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LIVE STOCK
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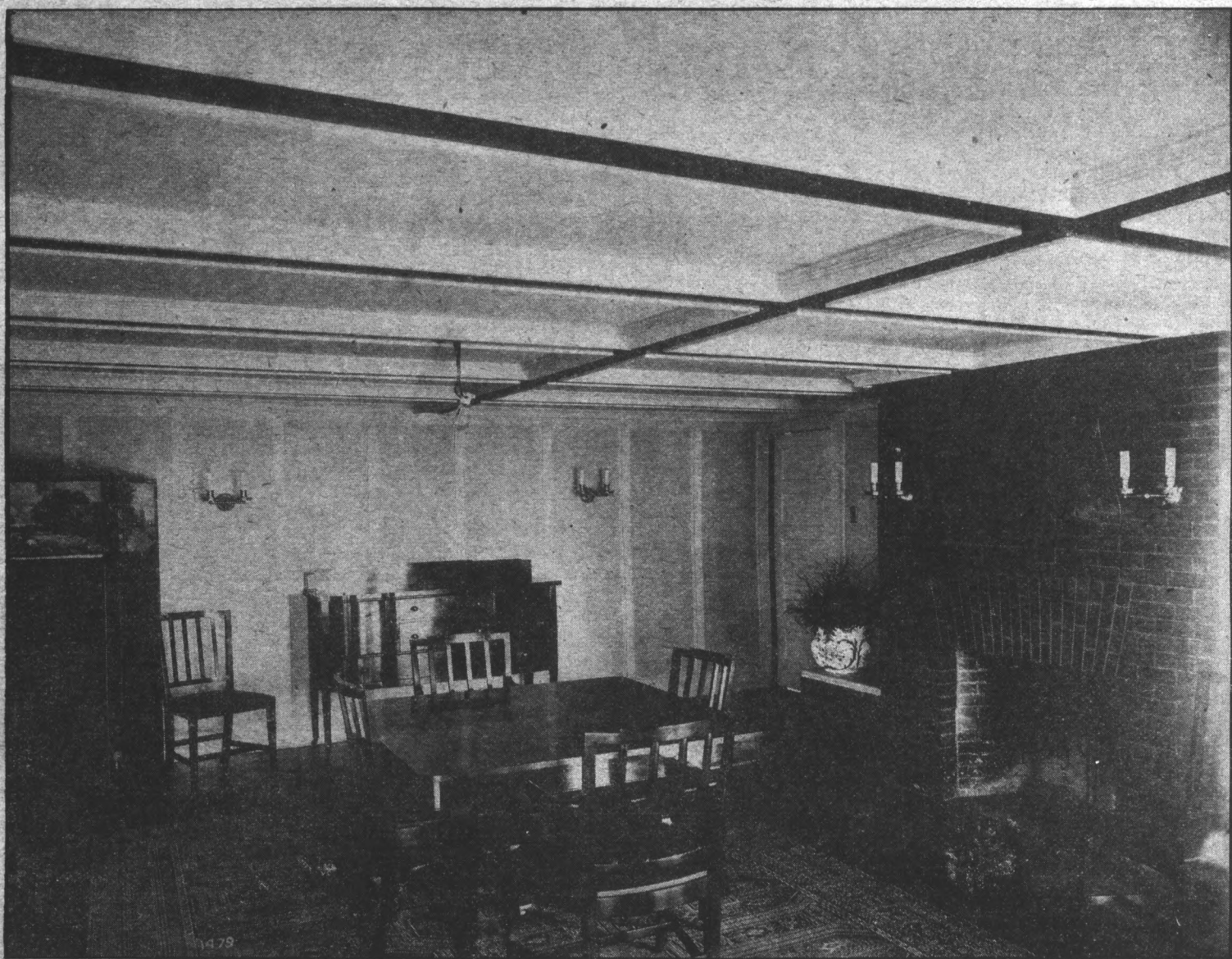
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Getting Ready to "Show" the Public

From the Seclusion of Farm Homes Must Come the Convincing Evidence.

By Charles H. Graves

WHEN the farmer goes before the public to present his case is he going to say, "I think we should receive a better price for our products," and base his appeal upon mere estimates, or will he say, "Our records show that during the past year we have produced for the market one thousand two hundred bushels of wheat, twenty thousand pounds of prime steers, and ten thousand pounds of hogs? The price we have received for this produce is only sufficient to pay the cost of production and 4.5 per cent on the capital invested. This is not enough to stimulate future production to a point that will insure the country an ample food supply in years to come," and so speak with a definite knowledge gained by having kept systematic record of his business.

The farmer has made his appearance as a national figure and

the whole country is waiting to hear what he has to say. When he makes the statement that the present price of farm products is too low to insure the country with a sufficient food supply, the public begins to listen, takes to heart his verdict, and immediately searches for a solution of the problem. The urban populations are beginning to see that they can no longer live on the farmer's surplus for which they have set their own figure. They must bring about an increased production by paying the farmer a price which will permit an equal profit in farming to that realized in other enterprises of equal investment and risk.

In order to convince the public that this condition exists, the farmer must be able to make definite statements and to substantiate them by actual records. These must be the farmer's own records and not the result of (Continued on page 752).

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VOLUME CLIII. NUMBER TWENTY-FOUR

DETROIT, DECEMBER 13, 1919

CURRENT COMMENT

The Coal Strike Situation

CURRENT reports at this writing indicate that a new proposition for the settlement of the bituminous coal strike has been made by government officials to the officers of the miners' union and that the proposition will be submitted to their wage scale committee this week. This may mean that coal production will soon be resumed on a normal basis, depending on the action taken by the miners. If the hoped-for settlement is reached the physical need of the public for fuel needed in our industries may soon be satisfied, which is the first and most important consideration in the present emergency. But it is also important that the public be better informed with regard to the merits of the entire controversy.

It has, from the start of the trouble, been very difficult for the layman to properly assess the coal strike situation. The public has very little knowledge of the merits of the miners' claims for consideration. But public sentiment is strongly opposed to the imposition of hardship on all the people of the country as a means of enforcing their demands. As a natural consequence, the greater this hardship becomes, the more willing the people will be to bear it, as a step toward the discouragement of this method of procedure. Unquestionably organized labor has lost ground in the public favor through this controversy. But the public is still fair, and given an accurate knowledge of the situation, will still stand for a fair adjustment of this controversy and a fair consideration of the miners' grievances.

Fair play must be the basis of the cure for the present condition of industrial unrest. A little less of selfishness and a little more of the Golden Rule applied to business relations will go far toward getting the country safely past the present industrial crisis.

Socialism and the Tenant Farmer

AFAVORITE subject for socialistic leaders to discuss in relation to agriculture is the increase in farm tenancy. Socialistic propaganda attempts to breed discontent among farmers by telling them they are rapidly approaching a condition of farm peasantry. Such a line of argument seems to give vast delight to many farmers in this period of unrest, but outside of a few southern states, where the labor problem is being met by making tenants of negro laborers, farm tenantry is not on the

increase, nor is the condition of the American farm tenant alarming.

Investigation of farm tenantry in the three great states of Illinois, Indiana and Iowa shows that in those three states, which may be said to truthfully reflect the economic condition of the great middle west, the status of the tenant farmer is not such as to cause alarm on the part of anybody. In those three states there were (census of 1910) some 250,000 tenants. The average income of these tenants was, according to this investigation, over \$1,700 a year, with an average expense of \$700, which left the average tenant \$1,000 besides what he got from the farm in the way of milk, eggs, meat, vegetables, etc. It is shown that in many instances the tenant is better off, so far as annual earnings are concerned, than the man who owns the land. These facts afford rather convincing proof that the real tenant problem is not so serious as some of our socialist leaders would have us believe.

Developing Improved Herd Sires

IN these times when the attention of farmers is turned toward building up their herds, and when the breeders' associations, agricultural colleges and breeders are cooperating to encourage the use of improved sires it is only natural that the care and management of young bulls should be given more consideration.

Successful breeders place great stress upon the care and development of their sires. Summer heat and insects are perhaps more detrimental to the development of young bulls than are the rigors of the winter season. A little extra grain may in some degree at least, mitigate the serious effects of exposure, but in midsummer the calf that is not properly protected may suffer tortures that will seriously stunt growth and destroy the habit of thrift—and it is well to understand that thrift is a habit. It is, indeed, difficult to provide conditions favorable for the cattle during the hot summer weather, but a real effort ought to be made to take care of the young sire at least.

The main thing in caring for the young sire is to make certain that he is kept in good growing condition at all times and not allowed to become stunted. If skim milk is available it will give results which cannot be secured with any other feed. If available the young sires should have from twelve to fifteen pounds of skim milk per day per head until they are nine or ten months old. Small amounts of alfalfa, clover or mixed hay may be fed. In addition to the hay, a grain mixture of oats and corn, equal parts ground, will give good results. No definite quantity can be prescribed but enough should be given to keep the bull in good growing shape. In case he does not seem quite as sleek and sappy as desired, add a little oilmeal to the grain mixture. To keep him in a thrifty condition he must have all of the good hay he will eat unless he is running on good pasture. As a rule young bulls should have only small amounts of silage, especially if they are being developed for early service.

It is always preferable to provide a yard or pasture for the young bull. He may not make so rapid a growth as when kept in a stall or pen, but he will develop stamina and a more robust constitution, besides natural exercise will keep his feet in better condition. During the stabling period he will be more contented and develop a better disposition if kept in a box stall which permits him to see the other animals of the herd. Nothing will do more to aggravate an animal's disposition than to allow lice and vermin to keep the skin irritated. It only requires a few minutes' time to give him a good grooming, and is far more merciful than to compel him to suffer the

tortures of a lousy and diseased skin.

Unfortunately many good bulls become useless cripples through neglect of their feet. Few things are more painful than to see a good bull limping along on his heels, with long, upturned hoofs. No amount of attention can restore the sprightly step and erect carriage that are characteristic of a vigorous bull, when once his feet have been seriously neglected. Prevention is always better than to venture the risks of a cure. We mention these things because the new movement to save the purebred bulls and put them in the hands of farmers is sure to prove a stumbling-block to live stock progress unless the culling process is rigidly practiced and proper methods of development practiced in fitting the young bulls to go out to the farms and give a good account of themselves.

A Worth While Program

LAST Saturday afternoon over eighty enthusiastic delegates from the various townships, and members of farm organizations met at the dining-rooms of the Detroit Chamber of Commerce for the annual meeting of the Wayne County Farm Bureau to listen to reports on the different lines of Farm Bureau work conducted this past year. From the addresses it was plain that the good men and women identified with this organization are endeavoring to establish a permanent agriculture and through such an agriculture are patriotically devoted to the larger task of contributing to the permanency of our democratic government. A more economical production was the prime object of the work of one group of industrious men who are breeding better live stock and selecting superior grains and other crops. Other groups are enlisted in the study of costs of production, of marketing conditions, in adapting crops to the needs of consumers and in determining ways and means of securing adequate compensation for the goods offered to the public. The work of the community clubs in stimulating the study of local problems—the rural school, the country roads, markets, entertainments for young and old, etc., is by no means insignificant.

The farm women in carefully comparing various means of economizing the expenditure of one-half or more of the farm income in feeding and clothing the family and in caring for the home, are conducting an interesting project. How to get water supplies in fifty per cent of the homes not now provided to conserve the energy expended by farm women in carrying water on an average of fifty-four feet, is an effort that promises to subtract much drudgery from the already overworked home-maker.

Following along in the course of the reports was a resume of the work of the boys and girls. How the routine common life of many a boy or girl has been transformed by merely an opportunity of self-expression, a chance to be sociable or to enjoy the society of others, to develop the instinct of ownership or to finance a business undertaking from the purchase of the raw materials to the sale of the finished product, could readily be testified to from the list of juvenile enthusiasts of this line of Farm Bureau effort.

In reflecting over the whole program we became convinced that here is a comprehensive curriculum of work and study for the men and women, the boys and girls of the farm. It is one that can be adapted to practically every circumstance and condition of rural life. And with this type of work started in every well-organized county of the state it is little wonder that the farmers are so anxious to become identified with and to give their support to the state and county Farm Bureau movement. There seems to be nothing in the turbulence of the swift flowing

stream, nor in the reactionary eddies to cause these sane and thoughtful farmers to forget the great ocean of cooperation to which the stream is flowing. This Farm Bureau movement is and will give new meaning to many obscure lives that have been held down by the perplexities of modern agricultural conditions.

News of the Week

Wednesday, December 3.

PRESIDENT WILSON selects J. W. Alexander from Missouri as secretary of Commerce.—A conference between government officials and sugar refiners is to be held this week.—There are said to be 90,000 U. S. troops on the Mexican border.—Scientific and banking associations are cooperating to develop America's water power.—An advance in wages is announced by Massachusetts woolen companies.—The Chinese resent the arrival of Japanese warships at Fuchow where anti-Japanese disturbances recently occurred.—Premier Clemenceau starts campaign for presidency of France.

Thursday, December 4.

OFFICIALS of the United Mine Workers are cited for contempt of court by the federal court at Indianapolis.—United States troops are ordered out to protect volunteer miners in Oklahoma.—The general strike of labor union men in Italy is declared off.—The English pound sterling is quoted one dollar below par on the New York Exchange.—Six men are killed in a mine explosion following the firing of a badly prepared blast at Clinton, Ind.

Friday, December 5.

MANY American concerns operating in Mexico have ordered their employes out of that country.—Fuel Administrator Garfield orders a curtailment in the use of coal throughout the central and eastern states.—The American food ship Kerwood loaded with foodstuffs and supplies from Americans to relatives in Germany is blown up and sunk near Leer, Germany.—The Federal Trade Commission issues formal complaints charging Chicago meat packers with violations of the Clayton anti-trust law.—Marshal Foch confers with supreme council on military measures to be taken against Germany in the event of Germany's refusal to sign the protocol.

Saturday, December 6.

RAIDING of the headquarters of the striking steel workers at Donora, Pa., results in the arrest of ninety-eight men.—Street railway traffic is resumed in Toledo.—Twenty-one divisions of Czecho-Slovaks are advancing toward the Hungarian frontier.—At least twelve persons have been killed in the past two weeks in New York City from drinking home-made whiskey.—The United States Senate is urging the formation of a department of aeronautics.—Germany replies to the allied note protesting against the increase of Germany's armament.—Fully one hundred and fifty trains from eastern points to the middle west have been cut off to curtail fuel consumption.

Sunday, December 7.

UNITED mine workers agree to vote on President Wilson's peace offer, who had been imprisoned at Puebla, Mexico.—Ten million dollars in gold is shipped to South America.—The new Hungarian premier is favorable to the restoration of the monarchical government.—Governor Robertson, of Oklahoma, issues a proclamation declaring military law in the coal mining regions of that state.—Army war contracts totalling nearly two and one-half billion dollars have been cancelled by the war department.—British concerns will construct twenty torpedo boat destroyers for the United States.

Monday, December 8.

THE Mexican government releases American Consular Agent Jenkins.—Austria asks for help in the election of a dictator.—Spanish cabinet resigns.—War community organizations merge to carry on peace work.—United States Supreme Court considers the validity of the war-time prohibition amendment.

Tuesday, December 9.

MICHIGAN'S industrial centers go upon war-time fuel basis.—The trial of Senator Newberry and 134 others indicted for alleged election law violations is placed for January 5.—A plot by President Carranza of Mexico to invade the United States is reported by the senate foreign relation committee.—A new Polish cabinet is asked for.—Orders are issued for the discontinuance of 405 trains out of New York.—Railroad service in northern Michigan is cut forty per cent.

The International

Largest Display of Beef Cattle, Horses, Sheep and Swine in History

At the great International Live Stock Exhibition at Chicago College, has been fed a liberal ration feeding. large throngs mingled in glad of ground oats, ground barley, a little ground wheat, together with silage roots and alfalfa. About one-third of the ration during the latter part of the period was composed of ground barley, with the amount of corn diminished, as time went on. Oil meal, molasses feed and other tasty bits were added from time to time to give the necessary finish and to act in the capacity of an appetizer.

In spite of the fact that the middle west is the breeding ground of the best live stock in America the breeders of that section did not scoop the prizes. They were up against the strongest kind of competition from the far west and other sections.

Junior Lad, the grand champion steer, was fed and shown by M. Armentrout, a young feeder of Botna, Iowa. After the first prize winners of the breeds and grade and cross-breeds were winnowed out in the championship by ages, the contest narrowed down to Junior Lad and U. C. Jock 3rd, the senior yearling shown by the University of California. The symmetry, type and smoothness of the Iowa calf resulted in Judge Cridlan giving it the decision over the more active and thicker covered Angus. The Angus calf's dressiness, thickness and smoothness of covering over the back caused Judge Cridlan to give him a lingering look as he slapped the Hereford calf for the decision. The types that were gathered in the champion rings impressed the ringside followers that both the English and Argentine judges were selecting the low-down, early-maturing animals. In the Angus classes, especially a leggy one, even if well-conditioned and fleshed would find no favor.

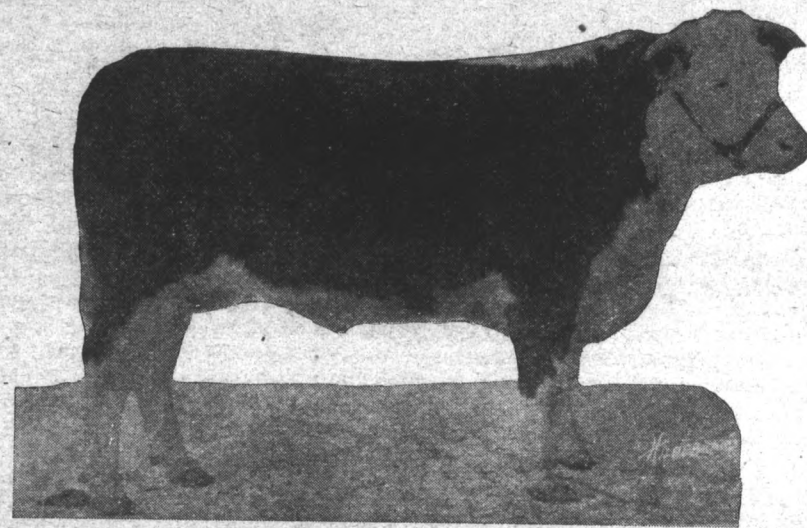
U. C. Jock 3rd had never known what corn really was. Not once in his life has he ever tasted of the golden grain of the middle west. He was sired by Black Capon and is out of Oakfield Lola and was calved September 9, 1917.

In the recent live stock show at San Francisco he was declared reserve champion to the celebrated California Perfect Lady, that fell to third in her class Monday. During his feeding period he has received two parts of rolled oats, two parts of rolled barley and two parts of wheat bran. Chopped beets, oil meal and a little molasses feed were added to the ration during the past few weeks. During all times alfalfa was fed abundantly but the animal has never seen corn.

Fancy Rupert, the champion Here-

ford steer owned by the Kansas State College, has been fed a liberal ration feeding. The Hubley cattle were easily the outstanding bunch of the class. Fat, sleek Angus calves, they resembled blocks. Quality stuck out all over them. The fleshing of the steers is thick and firm, and for steers finished to such a prime condition gobbiness is conspicuous for its absence.

Georgia came to the front with four when E. E. Mack, of Thomasville, that state, captured first in aged bulls with Bonnie J., a wonderfully deep bodied, thick, masculine animal. Many considered him unbeatable after seeing him here.



Junior Lad, the Grand Champion Steer, a Grade Hereford, Sold to Mousel Bros., of Omaha, Nebraska, at \$2.62 Per Pound.

like his Angus and Hereford competitor, did not receive alfalfa hay. His roughage consisted of mixed hay. He weighed 880 pounds when he was led into the ring Monday as a junior calf.

Great interest centered in the carlot steer division. Farmers and their wives and children crowded the overhead alleys in the carlot steer section from early to late, admiring, and often lost in wonder at the shiny, smooth-backed bullocks of all breeds taking life easily in the straw.

Johnnie Hubley, a young, nifty cattle feeder of Mason City, Ill., showed the Angus champions. He is a frequent topper on regular market days. Mrs. Hubley and their daughter came along. The cash winnings of the load amounted to \$1,225.

Hubley has been feeding cattle since he was ten years of age. He generally feeds from 800 to 1,000 cattle for market in the course of a year, and the big bulk of the stuff tops the market.

He has a farm of 2,600 acres, which is

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The bull's impressive head and breed character carried him through. Espoir Marshall, the junior champion, was wonderfully thick and mellow in his covering and correct in type, but did not show up at the walk with the old bull.

Shropshire breeding classes again recorded history in the numbers shown and the quality. Shepherds said the English Royal could not equal the International Show this year. Some few imported sheep were on hand, but the American breeds were always at the top.

Type was perhaps not as uniform this year as last and consequently Judge Jimmie Duncan, of New York, had no small job on his hands.

For the most part the growthy kind with quality were placed up. The large coarse sheep were discriminated against, likewise the small ones lacking substance.

The champion ram, shown by Iroquois Farm, of New York, was a large but a smooth kind, with good bone, a beautiful fleece and a bright pink skin. The entire Iroquois flock showed superior fitting and full of bloom. Some of the best ewes were overfitted, others had lost their bloom.

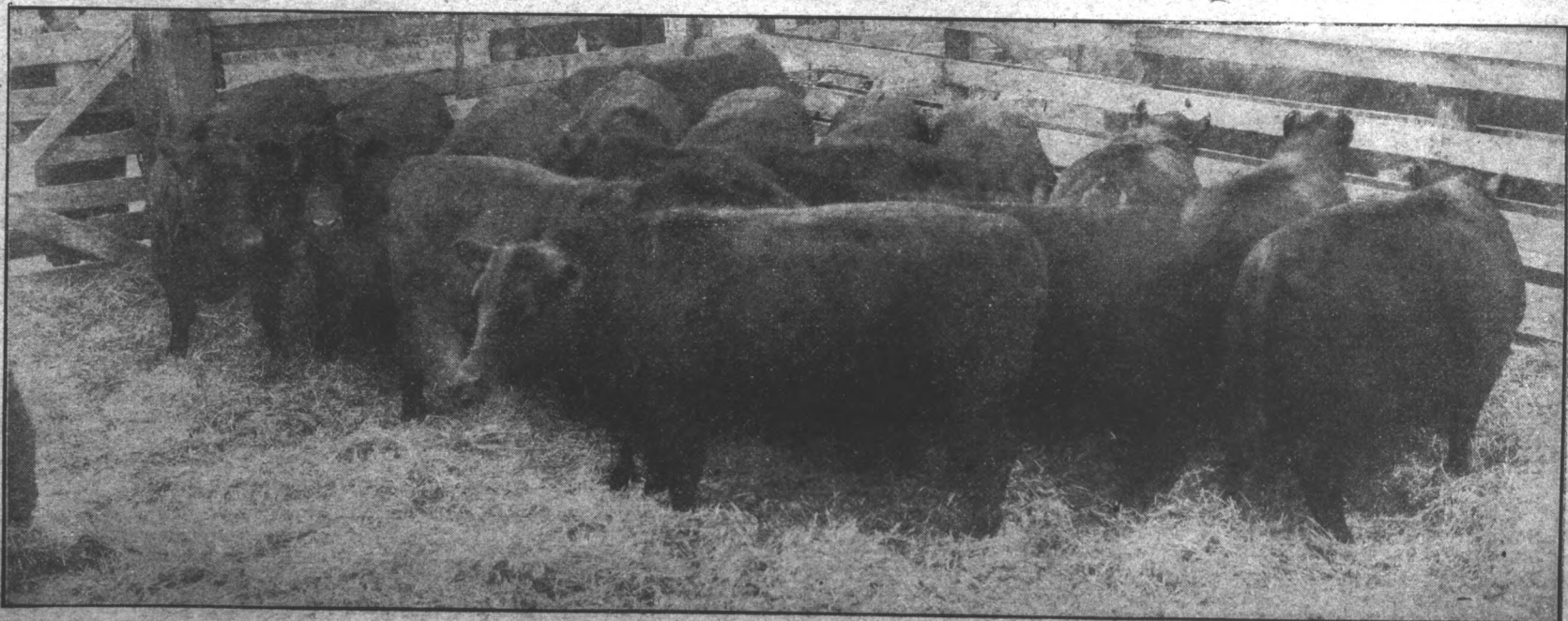
The Broughton rams, of Wisconsin were typy, but very compact, while their ewes were more framey and finished evenly.

Their champion ewe was well deserving of her place. She was most perfect in type, smooth, evenly made, with a typical Shropshire fleece.

The grand champion barrow and grand champion pen of barrows were both won by the University of Missouri when Professor J. H. Grisdale, of Canada, tied the purple ribbons that brought to a close the greatest fat barrow show ever staged at the International. It was a double victory for the Poland-Chinas also, on fifteen and under eighteen months' entries.

Iowa State College won both reserves on their fifteen and under eighteen months' champion Duroc pen and fifteen and under eighteen months' champion Duroc barrow.

Iowa stood out as the big winner in the single fat breed shows. She first annexed the champion Duroc barrow honors on her fifteen and under eighteen months' barrow. Next she took the purple Berkshire barrow award on her fifteen and under eighteen months' entry. Still another time Iowa won in the twelve and under fifteen months' Chester White barrow class. Then the University nosed her out of the champion (Continued on page 773).



Hubley's Yearling Angus, which Won the Grand Championship in the Carlot Division, Sold at \$45 per cwt. to Swift & Company, of Chicago.

Rotating Crops for Larger Yields

This is the First of a Series of Practical Articles by W. W. Weir of the Wisconsin Soil Improvement Association on the General Topic of Soil Management

ABOUT eight years ago a young man who was anxious to succeed in farming asked me this question: "In crop production what do you consider of the greatest importance?" At that time I dodged the question because I did not know, even though I had had several years of practical experience, an agricultural college education and some field experience in soil extension. Now after eight years, I wish to give my answer to that question; and it is this: "Crop rotation is of the greatest importance in crop production." I wish to give my reasons for thinking so. In the columns of this paper I shall discuss very briefly crop rotation; first, in its relation to farm management.

Why Rotate Crops?

Crop rotation was not thought out by some theoretical college professor in a dusty laboratory; nor was it an idea advanced by some soil researcher who grew seedlings in flower pots and in water cultures. On the contrary, rotation of crops has largely been the outgrowth of practical farm experience. For many years farmers did not understand all the reasons why. Even today soil investigators do not clearly understand the reasons for some of the benefits. But why wait for the full reasons? We know that beneficial results are secured, and that is enough.

Crop rotation increases crop yields and helps to maintain productivity. These are the final results. The specific benefits to be derived through this practice may be summarized as follows: (a) crop rotation aids in avoiding injury from certain diseases; (b) it helps to eliminate injury from certain insects; (c) it helps to maintain the soil organic matter; (d) because of rotation, the soil may be more easily worked; (e) it prevents undue waste of fertilizing elements; and (f) it aids in the control of weeds.

Rotation Rout's Certain Insects and Diseases.

Usually truck growers, in particular, much prefer to grow special crops year after year on the same land. Wheat growers have done it in the early days. Many potato growers have tried it. Some pea growers thought their crop needed no rotation, but experience taught them differently. It is easy to practice a one-crop system, but general farm experience has taught that it is a much wiser plan to rotate. Many farm records show that sooner or later certain insect pests and plant diseases compel the one-crop-system farmers to rotate.

Rotation and Soil Organic Matter.

Nothing hastens the destruction of the soil organic matter so much as the cultivation of crops, such as corn, potatoes, etc. It is good practice, therefore, to permit the land to grow grain, hay and pasture because it lessens the loss of organic matter, and it permits the soil to stock up in this important soil constituent. The use of manure, the development of good sod and the plowing under of green clover, etc., are ways to add organic matter to the soil. It is within the possibilities of every farmer to so plan the growing of his crops that he can maintain the organic matter of his soil.

Rotation Improves Workability of the Soil.

The rapid depletion of the "humus" in the soil caused by the continuous growing of cultivated crops has a destructive effect upon the workability, or tilth, of soils. Clay loams and silt loams soon lose their crummy structure and become hard and compact, and puddle easily when worked too

wet. Sandy soils become much looser, and are more easily blown by the wind. This explains why some farmers are finding that some of their heavier soils require much more power to plow them now than years ago. The working of soils can be much more easily done when grasses, pasture and deep-rooted legumes are grown in rotation with cultivated crops.

Rotation Conserves Fertilizing Elements.

The growing of tobacco, for example, on the same field year after year is ruinous to the land, not so much because tobacco drains heavily upon the plant-food elements, but rather be-

cause it requires heavy fertilization, much of the fertilizing elements which leach down into the lower strata is utilized by the former crops. It is much more economical and profitable, therefore, to grow such crops as sugar beets and cabbage in rotation with corn, grain and clover, than in continuous culture.

Rotation and the Weed Problem.

It is common knowledge that fields on which small grains are grown continuously become very weedy, and as a result crop yields are diminished. Many weeds go to seed in the time it takes for the grain to mature. Weeds, such as quack grass and Canada thistles, are best controlled when cultivat-

ing power of a soil is much more rapidly reduced when a crop is grown continuously than when rotation is practiced. We can turn to the experiments of the University of Illinois for proof of this. Many other results are available, but those of the Illinois Station are selected as typical.

On the same kind of soil, for thirty-six years, corn has been grown continuously, in rotation with oats only, and in rotation with clover and oats, with the following results:

Corn in continuous culture declined in yield from seventy to 23.8 bushels; corn in rotation with oats only declined in yield from seventy to 37.5 bushels; corn in clover-corn-oats rotation declined in yield from seventy to 57.6 bushels.

These results plainly show that a proper rotation of crops helps to keep up the producing power of soils even though no soil treatment of any kind was made.

Let us go one step farther and see what rotation will do when manure and commercial fertilizers are used. The Ohio Experiment Station has some excellent experimental data bearing on this point.

The results here given have been secured on a silt loam soil which was in a run-down condition when these experiments were started. At the close of a twenty-year period the Ohio Station secured the following results:

Corn grown continuously, receiving five tons of manure per acre per year, showed a decrease of thirty per cent in yield.

Corn grown in rotation with clover and receiving almost as much manure showed an increase of thirty-seven per cent in yield.

