, testimonials and wholesale prices. The Milford Mfg. Co., Mansfield, Ohio

HELP WANTED

Single, steady, reliable man, for 80 acres Dairy farm, must understand farming and raising crops. Stage corn, oats and clover our principal crops. Must be good with team, and capable of keeping harness, barns and implements in good condition and assist herdsman in milking, etc. Steady work, chance for advancement. State wages expected with references. Board & lodging furnished. Dr. R. J. Palmer, 24 Marston, Ave, Detroit, Mich

FOR SALE In live manufacturing town stock of groceries to invoice \$1090. Can reduce lower. Fixtures \$500. Doing a daily cash business of \$75. Will stand close investigation. Address Box M-38, Michigan Farmer, Detroit, Mich.

Neither nations nor churches have been truly Christian "THE CRYING NEED OF A RENEWED CHRISTIANITY" by Charles W. Elliot, and other Unitarian literature sent free. Apply to Mrs. S. C. SARGENT, 256 Woodbine Ave., Rochester, N. Y.

Orchard Pruning, training young trees; rejuvenating old ones; top grafting. Careful work by experienced agricultural college graduate. E. H. BROWN, Benzonia, Mich.

WANTED

To buy Soy Beans, Field Peas, Field Pumpkin, Barley, Buckwheat, White Cap Dent, Sweet Nose Flint Corn. Mail us samples. S. M. Isbell & Co., Jackson, Michigan

Pull Big Stumps by hand



Showing easy lever operation

Clear your stump land cheaply—no digging, no expense for teams and powder. One man with a K can rip out any stump that can be pulled with the best inch steel cable. Works by leverage—same principle as a jack. 100 pounds pull on the lever gives a 48-ton pull on the stump. Made of Krupp steel—guaranteed against breakage. Endorsed by U. S. Government experts.

K Stump Puller

Write today for special offer and free booklet on Land Clearing.

Walter J. Fitzpatrick

Box 4

182 Fifth Street
San Francisco
California



POWER increased, carbon eliminated, results guaranteed, write for folder. Automobile Accessories Co., Baltimore, Maryland

ed to seek her, but was helpless even to make a start.

Once he thought of the hotel. Perhaps she had bidden John to take her thither. Yet in the same instant he doubted that she would go without him.

Stoddard was still enchained by futile worry when a glance toward the lake showed him the Indian's canoe approaching the island. He bounded to the water's edge and waited.

As it drew near something like a chill swept over him. There was nobody in the canoe save John, smoking unconcernedly and wielding his paddle lazily.

Stoddard called across the stretch of water and waved his arms wildly. The Indian put down his pipe and quickened his pace.

"Where is she?" cried Stoddard as the canoe neared the island.

"Gone," answered John unemotionally.

"Gone!"

"Sure!"

"Gone where? What do you mean?"

"You get letter?"

"No!"

"She left letter," remarked the Indian as his canoe touched the rock.

"Where is it?"

"Tent."

Stoddard dashed up the bank. Crossing the camp-clearing in leaps, he flung aside the flap of the light canvas shelter and dived within.

Lying on the blankets was a folded paper, weighted with a little stone. He seized it and carried it outside, for the light within the tent was too dim for reading.

Sadie had written:

Dear Friend:

Im going away Jack—it's the best way I guess. Their dont seem to be any jobs up here like I thought and you musent bother trying to get one for me, now I wont be here.

I guess a girl has got to work in the city. But I aint sorry I came up here Jack I hope its all right for me to call you that, its only for now anyhow. You been awful good to me and I cant ever thank you for all the things you done. Ive had a little bit of outdoors anyhow and they cant ever take that from me. But I can see I made a mistake coming at all.

I couldnt stay to say good-by Jack it would have hurt too much I did a lot of thinking while you was gone with your mother Mr. Livingston maybe will tell you some time, for he is right even if I dont like him.

So good-by Jack I wont ever forget you and all you done for me. Im going to believe youll think of me once in a while because that will help some. Im sorry I cant write you a better letter but—

Did you know I been praying for you every night I always will Jack. God Bless you

SADIE.

Stoddard stood motionless as a statue for several minutes. His brain was dull and numb. He was struggling to make himself believe. Sadie was gone! He read the letter a second time. Gone she was beyond all doubt. But where?

Now he sprang into action. The Indian was leaning over his beached canoe, examining a doubtful spot in the bark, when Stoddard almost upset him with the fury of a grip that spun him around like a top.

"Where did she go?" he shouted.

"Took train" said John placidly.

"Where?"

"Lower Station."

"You took her there?"

The Indian nodded.

"The down-train? The six forty-five?"

"Sure."

It had been gone from the Lower Station more than an hour. Stoddard swore aloud.

"When did she start?"

"Oh, plenty time."

"Where is she going to?"

John shrugged his shoulders to indicate that he had no idea.

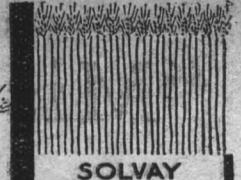
"Did she have a ticket?"

"She would pay on train, she said." Stoddard paused, baffled. Anger and dismay almost choked him as he glared at the little Indian.

(Continued next week).



UNLIMED



SOLVAY

SOLVAY PULVERIZED LIMESTONE

is powdered as fine as flour. Solvay guarantees that 95% passes through 50-mesh screen. Solvay Pulverized Limestone is furnace-dried and spreads easily—two tons to the acre. Contains 94% total carbonates, and every particle dissolves into the earth, sweetening acid soil and creating maximum fertility.

Spread Solvay Pulverized Limestone now on winter wheat. Natural action of spring thaws will work in the lime. Not only will your wheat crop be benefited in quantity and quality, but the sweet soil absolutely necessary to the legume crop which follows will be provided. Order now—full information and soil advice free.

The Solvay Process Company
380 W. Jefferson Ave., Detroit, Mich.

Go South BEFORE SPRING

Go now, before Spring work begins, and visit the

Highlands of Louisiana

where the whole district is rapidly settling up with good farmers from the Northern states—where Winter is Springtime and the planting season is weeks ahead of the land of snow and ice. A trip now will open your eyes; it will show you the possibilities of a country where the climate is with you instead of against you.

Book FREE On
More Acres for Less Money

Write today for this book, "Where Soil and Climate Are Never Idle", with information about low excursion rates from your town, and a map of Louisiana in full colors. A postal card will bring them all—MAIL IT.

Long-Bell
FARM LAND CORPORATION
429 R. A. Long Building
KANSAS CITY, MO.

Boost Farm Profits By NEW Methods

Don't be satisfied with average crops and profits. Scientific farming puts ordinary results to shame. Learn from country's greatest experts without leaving your home. Let them tell you newest and most profitable methods of soil culture, dairying, crop production, farm economics, stock and poultry husbandry and other vital subjects.

LEARN AT HOME! BOOK FREE

Book tells what scientific methods are doing for others, tells about agricultural experts who will teach you and describes our simple, easy-to-understand Home Study Course. Mail postal now, before you forget. Address: Correspondence College of Agriculture, 13 College Bldg., Ft. Wayne, Indiana.

LANDOLOGY A magazine giving the FACTS in regard to the land situation. 3 months' trial subscription FREE if for a home or investment you are thinking of buying good farm land, simply write me a letter and say, "Mail me Landonology and all particulars free." Address: EDITOR, LANDOLOGY, Skidmore Land Co., 308 HALL AVE., MARINETTE, WIS.

Cabbage

Salzer's Lightning ripens in 60 days. Giant Flat Dutch measures 12 to 14 in. diam. All varieties. Northern grown, tested stock. Biggest producers in the world.

FOR Big Pkg. Cabbage Seeds
Big Pkg. Onion Seeds
Big Handsome Catalog

Miracle records in early maturity, uniformity and productiveness. New 184-page catalog brimful of valuable information on everything for the farm and garden—field crops, vegetables, flowers.

Today is the time to send your dime. Do it NOW.

JOHN A. SALZER SEED CO.
Box 368, La Crosse, Wis.



MARQUETTE COUNTY POTATO CLUB WORK.

(Continued from first page).
seconds, one third and two fourths. This is thought to be a creditable showing, at least those who had charge of the work are not ashamed of the record made. The credit for this success is due to all who aided in the work. Nothing could have been accomplished without the local dealers. Mr. Anderson helped to keep up enthusiasm and aided in the monthly meetings while the agricultural agent looked after the growing of potatoes.

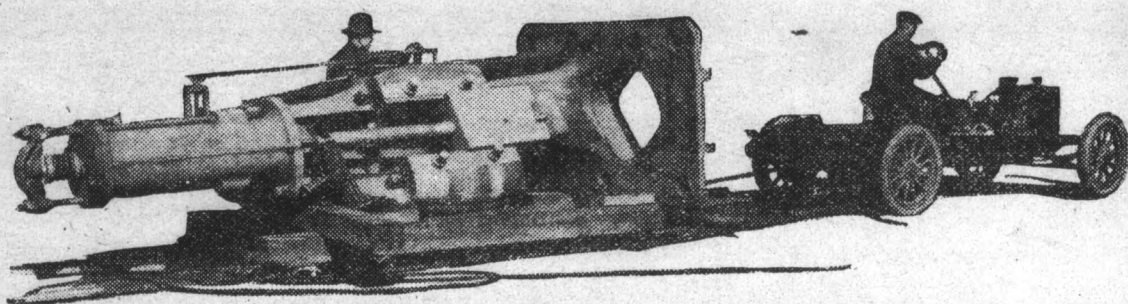
Another feature of the work which should not be overlooked is that forty boys planted potatoes and thirty-two of them completed the project, that is, made full reports, wrote stories and exhibited potatoes. Eighty per cent completed the club requirements. This of itself is a record-breaker for any county in the state. Every boy who was a club member last year expects to continue and all have planned to do better than before. There are many other boys joining. The National Mine Club will be doubled next year. This year's club membership included four girls and they all did well.

The following is a report of the thirty-two members who completed the project:

No. members or plots.....	40
No. members competing....	32
Av. size plots, sq. rds.....	35
Plots manured	21
Loads of manure.....	58
No. treated with formaldehyde	26
No. growing Green Mountain	24
No. shallow cultivation.....	20
No. visitors to plots.....	133
No. bushels grown.....	1141.7
Average number bushels per acre	163.2
Cost of growing	\$ 538.34
Returns (\$1.25 for commercial, 30c culls, \$2 seed)....	1,502.72
Profit	964.38
Av. profit per member.....	30.13
Av. profit per member, one acre basis	137.60
Av. cost per bushel.....	.471
Largest profit (from 30 sq. rd.)	94.37
Lowest profit (loss).....	6.93
No. not paying expenses....	2

The five clubs were located at National Mine, Northland, Watson, Skandia and Richmond. The National Mine Club happened to be the county champion and also the state champion club.

There are many benefits resulting from this club work and it is hard to state which should be put foremost. Even if there had been no profit and each boy, or nearly all, remained in the club to try again, the benefits would be worth while. The results obtained from the club meetings mean men in the near future who can conduct meetings of adults. The results as we see them now are: The losers are stricken with a determination to win; the boys are learning parliamentary law; they can stand on their feet and talk; learned how to keep records of farm work; gives a new impetus to language work; shows the necessity of keeping farm accounts; shows the necessity of knowing how to use arithmetic on the farm; learned how to do a certain kind of work in a practical and scientific way; learned something about potato diseases and how to avoid them; gave the boys something to think about and something to do during their spare time; put the boys on the own responsibility; the boys had something of their own to work, with an anxiety to the outcome; it gave spending money for most of the members; showed what can be done with a potato crop if handled right; it showed many a father and neighbor how to grow potatoes. Other results might be added to this list, but it seems unnecessary at this time. This we will say in closing, that thirty-two boys and girls in Marquette county have justly earned a profit of \$964.38 which they would not otherwise have had and most of this was taken from land that would not have been worked at all if it had not been for the organization of potato clubs.



This proves, more powerful than words, the great pulling power of the Chalmers. A short time ago a big steam hammer arrived at the Chalmers works. It weighed in excess of 30,000 pounds. After it was unloaded from a freight car it had to be moved to a building a quarter of a mile away. A Chalmers chassis, just finished, was taken from the factory and a towing rope attached. Several times the rope broke and the steel rollers placed under the hammer were crushed like eggshells. The Chalmers, however, hauled the load with ease, and the hammer was in place in an hour.

Specifications

Engine—6 cylinders, bore $3\frac{1}{4}$ ins., stroke $4\frac{1}{2}$ ins., piston displacement 224 cu. ins. Power—45 h.p. (on the brake test.) Starter—Westinghouse 2 unit. Carburetor—Stromberg, horizontal, hot air heated. Clutch—Dry disc, asbestos on steel. Fuel feed—Stewart-Warner vacuum system. Ignition—Remy distributor, Willard 80 ampere hour battery. Tires—32 x 4, chain tread on rear.

Prices

Five-passenger Touring	-	\$1250	Seven-passenger Sedan	-	\$1850
Seven " Touring	-	1350	Seven " Limousine	-	2550
Three " Roadster	-	1250	Seven " Town-car	-	2550

(All prices f.o.b. Detroit)

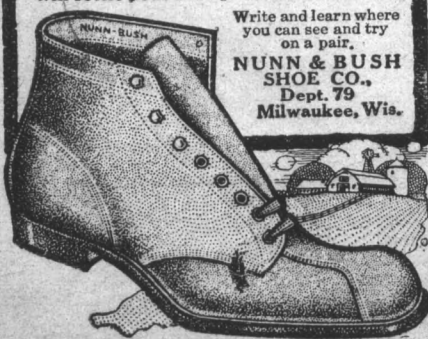
FARM-WEAR

SHOES for FARM WEAR

"BETTER LOOKS AND MORE MILEAGE"

Question: "What rots shoe leather?"
Answer: "Uric Acid."
Q: "What causes Uric Acid?"
A: "Sweaty feet and barnyard service." But Uric Acid can't harm Farm-Wear Shoes because the leather is double tanned. This makes the shoes wear twice as long as ordinary shoes. Also Farm-Wear Shoes are made especially for farm service. They are better looking and better fitting than other work shoes. Farm-Wear Shoes for men and boys, 6 in., 8 in., 12 in. and 16 in. high, will settle your shoe problem for all time.

Write and learn where you can see and try on a pair.
NUNN & BUSH SHOE CO.,
Dept. 79
Milwaukee, Wis.



SEED CORN 7 varieties—80, 100 and 110 day corn, all northern grown; full line farm seeds—everything guaranteed. Cfr. free. C. H. & J. GRAVES, Antwerp, O. (Paulding Co.)

1917 PLANTING GUIDE AND PURE SEEDBOOK

Ask now! This beautiful 96-page four-color book describes 1917 varieties vegetables and flowers; handsomely illustrated; beautiful home grounds, flower and vegetable gardens, landscaping, shrubbery, orchards, farms. A dictionary on gardening! Flower lover's delight! Berry grower's book! An orchardist's manual! Most wonderful gardening guide catalog ever published. Better than our famous 1916 book. Don't miss it. Ask today. A postal gets it. Galloway Bros. & Co., Dep. 185 Waterloo, Ia.

SCARFF'S SEED CORN
6000 Bushels extra selected and sure to grow. Finest quality. 20 leading varieties. Highest yields. Best show corn. Wonderful ensilage corn. Also seed oats, barley, alfalfa, timothy. Samples on request. 1200 acres. Write for catalog. W. N. SCARFF & SONS, New Carlisle, O.

CONDON'S NEW PROSPERITY CABBAGE

Quick as lightning. Hard as stone. One of the earliest in existence. To introduce our Northern Grown "Sure Crop" Live Seeds we will mail you a Big Package of Condon's New Prosperity Cabbage and Mammoth 1917 GARDEN and FARM GUIDE FREE. Write today sure.
CONDON BROS., SEEDSMEN,
Rock River Valley Seed Farm
Box 750, ROCKFORD, ILLINOIS

CLOVER & TIMOTHY \$4.00

Greatest Grass Seed Value Known—Investigate. Alsike Clover and Timothy mixed—the finest grass grown for hay and pasture. Cheapest seedling you can make grows everywhere. You will save 1/4 on your grass seed bill by writing for free sample, circular and big Co-operative Seed Guide, offering Field Seeds, all kinds. Write today. American Mutual Seed Co., Dept. 531 Chicago, Ill.

LEGUME SEEDS

Soy Beans, Field Beans, Field Peas, Cow Peas, Clovers, Alfalfa, Vetches, also Seed Oats and Corn.
Edw. E. EVANS, West Branch, Mich.

Pedigreed Oats

A number of members of the Michigan Crop Improvement Association have for sale pure strains of pedigreed Worthy and Alexander oats, inspected under the Association rules. These high yielding stiff strawed varieties were developed at the Michigan Agricultural College and are especially adapted to Michigan conditions. Printed lists of those having inspected oats and uninspected barley, corn, beans, soy beans, clover, etc., may be had on application to the secretary J. W. Nicolson, East Lansing, Michigan.

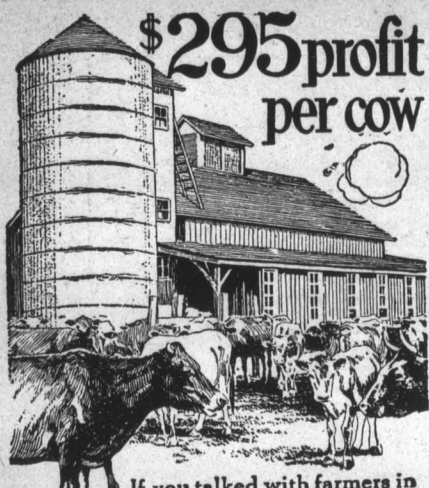
SCOTT'S FIELD SEEDS

Our seeds are selected and cleaned to be WEEDLESS and free from dead grains. They will go much farther than ordinary field seeds, nearly always adding enough to the crop to pay for themselves. Samples and catalog including "How to Know Good Seeds" free. Write today. O. M. SCOTT & SONS CO., 46 Main St., Marysville, O.

CABBAGE MAGGOT Protect your early cabbage, and cauliflower from this pest. A. B. C. Plant Protectors. Circular. Can't Curl felt pads slip on the plant directly after setting and insure 91 to 100 per cent crops. FREE SAMPLES. Price \$2.00 per thousand. Plant Protector Co., 29 South Water St., Rochester, N. Y.

Seed Oats, Garton No. 5, "The Corn Belt Oat" Free from smut. Sample and prices on request. E. S. CHRISTIANSEN, CORAL, MICH. Member Michigan Experiment Association.

For Sale Good Northern Grown, clean, disease free, Seed Potatoes. JOHN V. HARRISON, Sec'y., Manton Potato Growers Assn., Manton, Mich.



If you talked with farmers in Arkansas and Texas, they'd show you that while a cow costs over \$100 per year to maintain up north, she costs only \$55 per year to keep down there. Figure up all the advantages along the

Cotton Belt Route in Arkansas and Texas

with its much lower priced land, twice as long pasture season, far shorter winter feeding, no expensive shelter, etc. You'll then see how \$295 gross can be made from a good Holstein or Jersey, yielding \$300 in milk, a \$25 calf and manure worth \$25. And they get higher prices for their products, too—milk retails at 10c a quart, butter brings 35 to 40 cents and 80c is paid for 20% cream at the local creameries.

J. R. Scurlock ships cream to Piggott, Ark. and gets 35c a lb. for his butter, f.o.b. his station. S. B. Todd of Comanche, Tex. started dairying with four good Jerseys, sold milk and butter to local places and cleaned up \$7,972 since 1912. After 3½ years he sold part of his herd for \$2500 cash, reserving 19 head of choice stock worth \$1760. He did this on only 105 acres. W. Y. Wester, near Sulphur Springs, Texas keeps 9 to 12 cows; yet he sells from 7,000 to 7,500 lbs of 5% milk per month, receiving \$100 to \$175 per month for it. The same advantages that make dairying extra profitable in Arkansas and Texas make all lines of farming pay much better there than up North. You ought, at least, to get all the facts and get them now. Send for

Two books FREE

prepared by a practical farmer who has traveled all through Arkansas and Texas and got pictures of the farms and actual statements from farmers. Tells cost of land, crops raised, etc., and about towns, churches, schools and social conditions. Write at once for these free books.

E. W. LaBeaume, Gen'l Pass'r Agt.
1942 Railway Exchange Bldg., St. Louis, Mo.

Ways of Working for Life

The Farmer's Way

By EARL R. RICE

IT is quite fitting that the closing article of this series should be "The Farmer's Way." The writer has been looking ahead to this paper for some time.

Born and bred on the farm the memory of the former days is still fresh and green, and visits to the country are planned with eagerness and happy anticipation. Sentiment is strong in that direction.

Perhaps no man occupies a more strategic place in the world's economy than the farmer. He holds the world's food supply in his hands. At least, if the farmer should refuse to do his work for a year the world would be likely to starve.

It is estimated that the accumulated food supply would last not longer than eight months at most. The pinch of hunger would be felt in the cities inside of a week if the outside supply were to be cut off. When this was threatened last September, owing to tie-up of railroads, there was well nigh panic in many places. There was a considerable attempt on the part of many to buy up and hoard for personal use such supplies as were in the market at the time. The great transportation lines send long trains by the score toward the crowded centers every day. But these trains would come empty if it were not for the supply of food furnished by the farmer.

It would be considered a great exploit to bring relief to a starving city. It is of far greater value to keep hunger always at a safe distance. This could not be done without the work of farming. The earth is full of food but it has to be coaxed forth.

At the very outset of this brief discussion it may be seen, therefore, that a wonderful importance is attached to the cultivation of the soil. The farmer is a partner in a big task.

Farming is fairly remunerative. Many of us who live elsewhere have looked on with almost jealous eyes as the farmer has collected his five to six dollars per bushel for beans, one-fifty to two dollars for "Spuds," and fancy prices for wheat. As a matter of fact, about everything he has for sale is high-priced just now. Eggs, milk, butter, fruit, meats, in short, the entire food supply, are highly paid for. It is but just to say, however, that the cost, to the farmer, of production, has greatly advanced. Help, labor, tools, etc., are hard to get and relatively high. But with it all the farmer's own food supply is assured. Conditions are such as give the appearance of prosperity.

The farmer has access to all modern conveniences. His mail comes daily to his door, bringing world-wide information and news so that the doings of all the race are before him each night. Magazines are cheap at club rates and every home may be supplied at a merely nominal cost. Public libraries are accessible and books on special subjects are to be had for the asking. Lecture courses are maintained for all who care for them, and chautauquas visit every section. Schools of the best grade and character are in every community and the children have all the advantages in that line that could possibly come to the city dweller. Even the "Movie" can be found with careful search.