Corn grown in rotation with clover and receiving about a thousand pounds of mixed fertilizer once in five years showed an increase of 23.2 per cent in yield.

Here is a lesson for every farmer who has soil to improve. Use manure and proper fertilizers, but be doubly sure to establish a good rotation first, because much better returns can be secured from manure and commercial fertilizer in a rotation than in a one-crop system.

What Constitutes a Good Rotation.

I have mentioned "proper rotation." Let us consider for a moment just what that means. There are two factors that determine a proper rotation; first, a proper combination of crops, and, secondly, the order of cropping.

In general, the full benefits of a rotation can best be obtained when the cropping system includes, (a) a cultivated crop; (b) a grain crop, and (c) grass, clover or some other legume.

Moreover, a great deal depends upon the order in which the crops are grown. As a general rule, a cultivated crop is followed by a small grain crop which, in turn, is followed by hay or pasture.

Crop Rotation and Soil Improvement.

It should be remembered that crop rotation alone, even with clover, will not maintain the productive power of soils. In time the clover will fail, and when clover fails, farming declines. Whenever a rotation is planned to increase production or to maintain it, the use of lime, manure and proper commercial fertilizers should be considered also.

Certain experiments have shown that a short rotation is usually best in soil improvement, largely because clover is grown more frequently and more

To Increase the Net Profits

THE greatest problem confronting the farmers of Michigan at this time is increasing soil productivity, so that present land values may be made stable and returns warrant the adequate remuneration of labor. Competition of other industries has attracted labor until lack of it has become one of the serious agricultural problems of the day. To remedy this we must give agriculture sufficient earning power to meet this competition. Of a market for the products of the farm we are assured, and with steadily increasing consumption it is merely necessary to increase and maintain yields. To be brief, the prime need of Michigan agriculture is greater net returns.

The most direct route to greater net returns is through increased crop yields. Soil problems must be given more consideration or we shall find ourselves in the position of the manufacturer doing business on a diminishing capital. Soil fertility is farm capital, and must be conserved and increased if we are to make our farming as profitable as other lines of business. If we neglect these problems, forgetting that each bushel of grain, ton of hay, or hundred weight of vegetables removes a certain amount of fertility from our farms we will soon be at the end of our rope. Our farms, like mines, will be worked out.

The depletion of fertility from our farms not only results in rapidly diminishing crop yields but it means crops of inferior quality because the development of certain crops is retarded, especially during seasons of unfavorable moisture distribution. On soils deficient in phosphorus such crops as corn will linger day after day, while the season is advancing and frost is threatening to ruin the crop. No wonder so many farmers complain that the seasons are changing. It is not the seasons changing but a lack of some essential element of plant food in the soil which prevents the corn crop from maturing on so many of our Michigan farms. Our soil experts have discovered that phosphorus is usually the deficient element, although the crop is frequently limited by a deficiency of one or more of the other essential elements.

W. W. Weir, who is in charge of Wisconsin's progressive soil improvement campaign, the outgrowth of the soil work launched many years ago by the late Dr. King, than whom there have been no greater students of soil problems, has arranged to furnish us out of his extensive soil work, a series of articles on soil management.

Mr. Weir will devote his writings to those phases of soil management that have a direct economic bearing upon the practice of farming. His articles are not academic. They are easily understood and will be fully appreciated by progressive farmers who are obliged to consider suggestions and advice with a full knowledge of all those practical limitations that actually confront the farmer. Here is the first article of the series. The second article will deal with the practical application of crop rotations.

cause of the heavy losses of the fertilizing elements from the soil through leaching. A fifteen-hundred-pound tobacco crop does not begin to use the amount of fertilizing elements contained in thirty tons of manure (a common application).

Cabbage is another crop requiring a rich soil, largely because of its comparatively shallow root system. Here again, heavy losses of plant-food elements occur when this crop is not grown in rotation with deep-rooted crops, such as corn, alfalfa and clover. When deep-rooted crops are grown in rotation with shallow-rooted crops

ed crops are grown. Furthermore, the growing of good clover, alfalfa and other leafy forage crops is another effective way to keep the common weeds under control. A simple rotation contains at least one good clover crop and a cultivated crop gives the farmer two good chances in his cropping system to keep down the weeds.

Rotation and Productivity.

From what has been said it is plain that a good rotation has a beneficial effect on the factors which determine productivity. When these factors are thus favorably affected, soils necessarily produce larger yields. The produc-

(Continued on page 754).

Better Seed for Their Own Use

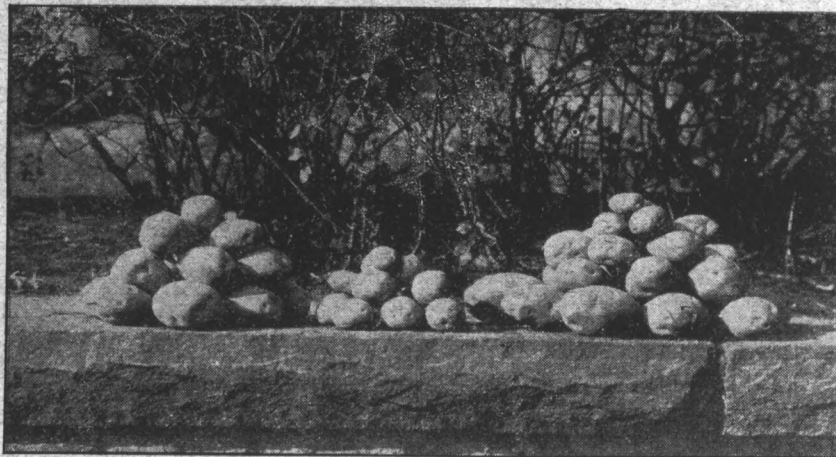
A LARGE percentage of the potato growers in Michigan are coming to realize more than ever the advantage of being able to secure good seed potatoes. Those who have had an opportunity to observe over a wide area have noted the fact that very frequently the difference between growing potatoes at a loss and at a profit is due very largely to the fact that in one case poor seed was used and in the other, good seed. There are thousands of farmers in the state of Michigan growing potatoes at an actual loss. On the other hand, there are a great many who are making a fair return on their investment.

A potato grower who is indifferent as to the kind of seed he uses is quite likely to plant the potatoes on poor soil, or on soil which is in poor condition for growing a profitable potato crop. The same grower will be quite inclined to neglect other important matters in connection with the growing of the crop and as a consequence his potatoes will prove to be a losing proposition. The man who is careful about his seed stock is much more likely to be careful about other matters as well and thus success or failure in the growing of a potato crop is directly associated with the type of seed used.

At a recent meeting of county agents and extension specialists held at Cadillac, the question of getting a larger number of growers to use good seed was discussed at length. A committee was appointed to draw up plans whereby the members of the various local associations which are affiliated with the Michigan Potato Growers' Exchange can be induced to use a higher quality of seed. While most potato growers realize that it is an advantage to use good seed, many of them because of lack of funds or for other reasons, do not seem willing to pay an extra price in order to secure the higher quality seed. The committee took this into consideration and worked out a plan whereby it will be possible for every member of each exchange to secure a small quantity of good seed in exchange for an equal quantity of No. 1 table stock.

Members of Local Potato Growers' Associations Complete Plans for Improvement of Potato Crop

By C. W. Waid



The plan in brief is: First, that each local potato growers' association grow five acres or more of potatoes for seed under the supervision of a competent person chosen by its board of directors and under the advice of the county agricultural agent and the extension specialists. Second, that such seed when so grown be offered to the membership of said local at the time of marketing their potatoes in exchange for No. 1 table stock to the end that every farmer may have an opportunity to secure his share of the seed grown under these conditions. Third, that in order to carry out this program each county agent in the exchange district arrange a meeting with the directors of each local and when possible with the membership thereof, and use his best effort toward organizing the local along this line. That such assistance as can be provided be furnished by the Michigan Potato Growers' Exchange, Bureau of Markets, and Extension Division of the Agricultural College.

That the best available seed be secured to plant next season and that every effort possible be made each year to improve the quality of the seed.

It so happened that the board of directors of the Michigan Potato Growers' Exchange were in session at Cadillac at the time the committee was appointed. A meeting was arranged with the board of directors and this matter presented to them. The plan received their hearty indorsement and they agreed to let Mr. W. C. Cribbs, who is now employed by the exchange as a field organization man, to devote a portion of his time to assisting in putting this commendable plan into operation.

The committee held a second meeting at Lansing the week following the one at Cadillac. More detailed plans were worked out and Mr. Wm. F. Johnston, who is chairman of the committee, will get in touch with the county agents in the various counties where exchanges are located and endeavor to point out to them and through them to the potato growers, in the respective counties, the opportunity which this plan affords them to increase the profits from potato crops. It is the intention of those who are back of this movement to work it out in detail and secure the united cooperation of all parties concerned. If all of the ex-

changes enter into this plan and plant on an average five acres of potatoes it would mean practically five hundred acres of good seed which would be grown where it would be easily distributed and handled in such a manner that it will reach many people who otherwise would continue to use inferior seed.

It is well, of course, for potato growers not to expect too much of this movement at the start for the reason that the quantity of high-class seed potatoes which will be available for planting in the spring is very limited. By high-class seed potatoes we mean those which have been tested out in comparison with others and proven superior in yielding ability and otherwise. Within a year or two, however, it should be possible to have all of the seed which will be grown by these locals of high quality. An effort will be made in this connection to grow potatoes at some selected location under the direction of the agricultural college with a view of breeding up a high strain of seed stock, this stock to eventually be distributed among the locals, and to other places where a similar demand exists.

It is not the intention in connection with this movement to enter into the commercial seed growing business, but to confine the operations to an area which can be handled as it should be for best results and which will not necessitate so extensive operations that the results will be quite likely to be disappointing as would be the case if too much ground is covered.

There are possibilities in connection with this movement of extending the work beyond the actual seed production. For example, it would be quite easy to have demonstrations on the use of commercial fertilizer, distance of planting, time of planting, and other important problems in connection with potato growing on the same seed-plot farms. Thus the work would be concentrated and the efforts of the county agents and extension specialists made much more efficient than is the case where, as at present, they are required to cover much more territory in order to serve an equal number of people.

Clean Milk with a Milking Machine

By Earle W. Gage

THERE is an old proverb, "Where ignorance is bliss, 'tis folly to be wise." In these days of commercial competition and the application of scientific principles to the every-day work of the farm, this proverb no longer holds. Ignorance, or let us say more kindly, lack of knowledge, is today one of the big factors limiting the profits made on our farms. Ignorance today means poverty, and poverty is not bliss, as anyone who has ever tried it knows well. Therefore, let us lay hold of knowledge, and we shall find that it means money in our pockets every time. We must be students always, as new problems are arising constantly and methods of farming change from time to time.

One of the newer problems that is confronting a number of dairymen today is that of securing milk, of a satisfactory sanitary quality, when the old method of milking by hand is discarded and the newer method of milking by machinery is adopted on the farm.

We shall not enter into a discussion of the construction of the various machines, but shall consider the sanitary operation of all machines. This is our problem then: What must we do to get clean milk when using a milking machine? It is a problem that demands

the closest attention of factory men, of milking machine users, of prospective milking machine users, or manufacturers of these machines.

If it once becomes established that machine milk is usually of an inferior sanitary quality, there will grow up a prejudice against it, and factories will refuse to take milk unless it is drawn by hand. On account of the saving value of the machine, we should leave no stone unturned in our efforts to avoid the establishment of such a prejudice while there is time.

There is considerable evidence to show that the quality of machine-drawn milk in many sections is not what it should be at the present time. For this undesirable state of affairs we cannot, with any frankness, lay the blame on the machine. We are satisfied that with proper care and attention, milk, satisfactory in every respect

can be produced by any of the leading machines that we find on the market. It is the man on the farm who handles the machine, and the methods employed by him, that provide the weak link in the chain.

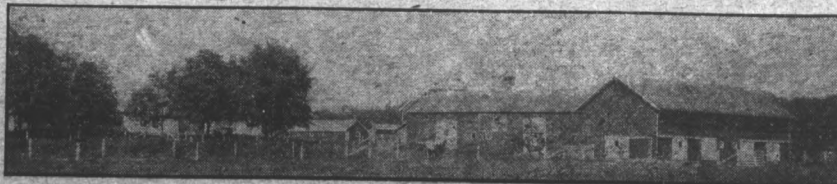
Recently a creamery manager remarked: "My experience with milking machines has proved to me that not more than one-third of the patrons who own a machine really know how to handle it successfully." From what I myself have seen of milking machines, as operated on the average dairy farm, I would say that in nine cases out of ten the methods used could be easily improved and the quality of the milk very considerably raised.

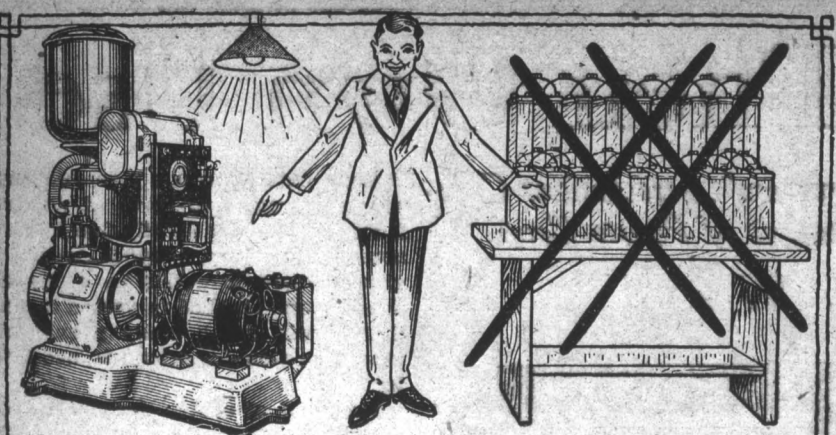
In days gone by every farmer and his good wife told you that the milk produced on their farm was always clean. But along came the sediment tester, and we found that much of the

so-called clean milk was really very dirty milk, when it reached the test-room. Those little cotton discs showed up the milk, and convinced the farmer that it was time to turn over a new leaf, and that he really must clean up and keep clean. This is a simple test and one that is easily understood. Every factory should make sediment tests of their patrons' milk every once in a while and the discs obtained should be returned to them on mailing cards. Bacteriological tests are more complicated and not so easily understood by the average farmer, but to one who has a knowledge of the subject, they yield information regarding the quality of milk that can be gotten in no other way.

Clean milk is produced from clean and healthy cows and sanitary stables by healthy and clean employees; it must be handled in clean utensils of suitable material and construction and in a satisfactory sanitary manner from the moment it leaves the udder of the cow. No farmer who fails systematically and regularly to wash his milking machine can hope to produce clean milk, although he live up to all the other essentials, because the new milk is quickly contaminated with germs.

(Continued on page 770).





Electric Light and Power On Your Farm

WITHOUT STORAGE BATTERIES

Here's a sensible suggestion for Christmas. Put electricity in your home. You may not have time to wire your house completely, but a temporary wire into your dining room or parlor will do nicely over the holidays. We can express plant to you the day the order is received.

The Holt Power-Light 110-volt, Direct Current

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The HOLT will supply thirty 25-watt lamps, and flood your place with the clearest, best electric light you ever saw. One 25-watt lamp gives more light than four kerosene lamps, and then some. The HOLT will operate a washing machine, flat iron, vacuum cleaner, etc. It will take the drudgery out of the daily work. It is the tireless "hired hand," always ready, night or day.

The HOLT is a 750-watt capacity farm light plant, that is as different from the storage battery plants as the latter are from tallow candles. You do not have to go to the plant to start or stop it! Get that! You simply push a wall button downstairs, upstairs, or in the barn. Then turn on lights as needed.

The current is 110-volt standard—like that used in the city homes, and is supplied direct from the generator. The HOLT has NO STORAGE BATTERIES in its lighting circuit. Did you know that storage batteries deliver about 60 per cent only of the power put into them by an engine operating on a 100 per cent basis? In other words, the resistance of the batteries eats up 40 per cent of the current. The HOLT delivers ALL the power or current it generates.

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Michigan Agricultural News

MICHIGAN STATE FARM BUREAU GROWS RAPIDLY.

L APEER, Van Buren and Genesee counties are the next that will be covered in the state-wide membership campaign of the Michigan State Farm Bureau, that is now enrolling the farmers of Michigan at the rate of two thousand a week.

Campaigns ended in Allegan and Gladwin counties in the last week, with success that exceeded expectations. More than two thousand farmers of Allegan, incomplete reports show, are now members of the new business organization of Michigan's farmers. The enrollment in Gladwin, one of the smallest counties of the state, was 675. Half of Montcalm county was canvassed during the first week in December and more than 900 farmers were enrolled there. A summary of the membership as it stands now, with tallies incomplete from some counties, is as follows: Oakland 2,000; Barry 1,306; Gladwin 675; Allegan 2,050, and Montcalm 900.

SECRETARY BINGHAM ANSWERS FARM BUREAU CRITICS.

A T the annual meeting of the Michigan State Association of Farmers' Clubs, held at Lansing on Tuesday and Wednesday of last week, the integrity and purpose of both State and National Farm Bureaus was attacked by leaders of a fraternal beneficiary and a labor organization. In these attacks it was charged that the movement was supported by political and corporate influences, with a view of controlling its activities. The method of financing the initial work of this organization in Michigan was also called in question by one who was present by courtesy at the conference of prominent and well known farmers representing more than a score of counties, and at which the plan for financing this work was formulated and unanimously approved by the representative farmers present. In view of this unwarranted attack, I desire, as secretary of the Michigan State Farm Bureau, to give the widest publicity to the facts.

The objects and aims of the Farm Bureau movement as a business organization with county, state and national units, which could attack with some hope of success the problem of protecting the farmer's interests during the trying reconstruction period and bettering his business through its general as well as its local activities has been thoroughly discussed for many months. The public knowledge of the proposition created by this discussion attracted the attention of the Michigan Coalition Committee, composed of representatives of other business organizations of the state, with the avowed purpose of promoting the best interests of the state of Michigan and all its people, and particularly the promotion of high ideals of Americanism to combat the radicalism and Bolshevism which is rampant throughout the entire world.

Considering that a strong organization of farmers with the aims and purposes of the Farm Bureau would be another means toward the accomplishment of these ends, this committee volunteered to loan to the State Farm Bureau a portion of the funds required to make the plan of organization a success. A conference of farmers who had been strongly interested in the possibilities of the Farm Bureau movement was called as above noted, and after thorough discussion of the proposition from every angle, they unanimously approved the plan. With an equal amount raised on collateral notes signed by interested farmers and endorsed by the secretary, the work was adequately financed in a manner to

make the membership campaign a success and to enable participation in the formation of the American Federation of Farm Bureaus recently organized by delegates from thirty-two states who assembled at Chicago for the purpose. As a further result of this conference, the Michigan State Farm Bureau has named A. E. Illenden and L. Whitney Watkins to represent agriculture on the Michigan Coalition Committee.

The success of the organization work has thus been assured, and the loans through which it was financed will be promptly repaid, leaving the funds of the organization adequate for all possible needs. In the meantime the books of the organization, which are audited monthly by the finance committee composed of R. G. Potts, of Macomb county, J. Pomeroy Munson, of Kent county, and James Nicol, of Allegan county, are open to inspection by any interested member.

C. A. BINGHAM.

FARMERS' CLUB AT LANSING.

THE twenty-sixth annual meeting of the Michigan State Association of Farmers' Clubs was held in the Senate Chamber at Lansing, Michigan, on December 2-3. The meeting was well attended, with interesting programs for every session of the two-day meeting.

Notable points of the program included an address on "Proposed School Legislation," by Hon. Thomas E. Johnson, Superintendent of Public Instruction, in which the possible benefits of consolidated rural schools were well illustrated by the speaker.

Mrs. Eben Mumford, of East Lansing, read an excellent paper on "New Day Citizenship," and Hon. Carl Young of Muskegon, president of the Michigan Federation of Labor, addressed the first session on the subject of "The New Era in Industrial Relationship."

President Edgar Burke, of St. Johns, gave his annual address as president of the association on Tuesday evening after the delegates had been welcomed by Governor Sleeper.

"Vocational Education" was discussed by C. F. McIntosh, Washington, D. C., a member of the Federation Board of Vocational Education.

On Wednesday, Hon. Chas. B. Scully, president pro tem of the senate, addressed the session on "Agricultural Interests as Affected by Legislation." The routine business of the association was also transacted at this meeting.

At the Wednesday afternoon session Mr. John C. Ketcham, Master of the Michigan State Grange, gave an excellent address on "The Farmer and Reconstruction." Economic justice to farmers was the subject spoken on by Grant Slocum, founder of the Ancient Order of Gleaners. In his address Mr. Slocum took occasion to attack the Farm Bureau movement as a means to the end of securing economic justice for the farmers. The Farm Bureau was, however, ably defended by C. A. Bingham, secretary of the Michigan State Farm Bureau, and C. B. Cook, who led in the discussion. The closing address of the session was given by Hon. Milo D. Campbell, who spoke ably on the subject, "Farm Organizations and their Great Opportunity."

A more complete report of this important meeting, together with a summary of the more important addresses and the text of the resolutions adopted at the meeting, will be given in our next issue.

BREEDERS AND FEEDERS MEET.

The twenty-ninth annual meeting of the Michigan Improved Live Stock Breeders' and Feeders' Association will be held January 14-15, 1920. Two purebred live stock sales will be held on January 13-16.

The Early Hatched Chick

By C. N. Whittaker

NEARLY every farmer's wife figures on a little extra income from sales of spring chickens, but few are equipped to get the most money out of them. Those who do not use incubators have to wait until the hens become broody and the chicks cannot be hatched early enough to get them on the market at a profitable price.

To be marketed most profitably the chicks should be hatched in February or March, or at least not later than April. They will then be ready to turn off when the demand is good, the supply limited and the price high. A little later the supply is ample and the price drops, often to a point where springs are sold at an actual loss.

The colony brooders now in use on many farms will easily handle four or five hundred chicks and there is little if any more labor involved than in caring for a hen and her brood. I am no wizard at chick raising. I always expect to lose about twenty-five per cent, but even at that February and March hatched chicks are very profitable. In fact, I believe there is no other branch of farm industry which will turn an equal profit in the same length of time.

Just as an example, here is what one flock did for us last spring. Four hundred and twenty-eight chicks were put under the brooder late in March. At six weeks old they had cost one cent per week for each chick for feed. From that time on the expense increased rapidly and at the age of three months they had cost for feed, \$80.58, and in coal for brooder stove, \$5.60. The chicks were worth twenty cents each when hatched, making the total cost \$171.78.

A little over three hundred chicks were raised to that date. The cockerels averaged about three pounds each in weight, some going better than three and a half. The pullets averaged less than two and a half pounds. The average of the whole flock was a little above two and one-half pounds and they were then worth fifty cents per pound, or \$375, leaving a profit of over \$200.

Only a few of the poorer colored cockerels and some off-colored pullets were sold, the rest being kept for breeders, but with the cockerels worth \$1.50 each the temptation was great to let them all go. As they ran about half and half, the cockerels have brought about \$225, leaving as profit over \$50 in cash and a flock of one hundred and fifty fine pullets.

I believe the average farmer's wife would have increased this profit by \$50 to \$75. This is the place where the woman naturally excels the man. A man once told me that he always raised at least ninety-eight per cent of his

chicks, but I have him catalogued as a specialist in plain and fancy lying.

In this flock the first feed given was rolled oats crumbled with enough hard boiled eggs to give a flavor. After three or four days they had two feeds a day of commercial chick feed, and a box of bran was given them. When three weeks old the bran was changed to meat mash made of two hundred pounds of ground corn and oats, one hundred pounds of bran, one hundred pounds of middlings, one hundred pounds of meat scraps and fifty pounds of alfalfa meal. This mash was their principal ration from that time on. They stowed away great quantities of it and made rapid growth of bone and muscle.

For the first two weeks the only drink given was sour milk. We have not had a case of white diarrhea on the farm since we began using sour milk several years ago. I would not advise anyone to change a method of feeding unless it has proved unsatisfactory. Last spring one party wrote that sour milk killed the chicks and another that rolled oats gave them white diarrhoea. A man said his chicks drank so much sour milk he was afraid they would burst, so he took it away from them. These fears are groundless. There is nothing better than rolled oats and sour milk for newly hatched chicks and they will drink a great deal of the milk. The more they drink the less they will eat of other food, but it is easily digested and nourishing and they do well on it. It is well to give them a box of bran also to counteract any tendency toward constipation.

Many farmers find it cheaper to buy chicks than to hatch them. A colony brooder may be purchased for \$15 to \$25. Almost any building ten to fifteen feet square can be made to serve as a brooder house if thoroughly cleaned and lined with tarred paper to conserve the heat. The window space on the south should be liberal and at least one large window covered with light muslin to provide ventilation. The floor should be covered with clean, dry sand to a depth of three inches and no litter is necessary.

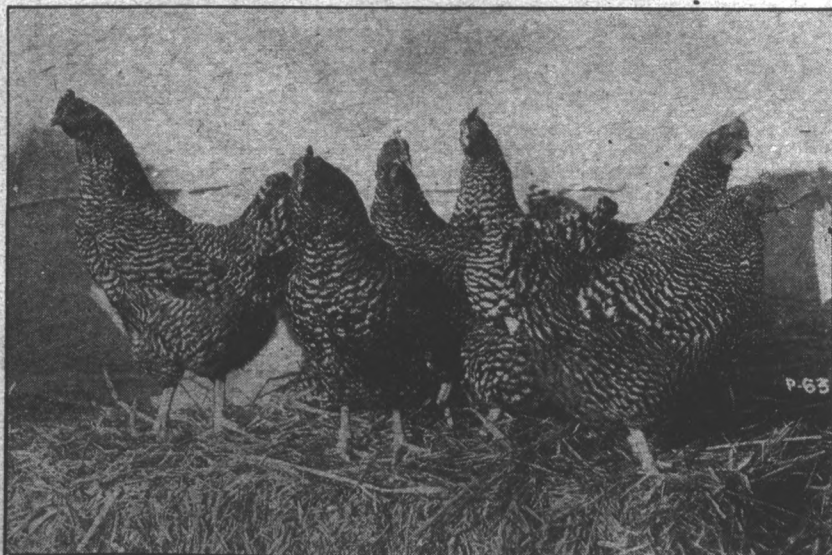
Some of the advantages of the early hatched over the late hatched chick are:

The good prices received for surplus stock.

The work of brooding is simplified and is over before the rush of regular farm work is on.

The chicks are pretty well grown before hawks and crows become troublesome.

The pullets begin to lay early in the fall and with proper care will keep it up all winter while eggs are at the best prices.



The Pullets Begin to Lay Early in the Fall.

Service Through Organization

THE only difference between big business and little business lies in the number of units of effort and the character of service rendered.

The laboring man is in business for himself. He renders a service by selling his time, energy and skill.

Big business is the grouping together of a great many units to render a greater service by co-ordinating the efforts of the individuals and selling the results of their combined time, energy and skill.

Up to a few years ago the general public did not understand the ideals of service underlying big business. What it did not understand, it distrusted and naturally condemned.

When the Allies decided to organize their armies on the basis of big business—for a common service—they began to get results, and the world saw the benefits to be derived from intelligent organization.

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The objective of the Company is to manufacture the greatest number of useful products from crude petroleum, to distribute them so that they are available to all and to sell them at a minimum price.

The methods by which the Standard Oil Company (Indiana) renders these services embrace the truest financial democracy, the most advanced merchandising practices and extensive scientific research.

These are intended to expand the usefulness of the Company as a public servant, by maintaining the quality of petroleum products manufactured at the highest standard, by making an adequate return to those who are investing their money or their time in the business of the Company and enabling the public to secure their requirements of such products at a minimum of expense.

It is this spirit of co-operation animating the Board of Directors which enables the Company to discharge its complete obligation as a public servant in a manner satisfactory to its patrons.

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30 DAY OFFER



ENGINES

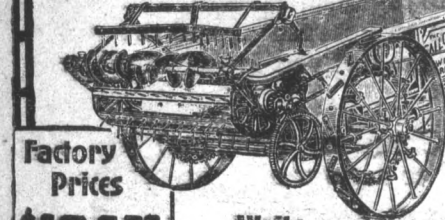
Here is your chance. Buy one of the famous Galloway Farm Engines or Spreaders at a special low price. Get in on this 30-day offer. Save money. When old winter freezes, snows and rains, there are many jobs that a Galloway Engine will relieve you of and it works in any weather. Built for long and hard service. Gives 7 actual horsepower for the price of 6. Portable or stationary. Big bore, long stroke, heavy-weight, every part standardized and interchangeable. With a Galloway "Frostproof" Engine this winter, you'll do your work in less time and with less effort than ever before.

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The Galloway new whirlwind distributor absolutely pulverizes every bit of manure and scatters it six to seven feet, saving time and labor in spreading. Remember that Galloway has 11 other great features that enable the Galloway spreader to spread more land with less effort—less horse and man power—than any other method known.



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A HORSE CAN TRAVEL WHERE AN AUTOMOBILE CANNOT GO

Often in the deep snows of winter an automobile cannot get through the drifts, but the horse can travel anywhere if he can secure footing. There is just one thing which insures safe footing on any road anywhere, any time, no matter how icy or slippery, and that is the



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Whatever the occasion, a hurried trip to the doctor, an important call to town, a load of produce to be delivered—your horse is ready when you are ready. The wise horse owner will go to his horse shoer early and have the safe, reliable RED TIP SHOES put on. Then he can laugh at the weather. No sleet storm, no sudden freeze will hold him back. His sharp, strong RED TIP CALKS can be adjusted in 20 minutes, and he is ready for the road. Avoid substitutes. LOOK FOR THE RED TIP

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Getting Ready to "Show" the Public

(Continued from first page.)

some investigation carried on by the government or other agencies.

The farmer must protect his own interests, because farming is an industry competing with other industries and the farmer a business man competing with other business men. He can no longer keep his farm records solely in his head. He is fast learning that his success depends on careful management and the only way to have a definite knowledge with which to work and plan future action is to have accurate records. Farming is done in small-sized units compared to the other corporations and the farmer is a laboring man as well as being the manager of his farm. This condition makes it necessary for the farmer to have a system of records that will not be burdensome to keep when his farm operations are demanding his entire time and efforts.

A proper system of records should have:

1. An inventory.
2. A daily record.
3. A monthly classification of the daily record.
4. An annual summary of the year's business.

A simple yet complete system of farm records especially designed to meet the needs of the business farmers of Michigan is the Dairy Farm Record available at the Michigan Agricultural College, Extension Division, East Lansing.

The Inventory.

1. The inventory is one of the most vital parts of a farm record, even though it is taken only once each year and requires but a few hours' work. As much detail and description as is possible should be included with the inventory. The age and original cost of live stock, the year purchased, cost, and whether new or second-hand when bought, should be entered with each item of farm machinery as well as value at time of inventory. A farm map of some description showing the permanent fences, location of buildings, arrangement of fields and any unusual features such as swamps, lakes, or creeks is valuable. All of these items are of exceptional value in any study of the farm organization. The inventory is a means of summing up at the end of the year the increase or decrease of actual capital invested. Great care should be exercised in making this inventory so the value affixed to the different entries shall be fair cash valuations, and so that too much shall not be added or subtracted in cases of temporary fluctuations. Such things as increased value of land, due to other than productive value, should not be included. For example, an increase in value due to improvements, such as tile drains, better fences, buildings, etc., is justifiable, but mere increases in value of land due to outside influences should not be allowed as a part of the farm income.

In making the inventory of live stock, tools, etc., it is best, as far as possible, to consider the individual as a unit, excepting in such cases as pens of steers, pens of hogs, and flocks of

poultry, which are best classified as to age or in groups as they may be marketed. This familiarizes one with the things on the farm in terms of individual cash value.

The Daybook.

The daybook is a daily diary where all transactions, including all labor, are recorded. The columns in this book are so arranged that the man, horse, and tractor labor; expenses and receipts have separate columns, which are the only classifications of the record in the daybook. All transactions are recorded in such form that they may be classified at any time in the future when farm work is not demanding the constant attention of the farmer.

Figure 1 shows the top of page of the daybook for an ordinary sized farm, items for this monthly summary or

Date	Items	Man	Horse	Tractor	Expenses	Receipts
July 1st	By bull 10 lbs @ .40					4.00
By eggs 10 doz @ .40						4.00
By butter 1 lb @ .40						4.00

Figure 1 Shows Top of Page from Daybook.

which is more or less a duplicate of the general farm of the state. It will be noted on this page that all transactions of the day are entered in detail, with the exception of the labor expenses on routine chores. The record of this labor is shown under "Chores for the Week" where the complete time on regular chores is recorded. Since this is a more or less constant figure sufficient to keep the record complete and accurate. Such things as happen out of the regular routine work are recorded as extra chores on the day they happen.

No entries should be made in the daybook and carried to the column of expenses and receipts that are not actual cash transactions. Any accounts receivable or payable should be placed in the item column as memoranda, and entered again at the time of actual payment. This avoids duplication and keeps the totals accurate. When accounts are paid by check they should be entered the same as cash.

Household accounts and personal expenses may be recorded in the daily diary but it is advisable to keep them in a separate book since they are not really a part of the farm business.

Value of real estate (above mortgage)	\$12,000.00	\$12,000.00
Value of live stock	1,955.00	2,402.00
Value of machinery	536.00	545.65
Value of feed and supplies	516.95	853.20
Cash	225.50	25.00
Total capital	\$15,233.45	\$15,825.85

Increase inventory or	\$ 592.40
Decrease inventory	
Total receipts (not household)	2,323.67
Total receipts (not household)	966.25
(Includes estimated value of family labor other than that of the farmer himself)	
Receipts, less expense	1,857.42
Increase inventory (add) or	
Decrease inventory (deduct)	592.40
Farm income	2,449.82
Six per cent interest on total capital at beginning of the year	913.90
Labor income	1,535.92

(Labor income is the amount which the farmer earns for his own labor and management. In addition he has the use of the buildings and farm produce consumed by the family).

Month	July	1919	Cows	Sheep	Poultry	Cats	Corn	Hay
MANUFACTURING								
IMPROVEMENTS								
LABOR								
EQUIPMENT								
WORKS								
EXPENSES								
RECEIPTS								
TOTAL								

Fig 2 Shows the System for Keeping the Monthly Summary.



DIVERSIFIED FARMING.

BY EARL ROGERS.

THE planting of every crop that can be raised on the farm is what most of us have aimed at for years and years. To raise every possible bit of farm produce that is possible and so keep the money on the farm is the aim. I have been brought up along that line and so far I have been bothered quite a lot, I believe, by the idea I have inherited—so to speak.

When a farm crop or a vegetable takes more time for the production of it than the crop comes to, then it is time to let some other fellow raise that crop and let me raise something that I can make a go of. Lots of northern people try to raise sweet potatoes. We did, but decided to cut them out of our list of garden crops.

There are two reasons for this. In the first place, our climate will not yield the quality of sweet potato that the southern climate will. No matter how big a yield we have, the quality is not there, and I don't believe that it ever will be possible to produce high quality because of climatic conditions. And the next thing against it is that we cannot get the yields. I like the potato all right. We buy them and always like to have a few here. Yet the same ground that I used to waste on sweet potatoes will produce twice as many Irish potatoes as sweet potatoes and the price is not twice as high. Right now there is a difference of twenty-five cents a bushel between the Irish and sweet potatoes—in favor of the Irish of course.

This is only one crop that I have mentioned but it is a sample. Beans is another crop that we used to monkey with, but we haven't just the right conditions for growing the crop. We do have the climate for a dozen other crops that we can produce at a profit and also with pleasure, because it is a pleasure to grow a crop that yields well and brings a profit.

We are told very often by wiser men than we that we must not put all the eggs in one basket. I will say that we must not put our eggs in the wrong basket, but when we find the right one, or two or three baskets, then fill the baskets up as high as they will hold.

Certain farms are adapted to certain crops. We can't get around that. I can raise one or two crops on this place that my neighbor can't make go well, and he can raise something that I can't make a success at. That is not a matter of climate, as we have the same wind and the same sun. And another thing to consider is that different men farm differently. I have half the acres that my neighbor has. His farm must be arranged differently than mine. I can't have as much area as he has, but I can do my farming a little more intensively. That in itself makes a different line of crops fit each particular farm.

To find the crop that fits the farm, and also the crop that fits the man, is the biggest problem we have, I think. Bigger production will come only when I can get sense enough to stop monkeying with a crop that does not pay and start with one that is adapted to me and my farm. If I can't find that then I had better let someone else have the farm or let the farm have someone else to run it. Either will allow both of us to serve our purpose better.

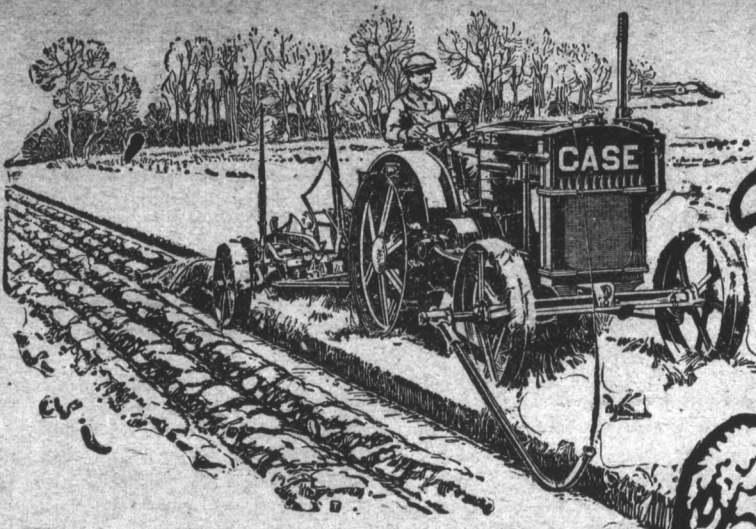


Illustration shows Case 10-18 Kerosene Tractor pulling 2-bottom Grand Detour Plow.

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10 thoroughly broken American fox hounds, good hunters and trailers, a few partly broken. Stamp for reply. Ambrose S. Taylor, West Chester, Pa.

Trained American Fox Hounds Rabbit and Skunk dogs all ages. Send stamp. W. E. LECKY, Holmesville, Ohio.

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WINTER INJURY TO CHERRY TREES.

MANY cherry growers in northern Michigan have noticed masses of gum upon the trunks and branches of their cherry trees, which have an appearance more or less unhealthy. It has been especially noticeable upon neglected trees which have dropped their leaves prematurely from an attack of the leaf-spot disease. Especially in the smaller trees, the growth of the trunk and branches for the past two years has been very slight, and an examination shows that except for a narrow ring of cambium next to the bark, the wood is brown and dry. Where such conditions exist, it is very evident that the trees were injured during the winter of 1917-1918.

Although not present in all cases, many of these trees have numerous holes about the size of a fine knitting needle in the bark. In the burrows back of these holes one or more black beetles will be found. Sometimes the holes are so numerous that the inner bark is completely honeycombed. This alone would soon cause the death of the trees but, in nearly if not all cases where the borers are discovered, it will be found that the trees have been winter-injured and the number of borers will be nearly in proportion to the extent of the injury from the winter.

The shot-hole borers found in the injured cherry trees are known as "fruit bark beetles." Of these, there are many kinds, which attack a great variety of fruit and forest trees. They are seldom if ever found except in trees which have been injured by the winter, sun-scald, or from other causes.

When the trees are badly injured, there will be little hope of saving them. And, as it will prevent the spread of the insects to other trees, they should at once be taken out and burned. However, in many cases the winter-injury may not be very serious and if the beetles are not numerous, it will be worth while to attempt to save the trees by aiding them to a good growth next year in order to repair the damage, so far as possible. This can be done by frequent cultivation during the early part of the spring and sowing a cover crop in July to help in their ripening. The use of moderate amounts of stable manure, or commercial fertilizer, will also be helpful.

To keep the beetles from leaving their holes and thus infesting other trees, as well as to prevent the formation of other burrows in the trees already attacked, a thick wash of Portland cement and skim-milk (with a little arsenate of lead) should be applied to the trunks of the infested trees and to other trees in the vicinity likely to be attacked. This application should be made about May 1 and repeated in one month.

L. R. TAFT,
State Inspector of Orchards.

FARMERS MUST KNOW COST OF PRODUCTION.

THE growing tendency among farmers to cooperate for their protection in selling will lay them open to suspicion on the part of the consuming public and they must be fortified with figures to show their costs of production if they are to disprove the charge of profiteering," said Prof. G. F. Warren, of Cornell University, in a talk before the annual meeting of the National Association of Commissioners and Departments of Agriculture meeting in Chicago.

1909-1919 A Remarkable Decade of OilPull Performance

THIS ten year OilPull record merits the thorough consideration of every tractor buyer in America.

It provides a basis for judgment of tractor values—founded on facts—that is worth many dollars to any prospective purchaser of a tractor.

At the start of the tractor industry over ten years ago the first OilPull tractors were built, and for ten years these pioneer machines, such as "Old Number One" in South Dakota, Nos. 6 and 8 in North Dakota, No. 9 in Kansas, No. 11 in Michigan, and others, have built up a record of dependability, economy and long life that is unequalled in the tractor industry.

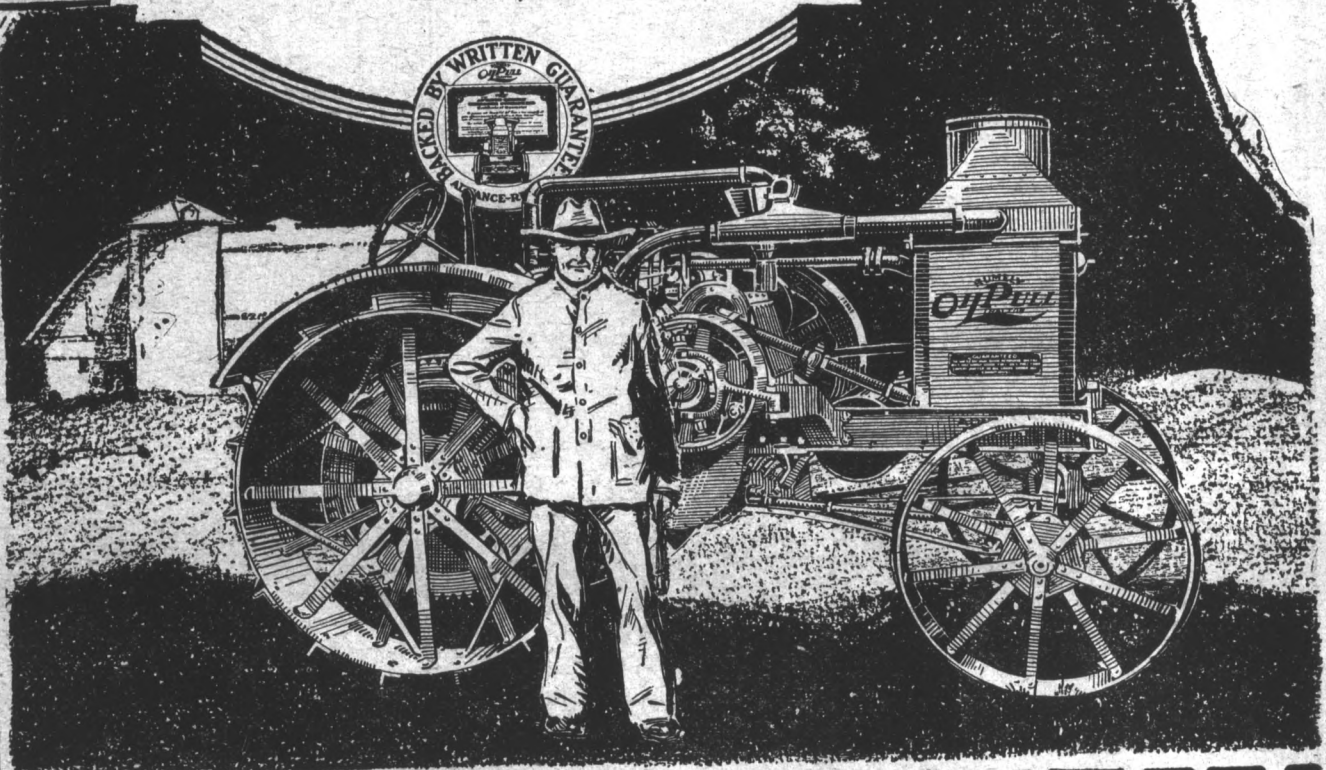
The big feature of this OilPull ten year record is that it is based—not on the work of one or two machines that might prove exceptional values, or on a few years' performance—but upon the work of hundreds of these first OilPulls extending over a period of many years. This record proves beyond question that long life and constant, dependable service is the rule and not the exception with OilPull tractors.

In these ten years OilPull tractors have not only proved their remarkable ability to work steadily and constantly hour after hour, day after day, but they have also established the OilPull unbeatable record of economy. Economy of operation—being real kerosene burners and the only tractors guaranteed in writing by the makers to burn kerosene under all conditions. Economy of upkeep—there being hundreds of cases like that of the first OilPull built, still in use, whose owner declares that in ten years his repair bills have not exceeded \$200.

This is the kind of a tractor that the American farmer demands today—one that he can be sure will give him dependable, constant service—one that he can be sure will cost him least to operate—one that he can be sure will serve him not one year or two years, but year after year for many years, and give him the greatest return on his investment.

There are four sizes of OilPull tractors—12-20, 16-30, 20-40 and 30-60 H. P., with a nation wide service within reach of your telephone anywhere. Catalog on request.

ADVANCE-RUMELY THRESHER COMPANY, Inc.
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The first OilPull—still on the job. Below—the latest OilPull, the 18-20.

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TREAT Your Own Herd for Abortion

Stop Losing Calves! You can wipe abortion out of your herd and keep it out.

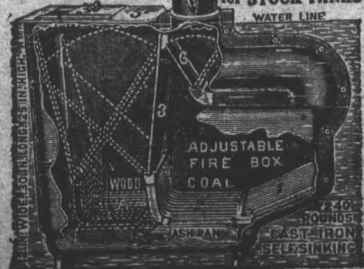


Send for Free copy of the *Cattle Specialist* with questions and answers pertaining to Abortion in Cows. Answers every question. Tells how to treat your own cattle at small expense. Write
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HELP FEED THE WORLD

Don't Waste Grain; but Save it and Produce more Meat, Butter and Milk by warming the drinking water for your stock with coal, wood or cobs with a

COW BOY TANK HEATER

Quickest to heat; strongest draft; adjustable grates; ashes removed without disturbing fire; keeps fire 24 hours.

Absolutely Safe! pays for itself in 2 months with 4 cows; Self-sinking; can be used in Wood, Steel or Concrete Tanks of any size. Most reliable, practical, efficient and durable Tank Heater manufactured.

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In this sparkling city of 85,000 inhabitants, there's sunshine 356 days of each year.

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In the many pleasant valleys, traversed by more than 400 miles of splendid boulevards, the pear, the apple, the fig, the orange, the guava and fruitful vineyards flourish under the care of those who have won a competence in rigorous climates and who still love the soil.

Every day is an adventure in happiness at

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Through Pullman service between San Diego and Chicago on the new San Diego and Arizona Railway, in connection with the Rock Island and Southern Pacific, commences December 10th, 1919. A delightful trip in winter months through mild climate and new and interesting country.

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Gentlemen:—I should like to know more about San Diego, California. Please send me your free booklet.

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This booklet tells why. Sign the coupon & get it free by return mail.

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Gombault's Caustic Balsam The Great French Remedy

THIS Wonderful Liniment, in use for over 30 years, is a most marvelous Human Flesh Healer, and a Sure-Quick-Safe remedy for every known pain, requiring external treatment. Thousands have and thousands more will testify to the wonderful healing and curing powers of Gombault's Caustic Balsam.

Penetrating, Healing, Soothing. Helps Nature to Heal and Cure. One tablespoonful will do more than a whole bottle of any other Liniment. As an external application has no equal for Sores, Wounds, Felons, Burns, Bolls and Swellings.

A "365" Day Liniment

Safe and Reliable—for Sore Throat, Chest Cold, Backache, Rheumatism and Neuralgia. Dr. Higley, Whitewater, Wis., writes:—"I have been using Caustic Balsam ten years for different ailments. It has never failed me yet. A liniment that not only heals and cures Human Flesh, but for years the accepted Standard Veterinary remedy of the world. My right arm was crippled for two years. I spent \$500 doctor bills and finally tried Caustic Balsam. My arm is now as good as ever."—E. E. Lowe, Blackburn, Okla. Price \$1.75 per bottle at all Druggists or sent by us express prepaid. Write for free booklet and read what others say.

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Plows \$19.80 up.
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dirt and filth stick to the flanks and udder and fall into the milk pail. Clip the parts every three or four weeks, wipe off in a jiffy before milking and get pure, wholesome milk. A Stewart No. 1 Ball Bearing Machine will clip the parts in 5 minutes. Also good for clipping horses and mules. Lasts a lifetime. Price \$12.75. Get one from your dealer's or send \$2 and pay balance on arrival. CHICAGO FLEXIBLE SHAFT COMPANY Dept. A127 12th St. and Central Ave., Chicago, Ill.

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38 Buy the New Butterfly Jr. No. 2. Light running, easy cleaning, close stitching, durable. **NEW BUTTERFLY** Separators are guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes all sold on 30 Days' FREE TRIAL and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money. **Albaugh-Dover Co., 2155 Marshall St. Chicago**

Fruit Growers Meet

AT the opening session of the annual meeting of the Michigan State Horticultural Society, held at the Hotel Statler in Detroit, December 2, about sixty members assembled and took part in the round-table discussion. The majority of the growers present reported good crops of fruit and satisfactory prices. A few growers who reported partial crop failures made good their losses through the success of other fruit and farm crops.

Railroad Discrimination.

At the afternoon session Mr. F. B. Coombs, secretary of the Michigan Traffic League, presented some interesting facts regarding Michigan freight rates. After explaining how competition began cutting in after the roads had become established and rebates were given to induce shippers to use certain lines he explained some of the early work of the Inter-State Commerce Commission in doing many things to improve the situation. "Michigan," said Mr. Coombs, "has always been progressive in aiding railroad building and improvement. With increased shipping, up to a certain limit, comes a decrease in the cost per carload of shipping produce or other commodities. On account of the Michigan roads running north and south it made it necessary for shippers to pay a greater mileage than the people of other states who were nearer to the great east and west trunk lines, but finally through united effort Michigan shippers were able to partially overcome some of these early difficulties through obtaining better service and more equitable rates."

Mr. Coombs then explained some of the injustices of the present zone freight rate system and switching charges showing how some of the communities in the state are being discriminated against. In view of the fact that the Michigan Railroad Commission had already given the roads a liberal advance in rates for state shipment the twenty-five per cent raise given by the federal commission made our rates somewhat higher than the rates of other states. Another discrimination against fruit growers has been that of paying for cars that have been only half-tanked with ice when they have paid for full tanks. "When we go into a rate case with the government," said Mr. Coombs, "we are up against many traffic experts who have one of the best organizations in the country, and for that reason we must have an efficient organization and expert traffic men to handle our problems and see that our interests are properly safeguarded. At the present time products from other states can be shipped into Michigan markets cheaper than Michigan products can be shipped into the same states that have an advantage in our markets. The California fruit growers can ship into New York cheaper than the Michigan fruit growers can ship into California. You can readily see the injustice of such freight rate discriminations, but you know the California men are thoroughly organized and have trained traffic experts at all of the big meetings and they have been able to get such results, and many times at the expense of our fruit growing industry. It costs nearly one-third more to ship potatoes from Michigan to Florida than it does to ship early potatoes from Florida to Michigan points."

Roland Morrill, of Benton Harbor, recommended the farm bureaus of the state and nation as being the logical body to present such rate discriminations to the government and to get action from the men in charge of making railroad rates.

New Bills Before Congress.

Mr. R. G. Phillips, secretary of the International Apple Shippers' Association, who has recently returned from Washington, where he represented the

shippers in the new proposed refrigeration rates, gave an able discussion of some of the new bills now before congress and urged the society to take immediate action on them. "Right now," said Mr. Phillips, "we are in a very disturbed position, and it is going to require some time to bring conditions around to normal, and at the same time maintain adequate production to meet the requirements of our population. The people of the country rail and rant over an increase of seventy to eighty per cent in the cost of food products and cheerfully pay an increase of from one hundred to two hundred per cent in the cost of other things. We will note the comparatively small advance in the cost of food products compared with the advance in the cost of other commodities. It seems strange that so many records should be kept of the prices of food, and no reliable records kept of the advance in the price of other commodities. The new icing charges are going to represent a big advance in the cost of shipment of fruit to our city consumers, yet the growers of the country are not to blame for such advances."

The constant protest against the cost of food would be amusing were it not for the fact that it is seriously threatening the supply. Production must be stimulated through an unrestricted field rather than strangled through profiteering and agitation. Food production is sensitive, and it has been built up largely through hope of reward and when such hopes are blasted the farmers of the country will not produce the food. So much has been said and done that we are facing a critical situation today. Many men are hesitating to buy adequate supplies to meet their future needs and to relieve the producers of their supplies, and yet prices are soaring. Most of the remedies suggested have been destructive to the production of food, and if one-third of the proposed legislation had been put into effect the people of America would be starving."

Some Bugs to Fight Later On.

Horticulturists and farmers are promised new interesting features in their future efforts according to Prof. R. H. Pettit, entomologist of the Michigan Experiment Station, in presenting some of the more recently discovered insects that promise to become of economic interest to our agriculture.

The first on the list mentioned is the Oriental peach moth, an importation from Japan. This moth is present in Georgia and was shipped over the country generally during the distribution of this season's peach crop. It is possible that the insect has already become established in Michigan but no definite knowledge is at hand. It was suggested that perhaps a severe winter would eliminate or debilitate the pest, coming as it does from the warmer districts of the country, but it is established in New Hampshire where climatic conditions are fully as extreme as in Michigan.

What he believes to be the greatest danger that general agriculture faces today is the presence in three eastern states of the European corn borer. This insect which has been described several times in these columns, feeds upon twenty or more plants and it is partly due to this habit that repulsive measures seem so hopeless. The infected areas are extended from twenty to thirty miles each year. Federal quarantine has been established and a few mid-western states have raised funds to aid in fighting the pest in the east. The only cheerful information given by Professor Pettit on this insect was that by reason of its being established on the Atlantic instead of the Pacific Coast it will take many years longer to reach the central states through natural methods, be-

(Continued on page 758).

**RIGHT TO MANURE.**

A sold his farm November 1, 1919, but retains possession until May, 1920. He has ninety tons of feed which he will feed on the place. Can he sell the manure made from this feed?—E. H.

Any occupant of land has a right to remove the manure accumulated by him on the premises and kept separate from the soil, except in the case of a tenant feeding upon the land provisions raised in the course of the tenancy. The sale of the farm would carry all the manure upon the place accumulated in the regular course of husbandry prior to the sale and not expressly reserved.

JOHN R. ROOD.

NUISANCE.

Can a factory be stopped from running sewage into an open-road ditch which later runs across my farm?

SUBSCRIBER.

The emptying of sewage into running streams is common practice in this state and is considered the most sanitary practical method of disposition, but the emptying of sewage into a road ditch through which water does not run in sufficient volume to carry it off at all times is a public nuisance and will also be enjoined as a private nuisance at the suit of any person injured.

J. R. R.

TRESPASSING HUNTERS.

We have put up signs to warn away hunters but it does not seem sufficient as they do not regard our signs. Could we lawfully call the sheriff to arrest such trespassers or could we prosecute them?

SUBSCRIBER.

Trespassing is not a crime in the absence of statute, and I am not aware of any covering this case. The person trespassing is liable civilly for six cents at least, and as much more as the jury may believe will recompense the injured party. The defendant must also pay the costs; and one or two object lessons would probably be sufficient. Such a suit may be commenced by capias and enforced by execution against the body.

R.

ACCESS TO HIGHWAY.

Can the highway commissioner cut across my driveway and leave it impassable?

J. R.

The highway commissioner has no right to do anything inconveniencing anybody having access to the highway except so far as the same is necessary as a practical matter in making repairs to the road, but he has a right to cut driveway when necessary to make ditches or improvements and except for our statute requiring the highway commissioner to bridge the ditch at the farm entrance, he is under no duty to restore the driveway.

R.

LIABILITY OF EXPRESS COMPANY.

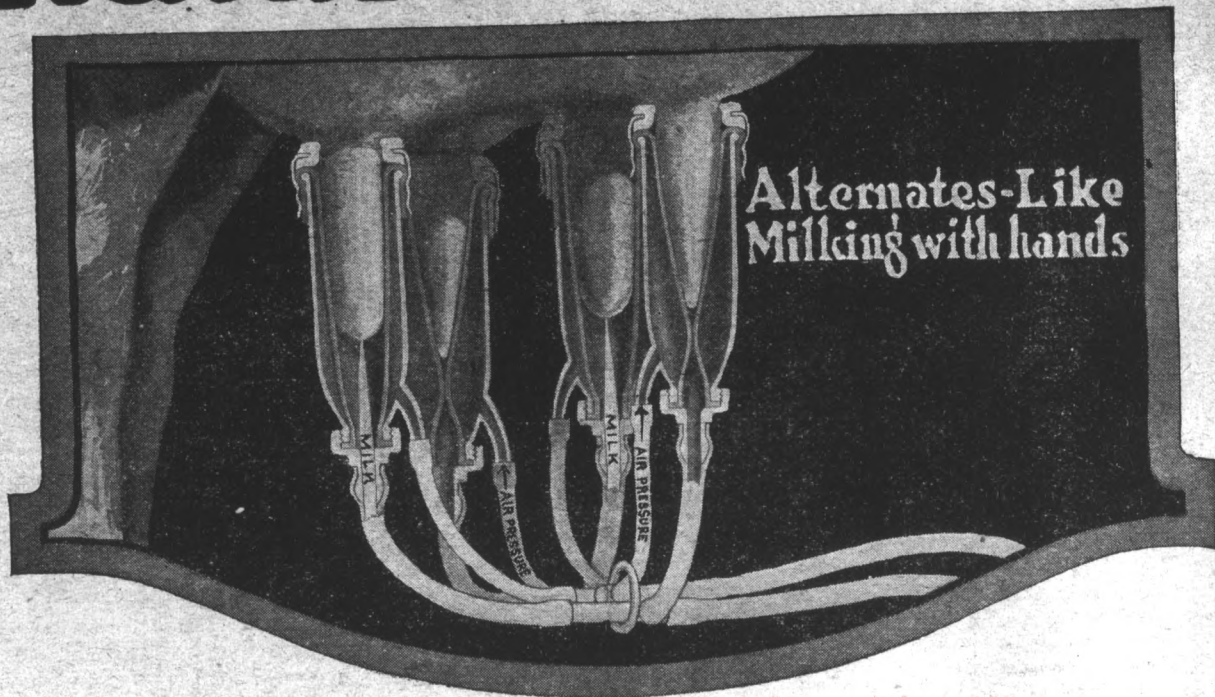
I sent two veals in good order to Chicago commission merchants, who reported them received in bad order, and sold for \$19.14. The express company received them in good order and show there was no delay in transit. Do you think I have a claim against the express company? SUBSCRIBER.

If the express company forwarded the veals in due course and was not guilty of negligence in the method of handling, the company is not liable. The shipper has the risk of the goods spoiling in transit if there was no unnecessary delay.

R.

Universal

natural milker



Thousands Claim it is Superior

Universal Satisfaction

I have two double-unit machines that I have had for two seasons, and have had very good success with them and like them very much.

Fred Comstock
Copenhagen, N. Y.

BBETTER results with Universal Natural Milker have won the endorsement of thousands of Farmers and Dairymen. The economy in time and labor saved has prompted their claim for Universal superiority.

A Universal milker outfit has done the same amount of milking in the same time as three men could do milking by hand.

For a twice-a-day job, figure the saving.

The milking is done as naturally as by hand, massaging two teats while milking two, and the milking is always done the same way. Cows are milked better, and frequently give more milk when milked the Universal way.

The Universal rubber lined teat cup fits all cows without adjusting. Once you have used a Universal you would not do without one.