The church, clubs—social, civic and political—are open to his membership, and companionship may be found in plenty. Housing conditions, through the introduction of modern methods and machinery are constantly improving. In many sections farm houses are models of convenience and comfort. Delight and surprise awaits the visitor in these respects.

Conveyances and means of travel

make farm life attractive. The automobile is proving a great economic factor. No longer does the farmer need to spend a day a week in getting to town. He saves time on the road, rides with ease and comfort and reaches the most favorable markets with his products. And in turn the finished product of mine and factory come to him.

To the man whose time is taken so largely in details of office, with its stated hours and punctual demands, the freedom of the farmer is a matter of envy. Master of his own plans and their out-working, he can take a day now and then without serious loss. If tired, he can rest, if events of importance invite he can go, if friends come he can take time to entertain. And all this without the harrowing feeling that things are going to smash.

And then, too, the farmer is in position to exert a wide and wholesome influence on matters of public interest and welfare. It is believed that in his sober judgment, with ample time to form conclusions lies the determination of all great policies, both in state and nation. With time to digest his information, of which he has plenty, he is not easily fooled in ultimate issues. He is feared by the political self-seeker, or the pernicious politician. He holds the balance of power on all great moral and financial questions. And no doubt his opinion expressed at the polls has saved the nation from serious and far-reaching blunders. The great moral reforms never appeal to him in vain. In times of war-alarms he furnishes a splendid balance wheel which keeps the nation running true to its best interests. When he has been appealed to for aid and support in times of actual war he has responded with promptness and devotion. The future will not see him reverse his decisions in matters of this kind.

The careful reader of these lines will not agree with all that is said. And many points of real interesting discussion space forbids us to touch. But in summing up, let it be stated—it is already inferred in paragraphs above—that the great multitude of men who make their living by farming have a means of ministering to humanity equal to all other workers, and second to none. The product of their toil is vital, their influence is sound, their sympathies are broad. And out from farm homes come men to grace every profession and influence every effort that makes for good.

There are many things that could be said in support of unfavorable conditions of farm life. Of that the writer is fully aware. The isolation as found in some sections, the backward rate of development, which like a strange blight, has seized some communities, the crowding in of a foreign element, and absence of helping outside influences. None of these can be denied. For those whose lots are cast in such surroundings the fact that better things have come elsewhere to bless and brighten farm life should be a powerful incentive. If it is possible in one place, why not in every place?

Poor soil, bad location, lack of improvements, and the seeming impossibility of getting them, are depressing. They call for fortitude and study, not for shrinking. Poor seasons, bad weather, new and troublesome natural enemies cut profits and take away hope from many. These must be reckoned with as parts of the problems of life. In other forms they occur in other callings and pursuits as has been shown. Perhaps their proportion is as great "over yonder" as here. To run away from problems will never solve them. To face them is the only way.

After all is said and done, the ways of life work are many and varied. They are numerous enough to give every man a chance. They are worthy enough to make every worker a good servant. Each man must study conditions, take stock of himself and pick his place.

The writer hopes that every reader will find a way of work that will be full of satisfaction, and that from it will come a larger measure of the joys of life.



The Simplest Way to End a Corn

DECIDE now to master your corn forever. Let today's corn be the last. Blue-jay will free you from the most painful corn. Apply one of these soothing plasters tonight. Pain ends. In 48 hours the corn disappears. Only Blue-jay gives this insurance. Paring is temporary. Harsh liquids are dangerous.

Millions of corns are ended the Blue-jay way. Most corns require but one application. An occasional stubborn one, two or three. Try the gentle, simple Blue-jay way tonight. You will never be the victim of corns again.

BAUER & BLACK
Chicago and New York
Makers of Surgical Dressings, etc.

Blue-jay

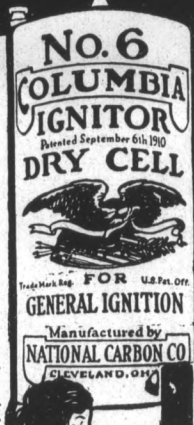
Stops Pain-Ends Corns
15c and 25c at Druggists
Also Blue-jay Bunion Plasters

Columbia Batteries

Phones, bells and lanterns no less than autos, engines, tractors—keep going long and strong with Columbia.

National Carbon Co.
Cleveland, Ohio

Fahnestock spring-clip binding posts, no extra charge.



\$110 BUY ELECTRIC LIGHT

10 TO 60 LIGHT SYSTEM

UNITED LIGHTING PLANTS

At this wonderfully low price you can enjoy the convenience of electric lights—by merely pushing a button.

USE YOUR OWN ENGINE. Saves the cost of extra power. Nothing automatic to cause trouble. Needs only one simple adjustment to the speed of your engine. A woman or child can operate it.

SELF-STARTING for their convenience. No knowledge of electricity required. Made in three sizes—a size to meet your needs. Comes complete. Ready to run. **GUARANTEED.** Write at once for complete description.

UNITED ENGINE COMPANY, Dept. E 42 LANSING, MICH.

Mention the Michigan Farmer when writing Advertisers



They Fit and They Last—

Mayer HONORBILT WORK SHOES

Ask your dealer for Mayer Shoes. Look for the trade-mark on sole.

F. Mayer Boot & Shoe Co.
Milwaukee, Wis.

BE AN ARTIST

We can teach you **DRAWING** in your own home during spare time.

Our 18 years of successful teaching prove our ability.

10 Courses in Commercial and Illustrative Drawing Endorsed by high art authorities.

Students trained by members of our Faculty are filling high-salaried positions. Artist's Outfit **FREE** to Enrolled Students.

Fully Equipped Residence School. Write today for Art Year Book.

SCHOOL OF APPLIED ART
Applied Art Bldg. No. 86 BATTLE CREEK MICH.

Mention The Michigan Farmer When Writing Advertisers

Woman and Her Needs

Making Time

I REALLY meant to write you while I was gone, but I hadn't time," I apologized to a friend, years ago. "Why don't you be honest and say you didn't want to?" she snapped sourly. "It's what you really mean. I've noticed that people always make time to do the things they want to. I never accept lack of time as an excuse." And she flounced away.

Needless to say, her reply left me rather weak and speechless. I really had wanted to write to her, at least I thought I had. But thinking it over I came to the conclusion that while I had wanted to write her in a way, I had wanted to do so many other things more, that I had done the other and neglected my friend. Her tirade was quite a blow at the time, but it has done me so much good since that I am passing it on.

Isn't it largely true that we make time for the things we want to do most? In this busy age, there are so many demands on us that we have to sift out the musts and would-like-to's. We can't find time for everything. So we put in the musts the things we most enjoy, and in the perhaps's, the things we would like to do if we get time, or the things we really ought to do but hope we won't get time to do.

There's the matter of systematic reading or study. So many women are hopelessly out of date because they "don't get time to read." As a matter of fact, they do not take time. When I passed from the class of paid wage earners with my evenings to myself, into the unpaid class, i. e., wives and housekeepers, the question of when I was to get time to read came up. Like all girls who marry without a knowledge of housekeeping, it took me all day long to do the work for two, even in a five-room flat. When night came I was too tired and sleepy to read, and there didn't seem to be time to sandwich it in between dishwashing, dusting, and trying to cook enough things that could be eaten. For a time I did not read at all. Then the snappy speech of my old friend recurred to me. "Folks always make time for what they want to do." I certainly wanted to read, so I made the time. The first hour after breakfast I devoted to reading. No one came in at that time, we were too poor to have a 'phone, so there was no interruption that way, and I could read in peace.

That hour of reading and study paved the way for all I know about successful housekeeping and dieting the family. A brief skim of the daily paper kept me up to date on world happenings, and the rest of the time I devoted to cook-books, government bulletins and magazine articles on scientific housekeeping. I searched for the best and quickest way to get the housework done, and as a result in six months' time I had more than made up the hour by the labor-saving methods I had picked up in my reading.

When children began to arrive the reading hour again suffered. But I was determined not to become a back number. I reasoned that when my children were grown they would far rather remember me as a mother who had been at least one lap ahead of them in mentality during their youth than as the mother whose cookies couldn't be beaten. If we couldn't have both cookies and reading, we would dispense with the cookies. The child would be satisfied with a full stomach, but the growing boy and the young man would want someone to talk to who was in a measure, at least,

conversant with modern thought. So I kept on reading.

How to feed the baby supplanted how to feed the husband, and child study took the place of short cuts to housekeeping. Current events had a place and articles on new religious thought, the so-called "woman movement," anything, in short, in which humanity was interested. Fiction, too, took up part of the time. For the modern short story can give you more of modern thought in fifteen minutes than a learned treatise on the same subject which would take a week to read intelligently. But the fiction must be chosen with discrimination, and only that written by the best writers should be read.

So I've always had time to read, though I've never found time to go to movies or join card clubs. In some ways I'm hopelessly old-fashioned, but so far as knowing what's doing in the world at large I keep reasonably posted. I've tried to interest some of my young neighbors in books and magazines on scientific house keeping and food values, but they never have time to read them. They seem to have time to array themselves like the lily and hie forth four afternoons a week to play bridge, trusting in this way to make up the deficit in their housekeeping allowance. And they can tell all about Who's Who in Filmdom, and what Mary Pickford's real name is. I'm sorry they haven't time to read. If they did, and read intelligently, housekeeping leakages would stop, and they wouldn't look bored and puzzled when someone speaks of a Maxim silencer.

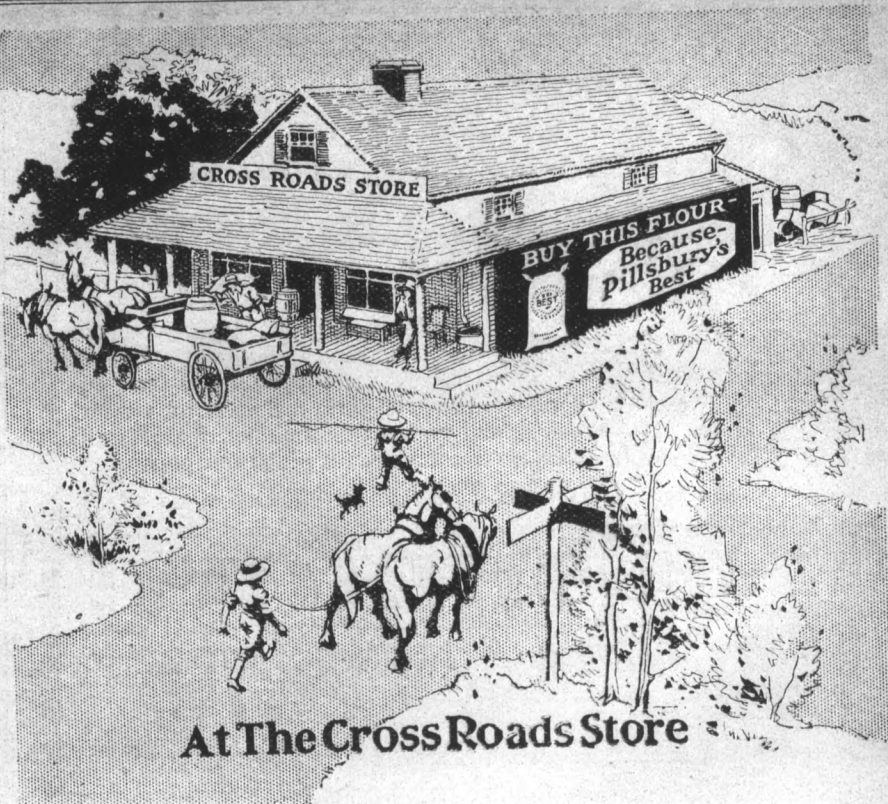
But then, not everyone has reasoned it out that we always have time for what we want most to do.

DEBORAH.

PRESERVING MEAT.

Household Editor:—I have received so many helps from reading the Michigan Farmer, and as we do our own butchering I will tell R. H. S. how we keep the meat fresh. At present most of our beef is hanging up, frozen solid. As soon as it thaws out it is cut up in suitable pieces. I like strips about one inch square and nearly as long as a one quart can. These are packed solidly into the cans, using plenty of fat and always some suet on top, also one level tablespoon of salt to each quart. Covers and rubbers are put on tight. Set them in any receptacle so they will not touch the bottom and with something between the cans. Now fill cans half way up with cold water and boil four hours. Have boiling water to use as fast as this boils away. If cans are sealed at time of taking out, all right, but if rubbers should be spoiled take covers off quickly and put on new ones and fill up cans with hot beef broth or tallow, or boiling water will do. I put up fresh pork in the same way. Experience is a safe teacher and I do things now that I did not dare to do at first.

Corned Beef. For 100 pounds of beef use 11 pounds of salt, six pounds of white sugar and two ounces of salt-petre. One gallon of water to every 14 or 15 pounds of beef. Put all together in a boiler, putting in beef while it is cold. Boil one-half hour and skim, put into crocks while hot and keep under pickle. If crocks are from six to ten gallons capacity it is better for they seal over and that keeps it. To use, put into cold water over night to freshen, then boil as usual.—A. A.



At The Cross Roads Store

Flour Facts

No one, anywhere, can buy better Pillsbury's Best flour than you can buy.

Pillsbury's Best is always the same—always Pillsbury's Best—

everywhere—

all the time—

at the grandest grocery—

or at the crossroads store.

More people, every day, are finding this to be true.

The Flour Question Settled "Because Pillsbury's Best"

Send 10c for a copy of the famous Pillsbury Cook Book. Address Dept. F29 Pillsbury Flour Mills Company, Minneapolis, Minn.





You can make the nicest layer cake

of anyone, with your fresh eggs, butter and milk, and good flour, if you are careful to use Rumford Baking Powder. A most economical and dependable leavener that makes light, tender, fluffy cake and pastry. So much better than ordinary powders, we ask you to try it at our expense.

Send for **FREE** Trial Size Can and Test

Rumford
Chemical Works
Dept. 36
Providence, R. I.
Please send me
5 oz. Trial Can
and Cook Book
FREE.

Name.....
Street.....
City.....
(Publication).....
C 67 8-16

Rumford

THE WHOLESOME
**BAKING
POWDER**



Raise High Priced Wheat on Fertile Canadian Soil

Canada extends to you a hearty invitation to settle on her **FREE Homestead lands of 160 acres each** or secure some of the low priced lands in Manitoba, Saskatchewan and Alberta. This year wheat is higher but Canadian land just as cheap, so the opportunity is more attractive than ever. Canada wants you to help feed the world by tilling some of her fertile soil—land similar to that which during many years has averaged 20 to 45 bushels of wheat to the acre. Think of the money you can make with wheat around \$2 a bushel and land so easy to get. Wonderful yields also of Oats, Barley and Flax. Mixed farming in Western Canada is as profitable an industry as grain growing.

The Government this year is asking farmers to put increased acreage into grain. Military service is not compulsory in Canada but there is a great demand for farm labor to replace the many young men who have volunteered for service. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

M. V. McINNES, Detroit, Mich.
178 Jefferson Ave., Canadian Government Agent.

**160 ACRE
FARMS IN
WESTERN
CANADA
FREE**



Let Us Cook 90 Meals

Put a Kalamazoo in your home on our 30 days' trial plan. Let us show you what Kalamazoo stove quality is and how to save money. Your money promptly returned if not satisfied. 300,000 owners now recommend Kalamazoo. Let us refer you to some near you.

FREIGHT PREPAID

A Kalamazoo
Direct to You

Quick Shipment
Direct From Manufacturers
Write for our catalog and see color illustrations of newest style ranges—new features, white enamel splashers, etc. Highest quality at wholesale factory prices. We pay freight and make quick shipment. Ask for Catalog No. 113.
KALAMAZOO STOVE CO., Mfrs., Kalamazoo, Mich.
Stoves, Ranges, Gas Ranges, Furnaces, White Enamel Metal Kitchen Cabinets and Tables; 3 catalogs—please say which you want.

APOLLO ROOFING

Fireproof, weatherproof, strong, rigid, durable—specially adapted to the construction of farm buildings. Formed from APOLLO-KEYSTONE Copper Steel Galvanized Sheets.

APOLLO-KEYSTONE Sheets are the most satisfactory, rust-resistant sheets obtainable for Roofing, Siding, Culverts, Tanks, Silos, Cisterns and all exposed sheet metal work. Look for the Keystone added below regular Apollo brand—it indicates that Keystone Copper Steel is used. Demand the genuine—accept no substitute. Sold by weight by leading dealers. Our free booklet, "Better Buildings," contains building plans and valuable information. Send for copy today.

AMERICAN SHEET AND TIN PLATE COMPANY, Frick Building, Pittsburgh, Pa.



Ride a RANGER
1917 Model
bicycle and know you have the best. Buy a machine you can prove before accepting. DELIVERED FREE on approval and 30 days' trial. NO EXPENSE to you if, after trial you do not wish to keep it.
LOW FACTORY COST, great improvements and values never before equalled. WRITE TODAY for our big catalog showing our complete line of 1917 bicycles, tires, sundries and parts, and learn our wonderful new offers and terms.
DO NOT BUY a bicycle, tires or sundries, until you write and learn what we will do for you. A postal card brings everything—write it now.
MEAD CYCLE CO., DEPT. N-77 CHICAGO

"ROUGH ON RATS" ends RATS, MICE, Bugs, Unbeatable Exterminator. Ends Prairie Dogs, Gophers, Ground Hogs, Chipmunks, Weasels, Squirrels, Crows, Hawks, etc. The Recognized Standard Exterminator at Drug & Country Stores. Economy Sizes 25c, 50c, Small 15c. Used the World Over. Used by U. S. Gov't. Rough on Rats Never Fails. Refuse ALL Substitutes.

Terriff's Perfect Washer

Direct from
Factory to User



Let us show you how to get one **FREE**. Nearly a million satisfied customers. Big money for agents. Write at once for our plan.

**AGENTS
WANTED**

The Terriff Perfect Washer Company
Box 70
Portland, Mich.

The Kitchen Sink

By ADDIE FARRAR

NOWADAYS, since the modern farm and village house is being built with all the comforts of the city home and most of the conveniences, including heating and water systems, which make bathrooms and hot and cold water in the kitchen possible, it is a very wise idea for the mistress of the new house, or the remodeled one, to insist upon looking after the plumbing herself.

Not so very long ago, a woman on a farm in central Illinois suffered horribly with her back, and physicians doctored her for rheumatism, kidney troubles—in fact, every disease that might have as a symptom, a backache. Her sister, on a visit from the east, made a discovery shortly after she arrived.

"Ellen," she said, "I don't believe there is anything the matter with you but the constant bending over this sink. It's too low for comfort. Raise your dishpan and see."

Ellen did, and shortly was better. Years ago when sinks were made

for vermin and the creating of odors that are not to be found in the sink with the open plumbing. For this reason never allow your sink to be enclosed.

Because of its hardness and durability, the marble sink is preferable to any other, but as it is expensive, most of us are quite well content with its substitute, the dainty white porcelain sink. Next to these comes the enameled iron sink that is liked by many. However, the easiest to keep clean and better for all purposes is the porcelain sink with the porcelain drain board attached, although some housekeepers prefer the enameled sink with the wooden drain board, as they claim there is less danger of chipping the dishes. The only difference is that the wooden drain board is apt to rot and draws ants and roaches, besides being very much harder to keep clean.

In a fine country home with which I am familiar there are two sinks for use in the kitchen, one of white porcelain with white tiles built above it,



Do Not Have the Sink Too Low.

low it was in order to accommodate a large wooden tub inside the basin. After faucets were introduced, the height of the sink gradually increased to the present height which, in most cases is not yet a comfortable one for the woman who works at it. For this reason if you are building or remodeling and are going to put in a new sink it is well to personally test yourself to your own height, and also to see that it is placed pleasantly.

In the man-built house the sink is either placed too far from the stove, causing many tiring and unnecessary steps for the housewife, or it is put into a dark corner merely because it happens to fit there best or is nearest to the plumbing.

The ideal arrangement for a sink is below a high window, near to the range. On the other side of the room there should be a good big window that will throw light over the worker's shoulder. This makes the best sort of placing. While it is not always best to place the sink against the outside wall on account of the danger of freezing in winter, this can be obviated by carrying the pipes into the kitchen proper instead of through the wall. It is well to remember that good light means better sanitary conditions, for if the sink is in a dark corner it is likely to breed vermin, water bugs, ants, cockroaches, etc. Perfect sanitation demands open plumbing, yet I have known some women so blind as to insist upon their sink being enclosed, as the cupboard beneath is such a convenient place for storing cleaning powder, scrub brushes, etc. This means a splendid breeding place

and in the butler's pantry, just off of this kitchen, a cast iron, white enameled one of large proportions, with a wooden drain board. Now, after a few years, the wooden drain board is showing signs of rot and the sink has had several coats of enamel to keep it in good condition, while the porcelain one is still fresh and in perfect condition.

Another thing every woman who is having her home built or remodeled should see to personally is one which side the drain board of the sink is placed. In some homes I have seen the board on the right side; in others on the left side. It must be remembered when washing dishes, the right hand does the work, while the left hand takes and places the dishes, and for this reason the preference is for the left hand drain board. Architects or builders seldom if ever pay any attention to this small detail, but place the sink haphazard. Some women find the left side handiest, others choose the right hand sink, and it is well to remember that daily use for years makes even this trifle seem of large proportion to the housemother.

While a sink placed in the corner of the kitchen near the range is well set and convenient, still a nice roomy sink in the center of the kitchen wall space with a drain board on either side is not to be despised by any means. It is a good idea to have one of the drain boards made of wood and hinged on so that it may be dropped when not in use and thereby add to the kitchen space. For fittings, faucets, etc., nickel is much better to choose than brass, as

Only One Roofing Will Stand This Test

Edwards "Tightcote" Galvanized Roofing can be bent, twisted or struck by lightning, and galvanizing will not crack or flake. Bend it or hammer it, you can't loosen or scale galvanizing. This means an everlasting galvanized roofing that will last as long as the building.

"REO" Metal Shingles

are rust-proof—edges as well as sides. One man can lay them. They interlock; cannot come off. Nail holes are all covered—no chance for rust. Forever wind and weather proof. Hammer and nails only tools needed. We

Guarantee

Edwards "Tightcote" Galvanized Roofing is the longest lived, safest, best roofing in the world. Fire and Lightning-Proof. Costs less to use than wood shingles or any other roofing.

Freight Paid

We sell direct to you and save you all in-between dealers' profits. We cannot quote prices here.



Garage \$69.50

Lowest prices on Ready Made, Fire-Proof, Steel Garage. Set up any place. A postal card will bring you our illustrated catalog. Send for it.

Send for Free Roofing Book

It will prove to you that our prices are lowest ever made for World's Best Roofing. Postal card brings Free Samples, Prices and Roofing Book No. 387.

THE EDWARDS MFG. CO.,

317-367 Pike St., Cincinnati, O.
We are Largest Manufacturers of Sheet Metal Products in the World.

FREE
Samples &
Roofing Book

it is much easier to keep clean and in that shining state which all housekeepers love. Brass will keep turning black in spite of much polishing, and needs to be cleaned about every day, while nickel merely needs a wiping off with a damp cloth when the sink is cleaned, to be kept nice for years.

As a last word, don't let the contractor and architect run everything for it is you, and not they, who will have to work in that house every day in the year. Impress upon them that healthfulness, comfort and convenience is first, and that you do not intend to have backache by bending over a too low sink or lose your eyesight by working in the darkest corner of the room. If a sink cannot be found that is high enough to suit you, have it raised. It is not convenient to have to place the dishpan on the drain board to have bending, nor is it to your advantage to walk across the room every time you want to go from the sink to the range.

SHORT CUTS TO HOUSEKEEPING.

A thin coating of varnish applied to straw matting makes it much more durable and adds to its beauty.—M. A. P.

To clean papered walls rub with out-flannel. This will remove smoke and dirt and make the paper look like new.—M. A. P.

HOME QUERIES.

Household Editor:—Can you give me the name and address of the president of the Woman Suffrage Club?—F. N.

Address Mrs. G. Edgar Allen, Plaza Hotel, Detroit. She is president of the Wayne County Suffrage League.

Household Editor:—What is the best method of rendering beeswax? What are the various uses to which it is put? About what is a fair price per pound?—Mrs. B. W.

Please send stamped envelope for answer to your last query.

MICHIGAN FARMER PATTERNS.

Our latest Fashion Book, containing illustrations of over 1,000 designs of ladies', misses' and children's garments in current fashions, also newest embroidery designs, and articles which give valuable hints to the home dress-maker, will be sent to any address upon receipt of ten cents. All patterns are ten cents each.



No. 8185—Ladies' Waist. Cut in sizes 36 to 42 inches, bust measure. Long or short sleeves may be used.
No. 8210—Ladies' Skirt. Cut in sizes 24 to 42 inches, waist measure. The skirt is cut in four gores and is plaited at the sides.
No. 8146—Ladies' Dress. Cut in sizes 36 to 42 inches, bust measure. The dress is cut in one piece, closes at the front and may have long or short sleeves.

No Bitter Taste in Food Made with Cream of Tartar Baking Powder

The bitter taste often noticed in biscuits, cakes, muffins, corn bread etc., does not exist in food made with baking powder made from pure, cream of tartar like Royal Baking Powder.

Royal Baking Powder contains no alum nor phosphate, which are derived from mineral sources and used in some baking powders instead of cream of tartar, because they are cheaper.

\$16.95 Sent on Trial Upward American Cream SEPARATOR

Thousands In Use giving splendid satisfaction justify our wonderful offer: a brand new, well made, easy running, easily cleaned, perfect skimming separator only \$16.95. Skims warm or cold milk closely. Makes thick or thin cream. Different from picture, which illustrates our low priced, large capacity machines. Bowl is a sanitary marvel and embodies all our latest improvements. Our Absolute Guarantee Protects You. Besides wonderfully low prices and generous trial terms, our offer includes our—

Easy Monthly Payment Plan

Whether dairy is large or small, or if you have separator of any make to exchange, do not fail to get our great offer. Our richly illustrated catalog, sent free on request, is a most complete, elaborate and interesting book on cream separators. Western orders filled from Western points. Write today for catalog and see our big money saving proposition.

American Separator Co., Box 1061, Bainbridge, N. Y.



WHAT WILL YOU CHARGE



to display an elegant sample PIANO in your home and allow us to refer to you as our local representative?

Write today for our Special Agents' Display Plan. Desk 6.

Haggerty-Cook Co., Inc.
WARREN, PENN.

200 SATISFIED USERS IN ONE COUNTY

Over two hundred satisfied users of our lighting system in Jackson County alone.

To you who want better lights doesn't this offer the best recommendation in the world? You can have this same light for your house, barn and out-houses—safe, economical, guaranteed, and approved by the National Board of Fire Underwriters.

WRITE US TODAY.

Night Commander Lighting Co.
JACKSON, MICHIGAN.

\$780 buys this Kitchen Sink, all freight charges prepaid. Size 20x30 inch. Porcelain Enamel, Cast Iron, one piece, roll rim. Full instructions how to put up. Write for our FREE complete lines of plumbing, heating and other supplies for the house and home all at a saving to you of full 25%, with guarantee to you of money back if not as represented. Write to KOLLER BROTHERS

6910 Cedar Avenue Cleveland, Ohio

Strawberry Plants

All Kinds of Small Fruit Plants, The Great Everbearers, good stock. Reasonable prices. See our new Special \$2 Offer. 1917 Catalog Free. Write today. ALLEGAN NURSERY, Box 105, ALLEGAN, MICH.

STRAWBERRIES All Varieties Catalog Free
Rokely's famous Michigan plants. Only hardy well rooted stock. All varieties—Strawberry, Raspberry, Blackberry, Currant, etc., including the EVERBEARING STRAWBERRY. Write today sure for free catalog. J. H. ROKELY, Box 86, BRIDGMAN, MICH.

STRAWBERRY and Small Fruit Plants, we guarantee Our Hardy Northern Grown Plants to please. We are Growers, four System of Selling Direct, Saves you Money. Write to day for our free Illustrated Plant Book. St. Joseph Nursery, Box 461, St. Joseph, Michigan

STRAWBERRY PLANTS
June and Fall varieties. Peach Trees. Truthful, illustrated book tells all. It's free! MAYER'S PLANT NURSERY, Merrill, Michigan (Bohemian Nurseryman)

100 Everbearing Plants \$1.40 Post Paid
Progressive, American or Superb. We introduced progressive. See which. 25 Everbearing Red Rasp. 70 cts. postpaid. Catalog Free all about the New Everbearers and other important varieties. C. N. FLANSBURGH & SON, Jackson, Mich.

Build a Steady Business from Your Home in your own community. Either ex. All or part time. You take orders; we deliver, collect and pay you weekly. No investment. Splendid co-operation. Ask about plan A. PERRY NURSERY CO.—Est. 1895—ROCHESTER, N. Y.

WHOLESALE PRICES
To the planter of Strawberry and Raspberry plants. Other kinds at low prices. Catalogue free. A. A. WESTON & CO., BRIDGMAN, MICH.

When Writing to Advertisers Please Mention The Michigan Farmer.

DePuy's SEEDS

ARE FIRST AID TO GOOD CROPS

They are Tested for Purity and Germination.

Our Free Seed Book

describes hundreds of well-tried standard varieties and novelties For GARDEN and FIELD. It is different and well worth a careful perusal. Your name and address on a postcard will bring a copy. It tells what growers in all parts of the country say about "CRIMSON BEAUTY," The Best Tomato Grown.

THE C. E. DE PUY CO.,
PONTIAC, MICH.

WRITE FOR OUR PRICE LIST We Buy WASTE PAPER

and all Kinds of Scrap Material.

THEODORE HOFELLER & CO.
Dept. M., Buffalo, N. Y.

MAKE MONEY by setting our BERRY PLANTS

Black Berries Red and Black Raspberries, Currants, Gooseberries, Grapes, Everbearing Strawberries and other standard varieties. Our free catalog tells you how to grow them. BRIDGMAN NURSERY CO., Box 1, BRIDGMAN, MICH.


 ROPP'S NEW
CALCULATOR

This Book Sent To Land Owners FREE!

Here is a book you can carry easily in your coat pocket that will tell you instantly and to a penny just how much is coming to you when you sell your hay, grain or stock at the market price. Figures fractions — saves time — never makes a mistake. Answers a thousand questions that arise on every farm. You will be glad to get a copy of this handy, valuable book. The retail price of this edition is 50c, but we will send it free and postpaid to any landowner who has not sent for it before. Write for it today. We will also send you our latest catalog of

SQUARE DEAL FENCE

the famous long-life field and stock fence that stands tight and trim the year 'round. Here are some of the good features you will like. The Square Deal Lock double grips the one-piece stay wires to the wavy strand wires without cutting, breaking or slipping. Combines solid strength with remarkable flexibility. The self-draining shape of the Square Deal Lock prevents rust. The one-piece stay-wires prevent sagging, bagging and buckling—requires fewer posts. The wavy strand wires give springiness, elasticity and life. Write at once for the SQUARE DEAL Catalog and get your copy of Ropp's New Calculator — FREE.

KEYSTONE STEEL & WIRE CO.
2550 Industrial Street Peoria, Illinois
(50) Get a Square Deal When You Buy Fence Write for the FREE Book Today



FREE My New Book of "Can't-Sag" Gates

Just drop me a postal and I will send you a copy postpaid. Quotes remarkably low prices on complete gates ready to hang; also tells how to make 5 year guaranteed CAN'T-SAG Gates at home in your spare time and save money. Shows why these easy swinging gates never sag, drag, twist or break down—yet cost less than any other.

Cost Less Than All-Wood—Last Three Times as Long
Made with either 4 or 6-inch boards, double bolted between 8 angle steel uprights—not screwed or nailed. No nails to gather rust or pull out—no wood joints to rot. Guaranteed for 5 years. Over 600,000 now in use. Can be furnished with Elevating Attachment.


30 Days' Free Trial
Catalog shows complete gates ready to hang or just the Gate Steels, hinges, bolts, etc. (everything but boards). Postal brings it free—postpaid. Write for it.
ALVIN V. ROWE, Pres.
ROWE MFG. CO.
2916 Adams St.
GALESBURG, ILLINOIS



IWAN POST HOLE AUGER

Digs post holes faster than the man behind can set posts, without hard back-breaking labor. Digs wells also. The two interlocking sharp crucible steel blades easily cut through any soil. **DIGS QUICK AND EASY** and saves time and trouble. Don't be imposed upon. Refuse the poorly made, flimsy imitations. A poor tool is dear at any price. Reliable dealers sell the original, patented, "guaranteed Iwan" for only \$2. It pays for itself in one day's work.

WRITE FOR FREE BOOK
about Iwan Post Hole Diggers, Sickle Edge Hay Knives, Ditching Spades, Drain Cleaners, Tile Hooks, Chimney Tops, Ventilators, Etc.
IWAN BROTHERS
1520 Prairie Ave., South Bend, Ind.



13c PER ROD UP
BROWN FENCE
Write for Greatest money saving fence bargain book ever printed. Brown fence is made of Heavy DOUBLE GALVANIZED Wire. Resists rust longest. 150 Styles. Also Gates, Steel Posts, Barb Wire. Low Factory Prices, Freight Prepaid. Write for wonderful free fence book and sample to test.
The Brown Fence & Wire Co., Dept. 149 Cleveland, Ohio



SELF-OILING WINDMILL
With INCLOSED MOTOR
Keeping OUT DUST and RAIN—Keeping IN OIL
SPLASH OILING SYSTEM
Constantly Flooding Every Bearing With Oil, Makes It Pump In The Lightest Breeze And Prevents Wear
OIL SUPPLY REPLENISHED ONLY ONCE A YEAR
DOUBLE GEARS—Each Carrying Half the Load
Every feature desirable in a windmill in the AUTO-OILED AERMOTOR
Write AERMOTOR CO., 2500 12th St., Chicago



Peerless FENCE
WITHOUT A RIVAL

"Same in Sunshine or Rain" Says Col. Experience:

"I have managed to keep my eyes and ears pretty wide open these many years and here is what I've found out: Through fair weather and through rain, through January's blizzards and July's boiling sun, Peerless Fencing Stays Put."

PEERLESS

is a name that stands for much value to every farm owner, and is worthy of your fullest confidence. Peerless means Fencing and Gates of solid, heavy-gauge, open hearth steel wires, woven with a close, firm mesh, perfect rust resisting and anchored to stay by the famous Peerless Tie. Proof: Seventeen years of daily service on farms throughout the country. Peerless costs less per rod than any other high grade Fencing and you'll find a Peerless Fence or Gate for every farm purpose. Write for our big, free catalogue listing our entire line—right now before you forget it.
PEERLESS WIRE FENCE COMPANY
210 Michigan St., Adrian, Mich.



Make More Money!
I want eager, ambitious men, the kind that like to clean up \$40 to \$50 a day. I'll make them winners. Men are getting rich, selling my wonderful 12 tools in one. Pulls posts, stretches wire, fixes wheels, etc. Write me immediately.
P. J. Harrah, Pres.
The Harrah Mfg. Co., 14 Spring St., Bloomfield, Ind.

Farm Commerce.

Proposed "Co-op" Law

By DR. W. D. HEDRICK

NOT the least of the many services which the Federal Office of Markets has rendered the farmer during the brief four years of its existence is the preparation of the model law for the organization of farmers' co-operative concerns which appeared last week.

"The 'standardization' of laws among the various states is as much to be desired wherever possible as is the standardization of products or containers, and the markets office is to be congratulated on having taken a timely step in this direction. A standardized co-operative association law from the Office of Markets has much in its favor. It is drawn by the best legal talent that the Office can command and it benefits from an accumulation of experiences concerning co-operation drawn from every part of our country wherever co-operation is carried on.

The timeliness of such a law so far as Michigan is concerned is evident when we consider the tremendous number of co-operative associations which are formed in this state at the present time and also from the fact that in spite of having a co-operative association law already upon the statute books, two more at least are now being actively promoted in the present session of the legislature.

The new model law from the Office of Markets provides for pure co-operation among the members who organize under its provisions. There are to be no stock shares issued under this new law, but membership certificates instead. Patronage of the association's facilities is to be the sole basis for the payment of dividends. As one sees immediately, the first of these two rules provides for the highly desirable democracy in control which is striven for everywhere among co-operators since membership certificates always mean the "one man one vote" style of voting. In an association of human beings, such as co-operative associations are as compared with an association of dollars, such as the ordinary business corporation is, there can be no doubt as to the merits of every member's having the same right to vote that every other member has. This insures the interest and loyalty of each member in the success of the association.

An association is not necessarily co-operative, it should be kept in mind, simply because its members are farmers and may be rather numerous. Co-operation means much more than this and while a simple ordinary corporation of farmers is sometimes wise and expedient organizations of farmers of this sort should never be confused with co-operative associations. Not the least of the good features of the model law is the provision that only those associations which are really co-operative may use the name "co-operative" in its name or title. What a separation of the sheep from the goats this provision will necessitate here in Michigan if this new law becomes the choice of our legislature!

The dividend distribution scheme of the proposed law is much more important, however, than is the question of the stock share or membership certificate control which has just been described. Because, while a membership may not have equal voice in the control of an association it may still remain loyal as long as the money returns are satisfactory. On the other hand, any association which has a membership made up partly of those who draw dividends upon shares of

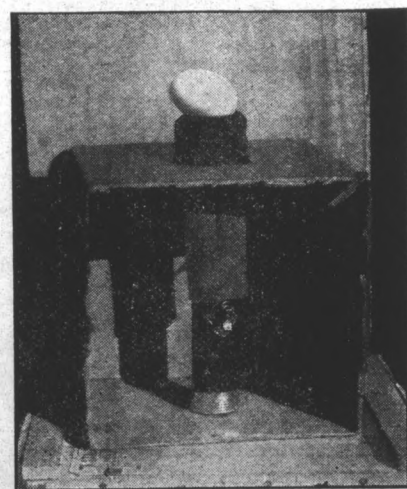
stock and partly of those who do not, presents an association with a source of discord which must sooner or later split the concern into pieces. The manager of one of the oldest and best known creameries in the state told me recently "that, though his factory turned butter-fat into butter at a low and fixed rate and therefore allowed the patron everything that his product would bring, nevertheless he would prefer a pure co-operative association since it held the interest of the patrons better." No rule for distributing the benefits from co-operative associations is fairer or promotes membership loyalty better than the rule of benefits or, in other words, "dividends according to patronage."

In Michigan the rule is almost invariable that the returns from co-operative marketing are distributed directly to the patron in his pay statement, although a few co-operative elevator associations do return their sales receipts to their members in the form of dividends on shares. But the rule is decidedly otherwise. Patronage dividends, as everyone knows, come to the patrons of associations directly in the prices which they receive for their shipments and do not have to be waited for until the quarterly or annual balancing of the association's books. They are simply and easily computed and simplicity is always desirable among co-operators.

Besides being fundamentally sound in its provisions for forming co-operative associations, as we have shown, the new law is drawn to harmonize strictly with the Sherman anti-trust law. To the small and strictly local association this is a matter of no importance. As soon as an association makes shipments out of the state, however it becomes liable (or formerly did) to prosecution under the Sherman law. This was especially true of federations of co-operative associations now becoming so common in Michigan. That these were combinations of businesses which might be called "trusts" there was little doubt to anyone who had given the matter thought, and the future of these federations was therefore full of uncertainty.

Two years ago, fortunately, in the Clayton amendment passed by congress, associations of farmers organized for mutual benefit and "without stock shares or share dividends," were exempted from the penalties of the Sherman anti-trust laws. A farmers' association nowadays, therefore, if its

FOR CANDLING EGGS.



Ordinary Flash Light Used in Candling Eggs. Cheap device for making sure that Eggs are Good before forwarding to Customer.

LIME Pulverized limetrock for "sour" soils. Write for **LOW PRICES**. **DIRECT TO YOU** and we will send sample and full particulars. Write to office nearest you.

LAKE SHORE STONE COMPANY,
Muskegon, Mich., and South Haven, Mich.

Markets.

GRAINS AND SEEDS.

February 27, 1917.

Wheat.—Notwithstanding the strong statistical situation of the wheat trade, international politics and obstructed transportation, resulted in a general weakening of the American market the past week. Europe is still in great need of grain, farm reserves in America are estimated at less than half what they were a year ago, the visible supply is 45,130,000 bushels, compared with 63,107,000 bushels for the corresponding time a year ago, and the exposed condition of a large area of the winter wheat region all contribute to the strength of the deal. However, prices are likely to fluctuate considerably on account of the political outlook. One year ago No. 2 red wheat was quoted at \$1.11½ per bushel. Last week's Detroit quotations were:

	No. 2	No. 1	May
	Red.	White.	
Wednesday	1.92	1.87	1.95½
Thursday	1.89½	1.84½	1.93
Friday	1.91½	1.86½	1.95
Saturday	1.90½	1.85½	1.94
Monday			
Tuesday			

Corn.—There is a good eastern demand for corn. The deal is in a strong position but quotations have recently been depressed on account of the impending crisis in our relations with the central powers. While an unusually large percentage of the 1916 crop is marketable, the gross volume of the grain is inadequate to meet all demands. One year ago No. 3 corn was quoted at 73½c per bushel. Last week's Detroit quotations were:

	No. 3	No. 2
	Mixed.	Yellow.
Wednesday	1.06½	1.07½
Thursday	1.06	1.07
Friday	1.06	1.07
Saturday	1.06	1.07
Monday	1.06	1.07
Tuesday		

Oats.—This cereal has advanced in face of the reactions in wheat and corn. The supply is small at many points because of railroad congestion. The amount of oats in farmers' hands is about one-third of the amount held last year, and about one-sixth of what was held in 1915. A year ago standard oats were quoted at 44½c per bushel. Last week's Detroit quotations were:

	Standard.	No. 3
Wednesday	64½	64
Thursday	64½	64
Friday	64½	64
Saturday	64½	64
Monday	64½	64
Tuesday		

Rye.—Steady with cash No. 2 \$1.48 per bushel, or 3c above last week's prices.

Beans.—Market is advancing under a good demand, and small supply. Cash beans \$7.25. At Chicago Michigan pea beans are higher at \$7.25@7.30; red kidneys \$7@7.25.

Peas.—Steady and strong with field peas quoted at \$2.50@3.70 at Chicago.

Seeds.—Prime red clover \$11.70 per bushel; March \$11.50; alsike \$11.70; timothy \$2.55.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$9.60; seconds \$9.30; straight \$9; spring patent \$10.10, rye flour \$8.80.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$40; standard middlings \$39@40; fine middlings \$41@42; cracked corn \$44@45; coarse corn meal \$43@44; corn and oat chop \$39@40 per ton.

Hay.—In carlots at Detroit: No. 1 timothy \$14.50@15; standard timothy \$13.50@14; No. 2 timothy \$10@11; light mixed \$13.50@14; No. 1 mixed \$13.50@14; No. 1 clover \$12@12.50.

Pittsburg.—No. 1 timothy \$16@16.50; No. 2 timothy \$14.50@15.50; No. 1 light mixed \$14.50@15.50; No. 1 clover, mixed \$15.75@16.25; No. 1 clover \$16@16.50.

DAIRY AND POULTRY PRODUCTS.

Butter.—A steady market prevails at prices ½c lower than last week. Quotations as follows: Creamery extras 40c; do firsts 36c; packing stock 24½c per pound.

Elgin.—Market is easier, due to increased receipts. The price, based on sales, is 40c, which is 2c less than last week.

Chicago.—An easy feeling exists, with prices favoring buyers. Prices are 2c lower than last week. Extra

creameries 40c; extra firsts 38@39c; packing stock 26@26½c.

Poultry.—Prices are higher for all kinds of poultry but the market is not more than steady. No. 1 spring chickens 22@23c; No. 2 do 20@21c; No. 1 hens 22@23c; No. 2 do 20@21c; small do 17@19c; ducks 23@24c; geese 22@23c; turkeys 25@26c.

Chicago.—Chickens are lower but ducks and geese are higher. The market is steady and demand good. Fowls 15@18½c; spring chickens 18@18½c; ducks 17@22c; geese 22@23c; turkeys 12@23c.

Eggs.—Increased receipts caused a weakening of the market and lower prices. Firsts 39c; current receipts 38½c per dozen.

Chicago.—The market is easy and the tendency is toward lower prices. Fresh firsts 37c; ordinary firsts 35@36c; miscellaneous lots, cases included 35@37c.

FRUITS AND VEGETABLES.

Apples.—Market firm with prices higher. Baldwins \$5@6; Spy \$6@6.50; King \$5.75@6. At Chicago the feeling is strong with good demand and light supply. No. 1 stock sells at \$4@6.50 per bbl; No. 2 at \$2.25@3.