Ask our nearest dealer or write us for catalog.

Universal Milking Machine Company, 1305 Mound Street, Columbus, Ohio

Clipped Cows Mean Clean Milk

Wide awake dairy farmers assert that it's next to impossible to obtain milk with low bacteria counts without clipping. They clip their cows on udders and flanks at frequent intervals during the winter and early spring, which makes cleaning quick and easy and keeps dirt and other filth out of the milk. Here's what two of them say:

JELKE DAIRY FARM

Dundee, Ill., Nov. 7, 1919.

A clipping machine is about the most important thing used in a dairy barn to get clean milk, as well as to keep the cows clean with much less work. When a cow is not clipped, all the manure sticks to her hips, legs, udder and sides, and it is impossible to get sanitary milk. No matter how careful a man may be, it is bound to get into the milk. Clipping a cow does not take much longer than to clean her well—after clipping the cleaning is a very small job.

J. P. TUCK, Manager,

BROOK HILL FARM

Genesee Depot, Wis., Nov. 6, 1919.

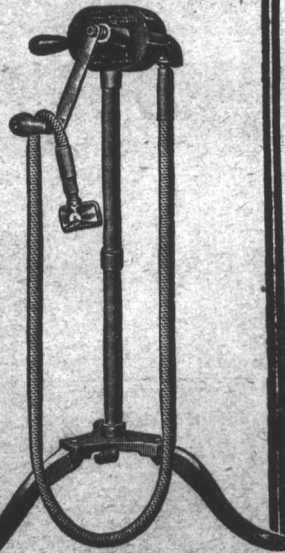
We find clipping our cows a necessity both from the standpoint of saving labor and of cleanliness. In maintaining a high standard of milk production clean cows are necessary and only clipped cows can be kept clean.

HOWARD T. GREENE, Sec'y.

The Stewart No. 1 Clipping Machine, here illustrated, is best. Runs easily—lasts a lifetime. Clips horses and mules also. Your dealer has it, or order from us at \$12.75. Send \$2 if you wish and pay balance on arrival.

Electric Clipping Machine, direct current, \$60; alternating current, \$80.

Chicago Flexible Shaft Company
Dept. 8127 Roosevelt Road and Central Ave., Chicago



FENCE

Direct to Farmer
at Wire Mill Prices

CATALOG FREE

KITSELMAN BROS. DEPT. 278 MUNCIE, INDIANA

Wire Splicer **FREE** Today

Get this handy tool FREE; also my **Bargain Fence Book**

of Brown Fence, Gates, Steel Posts, Roofing and Barb Wire, Bigger Line and Lower Prices. Remember Brown pays the freight, saves you money and gives more for your dollar. Get latest catalog and Splicer FREE.

BROWN FENCE & WIRE COMPANY
Dept. 249 Cleveland, Ohio (1)

Anthony Fence

A perfectly balanced staple tie fence. Strong wire, thoroughly galvanized. Every rod of 6-inch stay fence has 33 stay wires. Special book sent free. Dealers Everywhere.

American Steel and Wire Company
Chicago New York

Please Mention The Michigan Farmer When Writing to Advertisers

FRUIT GROWERS MEET.

(Continued from page 756).

cause of the prevailing winds retarding the westward flight of the adult.

New Jersey is the victim of another late arrival from the Orient in the shape of a beetle known as the Japanese beetle. It feeds on the foliage of fifty or sixty plants and the larva bores into the roots of many of them. It is easily poisoned on the leaves, however, and this may furnish a sufficient basis of control.

Tip burn of potatoes is now known to be caused by an insect according to the latest findings of our entomologists. The insect working this damage punctures the leaf and leaves a toxic substance that breaks down the cellular tissue, resulting in the discoloration. The same insect also works on apple foliage. Nicotine spraying is the best specific.

The experiment station was criticized for not continuing the work started some years ago, of trapping codlin moths to determine the time for spraying in the various fruit districts. The answer was that help has not been available to do this work, and further that the task is so simple that any intelligent grower can carry on the work as satisfactorily at little cost.

Students' Contest a Success.

There was much interest taken in the contest by students of the horticultural department of the M. A. C. L. A. Spencer, of South Haven, was awarded first prize on the topic, "Bitter Pit Disease of Apples." R. J. Hendershot, East Lansing, was second with a talk on "Apple Scab," and Stanley Johnson, East Lansing, third, with his subject, "The Tractor in the Orchard."

Opposes Public Warehouses.

The society went on record in unmistakable terms as regards the erection of public warehouses in the following resolution which was unanimously adopted:

"We desire to express our disapproval of the movement in political circles to have the state build and operate terminal warehouses, believing, as we do, that such an undertaking is unsound from an economic standpoint, is discriminatory in its objects, utterly impracticable from an operating standpoint, and will lead to greater paternalism in state affairs. To make effective such an undertaking would mean the expenditure of many millions of dollars because of the varied number of products requiring storage, some with, and some without, refrigeration, and that the operation of such warehouses for the storage of potatoes, fruits, vegetables, fish, meats and other articles produced in the state would mean many and numerous buildings and operative forces which would serve no good purpose to the producer and consumer in Michigan, but would only afford a political asylum for numerous high-priced political employees at the expense of the tax-paying public."

The rapidly growing evil of fruit pilfering is largely responsible for the enthusiastic support given the resolution commending the continuation of the state constabulary. This police force furnishes the only public protection the farmer has against marauders from nearby cities.

The society also favors the rapid continuation of the farm bureau organization which is now in the process of formation in several counties of the state. The members felt that in the farm bureau movement they could see relief to many of the ills of the present day agriculture.

The state railroad commission was urged to investigate the matter of adequate refrigerator facilities for moving perishable crops grown in the state.

(Continued next week).



Do You Get Enough Big Potatoes?

A PROFITABLE yield of potatoes is a matter of getting *big* potatoes. A heavy "set" will not make a big crop unless the potatoes keep growing and "size up."

Potatoes need an abundance of plantfood. The growing season is short; the crop is a heavy feeder; and big, sturdy, vigorous, healthy vines are needed to make strong and heavy-yielding hills.

Give your crop the kind of plant food it needs, and in sufficient quantity. You increase both the yield and the market value per bushel.

You can grow more *big* potatoes—you can make the entire crop a better market size by a liberal application of a well balanced potato fertilizer. A bigger yield and a better price mean more profit for you. Get this extra profit by the right use of fertilizer.

Write for our Bulletin, "Potato Production." You should also have our Automatic Formula Finder, which helps to select the right fertilizer for every crop on the farm. Both are free for the asking.

"High Analysis" Fertilizers for Potatoes

One of These Will Fit the Conditions on Your Farm

The figures represent percentages of ammonia, available phosphoric acid and potash, in the order given:

	Main Crop		Truck Crop		Second Crop
	East	West	East		South
Sandy Soil	5-8-7	3-10-4	7-6-5		2-10-6
Loam Soil	4-8-6	3-10-2	5-8-5		2-10-4
Clay Soil	4-8-4	3-12-0	4-8-4		2-12-2

To determine the right fertilizer for your other crops, use our Automatic Formula Finder—it's free.

SOIL IMPROVEMENT COMMITTEE
of the National Fertilizer Association

CHICAGO
1713 Lumber Exchange Building

BALTIMORE
1013 Stock Exchange Building

DO THE JOB RIGHT

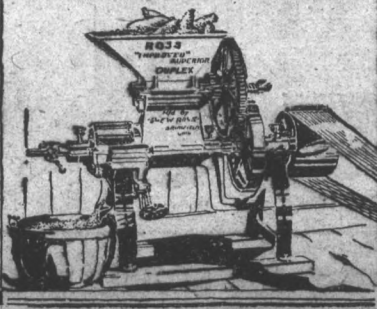
It is just as easy to do a good job of grinding as it is to do a poor job—but you must have the right mill.

ROSS Improved DUPLEX
Grinding Mills

Grind absolutely uniform. They never choke. They grind large or small grains—not just cracking or breaking the grain but grinding every single kernel. The adjustable self-aligning duplex burrs never get out of line. And they do twice the work with less effort than single burr mills.

Write for full particulars—or, better still, go to your dealer and find out just why the Ross Duplex Mill is a better mill for you. Valuable booklet is yours for the asking.

The E. W. Ross Co.
SPRINGFIELD, Dept. B OHIO

BOWSER'S
HEAVY-DUTY
GRINDERS

FOREMOST AMONG BETTER GRINDERS
Crush and grind all the grains that grow; fine for hogs or coarser for cattle feeding. Corn in husk, Head Kafir, and all small grains.

Strength, Durability and Service radiate from every line of these Masterful Grinders. Simple but effective in adjustment.

LIGHT RUNNING—LONG LIFE—EXTRA CAPACITY
CONE-SHAPED BURRS
10 sizes—2 to 25 H. P. or more. Also Sweep Mills. It pays well to investigate. Catalog FREE.

The D.N.P. Bowser Co., South Bend, Ind.

10 Cents
WORTH OF KEROSENE
or Coal Oil will keep this lamp in operation for 50 HOURS and will produce

300 CANDLE POWER

No Wicks to Trim
No Smoke
No Soot

of the purest, whitest and best light known to science. Nothing to wear out or get out of order. Simple. Safe. Absolute satisfaction guaranteed. Send for catalog showing lamps for every purpose; also special introductory offer and agency proposition. Write today.

Knight Light & Soda Fountain Company, 726 Knight Bldg. Chicago

Saws at 4c a Cord

Does the Work of 10 Men.

This one-man cross-cut saw outfit run by gasoline engine cuts 15 to 35 cords of wood a day. One man or a boy can handle it. Easy to operate, easy to move. Engine can be used for other farm work when not sawing.

PHILLIPS THE DRAG SAW
Fast money-maker and big labor saver. Works anywhere in any weather. Write for description and money-saving offer.
THE PHILLIPS DRAG SAW & MFG. CO.
703 Kemper Bldg., Kansas City, Mo.

DICKEY GLAZED
TILE SILOS

"The Fruit Jar of the Field"

Order your silo now. Pay next summer when silo arrives. Send for catalog No. 3

W. S. DICKEY CLAY MFG. CO.,

MACOMB, ILL.

Kansas City, Mo. Chattanooga, Tenn.

CULL BEANS FOR FEED

Our lots or less. Ask for prices
YOUNG-RANDOLPH SEED CO., OWosso, MICH.

WORLD EVENTS IN PICTURES



Miss Agnes Brennan, a student of Simmons College, Boston, Mass., turns bootblack to help her college raise funds. The customer is Miss Thalia Taylor, another student.



Beautiful Italian girl flies from Bolsheviks. Served in the Russian Woman's Battalion of Death.



Famous medical missionary plans to establish institutes for heroic North Sea fishermen. Dr. and Mrs. Wilfred Grenfell, photographed before they sailed from Boston on the S. S. Winifredian, for England.



This is the latest photograph of Admiral Kolchak, leader of Russian destiny.



Prince Casimir Lubmirski and his wife, Teresa, arrive on the Transport America. He is the first minister to the United States, of the New Republic of Poland.



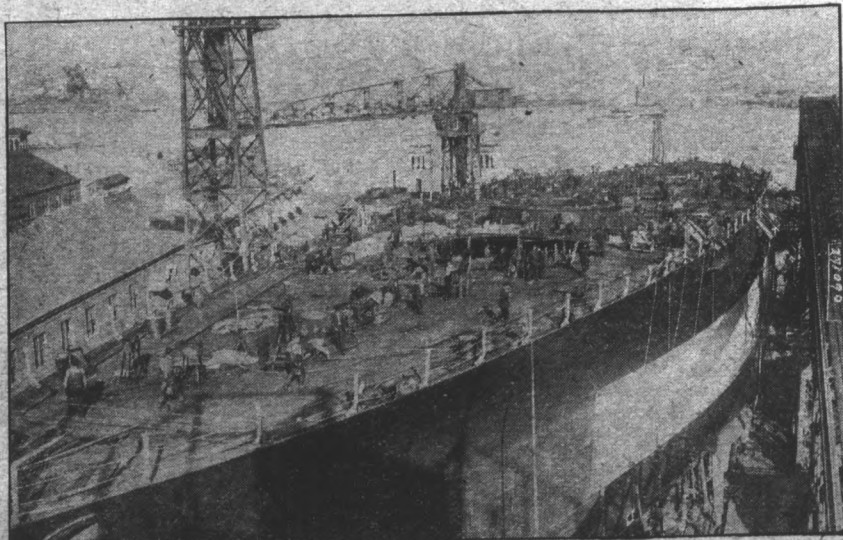
This little Mohammedan girl refugee is just eleven years old and has been married twice.



Versatile Miss Florence Parbury, writer, artist and singer. She has a beautiful soprano voice, is a well-known landscape painter and a writer of distinction.



Bar converted into booklovers' tavern. This conversion was the initial step in a nation-wide movement to turn the bars of the country into booklovers' taverns.



The super-dreadnaught California, the only one ever to be constructed on the Pacific Coast, launched at Mare Island Navy Yard, Calif. The California will be the last word in battleship construction. Lessons learned in the world-war have changed the design in many ways.



The American mine-sweeping fleet parade up the North River in gala attire before Secretary of the Navy Daniels, who reviewed the craft. Insert, Secretary Daniels is shown pinning a Croix de Guerre on Ray Messanelli, for his valorous work with the fleet.

We Want YOUR RAW FURS

Put your own assortment on them and mail us a copy. If we cannot net you as much or more than you expect, we will return them to you, express paid.

WE ARE NOW PAYING FOR IMMEDIATE SHIPMENTS AS FOLLOWS:

WE PAY FOR SKUNK

	No. 1.	No. 2.	No. 3.	No. 4.	
Minn., Wisc., Nor. Iowa, Dakotas...	8.00	6.00	4.00	2.00	
Maine, New Hampshire, Vermont...	7.00	5.00	3.00	1.50	
Northern New York	7.00	5.00	3.00	1.50	
New York, New Jersey, Penn.	6.00	4.00	2.25	1.25	
Mass., R. I., Connecticut	6.00	4.00	2.25	1.25	
Mich., No. Ohio, Ind., Ill., No. Mo.	7.00	5.00	3.00	1.50	
Kans., Nebr., So. Iowa, Wash., Ore.	7.00	5.00	3.00	1.50	
Cen. Ohio, Ind., Ill., Md., W. Va.	5.75	3.75	2.25	1.25	
So. Ohio, Ind., Ill., So. Mo.	5.50	3.50	1.75	1.00	
Virginia, North Carolina	5.25	3.25	1.75	1.00	
Kentucky, Tennessee	4.50	3.00	1.75	1.00	
Arkansas, Oklahoma, Calif.	4.50	3.00	1.75	1.00	
Large Western Long Narrow Stripe, Prime.	2.00 to 5.00				

UNPRIME AS TO VALUE

WE PAY FOR MUSKRAT

	Winter.	Large Fall.	Small Fall.	Kitts.
N. Y., New Eng., Eastern Canada	3.00	2.25	1.25	.10
Michigan, Wisconsin	3.00	2.25	1.25	.10
Pa., N. J., Ohio, Ind., Ill., W. Va.	2.75	2.00	1.10	.10
Virginia, Carolinas, Md., Del.	2.50	1.75	1.00	.10
Kentucky, Tenn., Ark.	2.50	1.75	1.00	.10
Minn., No. Iowa, Dakotas	2.10	1.50	.90	.10
Manitoba, Alberta, Sask.	2.10	1.50	.90	.10
So. Iowa, Dakotas, Mo.	2.00	1.40	.90	.10
Wash., Oregon	1.75	1.25	.70	.10
BLACK RATS	3.00	2.25	1.25	.10

WE PAY FOR RACCOON

	No. 1.	No. 2.	No. 3.	No. 4.
Wisc., Minn., Dakotas, No. Iowa	11.00	9.00	6.00	2.50
Mich., N. Y., Canada, New Eng.	9.00	6.00	3.00	.75
No. Pa., N. J., No. Ohio, Ind., Ill.	7.50	5.00	2.50	.75
So. Pa., Cen. Ohio, Ind., Ill., W. Va.	6.50	4.50	2.25	.75
Neb., Kans., So. Iowa, No. Mo.	7.50	5.00	2.50	.75
So. Ohio, Ind., Ill., So. Mo.	5.50	4.00	2.00	.75
Maryland, Del., Va., No. Carolina	5.50	4.00	2.00	.75
Kentucky, Tenn., Ark., Okla.	5.00	3.50	2.00	.75
Wash., Ore., Calif.	5.50	4.00	2.00	.75
So. Carolina, No. Georgia	4.50	3.00	1.75	.50

We also wish to call your attention to the fact that we do not mislead you by quoting prime skunk as extra large, large, medium or small.

MILTON SCHREIBER & CO.,

Dept. W, 138-140 W. 29th St. NEW YORK CITY

Trapping Mink

By Earle W. Gage

THE raccoon and mink try the trapper's skill. Their instinct and cunning warn them away from traps. But they can be profitably trapped in large numbers if the trapper uses a few simple methods and is persistent. The rule of successful trappers is, "When you go out to look for mink look for muskrats," since minks prey on the muskrats.

Their favorite haunt is along small streams, and if the weather is cold they will be found well up toward the spring where the water is warmest. comes familiar with, and he has no fear of them. This sense of security may be used to good advantage by the trapper. At one end of each log, about which mink signs are seen, raise just high enough to allow a mink to pass under. Support the end of the log with a trigger trap or a figure-four trap. On each side of the trap leaves should be thrown up to make a loose wall that will crush flat when the log falls. These two walls join the walls of the bait pen which is formed on the furth-



They have their burrows under the ground and, like the muskrat, enter the holes through the water. If in a district where the streams have muddy banks they build slides, and it is near the slides that traps are most often set for them. But if anything is disturbed when the set is made they are quite apt to abandon the slide, and further trapping is useless there. The track they make is much like that of a muskrat, but when the two are using the same district it is easy to distinguish between them.

It is their habit when coming out of their burrows and leaving the water to land at or near the same spot every time. Often their trail across a log, or where they have passed under or around a snag, is easily seen. At this point, just under the water and slightly screened with water-soaked leaves, the trap should be placed, with the chain fastened to a drowner. The trapper should take care that he leaves no odor of his own hands about the set. By splashing water over chain and trap, as well as where he stood, this is removed.

The mink is a rover and will travel a mile or two up and down the banks of a small stream in a single night. It is his habit to go nosing about old logs. Those about his feeding ground he be-

er side of the log by driving sticks in to the ground. These sticks should be close enough together to prevent the mink or any other animal from passing between them, and should stand as high as the top of the log. This bait pen should then be covered with leaves to darken the interior. On the opposite side of the log two sticks are driven into the ground even with the two walls of leaves under the log, to continue the entrance of the bait pen well out on that side. The bait is then thrown well back in the pen. The passageway under the log should be of just the right dimensions, so that the mink will spring the trap in passing. This is known as a deadfall trap and is often more successful than a steep trap.

Some trappers built just such a bait house when using a steel trap. The trap should be covered with wet leaves taken from along the water's edge. Care should be taken not to use too many leaves or they will form a cushion which will make it possible for the mink to pull his foot out of the trap. The trap chain should be fastened to either a drowner or a drag. A steel trap should never be fastened to a fixed object, for the resistance makes it possible for the ensnared animal to pull its foot from the trap.

China's Sorrow

By Mark Meredith

CHINA'S Sorrow is a river, the Hoang-Ho, or Yellow river, so called, doubtless, because it brings down such vast quantities of mud that its waters are discolored.

It has cost China more lives during the past century, to go no farther back, than all the wars of all the world, for when the Yellow River takes a fit of flooding the country, it does it on a scale undreamt of by any other river, not even forgetting the Mississippi, its nearest competitor. It simply breaks all bounds, and starts out across country to find or force a new channel to the sea. Only a few weeks ago it flooded twenty-thousand square miles of thickly populated country, with a loss of life which can only be guessed at, but more than once the loss has gone into millions of human beings. It is the silt that is largely to blame. The mighty river keeps filling up its own channel, and the people who are subject to its floods keep piling up embankments till the sails of the boats on the Hoang-Ho are high above the fields through which it flows. Then comes a great flood which breaks down the embankment, and the waters pour across the country in a devastating flood, drowning tens of thousands before they can escape. No wonder, then, that the Yellow River is called "China's Sorrow."

MATRIMONIAL ALTERATIONS.

"Agnes married a self-made man, didn't she?"
"Yes, but she has compelled him to make extensive alterations."

Our Money is more than a match for your RAW FURS

Our competitors say we bid too high—but that's the way we get the most shipments—when the demand is heaviest. We turn our money over several times while our competitors are doing it once. That's why we can and do pay the highest prices. That's why we are so generous with our grading. That's why we charge no commissions. That's why we pay spot cash the day the goods arrive—and that's why our business is growing by leaps and bounds. If you want this kind of a square deal send for our price list at once—TODAY—it's FREE

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THE CENTER OF THE WORLD'S FUR INDUSTRY

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Ship Your Furs to Geo. I. Fox

Raw Fur Merchant, New York City

Because now is your chance to get the full benefit of the high prevailing market. Ship before the market is loaded with large stocks which is usually the cause for heavy declines.



Don't wait a single day—ship at once, because we have our orders to fill which enables us to pay you highest obtainable market prices. Our years of experience assures you honest and intelligent grading. Our reputation assures you a square deal.

Why We Pay More For Your Furs

We can and do pay more for your furs, because we are centrally located in the biggest fur market of the World, "NEW YORK CITY." No matter where you sell your furs, it is almost a certainty that they eventually must reach this great fur market. Merchants from all over the World come to New York to secure their furs because 90% of all the furs are dressed, dyed and manufactured in New York. Being right here in New York we are able to secure the best possible prices from manufacturers; they know we are able to furnish them with large quantities and best quality of furs of all kinds.

THESE PRICES ARE GUARANTEED FOR DECEMBER

Don't Pay 5% For Handling

Do you realize that the extra 5% charged by many fur houses is "velvet"? There is no more justice in charging you for handling your furs than there would be in your charging them 5% for wrapping up your bundle. You know what a difference this 5% makes with the 5% additional you receive from us, when you consider the high prices of today.

The resale margin of every fur house is big enough to enable them to pay all the expenses incident to buying your furs and still leave a fair profit. Why ship to these 5% houses when you can send all your furs to George I. Fox? We do not charge 5% and in addition we quote and pay higher average prices than these other fur houses. Yes—we even go farther than this—on all bundles of over \$75.00

We Pay You 5% Extra

We can afford to do this because it is much cheaper to handle a single bundle of furs valued at from \$75.00 and up than it is for us to handle the same number of furs reaching us as a half-dozen bundles. We pass this saving on to you. Our old shippers have learned what this means to them in a bigger check and more money. What we want is to get acquainted with you who have never sent a shipment to George I. Fox of New York City.

SKUNK	1	2	3	4
Me., N. H., Vt., No. N. Y., Mich.	6.75	4.75	3.25	1.65
MINK	No. 1			
	Ex.L.	Lge.	Med.	Sml.
Extra Dark and Silky	20.00	15.00	12.00	10.00
Average Color				
No. Pa., No. N. J., Mich.	12.00	10.00	8.00	6.50
	Cotton and extra pale at value			
RACCOON	No. 2			
	Lge.	Med.	Sml.	
Extra Dark	18.00	14.00	10.00	6.50
Average Colors				
Me., N.H., Vt., No. N.Y., Mich.	12.00	9.00	6.50	4.50
OPOSSUM	No. 3 Kits.			
All Sections Listed	2.25	1.60	1.15	0.75
	Scabs no value, damaged at value			
RED FOX	No. 1			
	Ex.L.	Lge.	Med.	Sml.
Me., N.H., Vt., N. Y., Mich.	22.00	18.00	15.00	12.00
	Damaged and Rubbed at Value			
MUSKRAT	No. 2			
	Ex.L.	Lge.	Med.	Sml.
Me., N.H., Vt., No. N.Y., Mich.	3.85	3.15	2.40	1.60

Cash in on These Guaranteed High Prices

Ship to a Reliable House

George I. Fox, Raw Fur Merchant, New York City, is one of the cleanest dealing raw fur houses in the country. Our highest market prices, fair and honest grading, prompt returns and fair dealings are known wherever trappers get together as is proven by our thousands of satisfied shippers everywhere. Further than this, we are glad to refer you to any New York Bank as to our reliability and responsibility.

GEO. I. FOX Raw Fur Merchant

Use These Special Tags

If you have no regular George I. Fox shipping tags. Write your name and check the skins on the "inside tag" and place inside the bundle. The "outside tag" should be pasted on a piece of cardboard and tied to your bundle in the regular way. These special tags entitle you to the special prices; be sure to use them, or refer to them when you make your shipment.

Don't Wait—Ship at Once

The market prices quoted are net; positively no charge for handling and no deduction of any kind for any purpose. More than this, on all shipments over \$75 we pay you an additional bonus of 5% above the price quoted. You want the most money for your furs—ship all you have to us at once. Remember, you get full cash value—the net prices quoted above. No deductions, no charges. We pay you higher prices because we can afford it.

The House That Guarantees Satisfaction
164 W. 25th St., New York City, N. Y.

For GEORGE I. FOX RAW FURS

"THE HOUSE THAT GUARANTEES SATISFACTION"
164-166 WEST 25th ST., NEW YORK



NAME OF SHIPPER

POST OFFICE

SHIPPING POINT

STATE

R. F. D.

BOX

Cut Out These Tags For Your Next Bundle

FOR
GEORGE I. FOX
164 West 25th Street
NEW YORK

NAME OF SHIPPER

POST OFFICE

R. F. D.

BOX

STATE

INSIDE STUB

FILL OUT AND PLACE INSIDE BUNDLE

FILL OUT AND PLACE INSIDE BUNDLE	
Skunk	Wolf
Raccoon	Fisher
Mink	Badger
Opossum	House Cat
Otter	Civet Cat
Red Fox	Beaver
Grey Fox	Wolverine
Muskrat	Cross Fox
Wild Cat	Silver Fox
Lynx	White Fox
Bear	Blue Fox
Marten	Weasel

How Long Would It Take On a Grindstone?

You know what a long, hard job it is to grind farm tools on a grindstone. Or how expensive it is to take them to town for sharpening.

Here's how quickly the

Luther
HUMMER GRINDER

will sharpen the following tools right on your farm without drawing the temper.

Disc Harrows—a whole set in 2½ hours.
Mower Sickle—10 to 20 minutes.
Cultivator Shovels—10 to 20 minutes.
Plow Coulters—5 to 10 minutes.
Axe—2 to 5 minutes.
Ensilage Knife, Hedge Knife, Butcher Knife, Shears, Scythe, Corn Knife, etc., 2 minutes.

The secret is in the wonderful DIMO-GRIT wheels of the "Hummer." They sharpen 25 times as fast as grindstones. Pedal the "Hummer" like a bicycle—no pressure required; no water or oil to cool the steel. The head swivels, making the most awkward tool easy to grind—a one-man job.

Most good hardware dealers handle the "Hummer." Ask yours next time you go to town.

Luther Grinder Mfg. Co.

The Largest Makers of Farm Repair Tools in the World.

Dept. 144, Milwaukee, Wis., U. S. A.



Send 25c, Stamps or Coin, for a DIMO-GRIT pocket hone. See for yourself how quickly it puts a keen edge on your jack-knife and kitchen knives.

DITCHES, TERRACES, GRADES DOES THEM ALL WELL

The **Austin Farm Ditcher, Terracer and Road Grader** is a very useful implement that will keep itself busy on any farm.

Digs V-shaped ditches to a depth of 4 feet. Sides slope at angle of 45 degrees and will not cave in.

Terraces hillsides so as to prevent soil washing and to make slope hold moisture.

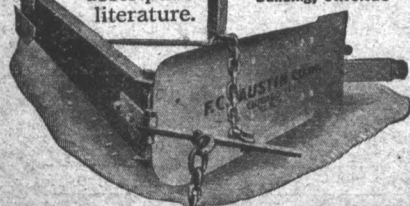
Grades roads and keeps them in condition.

Unequalled for backfilling trenches.

Write today for descriptive literature.

F. C. AUSTIN Company, Inc.

Dept. D
Railway Exchange Building, CHICAGO



LIGHT YOUR HOME LIKE DAY—Cost 1c for 5 hours. Pure white 60 candle power light from common Kerosene.

SOLAR MANTLE LAMP approved by government experts. Burns gas, gasoline or electricity. Entirely new. Every home interested. **AGENTS MAKE MONEY.** Write quick selling plan, territory and trial offer.

SOLAR LAMP CO., 738 Solar Bldg., Kansas City, Mo.

Crooked Trails and Straight

By *Wm. MacLeod Raine*

Their eyes met. A spark from his flashed deep into hers as a star falls through the heavens on a summer night. Each looked away. After one breathless full-pulsed moment she recovered herself.

"Wouldn't it be nice if—?"

His gaze followed her to two riders in front of them. One was Maloney, the other Myra Anderson. The sound of the girl's laughter rippled back to them on the light breeze.

Curly smiled. "Yes, that would be nice. The best I can say for her—and it's a whole lot—is that I believe she's good enough for Dick."

"And the best I can say for him is that he's good enough for her," the girl retorted promptly.

"Then let's hope—"

"I can't think of anything that would please me more."

He looked away into the burning sun on the edge of the horizon. "I can think of one thing that would please me more," he murmured.

She did not ask him what it was, nor did he volunteer an explanation. Perhaps it was from the rising sun her face had taken its swift glow of warm color.

PART II.

LUCK.

CHAPTER I.

At the Round-Up Club.

A BIG game had been in progress all night at the Round Up Club. Now the garish light of day streamed through the windows, but the electric cluster still flung down its yellow glare upon the table. Behind the players were other smaller tables littered with cigars, discarded packs, and glasses full or empty. The men were in their shirt sleeves. Big broad-shouldered fellows they were, with the marks of the outdoors hardriding west upon them. No longer young, they were still full of the vigor and energy of unflagging strength. From bronzed faces looked steady unwinking eyes with humorous creases around the corners, hard eyes that judged a man and his claims shrewdly and with good temper. Most of them had made good in the land, and their cattle fed upon a thousand hills.