Potatoes.—In carlots at Detroit, in sacks \$2.85@2.90; Washington \$2.95@3 per bushel. At Chicago no Michigan stock was reported. Market remains firm and active with prices ranging from \$2.75@3 per bushel. At Greenville the farmers are getting \$2.80 per bushel. Receipts are light.

WOOL.

The anticipation of large orders from the government for military uniforms has added to the strength of this market and prices are continuing to advance. Contract prices in the west are 25% or more above those paid farmers last year. At Boston Michigan unwashed delaines are quoted at 47@48c; do combing 41@48c; do clothing 38@42c.

GRAND RAPIDS.

Potatoes, wholesale, are selling at \$3 per bushel while the grocers are asking 80c per peck. Potatoes at outside points are around \$2.75. The bean market is quoted at \$6.50@7. While the market on fresh eggs opened at 35@38c, lower prices are looked for this week because of increased receipts. Dairy butter is unchanged this week while creamery is 2c lower. No. 2 red wheat is quoted by the mills at \$1.80, rye \$1.25, barley \$1.10, buckwheat 95c; corn \$1.15; oats 60c.

DETROIT EASTERN MARKET.

Large offerings of apples sold Tuesday from 75c@2.50 per bushel; potatoes \$1.80@3.25; parsnips \$2.25@2.50; cabbage \$2.50; eggs 50c.

LIVE STOCK MARKETS.

Buffalo.

February 26, 1917.

Receipts here today as follows: Cattle 120 cars, hogs 40 d. d.; sheep 45 d. d.; calves 1200 head.

With 120 cars of cattle here today there was a good demand for the shipping steers and the bulk of them sold 25c higher, and in some cases 35c higher than last week. There was also a good demand for the butcher cattle and cow stuff and they went mainly strong to 10c higher. We look for a fair run of cattle here next week and a steady trade.

We had a rather light run of hogs today, demand very limited for the best grades and this class sold somewhat lower, while pigs and lights sold strong to 25c higher. Sales were rather uneven, bulk around \$13.50@13.65, with a few selected from \$13.75@13.85; pigs and lights generally \$12@13; roughs \$12@12.50; stags \$10@11. About everything sold at the close and we do not look for much change for the next few days.

With a liberal run of lambs today our market opened up slow, with prices 40c lower than the close of last week. We look for about steady prices balance of the week, depending chiefly on receipts.

We quote: Lambs \$14.50@14.65; cull to common \$13@14; yearlings \$13@13.50; wethers \$12.25@12.50; ewes \$11@11.50; bucks \$10@10.50; best calves \$13.25@13.50; common and light \$9.50@12; heavy \$8.50@11; grassers \$6@6.50.

Chicago.

February 26, 1917.

Cattle. Hogs. Sheep. Receipts today..16,000 60,000 19,000 Same day 1916..18,578 54,008 18,873 Last week.....61,212 196,237 77,274 Same wk 1916..47,536 193,598 75,501

With an unusually small supply today of cattle for Monday, prices are

at least 10@15c higher. Hogs advanced 10@15c by the middle of the morning under a lively demand, with the best selling freely at \$13.10@13.15, and later it was reported that \$13.20 had been paid. Hogs received last week averaged 206 lbs. The lamb market was lower, with a slow trade and the best sold to a city butcher at \$14.50. A large shipment of Colorado ewes brought \$12. During the last week 60,529 hogs were shipped from here, comparing with 50,887 a week earlier and 45,904 a year ago.

Cattle were marketed too unevenly last week to bring the best results to sellers. The early market was 15@25c lower, even the best offerings selling off sharply. On Wednesday the early decline in values was mostly recovered, the top being as high as any sales of the present season. Taking the week as a whole, the bulk of the steers sold at \$9.40@11.25. Eastern shippers were fair buyers, and good shipments of stockers and feeders were made to feeding districts. Choice fancy steers sold at \$11.50 and upward, good steers at \$10.75 and upward, medium grade steers \$9.75@10.70, fair light weight killers \$8.75@9.70, and inferior little killers \$6.50@7.50. Yearlings were in good demand at \$10.25@11.90 for desirable lots with ordinary to pretty good lots bringing \$8.50@10. Butcher stuff was in excellent demand at \$6.10@9.75 for cows and \$6@10.50 for heifers, while cutters sold at \$5.50@5.95, canners at \$5@5.45 and bulls at \$6@9.50. Calves were in active demand, with light vealers selling at \$11.50@13, heavier weights \$5@8. There was a large demand for stockers and feeders, the former selling at \$6.50@9 and the latter at \$7.85@9.40. Unfortunately, the available supply of well-bred, fleshy feeder steers was limited, the packers taking the larger share for their cheap beef trade.

Hogs have advanced in price at a lively pace, with far higher quotations than were ever seen before in the history of the market. At the week's close prices were the highest ever recorded, with sales at \$12.05@12.70 for light bacon hogs; \$12.75@12.85 for the light shippers; \$12.85@13 for heavy shippers, and \$9@12 for pigs, the highest price being paid for pigs weighing around 135 lbs. The week's receipts of hogs were much smaller than a week earlier.

Sheep and yearlings sold higher than ever last week, with a lively demand for all choice offerings, and feeding lambs and feeding yearlings brought extremely high figures. Fat lambs were in good demand, but killers were unwilling to pay the previous extreme prices, and prices weakened. Prime wethers closed 40c higher than a week earlier, and most sheep were 10@15c higher, but yearlings were lower, while lambs were mostly 10@15c lower. Prices closed as follows: Lambs \$12.50@14.60; feeding lambs \$12@14.50; yearlings \$11.25@13.75; wethers \$11.25@12.50; ewes \$7@12; bucks \$8.75@10.75; shorn lambs brought \$11@13.50.

Horses were in much smaller supply last week than in recent years at corresponding times, although plentier than a week earlier, and prices were mostly unchanged. Country shippers knew that the new submarine hostilities would lessen the demand for army horses, and purchases were moderate on the basis of \$120@165. There was a demand for choice draft horses to ship to the Maine potato region, makes preferred, and some 1600-lb. horses brought \$225.

HORSES

30 Imported & Registered Brood Mares

that weigh thirty tons. More young pure bred stallions and fillies than on any other farm in Ohio. In case you want something good at a reasonable price let us hear from you. Ireton Brothers, Dola, Ohio

The Belstein Stock Farm Offers a dark bay four year old Belgian Stallion that is way above the average in breeding size and quality weighing over 2200 lb. with good style and action, price and terms right, if interested write **OSCAR WOLF, ST. LOUIS, MICH.**

SHEPHERD PONIES
Herd established 1891. 200 Head to select from. Write Dept. E for catalog.
The Shadyside Farms, North Benton, O.

FOR SALE registered three year old dark iron gray stallion with rare style and action, making of 2000 pound horse price \$500. Would take other sound young horses in return. A. D. McLenthan, Byron Center, Michigan

FOR SALE 3 Percheron Stallions, one 8 years old, weight 2200 imported; one coming 3, weight 1800; one coming 2, weight 1500, prices to sell. BEARD BROS., Mendon, Michigan

REGISTERED PERCHERON
Mares and Stallions priced to sell. Inspection invited. L. C. HUNT, EATON RAPIDS, MICH.

For Sale two black Percheron Stallions, one coming old, one coming three years old, both sound. John Lulham, Carson City, Michigan

Registered Percherons: Stallions and mares in foal at farmers prices. R. O. Whitenight, Marcellus, Mich.

For Sale My Pure Bred Percheron stallion coming 4 years, Mr. Albert C. Yanz, R. 1. Merle Beach, Michigan

Direct Factory Prices 10-Day Trial



Kirstin Stump Puller

This powerful all steel One Man Stump Puller yanks out any stump easily and quickly—no horses necessary. Clears an acre from one anchor. Patented cable take up does away with winding up slack cable. Three speeds—when stump loosens increase the speed and save time. Tremendous power gained by leverage principle. Works in any position. Easily moved on its big broad wheels. Can be reversed under strain. Sold on 15 year guarantee, flaw or no flaw. Used by the KIRSTIN METHOD we guarantee a saving of 10% to 50% over any other way of clearing land for the plow. Ten-day trial on your stump land. You can make

Big Money for Yourself under our Profit Sharing Plan. Write today for that plan and our big, Free, illustrated book, "The Gold in Your Stump Land." **A. J. KIRSTIN COMPANY** 5954 Ludington Street, Escanaba, Michigan Largest makers in the world of Stump Pullers—both one man and horse power. 1715

Ear Tags FOR STOCK

Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request. **F. S. Burch & Co., 263 W. Huron St. Chicago**

WANTED to hear from farmers with small POPCORN for sale. R. L. Waser, 314½-E. Madison St., Eau Claire, Wisconsin.

Farms and Farm Lands For Sale

New Spring Farm

Catalogue Just Out

It describes hundreds of money-making farms throughout a dozen states. Many at amazingly low prices, with livestock and tools included and on easy terms. Here on page 5 is 75 acres with 6-room house, 36-ft. barn, on good road, for \$100, half down. If taken soon horse, cows, wagon, machinery and tools will be included. On page 10 we find 800 acres that will carry hundreds of head of sheep or cattle with two sets of excellent buildings, estimated 5,000 cords wood and 350,000 ft. timber; 5,000 sugar maples and 150 bearing apple trees all going for \$6.25 an acre, because owner must make quick change. Then comes a beauty with 135 acres of dark loam soil, with good buildings, for \$3150, and 11 good cows, pr. horses, calves, hens, cream separator, farming tools and machinery, wagons, harnesses, etc. etc., will be thrown in to settle affairs immediately. Write now for your free copy of this Big Money-Saving Book and easily find the farm you want. E. A. Strout Farm Agency, Dept. 101, 150 Nassau St., New York. Established 1900.

FLORIDA TRUCK FARMS AT DUPONT FLORIDA

on Florida East Coast Railroad in St. John and Volusia Counties. Fast Freight 36 to 48 hours to New York markets. Continuous cropping season—potatoes, celery and lettuce. WRITE FOR BOOKLET. **DUPONT LAND COMPANY** Dupont, Florida and Scranton, Pennsylvania.

Gladwin County Farm Bargains

Big money for you in my special March Farm bargain list; Cattle, Sheep, Hogs and farm produce was never higher and will remain so for a long time. You can pay for one of these special farm bargains quickly, as well as to make a big profit on the increase of the farm. Don't delay, come or write me at once. **U. G. REYNOLDS, Gladwin, Mich.**

A Small Farm in California will make you more money with less work. 1½ a well live longer and better. Delightful climate. Rich soil. Low prices. Easy terms. Sure profits. Hospitable neighbors. Good roads, schools and churches. Write for our San Joaquin Valley Illustrated folders free. C. L. Seagraves, Ind. Comm., AT & SF Ry., 1957 Ry. Ex. Chicago

CALIFORNIA

California Homestead gives items regarding crops, resources, development, climate and opportunities of California. Special rate—6 months, 30 cents. Address "California Homestead," 111 Victor bldg., San Diego, Cal.

FOR SALE

160 acres, modern house, basement barn, windmill, all new. Mile from market, school and churches. **ANGUS McCAGHAN, MARLETTE, MICH.**

Farm of 80 Acres, all improved dark clay loam soil. 2 miles southwest of South Rockwood, Monroe Co., Mich. 1 mile west of the Electric Car Line, buildings all in fair condition, for particulars address Philip Fountain, South Rockwood, Mich.

FOR sale farm 160 acres good loam soil, 125 acres improved, 10 acres woodlot, nearly new barn, 40-44 and 36-50, silo 12-40, 6 room house, fair fences, steel windmill. In the heart of the Potato district, telephone lines in house, 4 miles from town. C. H. Sisson, Elmira, Mich., R. 1.

1000 Acre Stock Ranch, excellent soil, 400 acres cleared, no waste, market close. Bargain \$30 an acre, Gleason, Farm Man, Greenville, Mich.

Farm For Sale 40 A. on main road near Charleston, Va. Improved, modern house, two barns, 5 A. bearing apple orchard. Full information address R. J. Redhouse, 295 Mt. Vernon Ave., Detroit.

FOR SALE: 100 acre farm of good heavy soil, good buildings, well drained, well located, near good market. Terms. C. A. Taggett, Fairgrove, R. R. 2, Mich.

98½ Acres, 7 room house, 2 barns, silo, wind mill, 2 miles to town, fine location **D. D. BENNETT, Elsie, Michigan**

THIS IS THE LAST 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 MARKET.
Thursday's Market.

March 1, 1917.

Cattle.

Receipts 1971. The run in all departments at the local stock yards this week was light but large enough for the local demand for everything but hogs.

The cattle trade held about steady with last week on all grades. Canners were active and in some cases a trifle higher. One bunch of extra fancy steers brought \$10.50, which was top of market. No demand for stockers and feeders, prices being too high for this purpose.

Good milk cows are in active demand but common grades go for canners. The close was a trifle dull and prices averaged as follows: Best heavy steers \$10@10.50; best handy weight butcher steers \$8@9.50; mixed steers and heifers \$7.50@8.75; handy light butchers \$7@8; light butchers \$6.50@7.50; best cows \$7@8; butcher cows \$6@7; common cows \$5.50@5.75; canners \$4.50@5.50; best heavy bulls \$8@8.50; bologna bulls \$7@7.50; stock bulls \$6@6.50; milkers and springers \$4@8.50.

Erwin, S. & J. sold Walk 1 bull wgh 1460 at \$8.50; to Newton B. Co. 1 do wgh 1360 at \$7.25, 1 cow wgh 1030 at \$6.50, 1 do wgh 950 at \$6.25; to Nagle P. Co. 8 butchers av \$40 at \$8.50, 8 do av 904 at \$8.60; to Golden 6 cows av 908 at \$6; to Kamman B. Co. 5 butchers av 970 at \$7.50; to Bray 2 cows av 825 at \$5.25, 3 do av 1177 at \$6.25, 2 heifers av 600 at \$6, 6 butchers av 736 at \$7, 3 do av 672 at \$5.25, 2 cows av 1150 at \$7; to Newton B. Co. 1 cow wgh 1040 at \$8.25, 2 do av 1020 at \$5.50, 3 do av 833 at \$6, 5 do av 900 at \$5.25; to Nagle P. Co. 12 steers av 1162 at \$9.40, 2 do av 890 at \$8; to Applebaum 7 do av 617 at \$6.25; to Bresnahan 8 do av 760 at \$7.40, 11 do av 885 at \$8.40, 5 do av 810 at \$7.10, 6 do av 708 at \$6.60; to Newton B. Co. 2 do av 885 at \$7, 2 cows av 790 at \$5.25, 6 butchers av 856 at \$8, 5 cows av 920 at \$5.50, 2 do av 1300 at \$8, 5 do av 964 at \$5.50; to Sullivan P. Co. 6 do av 1080 at \$6.75, 2 do av 1000 at \$6; to Hammond, S. & Co. 2 bulls av 1490 at \$7.73, 3 do av 1540 at \$7.60.

McMullen, K. & J. sold Sullivan P. Co. 1 cow wgh 1040 at \$5.85, 11 do av 1022 at \$6.40, 4 butchers av 950 at \$7.25; to Newton B. Co. 10 do av 886 at \$8, 2 do av 780 at \$7.25, 3 do av 770 at \$6, 1 cow wgh 820 at \$5.25, 4 do av 1032 at \$7, 1 do wgh 1050 at \$5.50; to Thompson 3 steers av 1260 at \$7.60, 1 do wgh 960 at \$7; to Bray 3 cows av 760 at \$5.60, 6 do av 920 at \$6.85.

Veal Calves.

Receipts 1045. The veal calf trade was dull. Bulk of good brought \$11@12; mediums \$9@10; heavy grades \$5@6; the close was dull and draggy at the decline.

Bishop, B. & H. sold Sullivan P. Co. 6 av 155 at \$13.50; to Thompson 8 av 150 at \$12.60, 9 av 160 at \$12.60, 7 av 150 at \$12.60; to Nagle P. Co. 15 av 140 at \$11.15, 15 av 125 at \$11.17, 15 av 145 at \$11, 2 av 250 at \$7.50, 9 av 150 at \$10.50, 13 av 140 at \$11, 6 av 165 at \$11; to McGuire 3 av 130 at \$11.50, 13 av 150 at \$12.25, 1 wgh 190 at \$12.50, 7 av 145 at \$11.50; to Sullivan P. Co. 54 av 135 at \$11.

Sheep and Lambs.

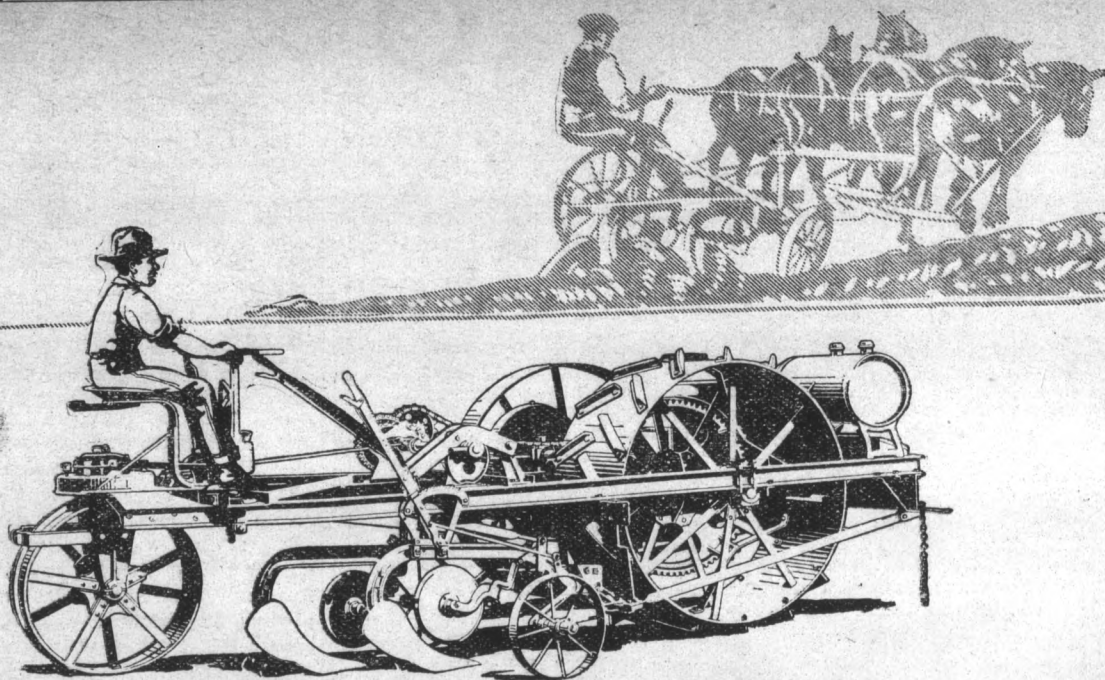
Receipts 2565. The run of sheep and lambs was light and the quality not extra good. Early in the week a few choice lambs brought \$14.50 but on Wednesday the trade was a big 25c lower and few brought \$14.25; bulk of sales at \$14 for good ones. The close was dull as follows: Best lambs \$14@14.25; fair lambs \$13@13.75; light to common lambs \$11@12.50; fair to good sheep \$9@11; culls and common \$6@7.50.

Sandel, S., B. & G. sold Nagle P. Co. 222 lambs av 85 at \$14.50, 7 do av 60 at \$13.50, 3 do av 80 at \$14; to Sullivan P. Co. 134 av 65 at \$14, 28 sheep av 115 at \$10.50, 3 do av 80 at \$8.50, 17 lambs av 85 at \$14, 10 sheep av 101 at \$9; to Thompson 74 lambs av 73 at \$14; to Mich. B. Co. 18 do av 65 at \$13.75; to Nagle P. Co. 22 do av 60 at \$13.75, 20 sheep av 118 at \$10.50.

McMullen, K. & J. sold Nagle P. Co. 20 lambs av 6 at \$13.50, 7 sheep av 75 at \$9.

Hogs.

Receipts 4448. The hog trade was strong and 15@25c higher than last week. Mixed grades brought \$12.75@13.25; pigs \$11@11.75.



Plows Like a Horse Gang— Does Double the Work

IT'S just like sitting on a two gang sulky to plow with an Advance-Rumely "8-16"—and just as easy to handle. The plows are right in front of you where you can see what's going on—full control is at your hand.

Then consider the work—6 to 8 acres in an average ten hour day can be plowed with our "8-16"—clean, even plowing at the right depth. With the Advance-Rumely you can back up with your plows, make short turns and cut square corners.

But a tractor must do more than plow to make a profit for you. The Advance-Rumely will handle your draw bar jobs—discs, drills, binder, etc., also your belt work, silo filler, sheller, small separator, with a reliable, steady, economical power. The removing of two pins detaches the plows for other jobs than plowing.

Burns Cheap Kerosene

As a kerosene burner the Advance-Rumely "8-16" is noticeably superior.

It not only operates efficiently on kerosene at full load, but runs on this cheap fuel under variable loads or even continuous light loads.

When you get the catalog notice the powerful four cylinder motor, the efficient oiling system, protection to parts, strength of construction and balance—Bennett air cleaner on the carburetor, Hyatt Roller Bearings in transmission. The "8-16" is completely equipped—plows and everything. The same model is built in three plow size—the Advance-Rumely "12-24."

This new one-man outfit is Advance-Rumely built throughout—the same as the famous OILPULL tractor—Ideal Separator, engine plows, etc.

Ask our nearest branch for catalog.

ADVANCE-RUMELY THRESHER CO. LA PORTE (Incorporated) INDIANA

Address our nearest branch —
Battle Creek, Mich.



IT TAKES 400,000 cars to carry American Fertilizers to Farmers and Planters every season. Forty per cent. of this is useless Filler requiring 160,000 cars! Insist on having less Filler and all high grades with Available Nitrogen, namely:

Nitrate of Soda

and thus cut freight bills.

Crop production from such Fertilizers means greater outboud tonnage for roads and bigger purchasing power for Farmers. Railroads and everybody would benefit.

Larger food crops thus grown would give increased prosperity to all. It is up to you, Mr. Farmer.

Send for "Cost of Available Nitrogen"

DR. WM. S. MYERS

Director, Chilean Nitrate Propaganda
25 Madison Avenue New York
NO BRANCH OFFICES

"How To Feed Silage"

Special 36-page chapter from famous 264-page book "Modern Silage Methods." Write for copy. Get up-to-the-minute helpful suggestions free. Also get our free catalog on Silver's "Ohio" Silo Filler. 1917 revised edition of "Modern Silage Methods" 25c, covers entire silage subject—every type of silo—how to build, 41 crops used, feeding, 3-page index. 66 illustrations. Write now.