The least among them physically was Luck Cullison, yet he was their recognized leader. There was some innate quality in this man with the gray, steel-chilled eyes that marked him as first in whatever company he chose to frequent. A good friend and a good foe, men thought seriously before they opposed him. He had made himself a power in the southwest because he was the type that goes the limit when aroused. Yet about him, too, there was the manner of a large amiability, of the easy tolerance characteristic of the west.

While Alec Flandrau shuffled and dealt, the players relaxed. Cigars were relit, drinks ordered. Conversation reverted to the ordinary topics that interested Cattleland. The price of cows, the good rains, the time of the fall roundup, were touched upon.

The door opened to let in a newcomer, a slim, graceful man much younger than the others present, and one whose costume and manner brought additional color into the picture. Flandrau, Senior, continued to shuffle without turning his head. Cullison also had his back to the door, but the man hung his broad-rimmed gray hat on the rack—beside an exactly similar one that belonged to the owner of the Circle C—and moved leisurely forward till he was within range of his vision.

"Going to prove up soon on that Del

Oro claim of yours, Luck?" asked Flandrau.

He was now dealing, his eyes on the cards, so that he missed the embarrassment in the faces of those about him.

"On Thursday, the first day the law allows," Cullison answered quietly.

Flandrau chuckled. "I reckon Cass Fendrick will be some sore."

"I expect." Cullison's gaze met coolly the black, wrathful eyes of the man who had just come in.

Something in the strained silence struck the dealer as unusual. He looked up, showed a momentary confusion.

"Didn't know you were there, Cass. Looks like I put my foot in it sure that time. I certainly thought you were an absentee," he apologized.

"Or you wouldn't have been talking about me," retorted Fendrick acidly. The words were flung at Flandrau, but plainly they were meant as a challenge for Cullison.

A bearded man, the oldest in the party, cut in with good-natured reproof. "I shouldn't wonder, Cass, but your name is liable to be mentioned just like that of any other man."

"Didn't know you were in this, Yesler," Fenwick drawled insolently.

"Oh, well, I butted in," the other laughed easily. He pushed a stack of chips toward the center of the table. "The pot's open."

Fendrick, refused a quarrel, glared at the impassive face of Cullison, and passed to the rear room for a drink. His impudence needed fortifying, for he knew that since he had embarked in the sheep business he was not welcome at this club, that in fact certain members had suggested his name be dropped from the books. Before he returned to the poker table the drink he had ordered became three.

The game was over and accounts were being straightened. Cullison was the heavy loser. All night he had been bucking hard luck. His bluffs had been called. The others had not come in against his strong hands. On a straight flush he had drawn down the ante and nothing more. To say the least it was exasperating. But his face had showed no anger. He had played poker too many years, was too much a sport in the thorough-going frontier fashion, to wince when the luck broke badly for him.

The settlement showed that the owner of the Circle C was twenty-five hundred dollars behind the game. He owed Mackenzie twelve hundred, Flandrau four hundred, and three hundred to Yesler.

With Fendrick sitting in a chair just across the room, he found it a little difficult to say what otherwise would have been a matter of course.

"My bank's busted just now, boys. Have to ask you to let it stand for a few days. Say, till the end of the week."

Fendrick laughed behind the paper he was pretending to read. He knew quite well that Luck's word was as

good as his bond, but he chose to suggest a doubt.

"Maybe you'll explain the joke to us, Cass," the owner of the Circle C said quietly.

"Oh, I was just laughing at the things I see, Luck," returned the younger man with airy offense, his eyes on the printed sheet.

"Meaning for instance?"

"Just human nature, Luck. Any law against laughing?"

Cullison turned his back on him. "See you on Thursday if that's soon enough, boys."

"All the time you want, Luck. Let mine go till after the roundup if you'd rather," Mackenzie suggested.

"Thursday suits me."

Cullison rose and stretched. He had impressed his strong, dominant personality upon his clothes, from the high-heeled boots to the very wrinkles in the corduroy coat he was now putting on. He had enemies, a good many of them, but his friends were legion.

"Don't hurry yourself."

"Oh, I'll rustle the money, all right. Coming down to the hotel?" Luck was reaching for his hat, but turned toward his friends as he spoke.

Without looking again at Fendrick, he led the way to the street.

The young man left alone cursed softly to himself, and ordered another drink. He knew he was overdoing it, but the meeting with Cullison had annoyed him exceedingly. The men had never been friends, and of late years they had been leaders of hostile camps. Both of them could be overbearing, and there was scarcely a week but their interests overlapped. Luck was capable of great generosity, but he could be obstinate as the rock of Gibraltar when he chose. There had been differences about the ownership of calves, about straying cattle, about political matters. Finally had come open hostility. Cass leased from the forestry department the land upon which Cullison's cattle had always run free of expense. Upon this he had put sheep, a thing in itself of great injury to the cattle interest. The stockmen had all been banded together in opposition to the forestry administration of the new regime, and Luck regarded Fendrick's action as treachery to the common cause.

He struck back hard. In Arizona the open range is valuable only so long as the water holes also are common property or a private supply available. The Circle C cattle and those of Fendrick came down from the range to the Del Oro to water at a point where the canon walls opened to a spreading valley. This bit of meadow Luck homesteaded and fenced on the north side, thus cutting the cattle of his enemy from the river.

Cass was furious. He promptly tore down the fence to let his cattle and sheep through. Cullison rebuilt it, put up a shack at a point which commanded the approach, and set a guard upon it day and night. Open warfare had ensued, and one of the sheepherders had been beaten because he persisted in crossing the deadline.

Now Cullison was going to put the legal seal on the matter by making final proof on his homestead. Cass knew that if he did so it would practically put him out of business. He would be at the mercy of his foe, who could ruin him if he pleased. Luck would be in a position to dictate terms absolutely.

Nor did it make his defeat any more



palatable to Cass that he had brought it on himself by his bad-tempered unneighborliness and by his overreaching disposition. A hundred times he had blacknamed himself for an arrant fool because he had not anticipated the move of his enemy and homesteaded on his own account.

He felt that there must be some way out of the trap if he could only find it. Whenever the thought of eating humble pie to Luck came into his mind, the rage boiled in him. He swore he would not do it. Better a hundred times to see the thing out to a fighting finish.

Taking the broad-rimmed gray hat he found on the rack, Cass passed out of the clubhouse and into the sun-bathed street.

CHAPTER II.

Luck Meets an Old Acquaintance.

CULLISON and his friends proceeded down Papago street to the old plaza where their hotel was located. Their transit was an interrupted one, for these four cattlemen were among the best known in the southwest. All along the route they scattered nods of recognition, friendly greetings, and genial banter. One of them—the man who had formerly been the hard-riding, quick-shooting sheriff of the county—met also scowls once or twice, to which he was entirely indifferent. Luck had no slavish respect for law, had indeed, if rumor were true, run a wild and stormy course in his youth. But his reign as sheriff had been a terror to lawbreakers. He had made enemies, desperate and unscrupulous ones, who had sworn to wipe him from among the living, and one of these he was now to meet for the first time since the man had stood handcuffed before him, livid with fury, and had sworn to cut his heart out at the earliest chance.

It was in the lobby of the hotel that Cullison came plump against Lute Blackwell. For just a moment they stared at each other before the former sheriff spoke.

"Our again, eh, Blackwell?" he said easily.

From the bloodshot eyes one could have told at a glance the man had been drinking heavily. From whiskey he had imbibed a Dutch courage just bold enough to be dangerous.

"Yes, I'm out—and back again, just as I promised, Mr. Sheriff," he threatened.

The cattleman ignored his manner. "Then I'll give you a piece of advice gratis. Papago county has grown away from the old days. It has got past the two-gun man. He's gone to join the antelope and the painted Indian. You will do well to remember that."

The fellow leaned forward, sneering so that his ugly mouth looked like a crooked gash. "How about the one-gun man now, Mr. Sheriff?"

"He doesn't last long now."

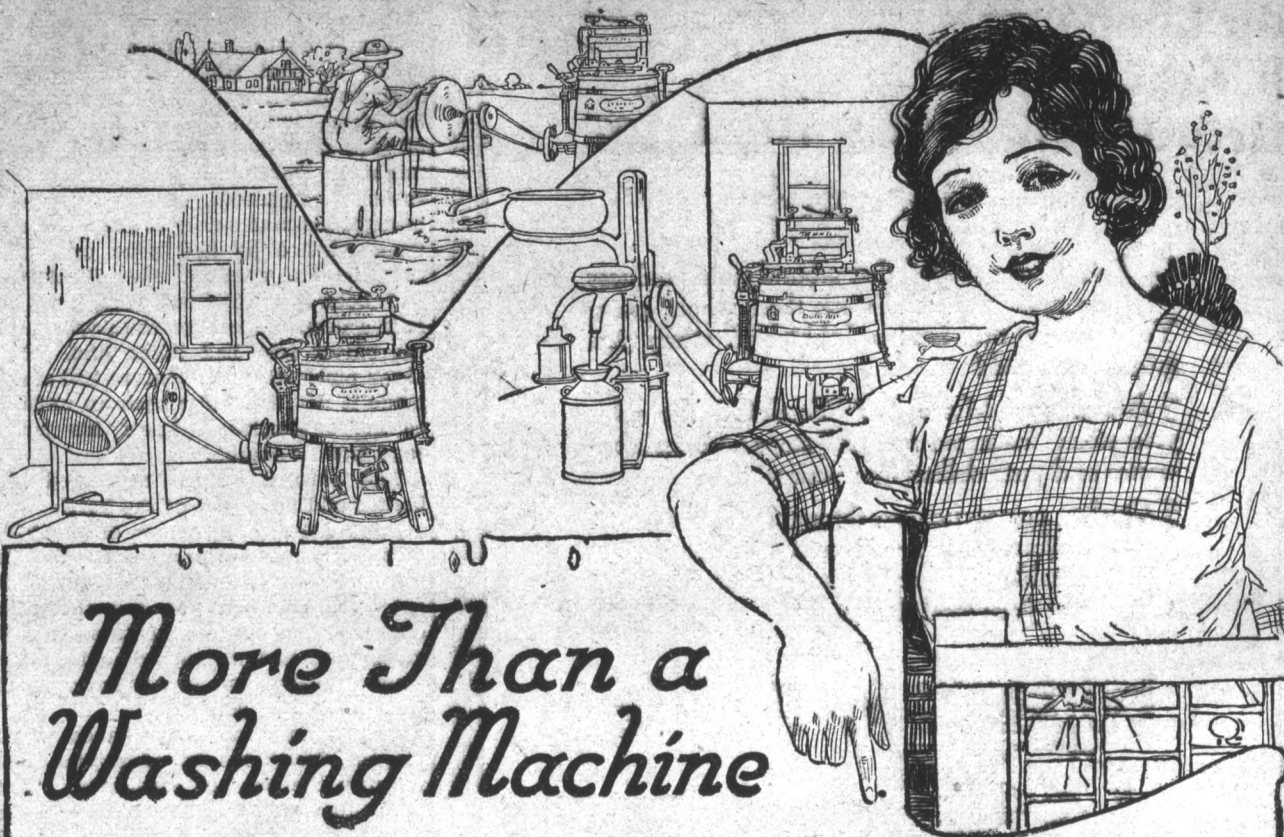
"Doesn't he?"

The man's rage boiled over. But Luck was far and away the quicker of the two. His left hand shot forward and gripped the rising wrist, his right caught the hairy throat and tightened on it. He flung him, black in the face, against the wall, where he hung, strangling and sputtering.

"I—I'll get you yet," the ruffian panted. But he did not attempt to reach for the weapon in his hip pocket. "You talk too much with your mouth."

With superb contempt, Luck slapped him, turned on his heel, and moved away, regardless of the raw, stark lust to kill that was searing this man's elemental brain.

Across the convict's rage came a vision. He saw a camp far up in the Rincóns, and seated around a fire five men at breakfast, all of them armed. Upon them had come one man suddenly. He had dominated the situation quietly, had made one disarm the oth-



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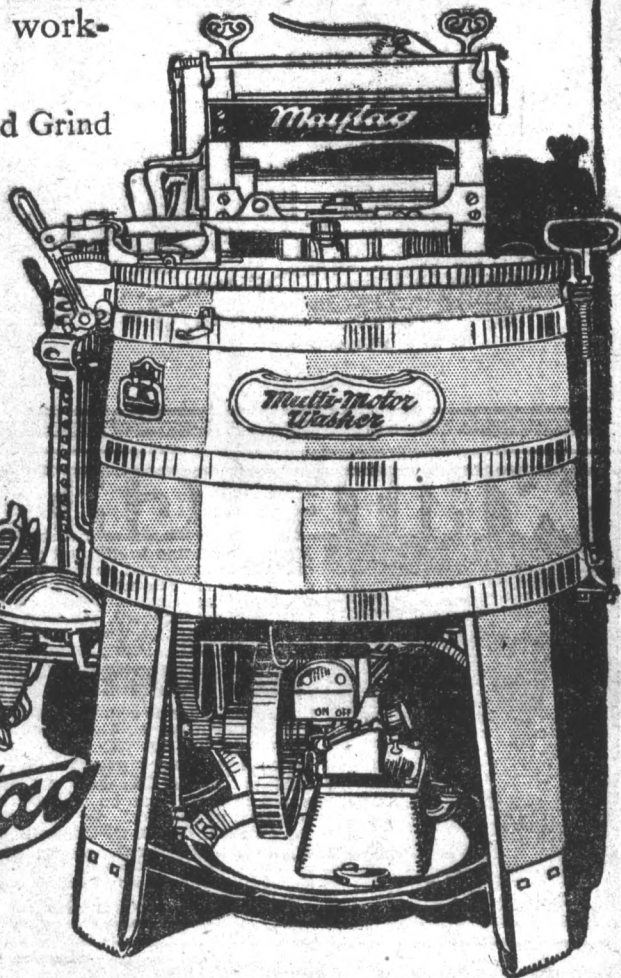
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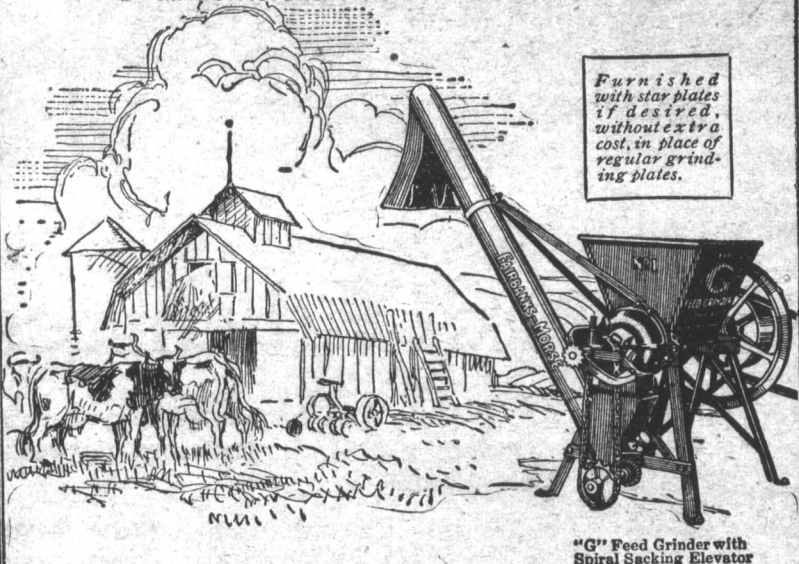
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ers, had handcuffed the one he wanted and taken him from his friends through a hostile country where any hour he might be shot from ambush. Moreover, he had traveled with his prisoner two days, always cheerful and matter of fact, not at all uneasy as to what might lie behind the washes or the rocks they passed. Finally he had brought his man safely to Casa Grande from whence he had gone over the road to the penitentiary. Blackwell had been the captured man, and he held a deep respect for the prowess of the officer who had taken him. The sheer pluck of the adventure had alone made it possible. For such an unflinched nerve Blackwell knew his jerky rage was no match.

The paroled convict recovered his breath and slunk out of the hotel.

Billie Mackenzie, owner of the Fiddleback ranch, laughed even while he disapproved. "Some day, Luck, you'll get yours when you are throwing chances at a coyote like this. You'll guess your man wrong, or he'll be one glass drunker than you figure on, and then he'll plug you sure."

"The man that takes chances lives longest, Mac," his friend replied, dismissing the subject carelessly. "I'm going to tuck away about three hours of sleep. So long." And with a nod he was gone to his room.

"All the same Luck's too durned rash," Flandrau commented. "He'll run into trouble good and hard one of these days. When I'm in Rattlesnake Gulch I don't aim to pick posies too unobservant."

Mackenzie looked worried. No man lived whom he admired so much as Luck Cullison. "And he hadn't ought to be sitting in these games. He's hard up. Owes a good bit here and there. Always was a spender. First thing he'll have to sell the Circle C to square things. He'll pay us this week like he said would. That's dead sure. He'd die before he'd fall down on it, now. Fendrick has got his back up. But I swear I don't know where he'll raise the price. Money is so tight right now."

That afternoon Luck called at every bank in Saguache. All of the bankers knew him and were friendly to him, but in spite of their personal regard they could do nothing for him.

"It's this stringency, Luck," Jordan of the Cattleman's National explained to him. "We can't let a dollar go even on the best security. You know I'd like to let you have it, but it wouldn't be right to the bank. We've got to keep our reserve up. Why, I'm lying awake nights trying to figure out a way to call in more of our money."

"I'm not asking much, Jack."

"Luck, I'd let you have it if I dared. Why, we're running close to the wind. Public confidence is a mighty ticklish thing. If I didn't have twenty thousand coming from El Paso on the Flyer tonight I'd be uneasy for the bank."

"Twenty thousand on the Flyer. I reckon you ship by express, don't you?"

"Yes. Don't mention it to anyone. That twenty thousand would come in handy to a good many people in this country these times."

"It would come right handy to me," Luck laughed ruefully. "I need every cent of it. After the beef round-up, I'll be on Easy Street, but it's going to be hard sledding to keep going till then."

"You'll make a turn somehow. It will work out. Maybe when money isn't so tight I'll be able to do something for you."

Luck returned to the hotel morosely,

and tried to figure a way out of his difficulties. He was not going to be beaten. He never accepted defeat, even in the early days when he had sometimes taken a lawless short cut to what he wanted. By Heavens, he would not lose out after all these years of fighting. It had been his desperate need of money that had made him sit in last night's poker game. But he had succeeded only in making a bad situation worse. He knew his debts by heart, but he jotted them down on the back of an envelope and added them again.

Mortgage on ranch, due Oct. 1. \$13,000
Note to First National..... 3,500
Note to Reynolds 1,750
I O U to Mackenzie..... 1,200
Same to Flandrau..... 400
Same to Yesler 300

Total \$20,150

Twenty thousand was the sum he needed, and mighty badly, too. Absentmindedly he turned the envelope over and jotted down one or two other things. Twenty thousand dollars. Just the sum Jordan had coming to the bank on the Flyer. Sub-consciously, Luck's fingers gave expression to his thoughts. Twenty thousand dollars. Half a dozen times they penciled it, and just below the figures, "W. & S. Ex. Co." Finally they wrote automatically the one word, "Tonight."

Luck looked at what he had written, laughed grimly, and tore the envelope in two. He threw the pieces in the waste paper basket.

CHAPTER III.

An Initialed Hat.

MACKENZIE was reading the Sentinel while he ate a late breakfast. He had it propped against the water bottle, so that it need not interfere with the transportation of sausages, fried potatoes, hot cakes, and coffee to their common destination.

Trying to do two things at once has its disadvantages. A startling headline caught his eyes just as the cup was at his lips. Hot coffee, precipitately swallowed, scalded his tongue and throat. He set down the cup, swore mildly, and gave his attention to the news that had excited him. The reporter had run the story to a column, but the leading paragraph gave the gist of it:

While the citizens of Saguache were peacefully sleeping last night, a lone bandit held up the messengers of the Western and Southern Express Company, and relieved them of \$20,000 just received from El Paso on the Flyer.

Perry Hawley, the local manager of the company, together with Len Rogers, the armed guard, had just returned from the depot, where the money had been turned over to them and receipted for. Hawley had unlocked the door of the office and had stepped in, followed by Rogers, when a masked desperado appeared suddenly out of the darkness, disarmed the guard and manager, took all the money, and disappeared. Before leaving, he warned his victims that the place would be covered for ten minutes and at any attempt to call for help they would be shot. Notwithstanding this, the imprisoned men risked their lives by raising the alarm.

Further down the page Mackenzie discovered that the desperado was still at large, but that Sheriff Bolt expected shortly to lay hands on him.

"I'll bet a dollar Nick Bolt didn't make any such claim to the reporter. He ain't the kind that brags," Mackenzie told himself.

(Continued next week.)



Bumper the White Rabbit Plays King
By George Estlin Smith

STORY V.

A Test of Fleetness.

Spotted Tail then switched to another subject. "But it takes more than knowledge and skill to be a good leader," he said. "One must be as swift as the wind as well as wise as the owl."

He stopped suddenly and turned to the white rabbit. "A king ought to be the swiftest runner of his people, Bumper. Don't you think so?"

"Yes, I suppose he should be, if—"

"Then are you the fleetest runner in the woods?" interrupted Spotted Tail.

"Why, I've never tried it. I'm sure I don't know," Bumper stammered.

Spotted Tail, sure of his fleetness of foot, decided to challenge him to a race. Nothing would humiliate Bumper more than to be defeated in a speed trial.

"A king should not only be the swiftest and wisest of his people," he said slowly, "but there should be no doubt in his own mind of it."

"A king doesn't always tell what's in his mind," replied Bumper.

"No, but he should prove his skill and ability when challenged," was the quick retort.

"I didn't know that I was challenged," replied Bumper in a weak voice.

Spotted Tail smiled wickedly. "But you are, Bumper. I, Spotted Tail, the swiftest and strongest rabbit in the woods, and the wisest, challenge you to run a race with me. Are you afraid to try?"

Spotted Tail's friends immediately clapped their paws and nodded their heads. Fuzzy Wuzz and the other followers of Bumper looked a little worried, but their faith in their white leader came to their rescue.

"Yes, yes," they said in a breath. "Bumper will race Spotted Tail, and prove to him that he is no longer the swiftest and strongest rabbit of the woods."

"Of course. Of course!" echoed Spotted Tail's friends. "There will be a race—a fair race—and a long race. We will all turn out to see it."

Bumper's heart began to quake. Spotted Tail had long, powerful legs and he could use them to good purpose. He was cut out for a fleet runner, and Bumper had no illusions on that point. His life in the city had never given him a chance to train for long running, and his muscles had never been fully developed. He had his misgivings about his speed when compared with that of this big, powerful wild cousin of his.

Yet, as he recalled the wild flight he had made when pursued by the bats in the sewer, and of his subsequent race with Mr. Fox in the woods, a smile crept into his face. He had certainly run fast on those two occasions.

"Fear makes a rabbit run faster than anything else," he remembered hearing the Old Blind Rabbit remark one day.

"I wish then," Bumper said to himself, "if I must race with Spotted Tail I'd get a good fright. Maybe I would beat him then."

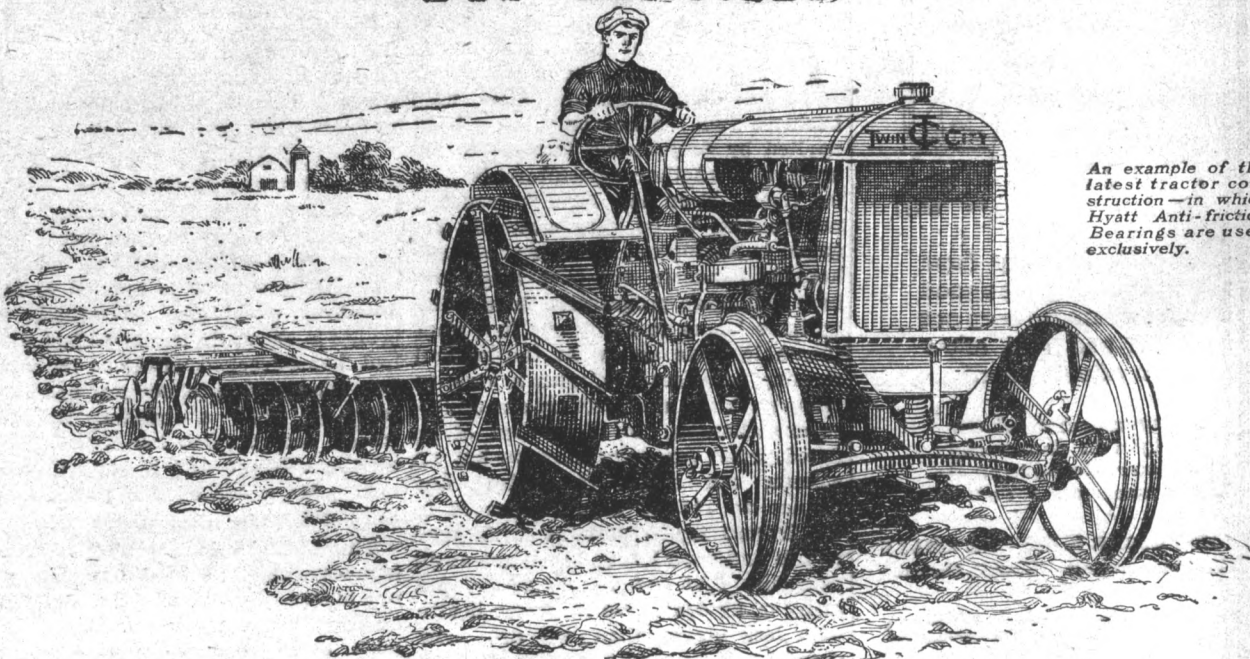
There was no way out of the challenge. Spotted Tail had made it, and all the others, including friends and foes, had taken it up. Bumper could not withdraw without disgracing himself.

The test of speed was to be one of endurance as well as of fleetness of foot. It was arranged to run a mile straight out to Mr. Beaver's dam, and back again. A committee of four were to wait for them at the dam to see that each contestant rounded the point. This would prevent any trick on the part of either one.

(Continued on page 769).

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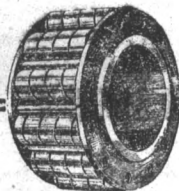
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Woman's Interests

Are You Keeping Accounts?

TAKE care of costs and profits will take care of themselves," has long been an axiom with business men. It has only lately been applied by progressive farmers to figuring out whether agriculture is paying them. Even now farm women can not be said to be very earnestly engaged in finding out whether the house-keeping expenses are over large, but here and there progressive farm women have begun to study out just what the table costs and what the general running expenses are, with a view to stopping leaks and cutting out unnecessary charges. In these days of inflated prices for everything we buy no woman can afford to neglect any chance to reduce living expenses to the lowest figure possible with good health and good living. It is not at all desirable that we be niggardly, but many of us could live in better health with less money than we are now spending, if we would make a study of balanced diet and along with it keep account of expenditures.

Some interesting findings have been made by a few women who have tried the experiment. Mrs. Stockman, state Grange lecturer, found that for her family of three a month's meals cost \$31.77, or eleven and one-third cents per meal. Miss Flora C. Buell, head of the home economics division of the Farm Bureau, found it cost \$2.47 per day to feed four persons, two women and two active young men. Of this sum \$1.61 was for food and the other eighty-six cents for labor and fuel. Mrs. Edith Wagar, a farmer's wife liv-

ing near Flat Rock, found that three adults, all doing hard work, cost her seventeen cents per meal each, or fifty cents per person per day.

Perhaps one of the most pertinent discoveries was made by Miss Buell in the matter of breakfast foods. Just how much we pay for the cereal when we buy a package, and how much of our purchase price is applied to manufacture, wrappings, advertising and profits is shown in her breakfast which had home-cracked wheat as its cereal. The home-made product cost her at the rate of \$2.30 a bushel. Shredded wheat, according to her figures, costs at the rate of \$12 a bushel, wheat flakes, \$18 a bushel, and puffed wheat \$36 per bushel.

The entire breakfast consisted of home-cracked wheat, corn muffins, peanut butter, a quart of milk, and pears and cost fifty-three cents. A dinner of Irish stew—containing potatoes, onions, carrots and tomatoes—Chinese cabbage and celery salad, whole wheat bread, and butter, and chocolate custard and cream, cost sixty and three-fourths cents. Supper of creamed saffron, baked potatoes, bread and butter, oatmeal cookies, boiled sweet apples with sugar, and salted peanuts, cost forty-seven and a half cents. These figures apply solely to the cost of the food, and take no account of labor and fuel. In deciding how much your food costs the question at once arises, shall you charge it up to what the food costs you to raise on your farm or what you would get for it if you sold it. Of course, if you eat your cake you can't sell it, so you are out of pocket what you might have if the food consumed were taken to market. On the other hand, it really only cost in actual dollars and cents the labor of producing and cost of seed. Decide before you start your account book which way you will charge.

Of course, if you are to keep accounts you must have an account book. The extension department of the Michigan Agricultural College has a home account book, which it sends out for twenty-five cents. There are calendar cards which may be used with it on which you keep account of daily living from the farm. If you do not want to invest in one of these books, buy a blank book and make your own account book. A plain writing tablet, ruled, will do if it is wide enough.

The college account book tabulates the various items under the general headings, food, shelter, clothing, operating expenses and advancement. These go on one line across the top of the page. These various headings are subdivided as follows: Food, groceries, meat. Shelter, rent, or, if you own your home, taxes, payments, insurance, repairs, improvements, interest, etc. Operating expenses include heat, light, telephone, household supplies and furniture, help and laundry, and health, which would include doctors and medicines. Advancement takes in education, periodicals, books, etc., social service and church, recreation and savings. A final column is reserved for unclassified expenditures.

The family calendar card for keeping track of family living from the farm provides a record for butter, cream, milk, eggs, meats, vegetables, fruits, flour, wood and miscellaneous items. With the cards and the book the task of keeping accounts becomes less formidable. The day has gone by when we can discuss the matter of living costs with a shrug and the remark that we've got to eat. Cheap and plentiful food is in the past. We must figure closely if we break even, to say nothing about getting ahead. There is no better way to help thrift along than to keep accurate account of costs.

DEBORAH.

Nervous? Restless at Night? Ever Have Headaches?

How about your daily cup of coffee?