THE SILVER MFG. CO.
Box 390 Salem, Ohio

ZYRO Metal Silos

Keep silage sweetest and better tasting. ZYRO Pure-Galvanized Iron or Black-Enamelled Silos are proof against wind, fire, shrinking, swelling, collapse and repair. Anti-corrosive, rust-resisting.

Cost less to erect

Planned metal sheets fit easily and are fastened in place by two men. Positively air and moisture-tight. FREE BOOKLET tells whole story why ZYRO Metal Silos give best results. Write today for your copy.

The Canton Culvert & Silo Co.
Box 104, Canton, Ohio. Makers of ZY Corn Crib and Grain Bins.

MINERAL HEAVE COMPOUND in use over 50 years
CURES HEAVES
Booklet Free
\$3 Package guaranteed to give satisfaction or money back. \$1 Package sufficient for ordinary cases.
MINERAL HEAVE REMEDY CO. 463 Fourth Ave., Pittsburg, Pa.

BOOK ON DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.
118 West 31st Street, New York

EGG'S HAY We want new laid stock and can pay top prices for them.
Ship To The Old Reliable House
Daniel McCaffrey's Sons,
623-625 Wabash Bldg., Pittsburgh, Pa.
Hay Consign your Hay to us. If you prefer to sell, describe quality, quote prices your track. The E. L. Richmond Co., Detroit. Reference, your bank.
DOGS
Fox Hounds of all ages, Skunk and Rabbit dogs
W. E. LECKY. Send 2c stamp. Holmesville, Ohio

"Look Mary-another 100% Belle City Hatch"

\$8.55 buys

140-egg size

Biggest Hatches Strongest Chicks

That's what you want—that's what you'll get with my World's Champion Belle City Hatching Outfit—and I can prove it.

The whole story is in my big book "Hatching Facts" in colors, sent Free. Write for it—It gives short cuts to Poultry Success—what to do and how to do it. Get this book and you'll want to start one of these wonderful Hatching Outfits making money for you. Every Incubator the Prize Winning World's Champion Model—90 days' trial—Satisfaction Guaranteed. Can anyone offer you more? Over 524,000 Satisfied Users.

World's Champion

\$8.55 buys Belle City Incubator

Freight Prepaid East of Rockies

You cannot get a better Hatcher at any price—140-egg Prize Winning Model—Hot-water—Double-walled—Copper Tank—Thermometer Holder—Deep Nursery—Self-regulating—same as used by Uncle Sam—leading Agr'l Colleges and America's most successful Poultry Raisers. When ordered with my \$4.85 World Famous, Hot-water, Double-walled 140-chick Belle City Brooder, both cost only \$12.50. You can also share in my

\$1000 Cash Prizes

to customers—conditions easy to get biggest prize. You are perfectly safe in ordering direct from this Advertisement—now. The earlier you start, the better your chance to get a big part of this amount the first season. With this Hatching Outfit and my Complete Guide Book for setting up and operating, you can't go wrong. Anyway write for my astonishing new Free Book, "Hatching Facts". You'll find it the best guide to success with poultry. Write me today—a postal will do. Jim Rohan, Pres.

Belle City Incubator Co., Box 14 Racine, Wis

Jim Rohan Pres.

"Tyco's Cup"

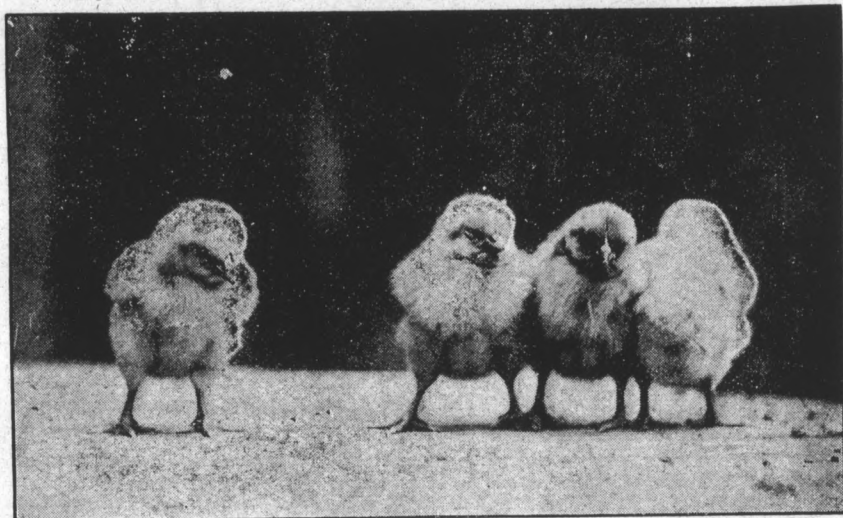
Raising the Chicks

MANY chicks are lost every year due to careless feeding methods during the first few days. We have tried feeding young chicks all the way from thirty-six to sixty hours after hatching and find that the first feed then consists of fine chick grit and as the yolk has been absorbed by that time the system of the young bird is soon prepared by the grit to receive nourishing food. A few hours after dry oatmeal can be fed in small quantities and a few finely chopped bits of onion will make the young birds liven up rapidly. Clover chaff sprinkled thickly over the brooder floor forms a fine litter where the chicks can scratch for the bits of green food and weed seeds. Sour milk should always be before the chicks as they gain rapidly when this is included in the ration and it also helps to prevent bowel trouble.

A hopper of bran in the brooder house is beneficial to the chicks and we have never found that any of them will overeat at the hopper. Of course, grit and charcoal are necessary and the hoppers should always be filled. Sometimes a few of the chicks will be

on the ground. Of course, they cannot remain out long at one time but running out from the warm brooder to the cold ground and back again at intervals will seem to increase their vigor and prevent leg weakness. In the spring when the frost is out of the ground the chicks should spend as much as possible of their time scratching in the earth. The bugs and bits of green food and grit that they collect for themselves seem to do more good than anything we can furnish them in confinement. When chicks are brooded with old hens the natural mothers quickly teach them to gather the right kind of food for healthy growth. When the old hen can scratch for the chicks they rarely fail to prosper if other conditions are equal, and when they are brooded under artificial conditions we must do everything possible to give the chicks the natural environment which is conducive to a rapid and vigorous growth. This means that they must not be too closely confined but allowed a certain amount of freedom on the ground whenever the weather conditions permit.

The only time that chicks should not be allowed too much freedom is in the



Idle Chicks Acquire the Toe-picking Habit.

shy of eating grit at the hopper during the first few days of their life and for this reason it pays to scatter some of the fine grit in the litter. The feeding methods in chick raising vary greatly and every farmer eventually figures out the system that he likes best. There is no hard fast rule that must be followed except that overfeeding and underfeeding are both harmful and a balanced ration is necessary to maintain a quick healthy growth. Some farmers buy their chick feed or scratch feed as it is called, and others grind it on the farm. A little money can be saved by grinding it on the farm but the principal point to emphasize is the fact that only first-class grains should be used in the mixture. There is nothing more deadly to young chicks than mouldy or musty grain. Fresh water should always be furnished abundantly and sanitary fountains are useful as the chicks will in a short time scratch a shallow pan full of litter. A fountain can be made by driving nail holes through a coffee or baking powder can near the top and then filling it with water and inverting it in a shallow pan. If it is necessary to use a shallow pan for watering the chicks it pays to place a large stone in the pan to keep the birds from wading in the water and becoming chilled.

Chicks Need the Ground.

Little chicks seem to need the influence of the earth in order to thrive. If they are forced to remain on a hard wooden brooder floor for several weeks there is a danger of leg weakness and the whole flock may become generally unthrifty. Even in the winter time when the snow is on the ground it pays to shovel it away in front of the brooder houses and allow the chicks to spend an hour or more

morning when the grass is drenched with dew. They will wander too far from the house hunting food and finally the down becomes wet and the chicks are chilled. Sometimes they will become lost in the wet grass and after the chilling dew has reduced their vitality they will not have enough strength to find their way back to the brooder. After a rain the same precautions are necessary to keep the chicks from becoming wet. On the damp mornings it pays to keep the chicks busy in the houses and after the sun comes out and dries off the ground they will be lively and ready to be turned out to make up for lost time.

Toe-picking is one of the brooder troubles of young chicks and it must be controlled before the habit spreads. Sometimes a few of the sturdy chicks will begin grabbing weaker members of the flock by the feet and dragging them around the house. As the blood comes to the wound many of the chicks will attack the helpless member until it is maimed so that it will have to be killed. Always isolate any chicks that acquire this habit and keep them away from the flock until the trick is forgotten. A good litter of yellow straw in the brooder house usually obscures the feet of the chicks, and as they attract less attention there is not so much danger from toe-picking. Tying strong cord back and forth across the brooder house at a height where the chicks can jump and pick at it will often assist in keeping them busy and they will forget each other's feet. As soon as they are out on the ground the toe-picking habit seems to be forgotten as they have so many other things to attract attention and keep them busy. Day-old chicks sometimes

Ironclad Wins in the Two BIGGEST HATCHING Contests Ever Held

Why take chances with untried machines when for only \$11 we guarantee to deliver safely, all freight charges paid (East of Rockies), BOTH of these big prize winning machines fully equipped, set up ready for use?

Why not own an **IRONCLAD**—the incubator that has for two years in succession won the greatest hatching contest ever held? In the last contest conducted by Missouri Valley Farmer and Nebraska Farm Journal, 2,000 Machines were entered including practically every make, style and price. With the Ironclad—the same machine we offer with Brooder freight, paid for only \$11, Mrs. C. F. Merrick, Lockney, Texas, hatched 148 chicks from 148 eggs in the last contest.

30 Days Free Trial

Both for \$11

Freight Paid East of Rockies

150 Egg

Galvanized Iron, Asbestos, Redwood, Insulated Board

10-Year Guarantee

MADE OF CALIFORNIA REDWOOD

150 Chick Brooder

IRONCLAD INCUBATOR COMPANY, Box 117, Racine, Wis.

RESULTS

A CHICK FROM EVERY HATCHABLE EGG. STRONG, HEALTHY, ROBUST CHICKS THAT LIVE! MAKES POULTRY BUSINESS PAY—WATCHES NEAREST OF ALL THE NATURAL PROCESS OF THE SETTING HEN.

THE SECRET OF PROGRESSIVE BIG HATCHING RECORDS

BUILT OF GENUINE CALIFORNIA REDWOOD. Egg chambers surrounded with special insulator having hundreds of air cells, guard against temperature change. Corrugated copper hot-water heater, automatic ventilation and regulation. No dry, hot blasts to kill chicks in shell. Machines complete. Money back guarantee if not satisfied. Big Free Book explains all special details.

Progressive Incubator Co. Box 164 Racine, Wis.

155 EGG

\$985 FOR BOTH

BIG COOP SENSATION!

The LAWN PARK COOP

Saves Every Chick From Danger

Open for day, closed for night or storms like a bureau drawer. When closed, movable like a "grip". Roomy, Durable, Sanitary. Made of metal. Removable floor for easy cleaning. Ward off rats and all vermin, etc. Size open 18 in. x 24 in. x 48 in. Pays for itself by saving chicks and labor. Write for free circulars and particulars. Agents wanted in open territory. The Cyclone Mfg. Co. Dept. L, Urbana, Ind.

ABC

of Chicken Profits—FREE

Send Johnson your name and get the bedrock facts on making profits with chickens. Learn how Johnson started 700,000 people the simplest and easiest way with

OLD TRUSTY

Big production makes low price. And Johnson pays freight. Quick shipment—safe arrival guaranteed. Write at once for new book whether you start now or not. Address **M. M. JOHNSON CO.** Clay Center, Neb.

Tell Me Your Poultry Troubles

Learn About Our 1917 Improvements

SHOEMAKER'S BOOK ON POULTRY

and Almanac for 1917 has many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickenhood. You need it. Only 15c. **C. C. SHOEMAKER, Box 911 Freeport, Ill.**

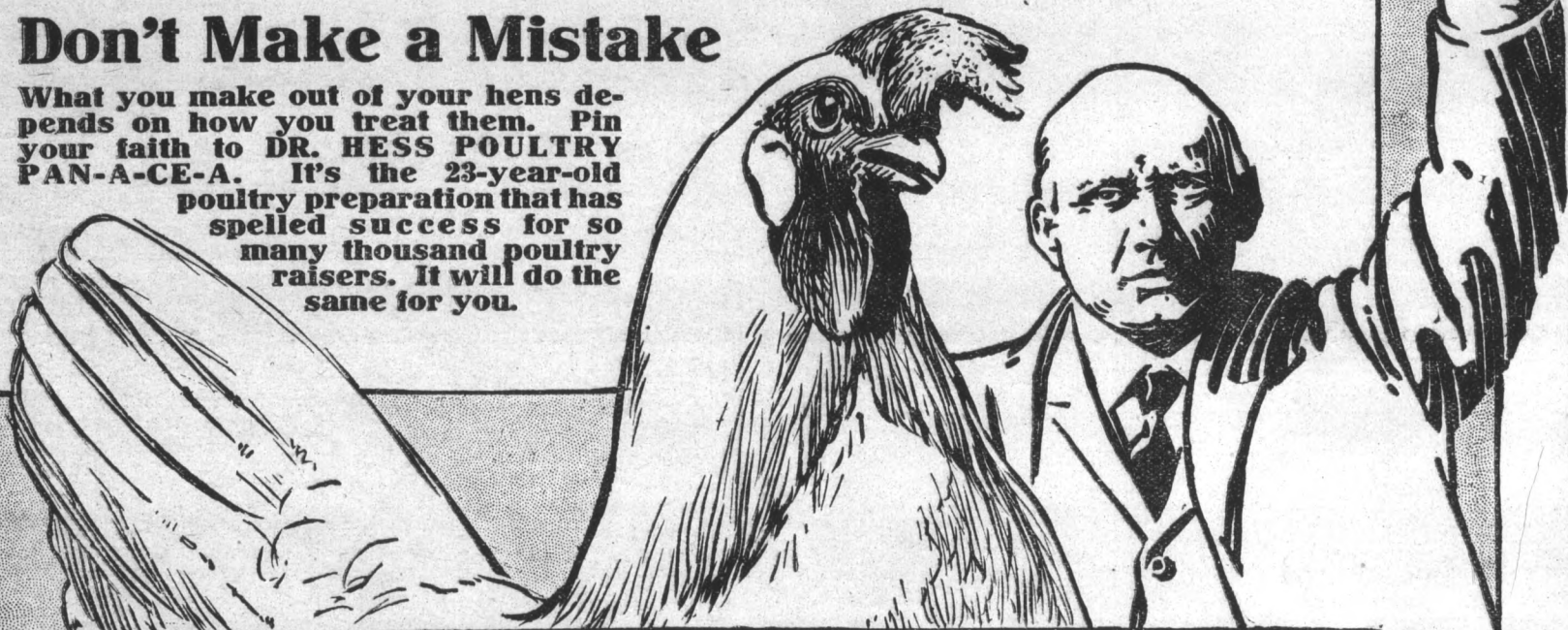
Giant Poultry Industry!

Hundreds of millions annually. Tens of thousands are making good money out of their chickens. Are you getting your share? Are you making poultry pay?

Year in and year out I am preaching this doctrine: *Condition your poultry.* Give them a chance by keeping their health good; keep up the good feeling and good humor; keep up the singing and scratching and you'll keep up the laying. It's the singing, good-humored, industrious hens that lay the eggs—the strongly fertile eggs that will give you good, livable chicks and healthy, fully developed fowls.

Don't Make a Mistake

What you make out of your hens depends on how you treat them. Pin your faith to **DR. HESS POULTRY PAN-A-CE-A**. It's the 23-year-old poultry preparation that has spelled success for so many thousand poultry raisers. It will do the same for you.



Feed Dr. Hess Poultry PAN-A-CE-A

A Tonic—Not a Stimulant

Makes Poultry Healthy Makes Hens Lay Makes Chicks Grow

Now that mating time has arrived, it's up to you to see that your poultry get a tonic and internal antiseptics to make them vigorous and free of disease. *Therefore, feed Pan-a-ce-a.*

In that condition your hens will lay better, you will get more healthy, fertile eggs and the chicks will stand a better show of reaching maturity. *Therefore, feed Pan-a-ce-a.*

And, before the hatches come, I want to warn against gapes, leg weakness and indigestion, for these ailments are responsible for half the baby-chick losses. *Therefore, feed Pan-a-ce-a—it will save you these losses.*

My lifetime experience as veterinarian, a doctor of medicine and poultry raiser has taught me the needs of poultry under all conditions; that is why I urge you to try my scientific and long-tried prescription.

Prices: 1½ lbs. 25c; 5 lbs. 60c; 12 lbs. \$1.25; 25-lb. Pail, \$2.50
(Except in Canada and the far West)

Dr. Hess Stock Tonic

There's nothing better to put horses in trim for hard spring and summer work. Milch cows need it just now to prepare them for the heavy milking season ahead. Dr. Hess Stock Tonic makes all stock healthy, keeps them toned up and expels worms. Sold under money-back guarantee. 25-lb. pail, \$2.00; 100-lb. drum, \$6.50; smaller packages as low as 50c (except in Canada and the far West and the South).

I'll Save Your Veterinary Bills

When you have a sick or injured animal or ailing poultry, write me, telling symptoms. Enclose 2c stamp for reply and I will send you prescription and letter of advice free of charge.

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and sprinkle it in the nests; or, if your fowl are provided with a dust bath, sprinkle Instant Louse Killer in the dust bath every other week—the hens will do the rest. Also destroys bugs on cucumber, squash and melon vines, slugs on rose bushes, etc. Comes in handy, sifting-top cans. 1 lb. 25c; 3 lbs. 60c (except in Canada). I guarantee it.

DR. HESS & CLARK, ASHLAND, OHIO

MY GUARANTEE

So sure am I that Dr. Hess Poultry Pan-a-ce-a will help make your poultry healthy, help make your hens lay and your chicks grow, that I have told my dealer in your town to supply you on condition that if Pan-a-ce-a does not do as I claim, return the empty package and get your money back.



\$7.25 No Raise in Price
—and no cut in quality.
Mail postal today
for unbeatable
offer on the Mankato
Incubator.
Redwood
case.

The MANKATO Incubator

Double
hot air and wa-
ter heating plant.
MANKATO INCUBATOR CO.
Box 717 Mankato, Minn.

Write Today
Save Money

Join Our MONEY-MAKERS with "Successful" INCUBATORS & BROODERS

Twenty-three years leader-
ship. Poultry lessons free to
every buyer. Booklet, "How
to Raise 48 out of 50 Chicks"
—10c. Catalog FREE. Make
green, egg-making feed in
"Successful" Grain Sprouters.
DES MOINES INCUBATOR CO.
368 Second St. Des Moines, Ia.

\$750 and Up

64 BREEDS Valuable New Poultry
Book Free—108 pages.
Fine pure-bred chickens, ducks, geese and
turkeys. Choice, hardy, Northern raised.
Fowls, eggs and incubators at low prices.
America's greatest poultry farm. 24th year
in business. Write today for Free Book.
R. F. NEUBERT CO., Box 817, Mankato, Minn.

POULTRY.

Anconas Good stock; fine layers. 30
now. T. Z. RICHEY, eggs, \$2.50, \$3.10, \$5. Order
CANNELTON, INDIANA

DAY-OLD CHICKS

of quality guaranteed to 1,500 miles. Eggs for
Hatching at low prices. Bar. Rocks, S. C. W. Leg-
horns, S. C. and R. C. Reds, W. Wyandottes,
Buff and W. Orpingtons. Chicklet catalog free.
GOSHEN POULTRY FARMS, R-19 Goshen, Indiana

BABY CHICKS AND EGGS

White, Brown, Black Leghorns, Barred Rocks, R. I.
Reds. Bred for high egg production. Circular free.
Book orders early. Sunnybrook Poultry Farms, Hillsdale, Mich.

Baby Chicks Cheaper than hatching eggs. We
specialize in Leghorns, Rocks and
Reds. Send for catalogue. Twentieth Century
Hatchery Company, Box 162, New Washington, Ohio.

Barred Rock Eggs, Baby Chicks and Cockerels. Four
Pullets Laid 950 Eggs in one year.
W. C. Coffman, R. 3, Benton Harbor, Michigan.

B. R. Cockerels best breeding: \$3 each, 2 for \$5.
special price on a number.
A. A. WOOD & SON, SALINE, MICH.

CHICKS, are booking orders now for spring de-
livery, different varieties, free booklet.
Freeport Hatchery, Box 12, Freeport, Michigan

Fowler's Buff Rocks A few choice
for sale. From \$2 to \$5. Also eggs in season. White Hol-
land Turkeys all sold. R. B. Fowler, Hartford, Mich.

FERRIS WHITE LEGHORNS
Great layers. Pullets, hens, breeding
males; eggs for hatching; day old
chicks; from hens laying 200 to 264
eggs. Prices low, quality guaran-
teed. Free catalog and price list explains all.
Write for it.
Geo. B. Ferris, 934 Union, Grand Rapids, Mich.

HATCHING Eggs from my S. C. W. Leghorns utility
75c per 15. If you want to raise some prize winners
send \$3 for 15. White Line Poultry Farm, Hillsdale, Mich.

JOHN'S Big Beautiful Barred Rocks are all hen-
hatched, good layers, each \$3 to \$5. Breeding pens (5 birds) \$10.
Sold on approval. Circulars, photos. John Northon, Clare, Mich.

"200-Egg" Pedigree White Leghorns

Baby Chicks, Eggs for Hatching
"Bred-to-day" strain, vigorous, healthy stock, all sired
by Missouri Experiment Station males with pedigrees
of 200 to 274 eggs in one year. Chicks, \$25 for 100, \$100
for 500. Eggs for hatching, \$10 for 100. Thousands of
satisfied customers. Book your order at once for
eggs for hatching and baby chicks of quality. We
sell Magic Brooders, best brooders made, \$16.50 each,
capacity 300 to 500 chicks. Catalogue. Michigan
Poultry Farm, Lansing, Mich. "Michigan's
Largest Poultry Farm."

Buff Leghorns Cockerels, cock birds, hens, pens
or pullets. All at very reasonable
prices. Dr. William A. Smith, Petersburg, Mich.

EGGS for setting from R. C. Brown Leg
horns, leading strains in America
Also W. China Geese and M. Pekin ducks.
MRS. CLAUDIA BETTS, Hillsdale, Michigan

Improve Your Poultry. My Young's Strain S. C. White
Leghorns are great money
makers. Strong, vigorous, bred-to-lay stock. Baby chicks
\$8 to \$11 per 100. Satisfaction guaranteed. Large orders filled.
Free catalogue. W. Van Appledorn, Holland, Mich., R. 7, Box 141.