Suppose you try a change to

Instant Postum

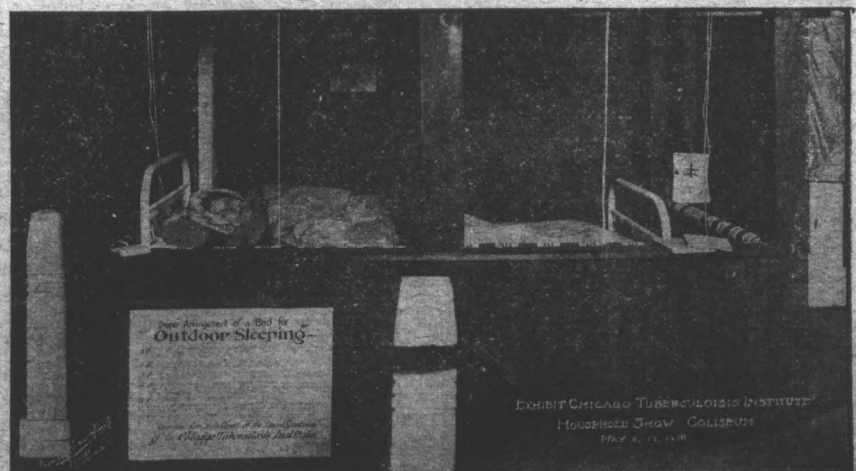
This delightful cereal beverage possesses a fine coffee-like flavor, but has none of the harmful after-effects thru which coffee so often prevents vigorous, red-blooded health. Costs less, too.

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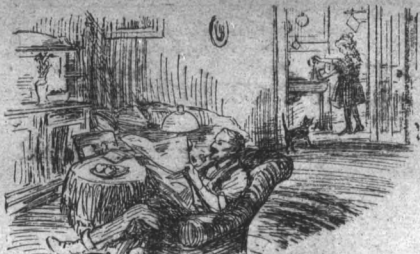
Sold by Grocers and General Stores.

The Klondike Bed

WHAT mother in our cold northern states does not sigh when cold winter nights come and the problem of keeping the covers on the children comes up for solution. Pinning comforts and blankets to the mattress is not very satisfactory. A sturdy kick or an upheaval which indicates turning over, is more than likely to tear either bedding or mattress. And healthy vigorous children simply won't keep covered winter or summer. An adaptation of the Klondike bed, long used by nurses for patients who must sleep outdoors would solve the problem. It requires three blankets in addition to the regular comforts, but extra long quilts might be substituted for the first two blankets mentioned in the directions given below. These directions and picture were furnished by Miss Annie Morrison, executive secre-



The Type of Bed Used for Outdoor Sleeping.



City Comfort

Running water, always considered a city comfort, is also possible on the farm.

Considered only as a convenience—a constant supply of water under strong pressure from the

Leader-Traherm Water System

is well worth the slight cost.

But it's a labor saver, too, and saving time means saving money these days. Having running water for stock and house uses will save a lot of time that you can use in the fields.

Now is the time, when you're not so busy with farm work, to consider installing the Leader-Traherm Water System.

Write today for details and name of dealer near you.



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Horse or Cow hide, calf or other skins with hair or fur on, and make them into coats (for men and women), robes, rugs or gloves when so ordered. Your fur goods will cost you less than to buy them and be worth more.

Our illustrated catalog gives a lot of information. It tells how to take off and care for hides; how and when we pay the freight both ways; about our safe dyeing process on cow and horse hide, calf and other skins; about the fur goods and game trophies we sell, taxidermy, etc.

Then we have recently got out another we call our Fashion book, wholly devoted to fashion plates of muffs, neckwear and other fine fur garments, with prices; also fur garments remodeled and repaired.

You can have either book by sending your correct address naming which, or both books if you need both. Address

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tary of the Grand Rapids Anti-Tuberculosis Society.

Cover wire springs with building paper, or better still, paper prepared for laying under expensive carpets. This costs twelve cents a yard and is thirty-six inches wide.

Put mattress in place and cover with bed pad;

Then cotton sheet and tuck in;

Then take blanket spread on mattress. Bring side of blanket to edge of mattress on one side and on other let it fall over;

Take second blanket and place on bed in same way from opposite side; Place pillow on bed;

Take outing flannel sheet, which must be half a yard longer than twice the length of bed. Put on. Bring one end up over pillow and top of bed, allow one-half yard to fall at top.

Then bring up other end to center of the pillow. This forms a pocket at foot of bed;

Now lift blanket hanging at side of bed and fold over top of bed till edge that was on floor at one side reaches the edge of bed on other side;

Repeat on other side;

Tuck clothing under at foot of bed;

Then follow with paper blanket or woolen blanket in the ordinary way. Cover with waterproof cover;

Then turn the upper edge of outing flannel sheet in the ordinary way and you will find that the bed is now like a pocket. The patient slips into this pocket from the opening at the pillow end and then takes the lower outing flannel sheet, which till now has extended over pillow at end of bed, and draws this around neck and over head and ears if desired.

For children who sleep indoors the paper covering of the springs may be omitted. This is used for outdoor sleeping as the paper keeps the cold from coming to the sleeper from under the bed. The bed described is a single one. For this, ordinary width blankets would be wide enough to lay at edge of the bed and give enough width to fold up over. If you use a full sized bed you can reverse the blanket, put one end even with the side of the bed and fold the other end over.

Paper blankets would be a good investment this year when wool is so high in price and scarce. The paper ones are warmer than wool and a year or so ago could be bought for \$1.50 each. They are made of heavy paper and bound with cloth. When in use they should be put between two comforts or blankets to prevent their rustling.

MAKE MOTHER'S WORK EASY.

WOMEN have some big problems to solve. A little arithmetic, for example, has shown that one woman took 256,000 needless steps every year, all because of the inconvenient arrangement of her kitchen appliances. Probably the rest of her house was as poorly arranged as her kitchen, giving her at least an additional 256,000 needless steps. This meant 512,000 steps, or approximately two hundred miles, tramped off annually in the daily round. Perhaps this was an exceptional case, but proper arrangement is one of the big problems to be solved in each individual home.

Problems of this kind will be discussed at Farmers' Week at the Agricultural College in February. Other household problem discussions will have to do with cooking, the nutritive value of foods, lighting and ventilating, general care of the house, clothing, health and sanitation. In fact, the course offered for women during the week will partake of the nature of a home-making congress at which women will have opportunity to exchange views under competent leaders. Every home-maker should weigh carefully the opportunity offered by the program.

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There's nothing you can do, nothing you can use that will help so much in keeping down food expense.

CALUMET is so perfectly made—so perfect in keeping quality—that bake-day failure is impossible. Nothing is wasted or thrown away. Everything used with it—flour, sugar, eggs, flavoring—is converted into wholesome bakings.

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Made in the world's largest, most modern baking powder factory. Contains only such ingredients as have been officially approved by U. S. Food Authorities.

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All Baking Materials

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The strength and nutrition gleaned from this wheat and malted barley food make it a most sensible breakfast cereal, while its low cost adds true economy.

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President Suspender Co.
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such a useful gift

President
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to Nearest Market

Here are eight good markets for Hides and Furs—pick your nearest one. Shipping conditions this year make it advisable to ship as short a distance as you can. Long hauls, with the consequent delays and unnecessary handling, cause fur shippers much loss every year. You can avoid such losses and long waits, by shipping to nearest good fur market.

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Our Boys' and Girls' Department

Cold-Pack Canning is Safest

BECAUSE of the recent cases of botulinus poisoning in Detroit, supposedly caused by eating infected ripe olives, there has been much speculation concerning the canning of foods by the cold-pack method.

That this fear is unfounded is asserted by the Boys' and Girls' Club Department of the Michigan Agricultural College, under whose direction much of this type of canning has been done. In this statement the department is backed by the State Dairy and Food Commission, the Washington authorities, and the Bacteriological Department of the Michigan Agricultural College, which has carried on extensive experiments with the Bacillus botulinus during the past year.

Investigation has proved that though botulinus poisoning is exceedingly rare it is just as likely to occur in foods preserved by the open kettle method as in those put up by the cold-pack process. Only two cases of poisoning have been traced to beans canned by the last named method. In fact, the first cases of this poisoning known were traced to sausage, indicating that canned goods are not the only foods in which this germ may occur. However, because of the length of time of cooking in cold pack canning, all authorities are unanimous in pronouncing this method as the one most likely to stop the development of the germ, and therefore the best method for preserving known at present.

According to the bacteriologists, the poisoning is due, not to the germ itself, but to the toxin which it produces. This toxin can be destroyed by heat. The organism, which can grow in both brine and sugar solutions, produces gas in the process of forming the toxin. If the germ has grown in the can long enough, food so infected will give off a putrid odor. In the case of the olives, this odor was obscured by the characteristic odor of the brine

in which the fruit was canned. That gases had been formed was borne out by the statement of one of the guests, the olive "popped" when he picked it up, and so, thinking that it was over-ripe, he laid it aside.

The advice given to all housewives concerning the eating of their canned food is:

First. The canned food should look clear. There should be no evidences of the products having "swelled." The jar must have a good seal. Experiments show that canned foods inocu-

lated with the botulinus germ soon look milky, swell, and about the top of the glass jar there are soon visible signs of "working."

Second. Note the odor of the food. It should not be putrid or have any off odor.

Third. If at all suspicious, do not taste food. Heating the food to boiling (212 degs. F.) for ten minutes, will destroy the toxin, making the food safe. If it is desired to serve the food cold, it should be boiled and then chilled before being served.

The Sand Hill Poultry Club



HERE is a picture we took of the Sand Hill Poultry Club, of Wayne county, at the State Fair last September. In the rear stands Mrs. J. Forest Lindsay, local leader, and G. O. Stewart, county club leader. In front are the members of the demonstration team that won second place at the fair. Their score was ninety-three per cent. The Hillsdale team won first place, and we expect to present their team picture soon with another view showing the presentation of the silver cup trophy by State Club Leader R. A. Turner, of M. A. C.

The members of the Sand Hill team are, commencing at the left, Ruth E.

Wells, Marion Strong and Florence Brighton. Mrs. Lindsay is a farmer's wife and a very good and successful poultry grower. She has been interested in boys' and girls' clubs for over two years. Her farm home is near Wyandotte.

The Sand Hill team won the state championship in 1918 and also a silver cup. Then the team won over the Hillsdale team, so that the two teams are reversed this year. Last year only three girls finished the club work. This year there are nine boys and girls in the club and all will finish the work. They hold regular meetings once each month.

J. H. BROWN.

News Notes from the Club Workers

In Genesee county Boys' and Girls' Pig Club members own sixty-eight pigs, fifty-eight of which are pure-bred. Under the direction of Miss Viva Osborn, County Club Leader of Branch county, the garden and canning club members of Coldwater conducted a club market during the summer, on certain days of the week. This market was open in the business section of the city. Club members could bring to this market their garden produce or their canned products. The venture

E. F. Lyons, of Washtenaw county, has a total of thirty-three clubs under his supervision; 130 purebred pigs are

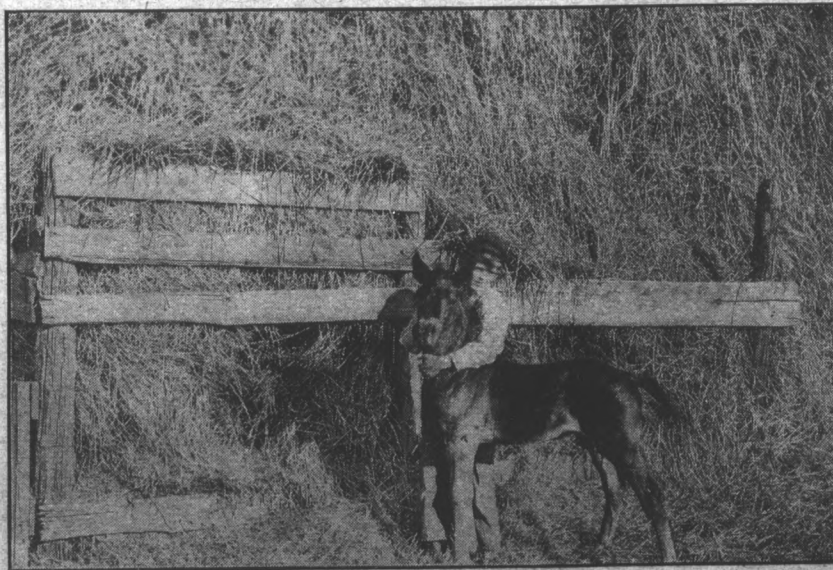
owned by some of his club members. Under the direction of Miss Viva Osborn, County Club Leader of Branch county, the garden and canning club members of Coldwater conducted a club market during the summer, on certain days of the week. This market was open in the business section of the city. Club members could bring to this market their garden produce or their canned products. The venture

proved a most satisfactory one, indeed, both from the standpoint of the club members and from the standpoint of the public. It was a successful venture financially.

Fred Kibbe, of Coldwater, state garden club champion in 1917, is this year leading a garden club composed of boys. In addition to carrying on his own garden work, he has branched out into the flower business. This year he raised a large area of fine asters which netted him a handsome profit.

The Girls' Canning Club at Hickory Corners, Barry county, has already canned over three thousand jars of products. A demonstration team, representing this club, won the county championship. They showed over six hundred jars in their county club exhibit. This club is typically a community club. Some twenty of the mothers of the club girls attend club meetings, have their parts in the programs, and are helping to make the club work in that part of the county a community matter.

With money which was earned from prizes at the Saginaw County Fair, the garment-making club, led by Miss Frisch, has purchased a sewing machine for the use of the club. The school board added a sufficient amount to enable the club to secure this machine.



Ready for the Camera.

BUMPER THE WHITE RABBIT.

(Continued from page 765).

Bumper realized right away that it was speed and endurance that would tell. Wit and wisdom would have nothing to do with the decision. Spotted Tail really had the advantage, for he was more familiar with the trails and by-paths so that he could seek out the best in going and coming.

Nevertheless Bumper put up a brave front, and entered the race with the determination to do his best. They started from the burrow on even terms, and shot through the bushes at a tremendous speed. For a time they kept abreast within sight of each other. Then they became separated, for Spotted Tail veered off to the right to follow an easier trail.

Bumper had great difficulty in getting to the beaver's dam, for twice he got lost in the bushes, and had hard work finding the trail again. He lost so much by this that when he reached the dam, he was not surprised to hear his friends shout:

"Hurry! Hurry, Bumper! Spotted Tail's on his way back!"

The first half of the race was lost to him; but he could not refrain from calling back to his friends: "The race is never decided until it's finished."

Fuzzy Wuzz and the others clapped their hands at this confident remark. Instead of losing faith in him they were more certain than ever that Bumper would win.

Well, it didn't look so to Bumper. He felt that he could never overtake Spotted Tail and beat him to the finish. He might be a quarter of a mile ahead of him, and running like the wind. The disheartening effect of being beaten to the first stake told on his speed, and he ran only half-heartedly.

Then suddenly out of the bushes on his right sprang something red and flashing. Bumper caught sight of it, and his heart gave a great bound of fear. It was Mr. Fox!

Bumper's fright was so great that he sprang over a clump of bushes that he never thought he could clear. Then, with his heart in his mouth, he ran for dear life. The Old Blind Rabbit's wise remark that "fear makes a rabbit run faster than anything else" never occurred to him. He was too frightened to think of anything. But, oh, how he ran. His feet barely touched the ground. He seemed to be flying rather than running. Never—not even when the Bats pursued him—had he run so fast.

And the fox kept close behind him, gaining a few steps now and then, but losing whenever Bumper took one of his wild leaps. It was a terrible race, in which death or life was the stake. If he weakened or faltered an instant, those red, dripping jaws would have him.

When Bumper came within sight of the burrow near the big rock, he could see the rabbits waiting for the end of the race. They were talking and chatting among themselves. Spotted Tail was not in sight. Perhaps he had already finished.

"Scatter! Scatter for your life!" called Bumper, as he took a wild leap.

They scampered for shelter just as Bumper cleared the starting line and eluded the fox by a narrow margin. Once inside the Burrow, he asked: "Where's Spotted Tail?"

"He hasn't come yet. You won the race, Bumper!"

And later, when Spotted Tail appeared, he was in a crestfallen mood, for when the race was apparently won by him he had been frightened off the trail by the sudden appearance of Mr. Fox. Instead of running straight ahead, he had dodged into the bushes to hide.

"When you're racing," remarked Bumper, "you don't want to turn aside for anything—not even to save your hide."



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Considered from any standpoint—food conservation—economy—better feeding—better live stock—bigger profits—the Kalamazoo Silo is a valuable asset to any farm. During the twenty-eight years they have been on the market, no Kalamazoo Silo has ever "worn out" or passed the usable stage. Think of that!

GLAZED TILE SILOS

"Permanent as the Pyramids"—fire-proof, frost-proof, storm-proof, moisture-proof, acid-proof, rot-proof, vermin-proof. Galvanized reinforcing. Requires no paint, no upkeep expense or repairs. Easy to build—and solve the silo problem forever.

WOOD STAVE SILOS

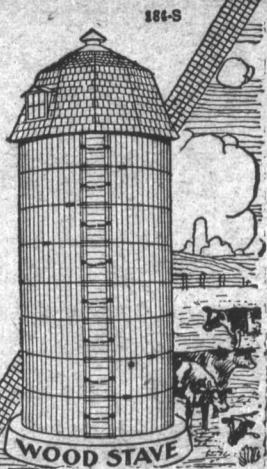
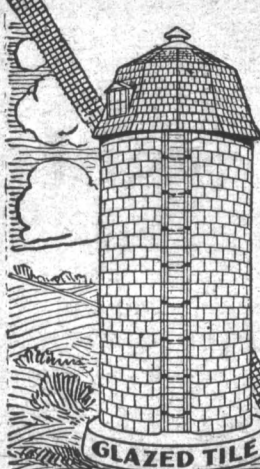
Your choice of four of the best time-defying woods. Shipped complete, ready to set up. Quickly and easily erected by inexperienced home labor. All Kalamazoo Silos, whether wood or tile, have the famous Kalamazoo Galvanized Steel Door Frames and continuous doors.

Investigate Now

There is no reason to postpone action any longer. A little investigation and study of the silo question will quickly show that the Kalamazoo is the best for you. We offer special inducements to early buyers, and easy terms, too, if desired. Write for catalog today.

KALAMAZOO TANK & SILO CO.

Dept. 223 Kalamazoo, Mich.



BREEDERS' DIRECTORY

Change of Copy or Cancellations must reach us Ten Days before date of publication

Wildwood Farms Angus

Bulls in service are, Black Monarch 3rd, Grand Champion Bull, Michigan State Fair 1914, 1915, 1916.

Imp. Edgar of Dalmeny, Grand Champion Bull, Michigan State Fair 1918.

President Wilson 4th, Grand Champion Bull, Michigan State Fair, 1919.

We offer for sale 6 choice young bulls by Black Monarch 3rd.

Edgars Calves, are as yet too young to offer for sale but are a promising lot of calves, and are going fast.

A visit will interest you, write for particulars to

WILDWOOD FARMS

ORION, MICHIGAN

W. E. SCRIPPS, Prop., Sidney Smith, Supt.

WOODCOTE ANGUS

1919 Winnings to Date				
Mich. State Fair	12 1sts	2 cham.	1 gd. ch.	
N. Y.	9 1sts	2 "	1 "	
West Mich.	11 1sts	3 "	2 "	
Saginaw	10 1sts	4 "	2 "	

Every Animal Bred At WOODCOTE STOCK FARM, Ionia, Mich.

Cloverly Angus, 5 cows with calves, rebred; 2 bred cows; 1 two year old, 2 yearling heifers. Price \$2800, 6 yearling bulls, \$225 each. Geo. Hathaway & Son, Ovid, Mich.

For sale at reasonable prices, several Aberdeen Angus bull calves and yearling bulls sired by Lord Ida 2nd No. 248330. Lang Bros., Davison, Mich.

Ayrshires, registered. One of best small herds in state. Imported blood. Two choice registered bull calves and other stock for sale. Bonds accepted. Prices right. Also W. Holland Turkeys. Tinsman's Stock Farm, Goodells, Mich.

GUERNSEYS

QUALITY
Distinguishes Guernsey Products
The highest natural Golden Yellow color, delicious individual flavor, and high content of butter fat—combine to make Guernsey milk in greatest demand by discriminating consumers. Write for our free booklets.
The American Guernsey Cattle Club, Box 139, Peterboro, N. H.



GUERNSEY BULLS FOR SALE

Atta Boy of Maple Crest born April 1919. Sire imp. Spotswood Sequel A. R. 19 A. R. daughters Dam imp. Albinia price \$175.00. Pride's May King of Avondale born June 1919 Sire Nora's May King of Bailey Falls dam Queens Pride of Harrington A. R. price \$150.00. May Boy of Halcyon born April 1917 Sire Byron S. dam Mixer Mildred price \$250.00.

Avondale Farms, Wayne, Mich.

Registered Guernseys

A two year old bull, and nearly four months old bull calf. F. E. ROBSON, Room 307, M. C. R. R. Depot Bldg., Detroit, Mich.

REGISTERED GUERNSEYS

Those choice heifers we adv. have gone to good homes. We have a fine bull calf—worth the money. J. M. WILLIAMS, North Adams, Mich.

GUERNSEYS Reg. bull calves, 6 mos. old, at \$75 each. Write your requirements. Walter Phipps Farms, 80 Alfred St., Detroit, Mich.

Reg. Guernsey bull calves for \$50.00 delivered, sired by the best bred bull in Michigan. Also heifer calves for sale. E. A. BLACK, R. 3 Howard City, Mich.

GUERNSEYS REGISTERED BULL CALVES

Containing blood of world champions. HICKS GUERNSEY FARM, Saginaw, W. S. Mich.

GUERNSEYS must reduce herd, so offer a few choice females of Glenwood breeding also bulls, all stock of A. R. breeding herd tuberculin tested. Battle Creek, Mich. T. V. HICKS.

Registered Guernsey Bull for sale, 2 years old. KRESTEN THOMSEN, Rudgate Farm, Birmingham, Mich.

The Traverse Herd

We have what you want in BULL CALVES, the large fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors, Dam's records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

TRAVERSE CITY STATE HOSPITAL Traverse City, Mich.

"Top-Notch" HOLSTEINS

The young bulls we have for sale are backed up by many generations of large producers. Buy one of these bulls, and give your herd a "push". Full descriptions, prices, etc. on request.

McPherson Farms Co., Howell, Mich.

Match Herd (State and Federal Tested) Ypsilanti, Michigan. Offers young sires out of choice advanced registry dams and King Korndyke Artie Vale: Own dam 34, 16 lbs. butter in 7 days; average 2 nearest dams 37.61, 6 nearest 33.93, 20 nearest 27.63.

Additional Stock Ads on Page 772



Clean Milk with a Milking Machine

(Continued from page 749).

which lurk in every corner of a dirty machine. No farmer who leaves the rubber tubes and teat-cups of his machine soaking in a solution teeming with bacteria can produce clean milk, as every drop of milk that is drawn from these teat-cups and tubes.

Let us turn to the question and see what we can learn about the sanitary problems of the milking machine. In the first place let us consider the rubber teat-cups and tubing through which the milk has to pass in all the machines, with one exception, that are on the market. Owing to the porosity of its structure, we find that rubber, which comes into frequent contact with milk, is very difficult to keep clean, in fact, we may say that it is impossible to keep it really clean by any of the ordinary methods that have been used for cleaning the ordinary dairy apparatus on the farm.

Although washing powder, hot water and brushes will remove a lot of the dirt, they cannot turn out the germs which have lodged in the myriads of minute pores. Live steam employed in this case cannot be used or the rubber will soon be destroyed. The method employed at the present time is that of immersing the rubber parts in some kind of sterilizing solution between the milkings, after first thoroughly rinsing out any milk that may remain behind. The success of this method depends, as can be readily understood, on the germicidal property of the solution employed. When a suitable solution is used the results are very satisfactory indeed.

It is very easy to see that unless the milking machine is carefully sterilized, it may be made the lurking and breeding place of billions of bacteria. It is obviously gross neglect to use such common agents as plain water, either hot or cold, lime water, soda and water, salt and water. These solutions are absolutely worthless as retardants of germs, and it is but a waste of time to use them.

Water alone possesses no power to destroy bacteria, and so is useless for sterilizing rubber tubes. Lime water has weak germicidal properties if made from unslaked lime; if made from air-slaked lime it is useless, and that is the kind of lime that we find is usually used; the lime also tends to cake on the thin rubber parts of the teat-cups and inside the tubing, and for this reason it should not be used. The germicidal properties of even a ten per cent solution of salt are very limited, and in weaker solutions we find bacteria flourish and grow. Therefore, we must find something that can be easily used, something that is cheap and something that will give us a solution free from germs and tubes free from germs and then we shall find that the quality of the milk will be improved.

In chloride of lime we have a cheap and effective germicide with which a very satisfactory sterilizing solution can be made. One pound of chloride of lime is mixed with ten gallons of water and after being well stirred the lime is allowed to settle to the bottom and the clear solution is poured off for use. If only a pint or so of the water is added to the chloride of lime to start with the lumps can be more easily broken up and a strength solution will be obtained.

A solution made up as above will retain its germicidal properties up to nearly full strength for about two per cent.

weeks in summer and three to four weeks in winter, depending on the temperature at which it is held. As long as it will turn blue a strip of starch-potassium-iodide test paper dipped into it, its germicidal properties are o. k.; as soon as it fails to produce this change its germicidal properties have gone and it must be thrown away and a new solution made.

The metal parts of the milking machine should be thoroughly cleaned and scalded each time after the machine has been used, and then placed in a place where they will be kept clean until needed again. The teat cups and tubing should be fitted on the machine and well rinsed out before and after use every time; warm water should be used for rinsing before milking to remove all traces of the chloride of lime; warm water and washing powder should be used first after milking and then hot water, putting the tubes in the sterilizing solution.

All teat-cups should be taken apart at least once a week and given a thorough scrubbing with hot water and washing powder, and the tubing must be well washed out with the brushes provided as well. They should then be rinsed in hot water before putting together and returning to the choride of lime. If this can be done twice a week so much the better, but it must be done at least once a week if satisfactory results are to be obtained.

A point that is often overlooked in the necessity of having the teat-cups and rubber tubing completely immersed in the chloride of lime solution; a sufficiently large container and a sufficient quantity of the solution must be used, as we do not get the required results if these parts, as we often see them, are sticking up out of the solution into the air. We must be careful to see that the solution fills the tubing and not, as we find in some cases, where the ends dip into it but the center of the tube remains filled with air.

Producing clean milk with a milking machine is no automatic affair, nor is it as easy as it is oftentimes pictured, but with proper care and attention to essential details it can be very certainly done.

REPORT OF THE INTERNATIONAL BOARD ON WORLD'S CROPS.

BUMPER world crops of corn, potatoes, barley, rye, sugar beets and rough rice for this year are shown in estimates compiled by the International Institute of Agriculture at Rome, recently made public by the Department of Agriculture. The production of wheat, oats and flax seed, however, show a decrease from the average for the five years ended in 1917.

Wheat production in fourteen countries, excepting the Central Powers, will reach 2,040,509,000 bushels, 96.5 per cent of the five-year average. Corn will amount to 3,126,194,000, 14.8 per cent greater than the crop produced last year and 4.4 per cent greater than that produced for the last five years. Other crops, the department's cablegram shows, are estimated as follows:

Rye 169,414,000 bushels; 124 per cent five-year average. Barley 550,090,000 bushels; 101.3 per cent. Oats 2,085,786,000 bushels; 90.3 per cent. Potatoes 607,632,000 bushels; 101.2 per cent. Sugar beets 10,344,000 tons; 114.8 per cent.

New Egg Record

WISE poultrymen have declared with a confident air that no hen would ever reach the three-hundred-egg mark, but this once thought unattainable goal has been passed by a Missouri hen, according to a report on the eighth annual egg-laying contest of the Missouri Experiment Station published in a St. Louis paper. This hen, during the year from November 1, 1918, to November 1, 1919, has laid a total of 304 eggs, one for every day of the year except Sundays and holidays.

The average hen lays from 100 to 150 eggs a year, extra good ones now 200 eggs. Not so long ago the 200-egg hen was considered something of a marvel, and the elevation by breeding of the average hen to the 200-egg mark was set as the ultimate attainment. Now thousands of purebred hens lay 200 eggs a year, and the goal has been set much higher, which breeding and selection may attain in flocks given the proper care.

Think what it would mean to increase by 100 the number of eggs laid on the average by the hens of the United States. It is estimated that there are more than 100,000,000 less hens in the world today than before the war.

At the low average of 100 eggs a year this means that this year the egg output of the world is 10,000,000,000 eggs less than it was five years ago. Perhaps we can see in that some reason for the prices we are paying. More hens and better hens, the kind that lay 200 eggs a year on the average, is the need of the world.

This wonderful 304-egg hen has not only broken the world's record, but she has helped upset a theory of breeds which has prevailed. We do not say that the theory is completely demolished. It may work after a fashion still, and those who hold it may continue to cling to it despite the record. That is the habit of theorists.