LAYBILLS S. C. W. Leghorns, large, great layers, pure
white. No more—no less. Selected hatching eggs.
Strong day-old chicks. Everfresh Egg Farm, Ionia, Mich.

Pine Crest S. C. White Orpingtons cock-
erels, pullets, eggs
\$5 and 3 per 15, utility \$5.00 per 100.
MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.

Plymouth Rock Cockerels—Barred, White
and Partridge.
Pure bred. Sheridan Poultry Yards, Sheridan, Mich.

RHODE ISLAND REDS and PLYMOUTH ROCKS
Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens
weight 5 to 10 lbs., eggs 15 for \$1.00, 100, \$5; 120, \$6.
Mammoth Bronze Tom Turkeys, 8 to 38 lbs. according
to age \$6 to \$25, 10 eggs \$3. A. E. Cramton, Vassar, Mich.

ROSE Comb Red exclusively sixty large dark cherry
Red, breeding cockerel, price \$2 and \$3. Write for
egg prices. Ridgman Red Farm, R. 4, Vassar, Mich.

R. I. Red Chicks and Eggs. Both Combs. Dark Red.
Winter Layers. Bred by
more Michigan farmers than any other strain Catalog.
free. Interlakes Farm, Box 39, Lawrence, Mich.

Rose Comb Rhode Island Reds, Rose and Single
Combs. Eggs, \$1.50 per 15
after Feb. 15. Jennie Buell, Ann Arbor, R. 8, Mich.

R. and S. C. Reds. Eggs and Baby Chicks. Fine
stock. Also a few good R. I.
White cockerels. O. E. Hawley, Ludington, Mich.

S. C. W. Leghorn Eggs for Hatching, also breeding
stock. If you want Leghorns that will lay and
win write us. "Hill-Crest Poultry Farm," Ypsilanti, Mich.

S. C. BUFF ORPINGTONS
Bred for Heavy Laying 16 years—My Strain
World's Greatest Egg Producers. Eggs and Chicks.
Chr. Free. Will Schadt, Box 1087, Goshen, Indiana.

Silver, Golden and White Wyandottes. 20 white cock-
erels at \$2 each. 10 Golden cockerels at \$2.50
each. C. W. BROWNING, R. 2, Portland, Michigan

Poultry Ads. Continued on Page 301

184 Chicks From 187 Fertile Eggs

Mrs. Adolph Denis, of Brainerd,
Minn., has achieved that success
with an X-Ray Incubator. And the
1917 X-Ray Incubator is better than
ever! 5 New 1917 Improvements—X-Ray
Gas Arrestor, ingenious device that
prevents lamp fumes entering egg
chamber; X-Ray Nursery Tray that
assures sanitation—protects chicks; X-
Ray Egg Tester, most perfect, handy
tester ever conceived; New Handy
Height; New 1917 Quick Cooling Egg
Tray. All new, exclusive features that
make poultry success sure. And—
nevertheless the price of



**The 1917
X-Ray
Incubator**

is not raised one cent!
Uses only one gal-
lon oil (one filling)
to entire hatch—
has X-Ray Auto-
matic Trip that
regulates flame
and prevents both
cold corners and
overheated sides.

**Express
Prepaid**

X-Ray Brooders

Built this year with famous X-Ray Duplex
Heater, assuring uniform and properly dis-
tributed heat. Canopy top that protects chicks
against draughts and excessive sunlight.

X-Ray Incubator Co.
Box 29 Des Moines, Iowa

**Mail Coupon Today
for 1917
Book**

X-Ray Incubator Co., Box 29, Des Moines, Iowa

Send me at once your New 1917 Catalog FREE.

Name _____
St. or R. R. No. _____
City _____ State _____

Both Machines \$
Freight Only 10
Paid

**WINNERS IN BIG HATCHING
CONTESTS EVERY YEAR**

Think of it!
These two UN-
BEATABLE Wiscon-
sin Machines—
both for only \$10
—freight paid east
of Rockies. Guar-
anteed 10 years and
sold on 30 days trial—

**130 Eggs
130 Chicks**

**30
Days
Free
Trial**

**MONEY BACK
IF NOT SATISFIED**

Wisconsins are made of genuine California
Redwood. Incubators have double walls,
air space between, double glass doors, copper
tanks, self-regulating. Shipped complete with
thermometers, egg tester, lamps, etc., ready to
run. Biggest incubator bargain of the year. Send for
our new 1917 catalog fully describing this out-
fit. A postal brings it by return mail.

180-Egg Incubator and Brooder both \$12.75
WISCONSIN INCUBATOR COMPANY
Box 104, Racine, Wis.

Did You Have "Good Luck"

With Your Chicks?

"Luck" with chicks starts with the in-
cubator. If it is properly heated,
properly regulated, and properly ventilated, your chicks
will start off with vitality. They won't come out of the
shell half dead. So many people trust their eggs to a
cheap machine, forgetting that it is not only how many you
hatch that counts, but how many live and grow.

**Start Your Chicks With a
Queen Constitution**

The Queen has a reputation for hatching strong, healthy
chicks. It is built of genuine Redwood—very scarce in
these days of cheap substitutes. Redwood does not absorb
odors from the hatching eggs. Cheaper woods, and
pasteboard lining in iron and tin machines, retain the
odors to weaken and kill the hatching chicks.

Queen incubators are not cheap, but they are built to
hatch big hatches of chicks that live. Book sent free.
Queen Incubator Co., 1197 N. 14th St., Lincoln, Nebr.

BEEES PAY BIG PROFITS

Raise your own honey. We
start you right. Send
today for 3 months' trial subscription to American Bee
Journal (Oldest Bee Paper in America) and get 24 page
bee primer with catalogs of supplies free.
AMERICAN BEE JOURNAL, Box 16, Hamilton, Ill.

learn to pick at each other's toes by
allowing them to remain several hours
in the box with the cover off and no
food or litter to keep them busy. Keep
the chick box closed until it is time to
put them in the brooder.

Protecting the Chicks.

Rats are the sworn enemy of the
chicks and the houses should be built
high enough from the ground to keep
them from gnawing through the floor
at night. If hens are used in individ-
ual brood coops it pays to have a stout
floor in the coop or use metal coops.
Of course, all of the chick houses must
be closed every night just before sun-
down to avoid serious losses when
they are least expected. It pays to
set traps for rats and poison them
when it is possible without risking the
lives of other animals.

Crows and hawks force some poul-
try farmers to raise all of their chicks
in yards. The remedies include shot
guns, scarecrows, traps and dogs, but
none of them are as efficient as they
might be. Every farmer has his own
"pest problems" to solve and on every
farm the solution may be different. If
the hawks are a serious menace it
may be necessary to grow all of the
young stock near enough to the house
so that they can be under constant
protection.

Sunlight and fresh air are also nec-
essary to protect the lives of young
chicks. Sunlight is our best and cheap-
est disinfectant and the houses should
be constructed so that the light can
enter and assist in keeping the litter
dry. Small brood coops containing
old hens and chicks should be placed
at an angle so that the sun can enter
in the spring. Of course, in the sum-
mer it may be necessary to furnish
some protection from the direct rays
of the sun at certain times of the day
but in the spring the more sunlight
that enters the better will be the
growing conditions for the chicks.

In general the raising of chicks is
the job on the poultry farm which re-
quires the most patience of all. The
farmer who has poor luck with chicks
never makes much of a success with
the farm flock as the crop of chicks
raised each year is the foundation of
the business. Early hatching is one
of the most important factors in mak-
ing the flock pay as that means broil-
ers when prices are high and pullets
that should lay long before the next
spring. The growing of early chicks
requires a great deal of work and
study but it is necessary if the farm
flock is made a real profitable busi-
ness. The best hens always lay early
in the year and if the eggs are select-
ed for hatching from the best of the
flock the farmer is insured more qual-
ity chicks than as if the incubator
had been filled with eggs from the
flock during May and June when the
good, bad and indifferent hens are
producing some eggs.

With the present price of meat it
seems as if the production of poultry
meat should pay this year. At least,
it should pay on the farm where the
cost of feeding chicks can be reduced
to the minimum. The farmer with
skim-milk, clover and a good range
should be able to raise chicks at a
profit, even with the high price of
grain, which is bound to continue at
least until the next harvest time.

Ingham Co.

R. G. KIRBY.

THE RESULT OF POOR HOUSING CONDITIONS.

There is a disease raising havoc
with several flocks of poultry in this
vicinity. Symptoms are as follows:
They stand around with head under
their wing; some are taken lame in
one leg and some in both; as the dis-
ease advances some lose the use of
their neck; most of them die. What
is the disease and what is the remedy?
Van Buren Co. W. G. B.

The symptoms given are too general
to enable one to give an accurate diag-
nosis of the trouble, but with the con-
ditions prevailing on so many farms

and on account of the cold weather we
have been experiencing the condition
leads one to believe that the disease is
rheumatism.

This trouble is brought about by ex-
posure to cold and dampness and is
usually the result of improper housing
conditions. Too many farm houses
lack proper ventilation and when cold
weather comes they become damp and
a damp cold is more devitalizing than
the temperature outdoors. In most
coops also, the hens are not furnished
with means for exercise, such as the
feeding of the grains in deep dry lit-
ter. The result is, they stand around
humped up in the endeavor to keep
warm and become subject to rheuma-
tism and the like.

The loss of the use of the neck is
due to digestive troubles which are
brought about by the conditions under
which the chickens have to live. When
a chicken becomes "run down," like a
person, it becomes susceptible to vari-
ous ailments which would not affect it
if it was normal.

The only way to overcome this trou-
ble is to remedy the conditions which
cause it. Remedies and changes in
feeding will be of little avail if the
housing conditions are not changed so
as to provide ventilation without draft
and freedom from dampness. Chickens
do not need protection from cold near-
ly as much as protection from drafts
and dampness, especially if they have
plenty of opportunity to exercise. A
coop is not fit for chickens which does
not have conditions which would make
it enjoyable for an active person to
stay in.

TUBERCULOSIS.

What is the matter with my chick-
ens? Their feathers look rough, they
hump up like a ball, the combs dark,
and sometimes bloody, just as if some
other fowl picked them, they get so
poor that the wind would almost blow
them away, their feet look as if they
were frozen; sometimes it affects one
foot and sometimes both feet; they
eat everything we give them, and eat
when they are so near dead they can't
walk any more. I have tried every-
thing I could think of and still they
die, four and five a night. Is there
any help for them?

Gratiot Co.

Mrs. A. E.

These fowls probably have tubercu-
losis as a ravenous appetite and emac-
iation are prominent symptoms of
this disease. Tuberculosis also often
causes lameness, due to the tubercular
affection of the joints. The dark comb
is not a symptom of this disease, as
combs are usually light colored under
this condition. But such fowls are not
able to stand exposure to weather and
on account of poor circulation are sus-
ceptible to frost injury of the comb
and feet.

External symptoms do not always
give one accurate indications of this
disease but one can be quite sure of it
if he will open one which has died and
finds the liver and intestines covered
with white cheese-like nodules.

The disease is a very difficult one to
control and if on post mortem exami-
nation you find that your hens have it,
the most satisfactory way for you to
do would be to get rid of all affected
birds and only keep those which show
a good amount of vigor and thrift. If
you have any healthy ones put them in
a new coop which is dry and well ven-
tilated but free from drafts. Also feed
a good variety of grains in clean deep
litter so that the hens will get a good
amount of exercise by scratching for
their feed. Better yet, get rid of the
present flock entirely and start anew
in a new coop, or the old one thorough-
ly cleaned and disinfected. The dis-
ease is contagious and will probably
develop in the healthy birds of the old
flock that you keep.

Tests have shown that the use of
either beef scrap or sour milk makes
the hen's egg record at least twice as
good as though she were fed no ani-
mal feed whatever, and that sour milk
is slightly better than beef scrap.



Kirstin Stump Puller

This KIRSTIN One Man Stump Puller is in a class by itself. It is as superior as it is different. Just a steady back and forth motion on the lever gives tons of pull on the stump. The secret of its great power is in double leverage. Made of high-grade steel, combining great strength, durability and light weight. Soft steel clutches grip and pull without wear on the cable. Clears over an acre from one anchor. Changes the speed while operating.

Ten-day trial on your own land. Fifteen year guarantee, flaw or no flaw. With every KIRSTIN Puller, goes the KIRSTIN METHOD of clearing land ready for the plow at a guaranteed saving of 10% to 50% over any other way.

Write now—Quick—for our Profit Sharing Plan and our big Free Book, "The Gold in Your Stump Land." A. J. KIRSTIN COMPANY, 5952 Ludington St., Escanaba, Mich. Largest makers in the world of Stump Pullers—both One Man and Horse Power.



Crushes the Clods

cuts, levels, and turns the soil twice—all in one operation. That's the way "the clodders do the work" when you use the "Acme" Pulverizing Harrow.

Works deep into the soil leaving it compact below and with a nice mulch on top. Light draft and comfortable seat. Endorsed by Experiment Stations. Sizes 3 ft. to 17 1/2 ft. wide. Send today for our new free book, "The Acme" Way to Crops That Pay.

Duane H. Nash Inc.

135 Elm St. Millington N. J.

No. 23 11-2 ft. Wide



HURST SPRAYERS
Mean Bigger Crops

BIG BOOK FREE

"Why, How and When To Spray." Contains 74 illustrations of insects and fungus diseases and gives the remedy for each. Every farmer, truck, or fruit grower should have it. Shows a complete line of sprayers—barrel, horse, engine and man-power for field and orchard. Write for it today.

32 DIFFERENT STYLES

The U. S. Gov't. as well as many of the State Expt. Sta. use Hurst Sprayers because the quality and construction is of the very best. Any Hurst Sprayer is absolutely Guaranteed to give you the very best of service and satisfaction. Over 100,000 users testify to that. Write today for Free Book and FREE DEMONSTRATION OFFER.

H. L. Hurst Mfg. Co., 242 N. St., Canton, O.



Two Bushels More Corn Will Pay the Cost

Of providing Phosphorus for each acre of your farm to produce maximum crops and permanently enrich your soil.

Write us for prices on DAYBREAK FINELY GROUND ROCK PHOSPHATE and for the booklet that tells all about the Permanent Fertility System that costs only \$1.00 per acre per year.

The booklet is free to owners of 80 acres or more.

FEDERAL CHEMICAL CO.
400 Lincoln Bldg., Louisville, Ky.

Buckeye Incubators Express prepaid. 200 egg \$19.50; 100 egg \$10.50; 50 egg \$8.50. Standard Coal Brooder Stoves, Egg and Chick boxes, other poultry supplies. Ionia Poultry Supply Co., Ionia, Mich.

BENEFITS OF THE STATE ASSOCIATION.

(Continued from last week.)

If the greatest good to the organization and its component parts, its constituents of local Clubs, should result from this sort of work, then the very best talent, the very wisest heads, the most experienced and very best timber in each of the local Clubs should be repeatedly sent back again year after year, to take care of the deliberations of this body, and that brings up the thought that to be of the greatest possible good, the local Clubs ought to put more into the organization, they ought to be willing to contribute a little more so that perhaps two or more new delegates might be sent. They should select the best, the most promising of the younger members but not neglect to send back the old heads, the wiser ones, those who have come before, those who are acquainted with conducting a meeting of this kind to get the best good of it and who are beyond doubt the best qualified to direct the proceedings of an organization of this kind along lines that will be a credit to the organization itself and to its constituent members.

One of the accomplishments of this organization, or of, I might say, a single man working through the medium of the organization, which may be said to have only a sentimental value but which I believe of great moral value, a value which is in a way making every effort of the organization as such more potent because of its very sentiment—I refer to the general recognition or the establishment by the state of Memory Day and the general observance of that day through the effort of Ex-President Daniels, who, I believe, has attended every meeting of the organization save one, since its organization. There are other men here who have likewise attended very many of these meetings and I trust that ere this subject is considered closed, that before you go back to your various Clubs to report upon what you may have heard here with regard to the benefits of the State Association to the local Clubs, that you may listen to what these veteran war horses of this organization may have to say on this subject.

(Continued next week.)

CROPS LISTED IN GRANGE ROSTER.

"The new Roster of Michigan Grange Officers," just published, contains a new feature authorized by the last Grange. This is a list of the main farm products which each Grange locality has for sale during the year. This list runs the alphabet in seventy products, leading off with "Alfalfa" and ending with "Wool." It is an interesting list, but not exhaustive of Michigan's varied resources. Where possible to do so, the special variety is listed if so reported by the Grange. Experience will doubtless suggest many changes and improvements for another year, but it is hoped that this list marks the beginning of a valuable exchange feature among the Granges of Michigan.—J. B.

AMONG THE LIVE GRANGES.

Woodland Grange was Organized on January 27, in the village of Woodland with 36 charter members. The work of organizing was done by Mr. Lundquist, of Sunfield, assisted by J. C. Ketcham, Master of the Michigan State range. The members of the new organization selected their own officers, and they were installed by Mr. and Mrs. R. M. Bates, of this city. The officers are as follows: Master, John Gardner; secretary, William Velte; lecturer, Miss Cora Velte. Woodland is an ideal location for a Grange, having a fine township of land from which a large membership can be recruited. And no institution has done so much for the farmers as has this splendid Order, whose wonderful growth and fine record of things accomplished shows that it fills an actual need in rural life and development.

Greatest Incubator Offer!



Take Off ONE HATCH BEFORE YOU PAY

Just mail the coupon below and I will send you one of these guaranteed hatching outfits and let you take off your first hatch before you pay. In fact I will give you

30 DAYS' FREE TRIAL

before you pay me a cent. You can test the outfit and see for yourself that it will positively do what we claim or the trial won't cost you a cent. I could not afford to make such an offer if I was not sure that Unito Incubators are easiest to understand and operate, most economical to run and most successful in hatching big litters of strong, healthy chicks. You take no risk whatever, as we pay return freight charges if you are not satisfied. Use the coupon or write for Free Incubator Folder.

ORDER DIRECT FROM THIS AD

SEND NO MONEY—JUST the COUPON

THE UNITED FACTORIES CO., 437 Factories Bldg., Cleveland, O. Send me the following: 135-EGG UNITO INCUBATOR and 135-CHICK UNITO BROODER on your free trial offer. If satisfactory I will send you \$10.45 in full payment at end of 30 days. If I am not satisfied, I will return the outfit at your expense.

Name

P.O.

R.F.D. State

Name of Bank

Note:—If you send cash with order deduct 50c from above price. Your money refunded if you are not pleased. Send \$1.00 extra if you want both machines self-regulating.

MAKE CHICKS GROW BIG and HEALTHY

That's the kind that pays. Raise practically all you hatch, too. Cut down your losses—reduce labor and expense—eliminate the worry and uncertainty of the brooding season—get all the profits. The

Mackay Colony Brooder

does all this. It burns coal, the safest and cheapest fuel. Is absolutely self-regulating, having both direct and check drafts operated by powerful thermostat. Grows up to 1000 chicks in one flock. Provides ideal brooding conditions at all times. Made in 3 sizes, priced accordingly.

You are safe when you buy the MacKay, because it is the one brooder which has triumphantly passed the test of years of practical use in the hands of the most progressive poultrymen. Designed by a practical poultryman, made right at the start and never changed.

You can buy imitations, but why take a chance? Better use the MacKay and avoid expensive experiments. See your dealer at once.

Farmer Agents Wanted. Big Commissions

Write for big catalog today. It's free.

Mackay Colony Brooder Co.

1964 W. 74th St. Cleveland, O.

(Warehouse, Syracuse, N. Y.)



F.P.C. CHICK MANNA

The Original, First Offered, Special Prepared First 10-Day Baby Chick Food Starts Chicks, Turkeys, Pheasants Right and Brings Them Thru the Most Critical Period Healthy and Vigorous. Prevents bowel trouble and prepares them for thriving on ordinary feed. Differs from other chick feeds. Comparison sample FREE. Wonderful results past 32 years. "They not only like it but thrive wonderfully on it."—M. K. Boyer. Satisfaction or money back. Booklet—"Three Vital Points to Success," Free. Mention your dealer. F. P. CASSEL & SON, A-7 Main St., Lansdale, Pa.



The man or woman who gets the right start in the poultry business, will make money. This year will be a record breaker.



Get the Cyphers Book first, then follow with the Cyphers Incubators, and other helps to success. This is good, practical advice. Act on it today. Get the book first. Cyphers Incubator Co. Dept. 35 Buffalo, N. Y.

Bee Keepers Supplies



Bee Hives, Sections, Comb Foundation, Smokers, etc. Everything for the bees including Beginners Outfits. Send for catalog. Beeswax wanted for cash. General agents for Root's bee supplies in Michigan.

BERRY SUPPLIES

Send for prices on berry baskets and 16 qt. crates. Special 200 A grade berry baskets postpaid for \$1.35 or 200 B grade for \$1.25 within 150 miles of Lansing. No waxlined paper baskets this season.

M.H. Hunt & Son, Box 525, Lansing, Mich.

POULTRY

Barred Rocks: EGGS FROM STRAIN with records to 297 eggs a year, \$2 per 15. Delivered by parcel post, prepaid. Circular free. Fred Astling, Constantine, Mich.

Barred Plymouth Rock Eggs from full blood stock \$1.50 per 15. Prize winning strain. J. A. Barnum, Union City, Mich.

FOR SALE S. C. WHITE LEGHORNS

Day-old chicks and eggs for hatching from thoroughbred S. C. White Leghorns selected with great care for vigor and egg production at the following prices: Day-old chicks \$20 per 100 in March and April, \$17 per 100 in May and \$15 per 100 in June. Eggs \$8 per 100 in March, \$5 per 100 in April and May, \$1.50 per setting of 15. Also about 250 selected pullets, April hatched and now in laying for \$1.50 each. These birds are exceptional value for the money. References given on all purchases. Write Krentel Bros. Box 621, East Lansing, Mich.

Did You Write to

HOMESTEAD FARMS?

If you did, you will receive announcement of Utility-Strain Single Comb White Leghorns, Barred Plymouth Rocks, and Rhode Island Reds. Perhaps you have not written but still may be interested in what Homestead Farms has to say about "The Practical Hen for the Farmer." Eggs and Chicks from Hens that, with natural and convenient farmer care, have been producing eggs all winter—a hen bred to practical results the year around. If you want Eggs or Chicks this Spring, write to Homestead Farms, Bloomingdale, Mich.

AUSTRALIAN LEGHORNS—Real world's cham. A plons, 1.65 eggs, average 278. Direct importation. Cockerels and eggs. White Ranch, South Haven, Mich.

Barred Rock and Buff Wyandotte Cockerels \$2 and \$3 respectively; also eggs for hatching. Mrs. R. W. BLACK, Caro, Michigan.

Baby Chicks: 50,000 S. C. White and Brown Leghorns at \$10.00 per 100, \$30.00 per 1,000. Safe arrival guaranteed. Also Hovers and Brooders. Catalogue free. Wolverine Hatchery, Box 221, Zeeland, Mich.

Baby Chicks pure bred Youngs S. C. W. Leghorns and P. B. Rocks, 8 cents and up. Catalogue free. M. Knolls Hatchery, Holland, Mich., R. 3.

BRED to lay. S. C. White Leghorns, from best pens in Mich. Eggs, Baby Chicks, Cocks, prices low considering quality. Also other breeds. Leon C. Wheeler, Barryton, Mich.

FOR SALE Pure bred White Plymouth Rock Eggs for hatching. OHAS. KLETZLEN, BATH, MICH.

White Wyandotte Cockerels Strong, vigorous birds \$2.50, \$3.00 and \$3.50. EGGADAY RANCH, Marshall, Mich.

White Wyandotte cocks and cockerels snow white from fine stock and A1 layers. \$2.50 and \$3.00 each. DAVID RAY, 202 Forest Ave., Ypsilanti, Michigan.

WANTED: 300 baby chicks, Leghorns and Rocks. CARL SCHLEH, Saline, Michigan

BREEDERS' DIRECTORY.

Change of Copy or Cancellations must reach us
Ten Days before date of publication.

We Offer a Few Special Bargains
In S. C. White Leghorn cockerels, Ram-
bouillet rams, Hampshire pigs (either
sex) and Holstein bulls. A good chance
for a small investment to reap the bene-
fit of a large expenditure of capital and
years of expert breeding.

Flanders Farm, Orchard Lake, Mich.

CATTLE.

ABERDEEN-ANGUS

Bulls by BLACK QUALITY ITO, sire. First prize,
Breeders and Calf Herds Mich. State Fair 1916. We
also won first on Exhibitors Herd, Jr. Champion Bull,
Jr. Champion Female and Grand Champion Cow. Also
breeders of Percheron, Hackney and Saddle Horses.
WOODCOTE STOCK FARM, IONIA, MICH.

Aberdeen Angus

Eight bulls from eight to ten months old. One show
bull, eight yearling heifers bred. Our motto: size
with quality, best of breeding. Prices reasonable.
Inquire of F. J. WILBUR, CLIO, MICHIGAN.

For Sale Extra good pure bred Angus
ANDREW P. EITEL, bulls from 9 to 11 mo. old.
Vermontville, Mich.

MILO D. CAMPBELL CHAS. J. ANGEVINE

BEACH FARM
GUERNSEYS

Average yearly production 422.3 lbs. of fat, three
fourths of them making their records as two year
olds. By the use of a pure bred sire, a big im-
provement can soon be attained if the right
selection is made. The breeding of the Beach
Farm Herd is as good as can be found, and we
guarantee them to be free from contagious dis-
eases and to be satisfactory in every way or
money refunded. Write and let us tell you about
them.

CAMPBELL & ANGEVINE,

Coldwater, Michigan.

Guernsey Bulls of service age and calves from
choice. Adv. reg. breeding.
T. V. HICKS, Route 1, Battle Creek, Mich.

GUERNSEYS—REGISTERED
BULL CALVES
Containing blood of world champions.
HICKS' GUERNSEY FARM, Saginaw, W. S., Mich.

FOR SALE Registered Guernsey bulls and
bull calves and Berkshire
swine, the best breeding. John Ebel, R. 10, Holland, Mich.

FOR SALE: Registered Guernsey bulls
prices. Loren H. Dygert, Alto, Michigan.

Wanted—Guernsey Bull Calf, coming a
year old about March or April, of superior breeding on side
of both sire and dam. Well marked and individually
superior. Address with details and price to: Edward
Lowe, 1015 Michigan Trust Bldg., Grand Rapids, Mich.

Purebred Registered
HOLSTEIN
CATTLE

The highest prices ever paid in the St. Paul
yearling for a bull or a bull for beef were paid within a
year for Holsteins. Two grade Holstein cows 13
years old brought \$187, one 12 year old registered
Holstein cow \$116, and a registered 4 year old
Holstein bull \$168.93. In considering Holstein
cattle as a dual purpose breed, the above authentic
facts render further comment unnecessary. There
is big money in the big "Black and White"
Holsteins.

Send for **FREE** Illustrated Descriptive Booklets
The Holstein-Friesian Association of America.
P. L. Houghton, Sec'y., Box 164, Brattleboro, Vt.

Do You Want A Bull?

Ready For Service.

From a grand daughter of The King of the
Pontiac. Sired by a bull that is more than a half
brother to the Champion Holstein Cow of the
World, and whose dam is a 30 lb. 6 1/4 % fat daughter
of Pontiac Aggie Korndyke who has more 30 lb.
daughters than any other living bull. If you do
write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

Extra Good Registered
Holstein Cows
FOR SALE

From \$125.00 to \$200.00.

Send for list or look them over.

Bigelow's Holstein Farms,
BREEDSVILLE, - - MICHIGAN

HOLSTEINS

Herd No. 1. Five cows, one two year old bull.
Herd No. 2. Five yearling heifers, one yearling bull.
Herd No. 3. Five Heifer calves and one bull.
Bulls ready for service and 6 to eight months old bulls.
Prices will please you. If interested, write as soon as
you read this. L. E. CONNELL, Fayette, Ohio.

"TOPNOTCH" Holsteins

By careful retention, for many years, of largest pro-
ducing females, and use of superior sires, a breeding
herd of wonderful quality has been established. We
are selling young bulls of this "TOP NOTCH" quality
of serviceable age, at moderate prices. Information,
pedigrees, etc., on application. McPHERSON FARMS
CO., Howell, Michigan.

High Grade unregistered Holstein heifers that
show breeding, priced to sell. Some
fresh soon. B. B. REAVEY, Akron Mich.

Reg. Holstein Bull Dam first in Dairy test. Sire G.
Male Calves, Show Bull ready for service no akin to
cows, priced \$125. R. B. PARHAM, Bronson, Mich.

Two Jersey Herds
at Auction

Ionina, Mich., Fair grounds, March 9, '17

The Hesperian Herd owned by Frank P. Nowington, Ionina, Mich. The
Fisherton Herd formerly owned by S. D. Waldon, Pontiac, Mich., now
owned by Edwin S. George of Edenheim Farm. 75 head in all. Cows
bred to Royal Majesty bulls out of dams with big butter records. Blood
is close up to sires of 1000 lbs. butter cows. Hood Farm Pogis 9th., Stobe
Pogis of Prospect, Channel King, Hood Farm Torono, Hood Farm
Golden Lad. A number of R. of M. cows and daughters of R. of M.
cows. Catalogs ready, Write

J. V. Cotta, Sales Manager, Crawfordsville, Ind.

Col. Joe Flesher, Auct., Red Key, Indiana

BULLS FOR SALE
CALLAM STOCK FARM, SAGINAW, MICH.
BREEDERS OF CHOICE
REGISTERED HOLSTEIN CATTLE

(1) ALBAN FAYNE CALLAM, born November 14, 1916. More white than black. Large,
straight and handsome. Official record of dam 18.57 lbs. butter, 414.7 lbs. milk 7 days. Dam has 3
A. R. O. daughters and is granddaughter of Lord Netherland De Kol.
(2) NIG PONTIAC CALLAM, born September 26, 1916. More white than black. Royally
bred, and perfect conformation. Dam is in the Advanced Registry and is one of our best cows.
(3) KEKA DE KOL CALLAM, born December 10, 1916. More white than black. Very hand-
some youngster, choicely bred, and perfect in every way. Dam has not been tested, but is the
daughter of Pet Fairmont De Kol, official record over 19 lbs. butter in 7 days.
(4) PAUL DE KOL CALLAM, born December 23, 1916. About half white and half black. He
is a splendid calf. His dam has an official record of 20.47 lbs. butter and 503.8 lbs. milk in 7 days.
This calf is good enough to head any herd.
These calves are all pure bred Holsteins, registered and of the choicest breeding and sired by
the great King Keka Fayne, grandson of King Segis, Grace Fayne 2nd's Homestead, great grandson
of Pontiac Korndyke, and sired by King Fayne Segis, sire of Segis Fayne Johanna, official record
50 lbs. of butter in 7 days, now champion cow of the world.
Select one, and write for pedigree and price

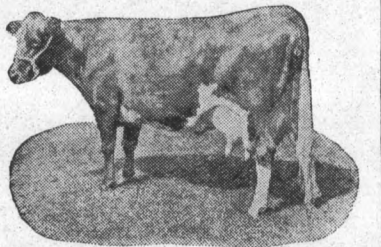
CALLAM STOCK FARM, Room 204 Bearinger Bldg., Saginaw, Michigan

A GRADE GUERNSEY COW in Montana
produced in
one month 1815.1 lbs. milk and 87.71 lbs. butter
fat, an average of over 3 lbs. of butter daily.

Grade up your herd with a Guernsey Bull

Write for our **FREE BOOKLETS** and a **FREE POCKET HERD BOOK**

The American Guernsey Cattle Club
Box W.M. PETERBORO, N. H.



R. of M. JERSEY BULLS—THIS TIME! R. of M.

You keep cows for profit. Brookwater Farm breeds bulls that will increase value of every calf you raise.
The following are sired by Benedictine King who will enter R. of M. this year on his record as a sire of R. of M.
cows. Not one of his daughters ever failed to make the Register of Merit. Calved June 5, 1916. Solid color;
dam, Brookwater Veda 28796, now on test, has made in 5 months and 21 days, 309.97 pounds of butter. Calved
July 3, 1916. Solid color; dam, Brookwater Loretta 271985, now on test, has made in 4 months and 25 days, 380.72
pounds of butter. Also three other bull calves, one of which is of unusual promise by Majesty's Intense and out of
a tested (will make 70 pounds fat during January) granddaughter of Loretta D., champion cow for produc-
tion at the St. Louis World's Fair. One of these bulls we will sell at \$75. Others higher. Extended pedigrees
and production records furnished on application. Let us know what kind of a bull you need. Visit the farm
and see the calves, their dams and sires. **BROOKWATER FARM, ANN ARBOR, MICHIGAN.**
H. W. Mumford, Owner. F. Foster, Manager.

Registered Holstein Friesian Heifers. 3 to 6
mos. old. Some from 30 lb.
sires. Priced to sell. Fred J. Lange, Sebawaing, Mich.

Holstein Calves, 10 heifers, and 2 bulls 15-16ths pure.
5 weeks old, beautifully marked, \$20.00 each, crated
for shipment anywhere. Edgewood Farm, Whitewater, Wis.

REG. HOLSTEINS: Herd headed by Albina Bonte
R. Butter Boy No. 93124. Dam's record at 6 yrs. butter
28.53 lbs. milk 619.4. Yearly record at 2 1/2 yrs. butter
802 lbs. milk 1822 lbs. W. B. READER, Howell, Mich.

Cluny Stock Farm

100 REGISTERED HOLSTEINS 100

Save Money! Buy Now!

THE MILK AND BUTTER KIND

Pull calves by a Sire whose 3 nearest dams average;
Milk, 7 d, 658.2 lbs., Butter 30.615 lbs. His dam's record
31.766 lbs. butter in 7 d, as Jr. 4 yr. old. State record
for age when made. Make a saving on Price and
Express charges, and raise one of his sons for your
next herd sire. Prices and Pedigrees on application.
R. B. McPHERSON, HOWELL, MICH.

Holstein Bulls

1 to 9 months old. Dam's A. R. O. Our herd sire is
Johanna McKinley Segis 3d. 7 nearest Dams aver-
age 27.26 BLISSVELDT FARMS, Jenison, Mich.

OAK LEAF FARM

Herd Sire
Ypsiland Sir Pletertje De Kol
I have several young bulls for sale, good individuals
and the kind that is a credit to head any herd at farm-
ers' prices. E. H. Gearhart & Son, Marcellus, Mich., R. No. 4.

Registered Holsteins. Young bull ready for service.
30 lb. breeding. Satisfaction
guaranteed. W. B. Jones and J. E. Lutz, Cohoctah, Mich.

A 26 LB. JR. 4-YR.-OLD

A 20 lb. Sr. 2-yr.-old and a 15 lb. Jr. 2-yr.-old were
among the records recently made in our herd. All
cows in the herd have creditable A. R. O. records and
are tuberculin tested.

PEACELAND STOCK FARM, Three Rivers, Mich.
Chas. Peters, Herdsman, C. L. Brody, Owner, Port Huron Mich.

REG. Holsteins. Place your order now for a bull calf.
I have cows due to freshen soon, bred to the best
bull in Mich. Elmer E. Smith, Redford, Michigan

Parham's Pedigree Stock Farm Offers reg. A. R. O.
Holstein Cows.
Male Calves, Show Bull ready for service no akin to
cows, priced \$125. R. B. PARHAM, Bronson, Mich.

Veterinary.

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

Sore Eye.—I have a horse that has
a sore in lower corner of eye, which
suppurates; what had I better apply?
H. W., Marine City, Mich.—Apply
equal parts of calomel and boric acid
to sore once or twice a day.

Swollen Shin.—A few days after
Christmas my four-year-old mare was
kicked, wounding shin, but wound is
healed, now the left leg is thick. I
would also like to know how to break
a young horse of the habit of kicking
the stall partition when in stable. H.
H., Milbrook, Mich.—Clip hair off,
paint shin with tincture iodine three
times a week. Fasten a piece of
chain 12 inches long to each hind pas-
tern and it will perhaps break your
horse of the habit of kicking when in
the stable.

Weakness.—I have a four-year-old
mare that appears to be healthy, but
after traveling four or five miles at a
moderate gait, she pants considera-
ble. F. A., Holly, Mich.—Perhaps she
has a weak heart and will be benefited
by giving her 40 grs. of ground nux-
vomica and 30 grs. of powdered digi-
talis at a dose in feed three times a
day.

Nervousness.—I have a mare eleven
years old that raised a colt last year
and is due to foal again next June.
Lately she has developed a peculiar
habit of kicking when unharnessed, es-
pecially if in a heated condition. A
peculiar thing about it is, if she is
allowed to stand with the harness on
for two hours after she comes in, she
never kicks. J. S. T., Oakland, Mich.
—Flog her when she attempts to kick
and she will promptly quit the habit.

Leucorrhoea.—I have an old mare
that is troubled with leucorrhoea and
she seems to be growing thin. Both
of her last two colts died, one of them
at birth and the other one when 24
hours old. Last year she failed to get
with foal. We also have another mare
four years old, in a run-down condi-
tion and I would like to know what to
do for her. W. D. T., Imlay City,
Mich.—Give your mare a teaspoonful
of powdered sulphate iron, a table-
spoonful of ground gentian at a dose
in feed three times a day. Inject her
once a week with the following solu-
tion made by dissolving 1 dr. of per-
manganate of potash in three quarts
of clean tepid water. Give your other
mare 1 dr. of ground nuxvomica, 1 oz.
of ground gentian and 1/2 oz. Fowler's
solution at a dose in feed three times
a day until she gets in good condition.
It is perhaps needless for me to say
that both of these animals should be
groomed well once or twice a day and
fed plenty of nourishing food.

Nasal Catarrh.—Have a young Cock-
er spaniel dog that has a mucus dis-
charge from both nostrils, better some
days than others; but his appetite
seems to have left him. G. A., Royal
Oak, Mich.—Give your dog 1 gr. of
quinine, 1 gr. of powdered sulphate
iron, 10 grs. ground gentian at a dose
three times a day. Put a raw egg in
2 ozs. of sweet milk and give it to him
twice a day.

Pica.—I have a calf that does not
thrive, is growing thin, but appears to
eat almost everything that comes with-
in its reach. It seems to be especially
fond of chewing rags and other rub-
bish. J. M., Wetzel, Mich.—Mix to-
gether one part of ground nuxvomica,
one part air-slaked lime, one part pow-
dered sulphate iron, three parts of
ground gentian, give it a teaspoonful
or two at a dose in ground feed
three times a day. Feed the calf a
greater variety of kinds of feed.

Grease Heel.—I enjoy reading your
veterinary department, but lately have
failed to find a case like mine treated.
We have a six-year-old horse troubled
with sore heel and the skin oozes a
greasy fluid, especially below fetlock.
When the parts are washed clean, it
leaves the skin very red and angry;
besides, the leg is itchy and swollen;
but the animal is not lame. I forgot
to say that I first noticed this trouble
6 days ago. J. R. D., Marlette, Mich.
—First of all it is important to keep
the leg or legs dry and clean, as wet
and filth are two of the common caus-
es of cracked heels and grease heel.
Give 3 drs. of Fowler's solution at a
dose three times a day and a teaspoon-
ful of acetate of potash at a dose once
daily. Feed cooling laxative diet. Dis-
solve 1/4 lb. acetate of lead, 3 ozs. of
sulphate of zinc and 2 ozs. of carbolic
acid in a gallon of water and wet sore
heels three or four times a day. If
you are driving him, when he comes
in and legs are wet, bandage in cotton
for two hours.

WINNWOOD HERD

John H. Winn, Inc., Holton, Mich.

Reference: Old State Bank, Fremont, Mich.
Have for sale 6 Maplecrest Korndyke Hengerveld
Holstein bulls. One 12 months; one 6 months; one 2
months, all out of A. R. O. dams. One made 19 lbs.
butter in 7 days as a Jr. 2 year old. Another 21 lbs. in
7 days as a Jr. 3 year old. Also have five others, same
breed from 2 to 6 months. Must sell at once, need the
room. Our prices will surprise you. John H. Winn,
Holton, Michigan.

Holstein Bull calf nearly white. Sire: Colantha
Johanna Creamella Lad. Dam: Segis
Aggie Hengerveld De Kol. Write GEO. D. CLARKE,
Vassar, Mich., for photo and price.

Registered Holsteins 2 yearling heifers same
breeding as cattle I sold
at Detroit sale at average of over \$900 each. Also 2
or 3 young A. R. O. cows of same breeding. Write or
come and see them. Hobart W. Fay, Mason, Mich.

FOR SALE—Registered Holstein bull calves, 1 to 6
months old from a 30 lb. sire and good A. R. O.
dams. Wm. Griffin, Howell, Mich. R. No. 5.

Holstein and Guernsey Heifer and Bull Calves
Choice selected promising dairy calves, practically pure
Holstein and pure Guernsey, but not registered, nice
color. \$20.00 each, all express paid to any point.
MEADOW GLEN, Whitewater, Wis.

2 Choicely Bred Yearling registered
Holstein Heifers,
from 20-lb. dams, 30-lb. sire \$100 each if taken at once.
Riverview Farm, R. 2, Box 10, Vassar, Michigan.

For Sale Registered Holstein cow, 8 years old, large,
sure breeder, persistent milk. 2 A. R. O.
sisters. O. L. Hulet & Son, Okemos, Mich.

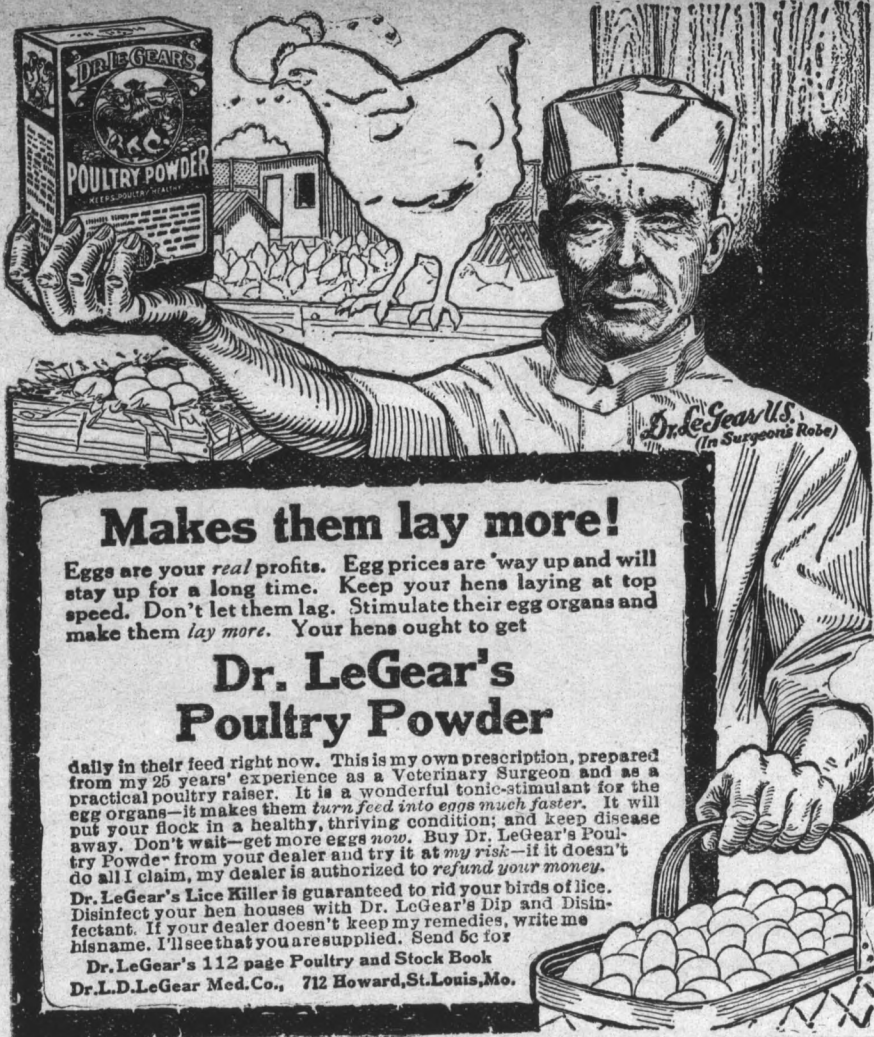
HEREFORDS

Both sexes and all ages for sale, our herd com-
prises about 100 head representing the blood of
such sires as Prime Lad 9th, Perfection Fair-
fax, Bonnie Brae 3d and Dale. Write us your
wants.

ALLEN BROS., PAW PAW, MICH.

20 Herefords BOTH SEXES
ALL AGES
EARL C. McCARTY, Bad Axe, Michigan

Maple Lane R. of M. Jersey herd offers for sale
calves and heifer calves, carrying the best R. of M.
blood of the breed. IRVIN FOX, Allegan, Mich.