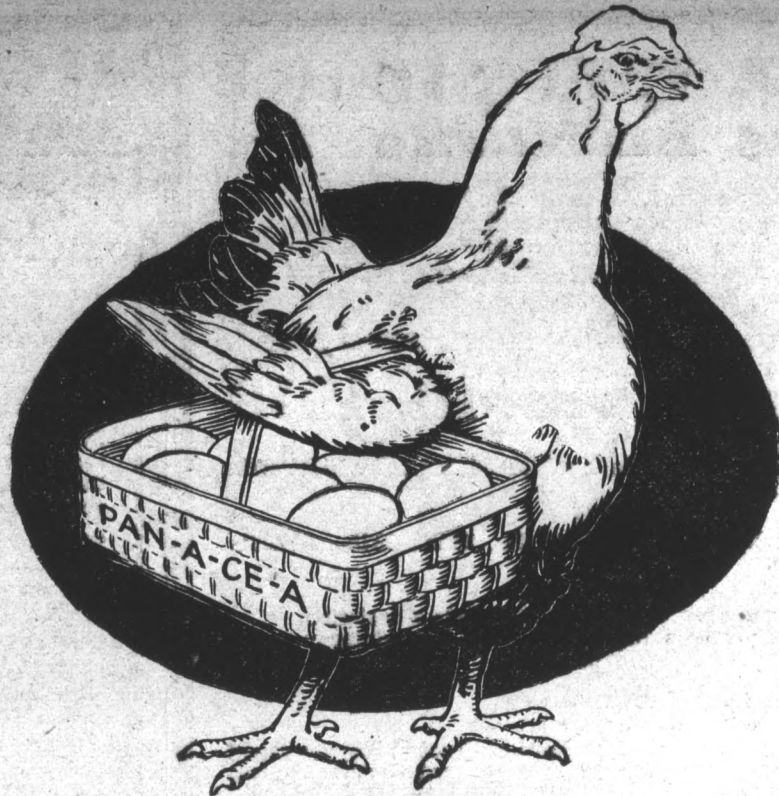
This theory is that as mere egg-layers the lighter breeds of fowls, like the Leghorns, Minorcas, Black Spanish, etc., are more profitable than the heavier breeds, because they lay more and eat less. We have produced in the United States special strains which are not so heavy as the Brahmas, Shanghais and other meat fowls, but are heavier than the so-called egg layers which also are good layers. Chief among these are the Plymouth Rocks, the Rhode Islands and the Wyandottes. It was one of these all-purpose breeds which broke the record, a Rhode Island White.

This feat was performed at the Missouri Poultry Experiment Station at Mountain Grove, which has just finished its eighth annual egg-laying contest, to which hens from all over the country are sent. In this contest there were sixty pens of five hens each, comprising fifteen different breeds.

It is noticeable that among the highest ten pens seven were of the American general-purpose breeds and only three of the special so-called egg layers. The result of this contest, which is perhaps more pronounced in favor of the all-purpose breeds as distinguished from the single-purpose breed, whether that purpose be eggs or meat, seems to be proof that the great majority of American farmers are on the right track when they choose one of the American breeds for their flock and then build up the flock by careful selection.

No mongrel ever laid 300 or even 200 eggs a year. We ought to have no room for mongrels. The poultry experiment station has given farmers knowledge that will be worth many millions of dollars to them if they govern themselves by it.

No prospective breeder should assume that the work is easy if he expects to master the details and succeed.



It's not fat—it's EGGS you want

Are your hens just boarders? Fat and lazy? All their food going to flesh? Nothing left for egg production? Madam,—Your hens' egg organs are dormant, and if you are going to be satisfied to let nature bide its own time to revive these dormant egg organs, it will be Spring eggs, not Winter eggs, for you. But why wait on nature?

You can speed up egg production—you can make your hens lay now by feeding

Dr. Hess Poultry Pan-a-ce-a

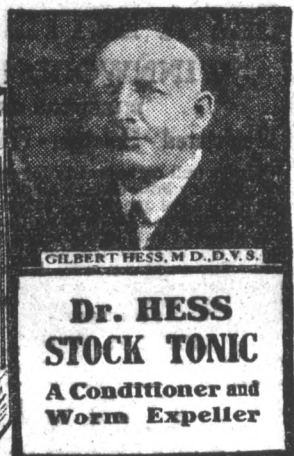
It contains *Nux Vomica* and *Quassia*, the best nerve, appetizing and digestive tonics known to the *Materia Medica*—tonics that promote a hen's digestion—tonics that tone up the dormant egg organs so that the proper amount of food goes to egg production, and not all to flesh, and fat, and laziness, when it's action, and eggs you want.

Pan-a-ce-a supplies the additional iron for the blood, which is essential to the speeding up process. It contains certain forms of lime that supply the needed material for making egg shells.

Dr. Hess Poultry Pan-a-ce-a insures a healthy, singing, laying, paying poultry flock, Winter as well as Summer.

Always buy Pan-a-ce-a according to the size of your flock. Get it from a reliable dealer in your own town. Tell him how many fowls you have, and he will supply you with the proper sized package, which is guaranteed. 30c, 75c and \$1.50 packages. 25-lb. pail, \$3.00; 100-lb. drum, \$10.00. Except in the far West and Canada.

DR. HESS & CLARK, Ashland, Ohio



Dr. Hess Instant Louse Killer Kills Lice

PLANS FOR POULTRY HOUSES.

All styles, 150 illustrations, Send 10 cents. Inland Poultry Journal, Dept. 49, Indianapolis, Ind.

POULTRY

HOMESTEAD FARMS

We have some strictly high quality stock—the best we have ever offered—that will please you if you want practical paying poultry true to type. Let us describe the birds we have.

Cockerels—Barred Rocks, highly bred, well marked; White Rocks, R.C. and S.C. Reds, rich dark plumage; White Orpingtons, fine type large birds; White Wyandottes, S.C. Black Minorcas; S.C. and R.C. White and S.C. Brown Leghorns; Anconas, Cock Birds, Reds, Black Minorcas.

Spring Pullets—Small number Barred and White Rocks; S.C. Black Minorcas; S.C. and R.C. White Leghorns; S.C. Brown Leghorns; yearling White Rocks; choice White Orpingtons. A few mated pens from these Pullets.

We will send you our Fall Circular and Price List. STATE FARMS ASSOCIATION, Kalamazoo, Michigan

LOOK BABY CHICKS \$17 A 100 UP

By Special Delivery Parcel Post, postpaid 20 different thoroughbred breeds. Utility & Exhibition grades. Live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Nabe Hatcheries, Gambier, Ohio

Barron's 300-egg stock, S.C.W. Leghorn chicks, March hatched, Bourbon Red Turkeys, Toms and Hens. Write for prices. Mrs. E.L. Garlock, R.7, Howell, Mich.

Barred Rocks—egg contest winners, egg from strain with records to 250 a year. \$2.00 per setting prepaid by P.P. Circular free. FRED ASTLING, Constantine, Mich.

Barred Plymouth Rock Cockerels, large, from prize-winning laying strain, \$5.00 each. J. A. BARNUM, Union City, Mich.

B. P. ROCKS cockerels, \$3.00 each; pullets, \$2.00 each. A. A. WOOD & SON, Salina, Mich.

Barred Rock Baby chicks a specialty. We are booking orders now for 1920. Apply for terms. H. H. PIERCE, Jerome, Mich.

Buff Leghorns and White Leghorn cockerels at reduced prices, if ordered soon, from great laying strains. Dr. William Smith, Petersburg, Mich.

Choice Cockerels

From pure bred quick maturing heavy laying strains. White Wyandottes \$4.00 to \$5.00 each. White Rocks \$4.00 to \$5.00 each. Barred Rocks \$3.50 to \$5.00 each. S.C. R. I. Reds \$3.50 to \$5.00 each. Special prices on larger lots. Above prices for orders received during December only. H. J. PATON, Route 3, Box 115, Ypsilanti, Mich.

Cockerels and yearling hens, Orpingtons, Rocks, Reds, Wyandottes, Leghorns, Spanish, Minorcas, Campines. Tyrone Poultry Farm, Fenton, Mich.

Fowler's Buff Rocks: Cockerels, cock birds and pullets. Write for prices. R. B. FOWLER, Hartford, Mich.

For sale "Buy the Best" eggs for hatching from 200 egg strain Barred Plymouth Rock. \$2.00 per 15, \$5.00 for 45 eggs. H. B. PROCTOR, Grand Haven, Mich.

FOR SALE, R.C. Brown Leghorns cockerels, Kulp strain quality and breeding guaranteed, single bird \$2.50, two or more \$2.00 each. W. R. CUMMINGS, Coleman, Mich.

For Sale 100 Large hen hatched Barred Plymouth Rock Cockerels \$3.00 each. Mrs. E. BELLEN, Whittemore, Mich.

For Sale—Pure-bred Light Brahma Cockerels. Also a few yearling hens \$3 to \$5. Satisfaction guaranteed. Mrs. E. B. Willis, R. 1, Reading, Mich.

John's Big beautiful Barred Rocks are hen hatched grow quick, good layers, sold on approval, males \$4 to \$8. Circulars photos. John Northon, Clare, Mich.

Pure bred S.C. White Minorcas and S.C. Rhode Island White cockerels \$3 to \$5 each. S.C.W. Minorca Pullets \$2.50. B.C. Van Fleet, Reading, Mich.

Rhode Island Reds, R.C. large fancy cock-erels at \$4 each. BURT SIBSON, Imlay City, Mich.

Silver, Golden and White Wyandottes, Choice quality cockerels and pullets \$5.00 to \$5.00 each until Dec. 15. C.W. Browning, R.2, Portland, Mich.

Vigorous Barred Plymouth Rock Cockerels. Trapped M.A.C. 250 egg strain. Improve your flock. \$3 to \$5 each. Rosemary Farms, Williamston, Mich.

White Pekin Ducks and White Chinese Geese. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

WHITAKER'S R. I. REDS Bred for color and eggs. Choice, farm raised cockerels at reasonable prices. Day old chicks. Order now for early spring delivery. Write for prices. INTERLAKES FARM, Box 30, Lawrence, Mich.

White Plymouth Rocks Stock for sale, breeding and quality of the best. Write wants. Richard M. Grettton, Mason, Mich.

White Wyandotte: out of choice stock for sale; cockers, cockerels \$3, \$5 each, send for my circular. DAVID RAY, Ypsilanti, Mich.

Turkeys Bourbon Reds for sale here \$5, toms \$7, and Buff Rock cockerels, \$3 each. JAMES MUNRO, R. 4, Deckerville, Mich.

Buy Turkeys Now Michigan's best—Giant Bronze breeding stock, young toms \$3 lbs., pullets \$5. Excellent color. Health and vigor guaranteed. N. Evelyn Ramsdell, Ionia, Mich.

DISPERSION SALE

To Make Room for my Registered Herd.
Thursday, Dec. 18, 1919

I will close out my entire herd of 80 High Grade Holstein cows, heifers and calves;

ALSO

4 registered Bull calves with 15 lb., 22 lb., 22 lb. and 30 lb. dams and 30 lb. sire.

SALE INCLUDES

27 cows, all young but two and in all periods of lactation.
20 head of 2 yr. olds bred to freshen this winter to our 30 lb. bull and to our young bull with 38 lb. sire.
12 head coming two-open.
12 head yearlings.
A number of choice calves.

I started in 12 years ago with a herd of 75 cows; they averaged 5,000 lbs. of milk each in one year. I sold every cow that gave less than 5,000 lbs. Bought the best Registered Holstein bull I could afford (his dam gave 103 lbs. of milk in one day); then I bred the remainder of the herd. Each year I have culled the herd and used the best bulls until now some of the cows are giving as high a 12,000 lbs. of milk yearly and the heifers and young stuff ought to do even better because of their dams and because present herd sires are out of 30 lb. and 32 lb. dams.

Where can you get such cattle? Ask yourself this question, then plan to be here on day of sale.

Entire herd will be tested for tuberculosis before day of sale and sold with Veterinary certificate. Where can you buy grade cattle this way.

Our cars will meet you at 9:30 A. M. and later at Wealthy St. car barn in Grand Rapids and return you.

If interested, send for bill or other information to

JOHN B. MARTIN, Owner
Grand Rapids Savings Bank Bldg.
GRAND RAPIDS, MICHIGAN

GET A BETTER BULL WINNWOOD HERD

BREEDERS OF
Registered Holstein-Friesian Cattle

We have bull calves ready for service and a new crop of baby bulls coming all of Maplecrest breeding. We have one of the largest pure bred herds in Michigan and this will be the last chance to buy sons of Flint Maplecrest Boy, cheap. For his daughters start to freshen this winter and they will all go on yearly tests. We own them all and will develop them. Don't wait, a bankable note is the same as cash to us and our price will be right. Tell us your wants.

JOHN H. WINN, (Inc.)
Lock Box 248, Roscommon, Mich.

COWS ARE MOSTLY SOLD

I still have left, a couple of 2 yr. olds one due to freshen in Jan. and the other in the summer. 1.3 yr. old fresh, 3 yearlings, 2 bull calves. No. 1 bull calf born in Sept. A nice straight calf evenly marked. His dam a 2 yr. old made 35.34 record 357.10 of milk in 7 days (57 days after calving). His sire is from a nearly 26 lb. cow that milked around 90 lbs. of milk a day for 30 days. His Sire, Glen Alex King DeKol from a 43 lb. 4 yr. old, second dam 42.26, 9 yr. old. No. 2 bull calf born in Nov. A good straight calf nearly white. His dam a 3 yr. old (King Segis breeding). His sire a 30 lb. bull. His Grand sire a son of a 38 lb. 3 yr. old. My 30 lb. herd sire is to be sold in the State Consignment Sale held at East Lansing, Jan. 13. I am also offering my farm of 80 acres for sale located 8 mi. from Lansing, in a good dairy and farming district good land and buildings.

C. W. WILSON, R. 4, MASON, MICH.
Farm 1/4 mile south of Okemos Station on P. M. railroad.

A Fine Herd of Reg. Holstein

yearlings. Consisting of 10 richly bred heifers and the 8 months old bull, Sir Johanna Ormsby/Pietertje. This is a great foundation for a herd and a fortune. I also have 8 cows, two to five years old, fresh or soon due. I am going to sell these before Nov. 15th. It is your move if you want them.

L. E. CONNELL, Fayette, Ohio.

Wah-Be-Me-Me Farms White Pigeon, Mich.

Holstein-Friesian Cattle
Herd Headed by
Segis Pontiac De Nijlander

A 32 lb. grandson of Michigan's great 35 lb. champion cow, Pontiac De Nijlander. His dam, Oak Valley Korolyke Segis Segis Fan, 32.06, also a Michigan prize winner on yearly production and a prize winner in the National Ass'n. Write for list of bull calves from 18 lb. 2 year olds to over 30 lb. dams.

A Good Note accepted in payment of finely bred registered Holstein bull calves. Quality of the best, and at prices within reach of all. Write, **GEO. D. OLARKE, Vassar, Mich.**

CLUNY STOCK FARM

A Semi-Official Bred Bull to Head Your Herd
Maplecrest Application Pontiac No. 132652, heads Our Herd

His dam's record is 1344.3 lbs. butter, 23,421.2 lbs. milk in 365 days, and 35.103 lbs. butter and 515.6 lbs. milk in 7 days.
One of his sons from our good record dams will carry these great blood lines into Your Herd. For Pedigrees and Prices write to
R. BRUCE McPHERSON, Howell, Mich.

DENBROOK FARM

offers Holstein bull calf, 6 mos. old almost all white. Dam has A. R. O. record of 25 lbs. butter in 7 days at 3 yr. Sire a grandson of King Segis Pontiac Alcartra. First check of \$100 takes him. **E. J. S. DENBY, 219 Van Dyke Ave., Detroit, Mich.**

HOLSTEINS OF QUALITY

Cows all sold. Have 15 choice heifers some bred to a 33 lb. and 35 lb. bulls. Some open, will breed anytime to suit purchaser to a grandson of May Echo Sylvia. Record of two nearest dams of herd sire is 35 lb. butter and 82 lb. milk in 7 da.
E. C. HARDY, Rochester, Mich.

\$225 TAKES Sycamore Segis Burke Lad no. 19231 fit to head any herd in state closely related to Segis Payne Johanna, the mother of two nearest dams of herd sire is 35 lb. butter 7 days 23.53 lbs., milk 619. 365 days at 2 1/2 yrs. butter 802 lbs. milk 1822 lb. **W. B. Reader, Howell, Mich.**

Reg. Holsteins Herd bull, a double grandson of De-divisional, kind, sure server. Dams record at 6 yrs. butter 7 days 23.53 lbs., milk 619. 365 days at 2 1/2 yrs. butter 802 lbs. milk 1822 lb. **W. B. Reader, Howell, Mich.**

FOR SALE A car load or more registered choice of 85 head, the grand dam of one 28 lb. sire was mother of the first 44 lb. cow. **BACON BROTHERS, Pittsford, Mich.**

\$204 Profit above cost of feed from Feb. 1 to Oct. 1, 1919, can have son born June 1, 1919 for \$100 Liberty Bonds or terms. Sire of calf 27 lb. son of Maple Korn. Heng. **M. L. McLAULIN, Redford, Mich.**

\$125 buys choice Reg. Holstein Bull nearly 1 yr. old. Color 3/4 white; breeding, Pontiac and King Segis. Guaranteed. **B. B. Reavey, Akron, Mich.**

Beautiful Holstein bull calf nearly white born Oct. 23 19, Price \$75.00 reg. and del. Better wire for him. **J. ROBERT HICKS, St. Johns, Mich.**

REGISTERED Holstein bulls sired by King Zerna R. Alcartra Pontiac, son of the \$50,000 bull; some from good A. R. O. cows. **C. H. Giddings, Gobleville, Mich.**

LILLIE Farmstead Jerseys. A few heifers bred to freshen this fall, also yearling heifers; and two or three R. of M. cows. **Colon O. Lillie, Coopersville, Mich.**

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

The Wildwood Jersey Farm
Bulls for sale by Majesty's Oxford Fox 134214 and Eminent Lady's Majesty 150934, and out of R. of M. Majesty dams. **ALVIN BALDEN, Capac, Mich.**

Maple Lane R. of M. Jersey Herd. For sale Blue Belle's Premier son of Sophie's Premier that sold for \$1750 this fall. Bulls and bull calves. R. C. Red cockerels. **IRWIN FOX, R. 3, Allegan, Mich.**

MICHIGAN JERSEYS

Which is the best dairy breed? Michigan Jersey breeders feel that this question has been answered many times.

Jersey superiority was proven at the Chicago, St. Louis, and Ohio tests when large herds from different breeds were tested for a year, and the Jersey led them all.

Many beginners like to do their own experimenting, but that takes time and is usually very costly.

The question of superiority being settled leads us to the point of offering you the benefit of our years of experience. We know you can succeed with Jerseys and we are willing to help you get a good start.

Write to, or call upon, any Jersey breeder in Michigan for assistance. The way to get ahead is to go ahead. Start with Jerseys now!

MICHIGAN JERSEY CATTLE CLUB.

The Pride-Prize-Profit-Breed



If you never owned Jerseys—you've never received "paid in full" value for your feed bills. Jerseys are the most economical cows ever bred. They feed for their udder—not beef and bone.

They produce the richest quality of milk, a butter fat average of 5.37%. They thrive in the cold Northwest or hot Texas. Jerseys are truly the investment breed because they are the most adaptable and most economical.

Ask breeders for pedigrees and prices and let us send you some interesting facts about the money-making Jersey.

The American Jersey Cattle Club
322-M West 23rd Street
New York, N. Y.

Bulls ready for service from our herd bull Marguerite's Premier, grandson of Pegasus 99th of Hood Farm, and cows now on test for R. of M. Smith & Parker, Howell, Mich.

HARWOOD HEREFORDS

Young stock both sexes for sale.
"Keep On 508019" heads the herd. Write us your wants. Visitors welcome.

JAY HARWOOD, Ionia, Mich.
Farm six miles south of Ionia.

HEREFORDS

3 Prince Donald, 3 Farmer and one Polled bulls from 7 to 13 months old, for sale.

ALLEN BROS.
PAW PAW, MICHIGAN

HEREFORDS

of Quality. Renner Bullion, sired by the \$9500.00 Bullion the 4th, now heads our herd. Inspection invited.
COLE & GARDNER, Hudson, Mich.

Herefords. Just purchased 3 new herds, now have 150 head; we offer you anything desired either sex, horned or polled, any age. Priced reasonable.
THE MCCARTYS, Bad Axe, Mich.

HEREFORDS: young stock of either sex for sale.
RALPH S. SMITH, Kewadin, Mich.

Shorthorn Cattle of both Sex for Sale
W. W. KNAPP, Howell, Michigan.

For Sale Shorthorns of Quality. Scotch and Scotch Topped descendants of Archers Hope, Avondale, Maxwellton Sulton and White Hall Sulton. Model Type, by the Oscola Co. Shorthorn Breeders Ass. John Schmidt, Sec. Reed City, Mich.

BIDWELL SHORTHORNS

For Beef and Milk
Registered bulls, cows and heifers. Good Scotch and Scotch Topped for sale. In prime condition. Modern sanitary equipment. Herd under state and federal supervision. Farm 10 minutes from N. Y. O. depot, 1 hour from Toledo, Ohio. Automobile meets all trains. Write

BIDWELL STOCK FARM
Box D, Tecumseh, Mich.

Richland Stock Farms

Home of the Michigan Champions.
Shorthorn Sires in Service:

IMP. Lorne, IMP. Newton Champion, Sterling Supreme. Why not buy a young bull to head your herd that carries the blood that is making Shorthorn History. Only a few real headers left. Write your wants.

C. H. PRESCOTT & SONS, Tawas City, Mich.

Ionia Co. Breeders Ass'n

Have for sale Reg. Shorthorns, Herefords, Angus, Holsteins, Jersey, Red Polls and Brown Swiss Cattle, Shropshire, Hampshire and Rambouillet sheep, Poland China and O. I. C. swine.
FRED W. BRICKLEY, Sec., R. 3, Ionia, Mich.

Scotch Shorthorns Imp. Royal Bruce heads a select herd of females consisting of the Rosewood, Lovely Orangeblossom Lady and several other good females. Two bulls ready for service for sale also a few females.
CARR BROS. & CO., Bad Axe, Mich., Address
Norman Car, Secretary.

MEADOW HILLS Shorthorns: Herd headed by Silver King, full brother of Lavender Sultan Purdue University's great sire. For sale females of all ages, a few young bulls. Geo. D. Doster, Doster, Mich.

MILKING SHORTHORNS. Clay bred bull calves. Davidson and Hall, Tecumseh, Mich.

Milking Shorthorns of best Bates breeding 3 bulls 7 mo. old and 2 heifers 3 and 7 months old for sale. **E. H. Kurtz, Mason, Mich.**

For Sale Several choice young Shorthorn cows and heifers Aldrie Duchess and Rose of Sharon families. **E. S. Batchelor, R. 6, Howell, Mich.**

Shorthorns Good Scotch bred bulls, cows and heifers, priced right.
W. B. McQUILLAN, R. 7, Howell, Mich.

SCOTCH Shorthorns for sale. Special—A roan 17 mo. old, bull suitable for herd header.
Lawrence P. Otto, Charlotte, Mich.

FOR SALE One car load registered Shorthorn Cattle.
H. W. HUBBARD & SON, Ovid, Mich.

HOGS

Registered Berkshire Boars: ready for service. A few gilts and sows bred for May and June farrow. Also spring pigs. **CHASE STOCK FARM, Marlette, Mich.**

Registered Berkshire pigs for sale and also sow with pigs; call or write **KRESTEN THOMSEN, Rudgate Farm, Birmingham, Mich.**

Duroc Opportunity

What would the earning capacity of a Brookwater Boar be in your herd? A mid-west breeder states that the Brookwater boar he used added from \$75 to \$100 to every gilt bred to him. It paid this man to use one of our boars it will pay you.

We have several that we are offering at prices which appeal to the small breeder who must of necessity be a conservative buyer. We have a few that are good enough to be used in high class herds at prices in keeping with their individuality and breeding. Money invested in a good herd boar very speedily increases the value not only of what you sell but what you keep. Send for price list or better, visit the farm.

BROOKWATER FARM, Ann Arbor, Mich.
HERBERT W. MUMFORD, owner,
J. BRUCE HENDERSON, Manager.

DUROC JERSEYS Boars sired by a son of King the Col.
E. D. HEYDENBERG, Wayland, Mich.

Duroc spring boars. Sired by Orion Cherry King Col. 2nd, first aged boar at State Fair. These boars priced reasonable. **W. C. Taylor, Milan, Mich.**

DUROC JERSEYS
CAREY U. EDMUNDS, Hastings, Mich.

DUROC BOARS

of size, quality and breeding. All are sired by State Fair Winners. Come see herd.
NEWTON BARNHART, St. Johns, Mich.

Mr. Boar Buyer. The best bargains in the state, in boars, breeding, individuality and price considered, is at Michigan Farm. All ages. Sired by Panama Special, Brookwater Orion Specialty, and the Principle 19th. Satisfaction guaranteed. **O. F. Foster, Mgr., Pavilion, Mich.**

Pleasant View Durocs
Spring boars and gilts. Well bred and individually good. Prices reasonable. Inspection invited.
W. C. BURLINGAME & SON, Marshall, Mich.

Registered Duroc Boars
We have a choice lot of spring boars, sired by Michigan Cherry Col. No. 118479. Ira Jackson selected this boar to head our herd. Our prices are within every farmers reach. The Jennings Farms, Bailey, Mich., R. F. D. No. 1

Duroc Jerseys Our herd won 15 firsts, 3 fourths, 3 fifths at leading Michigan fairs including State Fairs. We have some choice boars ready for service, reasonable prices. Some bred sows later on.
RUSH BROS., OAKWOOD FARM, Romeo, Mich.

Duroc Jerseys Two good yearling boars that best herds in Michigan, also spring boars large enough for service. Sired by the Grand and Junior Champion boars.
F. J. DRODT, R. 1, Monroe, Mich.

Duroc Boars. Spring boars, fashionable breeding, right prices.
BOARDMAN FARMS, Jackson, Mich.

Duroc Jerseys For sale: spring and fall pigs of both sex.
CHAS. BRAY, Okemos, Ingham Co., Mich.

For Sale Duroc pigs both sexes farrowed Sept. 14; quality guaranteed; \$20 each until Dec. 15.
W. E. CUMMINGS, Coleman, Mich.

O. I. C. and Chester White Swine
Strictly Big Type with quality. Spring pigs of March and April farrow. A choice lot of boars. Will only spare a few more gilts at present. Will ship C. O. D. and record them free.
Newman's Stock Farm, Marlette, Mich. R. No. 1.

LAMB PRICES ADVANCING.

RECENT predictions of much better prices for desirable flocks of lambs, yearlings, wethers and ewes as soon as the enormous marketing was over are being fulfilled, recent sales in the Chicago market showing substantial advances, thereby greatly encouraging many sheepmen who had been holding on in expectation of better days. Lamb feeding has been carried on extensively for weeks past, and many owners hastened to unload before winter set in, this being carried on so largely that prices broke badly for the many flocks marketed prematurely. When the cold weather opened in earnest it was found that feeding districts were not any too well supplied with lambs or sheep, especially flocks of the better class, and sharp advances in prices followed. The present situation looks extremely promising for farmers who market well fattened live muttons, as there is an under-supply in feeding districts, according to reliable advices, and even fair to middling kinds have had good advances. Late advices from Colorado and the North Platte country are that even less feeding will be carried on this winter than was expected a few weeks ago, sheepmen finding that it was impossible to buy more lambs. The big demand for all classes of sheep and lambs for Texas feeding cleaned up Montana, Wyoming and Colorado, and it is said that there are fewer feeders for sale in the west than has ever been known at this season of the year. Buyers of feeders in the Chicago market are now dependant mainly on poorly fed lambs returned to market from Iowa. Feeders have advanced sharply, along with fat lambs, and there is a good demand for breeding ewes, mainly yearlings, with not a great many for sale. It is understood that many feeders east of Chicago have not yet purchased their feeding lambs. At last sales of prime fat lambs are being made on the Chicago market at higher prices than a year ago, late sales of the best being about \$1.00 per hundred pounds higher than at that time. Sheep and yearlings too, are much above the prices paid a year ago. Two years ago top lambs sold at \$17.50. At this time in 1911 the best sheep brought \$4.10 and prime lambs \$6.25. F.

THE INTERNATIONAL.

(Continued from page 747).

a close placing.

It looked like Iowa would win the grand champion barrow honor, for she had three champions to enter. But Prof. Grisdale's decision was in favor of the Poland-China entry. Iowa lost and Missouri won.

The ringside view of the individual fat barrow decision was not as heartily in accord with the judge as it was on the pen of three barrows. In this class the three fifteen and under eighteen months' Poland-Chinas exhibited by the University were undoubted favorites. "Like as peas in a pod," remarked Professor Kennedy, who was an interested ringside observer. That was their big advantage—uniformity. It was no doubt this that won for them.

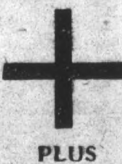
Never before were such large numbers of fat barrows entered in the various breeds as this year. In some cases as high as twenty-five and thirty were out in a single class. The Duroc and Hampshire classes were especially large. Poland-China, Chester White and Berkshire classes were not so heavy. Practically every hog was well worthy of competing.

From the time the fat barrow show opened Monday morning with Henry Matern, of Lonsant, Illinois, working his way through, a ripping class of twenty-five aged Duroc barrows, until Prof. Grisdale tied the champion honors Tuesday morning, it was a great fat barrow show. No quarter was given and none was asked. Everyone was out to win.

IT MUST BE RIGHT



The CHEMIST



PLUS



The MILLER



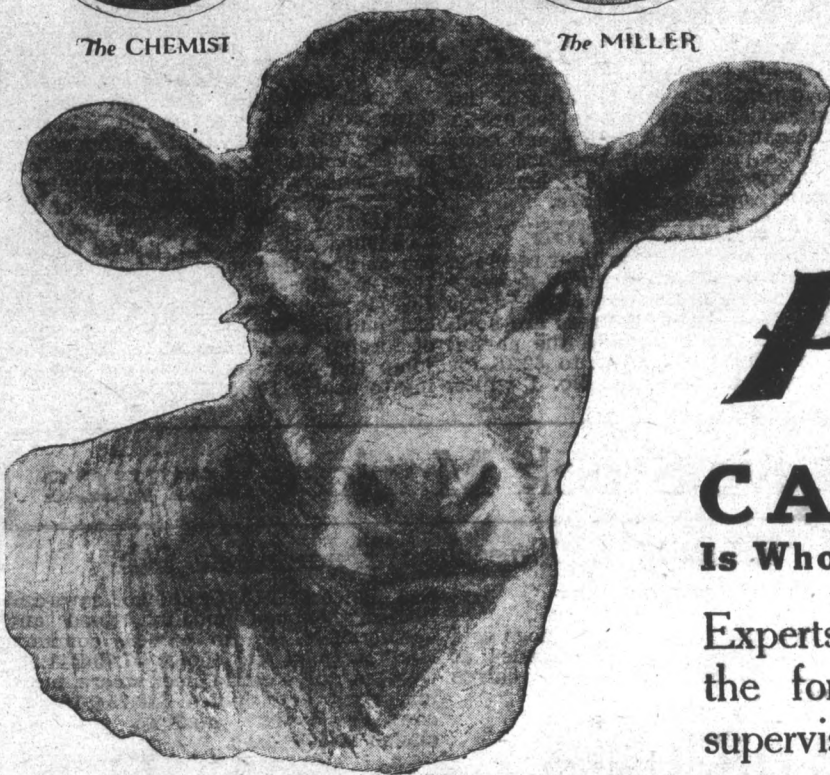
PLUS



The DAIRYMAN



EQUALS



A HEALTHY CALF

Pratts

CALF MEAL

Is Wholesome and Appetizing

Experts have tirelessly worked on the formulas — specialists have supervised the mixing processes — practical, hard-headed dairy-men have tested *Pratts Calf Meal* in their barns. They all pronounce it a perfect substitute for *whole milk* in raising large, healthy calves.