Makes them lay more!

Eggs are your real profits. Egg prices are 'way up and will stay up for a long time. Keep your hens laying at top speed. Don't let them lag. Stimulate their egg organs and make them lay more. Your hens ought to get

Dr. LeGear's Poultry Powder

daily in their feed right now. This is my own prescription, prepared from my 25 years' experience as a Veterinary Surgeon and as a practical poultry raiser. It is a wonderful tonic-stimulant for the egg organs—it makes them turn feed into eggs much faster. It will put your flock in a healthy, thriving condition; and keep disease away. Don't wait—get more eggs now. Buy Dr. LeGear's Poultry Powder from your dealer and try it at my risk—if it doesn't do all I claim, my dealer is authorized to refund your money.

Dr. LeGear's Lice Killer is guaranteed to rid your birds of lice. Disinfect your hen houses with Dr. LeGear's Dip and Disinfectant. If your dealer doesn't keep my remedies, write me his name. I'll see that you are supplied. Send 6c for

Dr. LeGear's 112 page Poultry and Stock Book
Dr. L. D. LeGear Med. Co., 712 Howard, St. Louis, Mo.

PUBLIC SALE MARCH 13

OF

20 REGISTERED HOLSTEINS 20

Consisting of 18 Females and 2 Bulls

One of the bulls was sired by the great bull Friend Hengerveld DeKol Butter Boy that has five 30 lb. daughters. The dam of this bull has a 31 lb. record and is a daughter of Pontiac Aaggie Korndyke that has 12 30 lb. daughters. This bull has five calves in the sale and many of the females are bred to him. Trains leave Ionia & Grand Rapids at 7 A. M. and Lansing at 8 A. M. for Grand Ledge. Free transportation to and from the farm. Catalogs ready Feb. 24th. Cattle will be sold promptly at 1 P. M. COL. D. L. PERRY, Auctioneer.

F. D. RIPLEY, - - - Grand Ledge, Michigan

AUCTION SALE

Friday, March 9, 1917.

AT CHEESEBROUGH FARM,

Six miles West of Lake Odessa, Mich., Nine miles North and two East of Hastings, Mich. 27 head Holstein Friesian Cattle, our entire herd, will be sold at Auction to the highest bidder. These cattle all Tuberculin tested, sound and all right, in every way. Twelve cows giving milk, the balance young cattle, except our Herd sire, three years old. We have daughters of a thirty lb. sire, also daughters of a twenty-nine lb. sire, also 7 head of horses, and all farm tools. The cattle sale will begin promptly at 1 o'clock sharp.

PROP. CLUM & CHEESEBROUGH, Address Lewis Clum, R. No. 43, Clarksville, Mich.

10 HOLSTEIN BULLS at FARMERS' PRICES

Sired by Long Beach DeKol Korndyke. His sire Friend Hengerveld DeKol Butter Boy. Dam a daughter of Pontiac Aaggie Korndyke. She has a 120 lb. record, 11-30 lb. sisters, 3-120 lb. sisters. Her dam, a daughter of Friend Hengerveld DeKol Butter Boy has 100 lb. year record. Has 4-30 lb. sisters, 3 sisters above 120 in year.

LONG BEACH FARM, AUGUSTA, (Kalamazoo, Co.,) MICH.

CATTLE

Get Rid of the "Boarders"

Do you keep cows or do they keep you? Do you know which are earning a profit and which are merely paying their board? One community increased the average net profit per cow 129% in a few years by testing. Cows from regularly tested herds sell for more money and so do their offspring. Knowing beats guessing in dairy work. Get our free booklet, "What is Accomplished by Testing Cows" and learn how to build up your herd from animals of known production. Every farmer should read this booklet. It's free. Send a postal today.

The American Jersey Cattle Club
346 West 23d St. New York City

AUCTION SALE of HOLSTEINS

Having rented my farm I will sell at public auction, Friday, March 9th, 1917, my entire herd of registered Holstein milch cows, heifers, young bulls and herd sire, King Pontiac Lilith Canary No. 136027. A grandson of King of the Pontiacs. Write for catalogue.

Geo. T. Carpenter, Napoleon, Mich.

The Wildwood Farm

Jersey Cattle, Majesty Blood. We have Bulls for sale from Register of Merit cows of good type. Write your wants. Alvin Balden, Capac, Michigan.

Jersey Bulls for Sale from high-producing dams, with semi-official test. C. B. Wehner, R. 6, Allegan, Mich.

Jersey Bulls for sale, ready for service. Out of good producing dams. Prices right. R. B. FOWLER, Hartford, Mich.

Jerseys For Sale Pure bred Jersey cows, some registered. Majesty breeding, one or a car load. All young, in good condition. All giving milk. Delivery any time before April 1st. W. E. DAY, Armada, Michigan

JERSEYS FOR SALE Young bulls ready for service from R. of M. ancestors. Meadowland Farm, Waterman & Waterman, Packard Road, Ann Arbor, Mich.

FOR SALE REGISTERED JERSEY BULLS Ready for service. Write your wants. SMITH & PARKER, R. D. No. 4, Howell, Michigan

Hillside Farm Jerseys For sale, seven mos. old bull calf, fine, large, individual whose combined butter production of four nearest dams is 2878 lbs. butter. C. & O. Deake, Ypsilanti, Mich.

Maple Hill Farm Registered Jersey Cattle Stock under 2 1/2 years old. J. B. Worthington, R. No. 7, Lansing, Michigan

Lillie Farmstead Jersey Cattle. Bull calves from R. of M. Cows, also heifer calves and several bred heifers for sale. Colon C. Lillie, Cooperaville, Mich.

Jersey Cow registered, fresh, also bull calf, 4 months old, Majesty blood. Write for pedigree and price. C. A. Taggett, R. R. 2, Fairgrove, Michigan

Shorthorn Cattle of both Sex for Sale W. W. KNAPP, Howell, Michigan.

Francisco Farm Shorthorns and Large Type Poland Chinas We offer bulls & boars ready for service; Bred sows & gilts & young cows. P. P. POPE, R. R. 3, Mt. Pleasant, Mich.



Bidwell Shorthorns

"For Beef and Milk"

This heifer at 6 months has bone, size and quality—our own breeding. The blood of Scotch bulls, Imp. Shetstone Albino and Imp. Villager Registered stock always for sale.

BIDWELL STOCK FARM,
Box B, Tecumseh, Michigan.

Milking Shorthorns, Bulls Ready for Service. DAVIDSON & HALL, TECUMSEH, MICHIGAN.

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

Shorthorns For Sale. Young bulls \$100. Bred cows, and heifers \$150 for quick sale. Write W. J. BELL, ROSE CITY, MICHIGAN.

FOR Sale—Reg. Short Horn Bulls by Maxwalton Monarch 2nd, a son of Ayondale, from 11 to 13 mos. old. John Schmidt, Reed City, R. No. 5, Michigan

Shorthorns For Sale Young bulls ready for service, also cows and heifers. W. B. McQuillan, Howell, Michigan.

Cattle For Sale 2 Loads feeders and two loads yearling steers. Also can show you any number 1, 2 and 3 years old from 600 to 1200 lbs. Isaac Shaanum, Fairfield, Iowa, R-8.

SHORTHORNS Maple Ridge Herd, Established 1867. Young bulls for sale. J. E. Tanswell, Mason, Michigan.

Young Shorthorn Bulls For Sale BEDELL & WHEATLAKE, Big Rapids, Mich.

Bates Shorthorns only one bull left for sale. No females for sale at any price. J. B. Hummel, Mason, Michigan

HOGS.

Durocs and Victorias Heavy bone, lengthy Spring Boars and Gilts from prize winners sired by one of the best Sows of the Great Defender and other noted strains. M. T. STORY, Lowell, Mich.

BERKSHIRES: Gilts and mature sows that will farrow in April and May. Mammoth Toulouse Geese, Pekin Ducks \$2 each. Chase Stock Farm, R. 1, Marlette, Mich.

Berkshires, Boars, serviceable age, best blood lines. Registered. ELMHURST STOCK FARM, Almont, Mich.

Auction Sale, Mar. 12, '17, at 1 P. M. 20 head of high class Duroc Jersey Hogs, also 6 head of Horses, including the registered Percheron Sire Ingham 30947. M. A. Bray Estate, Okemos, (Ingham Co.) Mich.

J. W. KEENEY, Erie, Mich. Gilts bred for April farrow in April and May. Breeder of Duroc Swine. D. M. & T. local from Monroe or Toledo, Keeney Stop.

Duroc Jerseys 18 bred gilts for sale priced to sell. Carey U. Edmunds, Hastings, Mich.

DUROC Sows, Spring gilts, Ang. Boar Pigs, Sept. Pigs either sex. Percheron Stud Colt six months old. E. J. Aldrich, Tekonsha, Mich.

Duroc Jerseys Gilts and tried yearling sows bred to a son of Orion Cherry King the Premier Champion of the breed also fall pigs. F. J. DRODT, R. 1, Monroe, Michigan

HIGH CLASS FALL BOARS registered. Will mature into big type hogs. \$20 to \$40. NEWTON BARNHART, ST. JOHNS, MICH.

Durocs, pigs of Sept. farrow. (Dams) by Joe Orion 2nd Defender C. Superior, Highland King (Sires) Superba King and Hoosier J. O. C. Either sex. H. G. Keeler, Cassopolis, Mich.

Duroc Jersey Gilts We have a choice heavy boned Gilts, registered. All bred to our Herd Boar, Jennings Pilot Wounder No. 13573. Bred for Apr and May farrow. Send for pedigree. Prices reasonable. THE JENNINGS FARMS, R. F. D. 1, Bailey, Mich

Duroc Sows and gilts bred to Eureka Cherry King and Crimson Critic son of Critic Model 1916 champion Iowa Fair. W. C. Taylor, Milan, Mich.

FOR SALE: Duroc Jersey swine, choice breeding good quality (either sex). S. C. W. Leghorn cockerels \$1.50--\$3. Buff Rock cockerels \$2--\$3. John McNeill, Station A, R. 4, Bay City, Mich.

Duroc Sows and gilts bred for Mar. & Apr. farrow. King of the Col. Defender and Oakland fancy families. E. D. Heydenberk, Bell Phone, W. Lansing, Mich.

PINEHURST DUROCS. Choice fall boars. One great yearling boar. Choice Yellow Dent Seed Corn for sale. Orlo L. Dobson, Quincy, Michigan.

Duroc Jersey Boars Ang. and Sept. farrow 18 and 20. Reg. and Del. Good ones. J. R. Hicks, St. Johns, Mich.

Duroc Jersey Boars, Gilts bred for April gilts. J. H. Banghart, East Lansing, Mich.

RAISE CHESTER WHITES Like This the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

CHESTER WHITES Gilts bred to farrow in Feb. or March. Fall pigs, either sex. F. W. ALEXANDER, Vassar, Mich.

CHOICE BRED GILTS Bred to Big Price \$3002, sired by Wildwood Price 1110 lb. 3 yr. Grand Champion at Iowa, sold for \$750. Ship C. O. D. —J. Carl Jewett, Mason, Mich.

O. I. C's serviceable Boars and open gilts. 400 fall pigs either sex, sired by Grandville Wonder, Grand Champion of Ohio State Fair, Schoolmaster the champion of champions and highest price boar of the breed and others. Get a sow Bred to Gallaway Edd Grand Champion Mo. State fair, we are booking orders. We had the undefeated breeders age herd at six state fairs. Get our catalogue, buy the best it pays, we have them. We ship on approval. Rolling View Stock Farm, Cass City, Mich. R. 2

O. I. C. Serviceable boars. Yearling sows and gilts bred for Mar. farrow. Summer and fall pigs. G. P. Andrews, Dansville, Michigan.

O. I. C. & Chester White Swine

Strictly Big Type. Five gilts bred for Apr. & May farrow. Bred to as good boars as there are in the breed. Have a fine lot of fall pigs, that I can furnish, in pairs not akin. Newman's Stock Farm, Marlette, Mich. R. 1.

O. I. C. Year old boar 2nd prize winner at Grand Rapids O. I. C. fair also spring gilts and boars ready for service. A. J. Barker, Belmont, Mich. R. R. 1.

O. I. C's. 25 choice Gilts bred to Son of Schoolmaster to farrow in I can also fall pigs. Clover Leaf Stock Farm, Monroe, Mich., R. 1.

O. I. C's. One extra good big last Sept. yearling sow bred for spring farrow, last spring sows bred and some extra good last fall pigs, also service boars. 1/2 mile west of depot. Otto B. Schulze, Nashville, Mich.

O. I. C. SWINE: Bred gilts are all sold. Order a pair or a trio not akin to breed in the spring. Rush in your order before they are sold. Satisfaction guaranteed. A. J. GORDEN, R. No. 3, Dorr, Mich.

O. I. C. Thorough bred O. I. C. Swine all sold out except fall pigs. O. D. Somerville, Grass Lake, Mich. R. D. 4.

O. I. C. Gilts bred for June and July farrow. H. W. MANN, Dansville, Mich.

O. I. C's. All sold. Booking orders for the best of our winter and spring pigs. O. J. THOMPSON, Rockford, Michigan

O. I. C. Choice gilts all sold. Choice fall pigs out of prize winning stock. Write for low prices. A. V. HATT, Grass Lake, Mich.

NOW IS THE TIME TO BUY

Twenty-five tried Big-Type Poland-China brood sows to be bred for March and April farrow. Ten splendid Spring boars at \$25.00 each for quick sale. Worth \$50.00.

Hillcrest Farm, Kalamazoo, Mich.

Big Type Poland China Fall boars and gilts, two G. W. HOLTON, R. 11, Kalamazoo, Michigan

LARGE STRAIN P. C.

One extra good fall yearling and a few choice spring boars. A nice lot of gilts being bred for April farrow. H. O. SWARTZ, SCHOOLCRAFT, MICH.

Large Type P. C. Gilts bred for March and April farrow all sold. A few good ones to be bred for June farrow. Also some good fall pigs either sex. W. E. LIVINGSTON, PARMA, MICH.

Poland Chinas. As big, as good, as grow in Iowa. Herd headed by Goliath Farver. Robert Martin, R. 7, Hastings, Michigan

Large Type Poland China Bred Sow Sale, Feb. 20, '17 Write for catalog. W. J. Hagelshaw, Augusta, Mich.

Big Type Poland China Gilts, bred for April farrow, with size and quality. A. A. WOOD & SON, Saline, Michigan

BIG Type Poland Chinas. Choice April boars, fall pigs in pairs. Chance to get started for a little money. Big Minorca Cockerels. Satisfaction guaranteed. R. W. Mills, Saline, Mich.

Large Stiled Poland China sow bred, fall pigs, either sex. Young Shorthorn cow and four month bull calf. Robert Neve, Pierson, Michigan

POLAND Chinas bred gilts all sold, still have some choice fall pigs of large and medium type, at farmers prices. P. D. LONG, R. 8, Grand Rapids, Mich.

10 Yorkshire Gilts, 2 Boars one mature; Red Polled cattle. B. S. CARR, Homer, Michigan

HALLADAYS' HAMPSHIRE 5 tried sows, 2 yearling boars, for immediate sale. Fall pigs. O. H. Halladay & Son, Clinton, Michigan

Hampshire Swine Bred Sows and gilts for August and September farrow. 9. Spring pigs, sex both. FLOYD MYERS, R. No. 9, Decatur, Ind.

HAMPSHIRE HOGS all sold out, would sell one herd boar and book orders for spring boar pigs. John W. Snyder, St. Johns, Michigan, R. 4.

SHEEP

OXFORD EWES

Yearlings \$35.00. Shropshires all ages \$30. All good ones and money makers.

Kope Kon Farms, Kinderhook, Mich.

Oxford Down Sheep No more for sale. M. F. GANSSLEY, Lennon, Michigan.

HORSES

MR. FARMER BUY YOUR

Percheron Stallions and Mares of the largest breeders in the state. 75 head to select from—herd established 1899.

PALMER BROS., P. O. Belding, Ionia Co. Orleans, Mich.

JACKS AND MULES

Raise mules and get rich. 120 fine large Jacks, Jennys and Mules, all ages for sale. A lot of big registered Jacks. No little cheap Jacks for sale. All guaranteed Jacks. Prices \$25 and up. Come on and see for yourself or write me today. KREKLER'S JACK FARM, West Elkton, Ohio

KENTUCKY JACKS and SADDLERS

SIC BONE Kentucky JACKS and JENNETS. 85 head FIVE and CUBAN GAITED STALLIONS, geldings and mares. Fancy MULE TEAMS. WRITE US. ASK FOR OUR 1917 CATALOG.

THE COOK FARMS Box 436L, LEXINGTON, KY.

FOR SALE

Perhaps the greatest aged Percheron Sire in Mich. a grandson of Besique. Dam by Cheri, a Grey in the ton class, sure breeder, his fillies are in the way, would trade him for stud colt. Percheron mare or fillies, or saddle horses. R. E. Whitney, Onondaga, Mich.

AT HALF PRICE

Registered Percherons. Big black stud colt coming 3. sound and sure. Big boned rugged filly 2 post, bred by M. A. C. Also pair of mares 4 and 6 years old. Come and see them.

JNO. C. BUTLER, Portland, Mich. Bell Phone.

Percherons, Holsteins, Angus, Shropshires, Durocs DORR D. BUELL, Elmira, Michigan.

Additional Stock Ads. on Page 296

FREE

POST PAID

This Big Sample Box of My Famous Healing Compound



C. G. Phillips
The Wool Fat Man



I don't ask you to send me a cent of money — not even for postage. Just mail me the coupon below and I will send you this liberal sample box of CORONA WOOL FAT absolutely free. I want you to see for yourself what a wonderful healing preparation CORONA WOOL FAT is. I want to prove to you on your own horses and cows, **WITHOUT A CENT OF COST**, how quickly it will heal and cure Split Hoofs, Contracted Feet, Corns, Grease Heel, Scratches, Thrush, Quarter Crack, Barb Wire Cuts, Sore Shoulders, Sore Teats on Cows, Boils, Ulcers, Old Sores, etc. You will be surprised at the results. Don't miss this opportunity to try CORONA WOOL FAT without a cent of cost. Send the coupon today and get the Free Trial Box.



Cracked Hoofs—Before and after using Corona Wool Fat



Corona Heals Barb Wire Cuts Smoothly



Grease Heel—Before and after using Corona Wool Fat



Heals Inflamed Cow's Udders

CORONA WOOL FAT

The Wonderful Healing Compound

CORONA WOOL FAT is not a grease, but the fatty secretions extracted from the skin and wool of the sheep. It is unlike anything you ever tried or used. Don't confuse it with salves which contain grease or blister compounds. It is the only remedy which will penetrate the shell of a horse's hoof—take out the soreness and grow new hoof. It is cooling, healing, penetrating and quick in action. CORONA WOOL FAT is

USED BY MORE THAN 1,000,000 FARMERS STOCKMEN AND HORSE OWNERS

Read these letters — we have thousands more like them:

"Corona Wool Fat Compound is all you claim for it. I used it on an old wire cut and it healed it up all O. K. It is the best preparation I ever used." E. T. Sheldon, R. F. D. Carrier, Tracy, Minn.

"I have used Corona Wool Fat Compound on horses' feet that were so bad they could hardly travel. Since using it they travel like colts. I have never seen anything to equal it." Harry Barr, Smyrna, Pa.

"I tried your Corona Wool Fat Compound on my horse which had a bad case of scratches. I had given up trying to cure him, but finally tried Corona and it did the work. Horse is now in good condition." P. L. Tressey, Etna, N. H.

CORONA WOOL FAT is readily absorbed by skin and hoof, penetrates to the inflamed inner tissues and

Heals Without Leaving a Scar

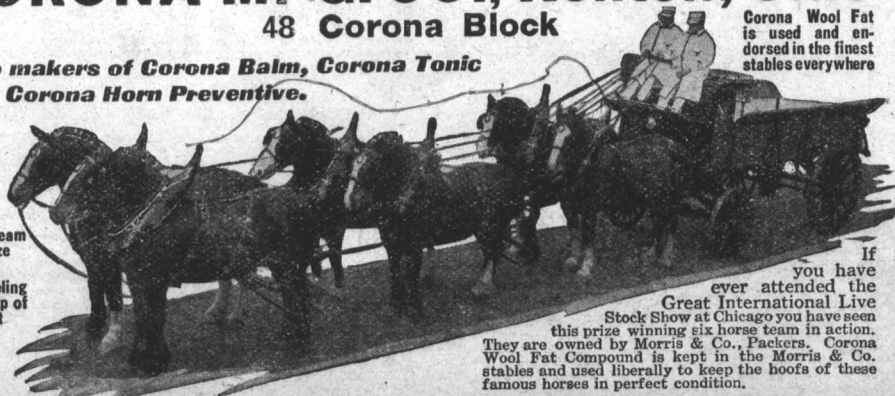
Corona does not burn or blister, grows hair over cuts and sores, causes no pain, soothes and heals surprisingly quick. The free sample will prove my claim. The coupon will bring it to you postpaid and I will also send you a copy of my FREE BOOK—"HOW TO TREATS HOOFS, WOUNDS, SORES, etc." Send the coupon today and get this useful book and the free sample of CORONA WOOL FAT.

C. G. PHILLIPS, Mgr.

CORONA MFG. CO., Kenton, Ohio
48 Corona Block

Also makers of Corona Balm, Corona Tonic and Corona Horn Preventive.

Corona Wool Fat is used and endorsed in the finest stables everywhere



Morris & Co's. Team International Prize Winners.
Kept in good traveling condition by the help of Corona Wool Fat Compound.

If you have ever attended the Great International Live Stock Show at Chicago you have seen this prize winning six horse team in action. They are owned by Morris & Co., Packers. Corona Wool Fat Compound is kept in the Morris & Co. stables and used liberally to keep the hoofs of these famous horses in perfect condition.

FREE Sample Coupon

C. G. PHILLIPS, Mgr.
THE CORONA MFG. CO.
48 Corona Block, Kenton, Ohio

Dear Sir:—Without obligation or cost to me, please send me postpaid the free trial box of CORONA WOOL FAT Compound. Also your book "How to Treat Hoofs, Wounds, and Sores." I keep

.....horses.....mules.....cattle.....hogs.....sheep

Mention ailment you intend to use it on.....

My dealer's name is.....

My name.....

Address.....R.F.D.....

County.....State.....

How To Treat Hoofs Wounds Sores Etc.