IT IS RIGHT

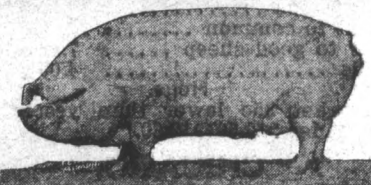
PRATT FOOD COMPANY

CHICAGO

PHILADELPHIA

TORONTO

THE FAMOUS O.I.C. SWINE



We have the undefeated Herd of the World. Winning premier breeder and exhibitor at every fair shown in 1919-1918-1917, including the following state fairs—Ohio, Michigan, Indiana, Illinois, Missouri, Kentucky, Tennessee, Oklahoma, New York, Alabama, Tri-state fair Memphis, and the National O.I.C. twice. Stock of all ages for sale. Registered free in the O.I.C. association. Order now. We will ship any of our stock on approval allow you to keep three days before you have to pay for it. You will be your own judge on your own farm.

CRANDELL'S PRIZE HOGS,

Cass City, Mich.

O. I. C. BOARS FOR SALE

One of the Best Herds in Michigan

Big type, growthy boars of all ages. I ship C. O. D., pay express and register in buyer's name. If you want a real choice boar, guaranteed right in every way, write me.

J. CARL JEWETT,

R. 5, Mason, Michigan.

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 developing—ready for market at my months old. Write for my plan—More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

Chester Whites, spring and fall stock for sale, won highest honors against strong competition. F. W. ALEXANDER, Vassar, Mich.

O. I. C.'s. I will ship C. O. D., pay the express and record free of charge every boar sold in Oct. and Nov. F. C. Burgess, R. 3, Mason, Mich.

O. I. C.'s. Last spring boars all sold. Have an extra good lot of last spring gilts, good fall pigs not akin. Good stock, registered free. 1/4 mile west of Depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C.'s. Am offering a few September pigs that combine size and quality. C. J. THOMPSON, Rockford, Mich.

O. I. C.'s. One June boar and fall pigs not akin. Also Shorthorn, bull calf 7 mos. old. Stock registered free. JOHN O. WILK, Alma, Mich.

O. I. C.'s. Big type serviceable boars, summer farrowed. G. P. ANDREWS, Dansville, Mich.

O. I. C.'s. Have some choice spring boars and gilts; also this year's fall pigs. WEBER BROS., R. 2, Phone 403, Royal Oak, Mich.

O. I. C. Boars and Gilts. Schoolmaster strain. Serviceable age, good one. September pigs. Recorded all big type. Frank Bartlett, Dryden, Mich.

O. I. C.'s. Service boars, fall pigs no akin also. But R. eals. at \$3.00 each. CLOVER LEAF STOCK FARM, Monroe, Mich.

L. T. P. C. 1 spring boar, (by Long Jones) the best pig you ever saw; price \$100.00; send check with first letter or the other fellow will beat you. If you don't like description will return check. A few good spring boars left at farmer's prices. Gilts will be bred to a grandson of Giant Buster and a Grand Son of Dishers Giant, no better pair of young boars in the state, and Wiley's King Bob. H. O. SWARTZ, Schoolcraft, Mich.

Boars also sows and pigs. Real Big Type Poland B Chinas. Bred big for 25 years. Sired by Mich. Buster by Giant Buster, litter 14 out of Mow's Miss Queen 2nd, some breeding, also by Butler's Big Joe by Rust's Big Joe, out of a Wonder Queen, nuf said. Write us your wants, we will treat you right, our prices are low. J. C. BUTLER, Portland, Mich.

LARGE Type P. C. the largest in Mich. Spring boars now ready to ship. Boars for the breeders and boars for the farmers. Come and see the real large type with quality. Free livery from Parma furnished visitors. Look up my exhibit at the Great Jackson Co. Fair, Sept. 8th. to 12th, expense paid if not as advertised. W. E. Livingston, Parma, Mich.

Big Bob Mastodon Sire is Caldwell Big Bob Champion of the world, his dam's sire was the Grand Champion at Iowa State Fair, Boars ready to ship. C. E. Garrant, Eaton Rapids, Mich.

B. T. P. C. spring Boars all sold. One Oct. 21st yearling boar, wgt. 425 lbs., as near perfect as any pig in Michigan. Price \$25. Gilts ready Jan. 1. Bred to a good son of \$10.00 Harrison's Big Rob. Every pig recorded free. JOHN D. WILEY, Schoolcraft, Mich.

L. S. P. C. Ten husky spring boars. Well bred and well fed ready to ship. F. T. Hart, St. Louis, Mich.

B. T. P. C.'s for sale, our herd boar. Mow's Wonder 10025 bred by Mow, extra good one. Price \$100. Spring boars and gilts from prize winning sires and dams. W. Brewbaker & Sons, R. 5, Elsie, Mich.

Big Type P. C. Boars, best breeding, best breeding, doubly immuned. A. A. WOOD & SON, Saline, Mich.

P. C. Boars Long bodied, heavy boned, with best of breeding. Satisfaction guaranteed. R. W. MILLS, Saline, Mich.

Big type P. C. Choice spring boars from Iowa's great best herds out of 1100 lbs. sire and mammoth sows; big boned fellows. E. J. Mathewson, Burr Oak, Mich.

Additional Stock Ads. on Page 775

Latest Market Reports

FIRST EDITION.

The markets in this edition were revised and corrected on Tuesday afternoon, December 9.

WHEAT.

Substantial advances were made in wheat prices the past week. Millers continue to pay heavy premiums for the more desirable grades where they could be had. In centers where stocks are nearing depletion good advances for the lesser grades may also be seen in market reports. The visible supply was cut down 3,100,000 bushels during the week to a total of 89,735,000 bushels as compared with 121,500,000 one year ago. The Detroit price for No. 2 red wheat a year ago was \$2.27. Present quotations are: No. 1 red \$2.40; No. 1 white \$2.38; No. 2 red \$2.37; No. 3 red \$2.34.

CORN.

With industries and transportation in its present almost chaotic condition due to the fuel famine it is natural that corn prices would fluctuate as they have this past week. The diminished demand resulting from the cessation of buying by food manufacturers and the drop in hog prices forced corn prices lower Monday. The American visible supply increased 254,000 bushels for the week. A year ago No. 3 corn was quoted here at \$1.50 per bushel. Present Detroit prices are as follows: Cash No. 3, \$1.50; No. 3 yellow, \$1.52; No. 4 yellow, \$1.48; No. 5 yellow, \$1.44; No. 6 yellow, \$1.40. In Chicago No. 2 mixed corn is quoted at \$1.51; December \$1.39%; May \$1.32%.

OATS.

A liberal decrease in the visible supply and continued foreign buying has put oat prices up since last week. The present values here are: Cash No. 2 white 85½c; No. 3 white 84½c; No. 4 white 83½c.

RYE.

A good cash demand and export buying have been bullish factors in rye circles and given a basis for advanced quotations. Local prices have gone up to \$1.60 for Cash No. 2.

BEANS.

While local demand shows improvement, other markets are not reflecting the change. At Chicago there is little interest displayed and prices remain steady. Pea beans, hand-picked, are quoted there at \$7.25@7.75 for choice to fancy. At Detroit the quotation has advanced to \$7.10 per cwt. Very little business is being done on the New York market where trading has been quiet and slow. Choice pea beans are quoted there at \$7.75 and common to fair at \$7@7.50.

FEEDS.

Quotations show few changes as follows: Bran \$47@48; standard middlings \$51@51.50; fine do. \$61@61.50; coarse corn meal \$60@63; cracked corn \$64; corn and oat chop \$53@55 per ton in 100-pound sacks. \$51@51.50; fine middlings \$61@61.50;

SEEDS.

The seed market is active and firm, with prices unchanged from last week. Prime red clover spot \$30.75; March \$30.50; alsike \$30.50; timothy \$5.50.

POTATOES.

The potato market is slightly higher. The light demand is thought to be due to the long mild fall which permitted thousands of bushels to be marketed to consumers who are still using stocks bought a month ago. Detroit market is strong, with Michigan U. S. No. 1 stock, well graded, quoted at \$4.50@4.75 per 150-pound sack. Chicago's market is steady with the above grade selling at \$3@3.15 per hundred-weight. In Cleveland the market has advanced and U. S. No. 1 round whites are quoted at \$5. In Pittsburgh the market has advanced slightly, the above grade bringing \$4.85@5. Columbus quotes this grade at \$4.75@5.

HAY.

Hay is coming to market slowly and the consumption is active though there is little change in price. No. 1 timothy \$29.50@30; standard and light mixed \$28.50@29; No. 2 timothy \$27.50@28; No. 1 clover \$27.50@28.

BUTTER.

The market is firmer despite the reduction in consumption due to high prices. Exporters are showing but little interest. At Detroit fresh creameries have advanced to 64½@65½c per

pound. The Chicago market is firm at 57@72c for creamery. A higher market is reported in New York where the range for creamery stock is 74½@75c.

EGGS.

Good fresh eggs continue scarce and prices for all descriptions have moved upward. Local prices have advanced to 80@84c for fresh eggs and 48½@51c for storage stock. Chicago market is steady at 80c. On the local markets good fresh stock is finding sale in a small retail way at \$1 per dozen.

DETROIT CITY MARKET

The trading on the city markets is active considering the lateness of the season and all staple vegetables are in good demand. Apple prices range from \$2.50@3.25 per bushel; potatoes \$1.90@2; onions \$3; turnips \$3; hens 26c per pound; springers 24@27c.

GRAND RAPIDS

Potatoes are higher on light receipts. Few loads were brought in by growers the past week and were paid \$1.70 per bushel. Most of the growers are holding for \$2. Millers raised the paying price of wheat last week to \$2.16 for No. 1 red and \$2.14 for No. 1 white.

Live Stock Market Service

Reports for Tuesday, December 9th

BUFFALO.

On this market today light hogs sold at \$13.25@13.50 and other grades at \$13. Lambs brought \$16 and calves \$22 per cwt.

DETROIT

Cattle.

Market dull and all grades 50c lower than last week.
Best heavy steers \$12.00@12.50
Best handy wt bu steers.. 10.00@10.50
Mixed steers and heifers 8.75@ 9.00
Handy light butchers 7.75@ 8.25
Light butchers 6.75@ 7.00
Best cows 9.00@10.00
Butcher cows 7.75@ 8.00
Cutters 6.50
Canners 5.00@ 5.25
Best heavy bulls 9.00@ 9.50
Bologna bulls 7.50@ 8.00
Stovk bulls 6.00@ 6.50
Feeders 9.00@10.50
Stockers 7.50@ 8.00
Milkers and springers...\$65 @ 150

Veal Calves.

Good grades steady; common dull.
Best \$19.00@20.00
Others 7.50@15.00

Sheep and Lambs.

Market strong.
Best lambs \$ 15.50
Fair lambs 14.50@15.00
Light to common 10.00@13.00
Fair to good sheep 7.50@ 8.50
Culls 4.00@ 6.00

Hogs.

Market 35c lower than yesterday; all grades \$12.50@12.60.

CHICAGO.

Hogs.

Estimated receipts today are 70,000; holdover 16,909. Market mostly 50@65c lower. Bulk of sales \$12@12.60; tops \$12.75; heavy 250 lbs up, medium, good and choice \$12@12.60; medium 200 to 250 lbs, medium, good and choice \$12.15@12.65; light 150 to 200 lbs, common, medium, good and choice \$12@12.50; light lights 130 to 150 lbs, common, medium, good and choice at \$11.25@12.25; heavy packing sows 250 lbs up, smooth \$11.50@11.90; packing sows 200 lbs up rough at \$11@11.50; pigs 130 lbs down, medium, good and choice \$11@12.

Cattle.

Estimated receipts today are 21,000. Market steady. Beef steers, medium and heavy weight 1100 lbs up, choice and prime \$18.50@21.50; do medium and good \$11.25@18.50; do common at \$8.75@11.25; light weight 1100 pounds down, good and choice \$13.85@20.75; do common and medium at \$8@13.85; butcher cattle, heifers, common, medium, good and choice \$6.50@15; cows, common, medium, good and choice at \$6.35@13.75; bulls, bologna and beef \$7@11.25; canners and cutters, cows and heifers \$9.35@16.35; do canner steers \$6@8; veal calves, light and handyweight, medium, good and choice \$16.50@17.50; feeder steers, common, medium, good and choice at \$7@12.25; stocker steers, common, medium, good

Prices of other grains are: Corn \$1.60; rye \$1.25; oats 80c; barley \$2.52; buckwheat \$3.10. Cabbage is now \$60 per ton and very scarce in this section of the state. Jobbers predict \$90 per ton before spring. Poultry is higher and wholesale dealers state that turkeys will be scarce for Christmas. Prices for live poultry are: Turkeys 30c per pound; ducks 24c; geese 22c; fowls 22c; springs 22c. The hide market is demoralized and dealers have again cut the price five cents per pound. Marsh hay for packing is \$25 per ton. Receipts of timothy are very light and sells at \$32 per ton.

WOOL

A very bullish situation obtains throughout the wool world. Boston dealers feel certain that a boom movement is coming in wool marketing. The most conservative see no possibility of checking the upward tendency of the market for some time. The best fine unwashed delaines are selling in Boston at 90c; fine unwashed clothing at 70@72c; three-eighths blood combing 70@71c; quarter-blood combing 67@68c and half-bloods at 85c. Receipts of foreign wool have taken a decided jump the past week, receipts amounting to nearly 10,000,000 pounds.

and choice \$6@10.75; stocker cows and heifers common medium good and choice \$6@7.75; do calves, common, medium, good and choice \$7.75@11.25; western range cattle, beef steers, medium, good and choice \$10.75@15; do cows and heifers, medium, good and choice \$7.50@12.50.

Sheep and Lambs.

Estimated receipts today are 25,000. Market steady to strong. Lambs 84 lbs down, medium, good, choice and prime \$14.25@16.30; do culls and common \$10@14; spring lambs, medium, good, choice and prime at \$11@14.75; ewes, medium, good and choice \$7.75@9.40; ewes, cull and common \$4@7.25; breeding ewes, full mouths to yearlings \$7@11.25; yearling wethers, medium, good and choice \$12.25@14.65.

BUFFALO.

December 8, 1919.
Cattle.

Receipts 25 cars; market is slow, 25@50c lower. Prime heavy steers \$16@17; best shipping steers at \$13.50@14.50; medium shipping steers at \$11.50@12.50; best native yearlings, 950 to 1000 lbs, \$16@17; light native yearlings, good quality \$13@14; best handy steers \$11@11.50; fair to good kind at \$10@11; handy steers and heifers, mixed \$9.50@10.50; western heifers \$10.50@11.50; state heifers \$8@9; best fat cows \$10@11; butchering cows \$7.50@8.50; cutters \$6@6.50; canners \$4@5; fancy bulls \$9@10; butchering bulls at \$7@8; common bulls \$6@7; best feeders, 900 to 1000 lbs \$10@11; medium feeders \$8@9; stockers at \$6.50@7.50; light to common \$5@6; best milkers and springers \$10@150; mediums at \$75@90.

Hogs.

Receipts 120 cars; market is lower; heavy \$13.60@13.75; yorkers \$13.60@13.65; pigs and lights \$13.75.

Sheep and Lambs.

Receipts 80 cars; lambs are lower; sheep steady; top lambs \$14.75; yearlings \$11.50@12.50; wethers at \$9.50@10.25; ewes \$8.50@9; calves \$5@18.

SHIP YOUR POULTRY, VEAL and HOGS TO

J. W. Keys Commission Co.
470 Riopelle St., Detroit, Mich.

Eastern Market

You Will Get a Square Deal and Returns Daily.

Holmes, Stuve Co., 445 Riopelle St.

Commission Merchants. Dressed Beef, Hogs, calves, Poultry, Live & Dressed, Poultry, etc. Correspondence Solicited, Ref. Wayne County & Home Savings Bank, Bradstreet, Detroit, Mich. Ctd. 2878

Have Fatter Stock USE LESS FEED

YOU'll save feed, have healthier stock and make more money if you furnish plenty of warm water for your stock in winter. Stock must drink lots of water with feed.

WESTERN TANK HEATER

furnishes warm water in coldest weather. Forces warm water to surface. Most economical and simplest tank heater you can buy. Draft easily controlled—burns coal, wood or waste material. No Heat Wasted—movable ash tray—protected from rain and snow—used in wood, metal or concrete tank—heats more water quicker—less attention—less fuel—nothing to get out of order. Because of light weight—don't pay Low Price extra for self-sinker—Western easily held in place. Sold on Money-Back Guarantee. Quit wasting feed—get a Western Tank Heater and make every ounce of feed count.

FREE Write for illustrated folder, "Fatter Stock With Less Feed", and our special low price offer. WESTERN MFG. COMPANY, 530 Depot St., Washington, Ia.



Coates Inside Toilet

Only \$17.50 Direct To You.

GIVES your home or cottage the coziest modern conveniences. Costs less than 5c a week. Catalogue and full information free. Mail this ad and \$17.50. Get a "Coates" on 10 day's trial. Same-day shipments. Money back if not satisfied.

Coates Sanitary Mfg. Co.

124 S. Division Ave., Grand Rapids, Mich.

High-Test Chemical, \$1.50 per Gallon DIRECT TO YOU

Double the strength of ordinary chemical. 16 charges from each gallon. Works equally well in any style toilet. Guaranteed satisfactory. Address: SANITARY PRODUCTS CO., 501 Division Ave. S., Grand Rapids, Mich.

Red Seal Dry Batteries Spark Strongest-Last Longest

Ask Your Dealer! Your own good judgment and your power farming interests demand Red Seal Dry Batteries. Order from your dealer.

Red Seal Batteries are the kind thousands of farmers insist upon.

BOOK FREE! Send for book, "How to Run the Gas Engine, Simplified"—you need it. Mention dealer's name; address:

MANHATTAN ELECTRICAL SUPPLY CO., Inc. 118 S. Wells St., Chicago New York St. Louis San Francisco Factory: Jersey City St. Louis Ravenna, Ohio

APPLETON WOOD SAWS

Safety and Service Buy a wood saw strong enough to be safe under any strain and durable enough to last you for years. The Appleton has tremendously strong, rigid frame of angle steel; or hardwood, bolted, braced and mortised—doesn't get out of line. Lathe turned steel shaft. Dust proof, non-heating, self-adjusting bearings, keep saw true and steady even after years of wear. 10 sizes, tilting and sliding table types; drag and circular log saws. Write for FREE BOOKLET 620 Fargo St. Batavia, Ill.

For Best Net Results Ship to

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Detroit, Mich.

"Enough Said!"

HAY Ship to The Old Reliable House Daniel McCaffey's Sons, 623-625 Wabash Bldg., Pittsburg, Pa.

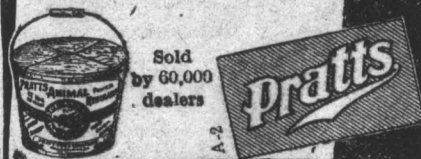
Keep Them Fit For Winter Work

Are your horses always ready for heavy work, cows giving lots of milk on the coldest days, hogs putting on pork? It all depends upon their condition.

Pratts Animal Regulator

Will keep the system toned up so that feed is thoroughly digested animals are healthy and respond at once. Pratts Animal Regulator is used by successful farmers and stock-owners the world over.

"Your Money Back If YOU Are Not Satisfied?"
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Mr. POULTRY FARMER:

We make a specialty of White Henery Eggs and have created a profitable market for your eggs the year around. We pay the highest premium for your Henery Whites—We remit same day shipments arrive. Ship Often—Ship by Express.

GEO. R. ELDRIDGE CO.
494-18th Street, Detroit, Mich.

Remember: We guarantee your satisfaction with every shipment

HOGS

TWO HERD BOARS

for sale. Ask for description of a real boar, live wires. Also have a few fall pigs, pair not akin C. A. BOONE, Blanchard, Mich.

Big Type Poland Chinas. Spring boars by BIG BOB. Out of sows by Grand Master and Hillcrest Wonder. Also Fall Pigs. **HILLCREST FARM, Kalamazoo, Mich.**

Large Type Poland Chinas for sale: something good in spring boars; write or see them: free delivery from Manchester. A. A. Feldkamp, R. 2, Manchester, Mich.

BIG Type Poland Chinas. Sired by Smooth Masto don litter mate to the Ill. Grand Champion. The big boned, deep, long bodied kind at farmer's prices. Wah-be-me-me Farms, White Pigeon, Michigan

Large type P. C. Spring boars and gilts now ready to ship. Also one fall yearling boar and fall pigs. **OLYDE FISHER, R. 3, St. Louis, Mich.**

Big Type Poland Chinas. We aim to keep our herd in size and in quality. We have sown sired by Big Bob, the Yankee, Gerstale Jones and Gerstale King. Our herd boar is one of the largest and smoothest and of choice breeding. He is proving to be a great sire. We like the good ones and believe you do also. We now have a litter of 10 "Clansmans" and the dam booked again for spring litter to the Clansman. Visitors welcome. **Wesley Hile, R. 6, Ionia, Mich.**

Big Type P. C. sows bred to Le Big Bob & THIRTY Le Giant, fall pigs, none better, call or write. **E. R. LEONARD, St. Louis, Mich.**

When In need of something right good in A. L. T. P. C. boar just come and see or write **W. J. MAGELSHAW, Augusta, Mich.**

Bargains on big type Poland Chinas, both sex, all ages. Shorthorn calves, either sex, and B. P. Rock cockerels. **Robert Neve, Pierson, Mich.**

Big Type Poland Chinas with quality, at reasonable prices. Pigs of both sex, and bred sows and gilts. **G. A. BAUMGARDNER, R. 2, Middleville, Mich.**

Poland Chinas. I saw Jossie Giant sell for \$160. at Ashley, Ind. Nov. 6th. She is a litter mate of my Michigan Buster. Offer Big Des Moines Sch. weighing over 800 lbs. or Bob-O-Link for \$150. Spring boars and gilts. **O. L. WRIGHT, Jonesville, Mich.**

Miller Meadows. L. T. P. C. Ready to ship immune. None better in Mich. Write or come and see. 2 1/2 miles west of Marshall. **Clyde Weaver, Ceresco, Mich.**

B.T. P.C. Spring boars for sale. The best I ever bred. Weighing 250 lbs. and up. Inspection invited. Recorded free. **L. L. Chamberlain, Marcellus, Mich.**

HAMPSHIRE

Steuben's Hampshire Farm

Spring Gilts and boars. Orders taken for bred gilts. Weanling boar pigs priced to sell. Hogs of the large and winning type carry the richest blood lines. Address your wants to

STEUBEN'S HAMPSHIRE FARM
ANGOLA, IND.

Pine Grove Hampshires. "Quality First" Michigan Boy Grand Champion boar of Michigan. Bred and owned by us. Many other prize winners at Michigan State Fair 1919. Hog's for sale all ages, both sex. "Lookout Joe", a \$1000 boar heads our herd. **GEO. COUPAR & SONS, R. 1, Marlette, Mich.**

NEW YORK PRODUCE MARKET.

Butter.—Receipts of butter vary little from last week at the present time. There is a tendency for an increase in production but the severe storms in the central west last week materially reduced the natural increase. There is a shortage of high quality butter as the general run of fresh make contains a low percentage of extras or higher scoring butter. Demand is for high quality butter alone. Very few lots of high firsts are moving and if they are the price received is comparatively low. Medium to under-grade butter continues to accumulate with the result that the quotations on such butter have declined. As the price of high quality butter has not changed the margin of difference in price between high quality and under-grade butter is constantly widening. That margin is at present the greatest known in the history of the New York Mercantile Exchange. Export business is at a standstill and buying in general is curtailed. Centralized butter is at a discount, the very best selling at about 65 1/2c when a sale is consummated. Quotations as follows: Extras 73 1/2c; higher scoring than extras 74 1/2c; firsts 56@65c; seconds 56@60 1/2c.

Cheese.—Trading in cheese has been light throughout the week. Local buying has been very light. There have been an abundance of export inquiry but the low rate of exchange has tended to discourage free buying. Much of the cheese purchased earlier in the season is being loaded for shipment at present. The make of cheese is at a low figure just now. Established quotations are: Common to good 29@31c; average run 31 1/4@32c; specials 32 1/2@33c.

Eggs.—Receipts of eggs have been very low. Demand has also been at low ebb. However, receipts of high quality fresh eggs have been so low that it was with difficulty that demand has been met. There is a great percentage of storage eggs in all arrivals. Prices of eggs continue to soar and it is apparent that the consumer will materially curtail his purchases with any further advance in price. Storage eggs are moving at prices materially lower than those asked for fresh eggs. Quotations are: Fresh eggs, firsts 86@88c; extra firsts 89@91c; extras 92@94c. Storage eggs, seconds 46@51c; firsts 52@53c; special marks, fancy at 54@55c.

Poultry.—The poultry market has strengthened during the week, principally because of limited supply, but also because of a fair demand. The increase in price applies to practically all classes. Quotations are: Spring chickens 26@29c; fowls 25@32c; old roosters 22c; turkeys 35c; ducks 34@35c; geese 29@31c.

VETERINARY.

Ringworm.—My yearling calves have bare spots on head, neck and especially under their eyes. I have been told they might have worms. T. Z., Peacock, Mich.—The writer is inclined to believe your cattle are affected with ringworm and if you will apply one part iodine and 15 parts fresh lard twice a week the calves will recover. Before commencing treatment wash the bald parts of body with soft soap and water, when dry rub in some of the iodine ointment. Not necessary to wash them often. Give each calf 30 drops of Fowler's solution in drinking water, or in feed or in water as a drench once daily.

Cow Fails to Breed.—I have a cow eight years old which dropped her calf last October. Since that time she has failed to get with calf. I have given her breeding tonic, but this failed to help her. Our Veterinarian thinks he can cure her by the use of instruments. Would you advise me to let him try? Perhaps I should have said she is always in heat. H. A. C., Lansing, Mich.—All things considered, you had better let your Vet. try, but I might say that you may be disappointed in the results; however, he may be able to tell if she is barren; if so, sell her for beef.

Stifle Lameness.—I have a stifled colt coming three years old. The blister prescribed by our local Vet. failed to help him. Is there a remedy for this kind of a case? E. K. H., Edmore, Mich.—Without an opportunity to closely examine your colt I could not tell if he will get well or not. He being young nature will do much for him, therefore I should expect him to recover. Apply equal parts of turpentine, aqua ammonia and raw linseed oil once a day. Hand-rubbing should do him good and if the stifle joint is enlarged, paint swelling with tincture of iodine three times a week.



Buy Now—Pay Later

A Special Offer on

Limestone, Ammonia, Potash

We will postpone all payments on shipments of Solvay Pulverized Limestone, Arcadian Sulphate of Ammonia, and "U-S" Potash placed during the months of November, December, January and February.

All shipments made during that period will be billed April 1st, 1920. A cash discount will be allowed up until April 10th, and a net cash payment on or before July 1st, 1920.

A Word About Ordering

Everyone who is dependent upon railroad shipments knows the delay that is to be expected on less than carload lots. We are doing everything within our power to facilitate shipments.

Limestone, of course, is shipped in carload lots as a minimum. When ordering less than carload lots of Ammonia and Potash, be sure to order them with your carload of Limestone—or see your dealer. He will schedule your less than carload shipment with a carload order going into your neighborhood, and your shipment will arrive more quickly and more surely.

A good plan is for several neighbors to group orders into a carload shipment to insure prompt delivery.

SOLVAY PROCESS COMPANY
JEFFERSON AVENUE DETROIT



AUCTION SALE

DECEMBER 17, 1919

38 Head of Holstein Cattle

15 are registered. From Pontiac Burke and Pontiac Apollo. This sale also includes Herd Sire H. B. No. 200050, born June 7, 1915.

Nye Pontiac is bred in strong producing lines on all sides.

His sire has a 33-lb. daughter that averaged 103-lb. of milk a day for seven days and she has twice made over 31-lb. The sire is also from an A R O two-year old daughter of the first century sire, Hergerveld De Kol, who has ten 30-lb. daughters, the sire also has two 30-lb. daughters, one of which gave nearly 24,000-lb. of milk in one year.

His dam is a healthy 29-lb. cow that averaged 85-lb. of milk a day for seven days, the dam is also a granddaughter of Pontiac Hesseltje Korndyke, who has a 30-lb. daughter and he is a son of the greatest sire that ever lived, Pontiac Korndyke, the second dam is also by a son of the first century sire, Hergerveld De Kol, who has ten 30-lb. daughters.

P. A. VAUGHAN R. No. 3 PONTIAC, MICH.

Farm located three-quarters of a mile west of Bloomfield Center, Pontiac Division, D. U. R.

HOGS

Spring Hampshire, boar pigs for sale. Fall pigs from new blood lines. **JOHN W. SNYDER, R. 4, St. Johns, Mich.**

Edgewood Hampshires, spring boars sired by our prize winning and Grand Champion boars. Make the right buy today and get a good one, either for Hampshire breeding or for a cross on your other sows. **Depue Head, Edgewood Farm, Marion, O.**

Fairview Stock Farms Tamworths. Registered spring pigs for sale, either sex, from massive ancestors. **W. H. Warner, Concord, Mich.**

HORSES

Percherons, Holsteins, Angus, Shropshires, Durocs **DORR D. BUELL, Elmira, Michigan.**

SHEEP.

Whittum Farm Shropshires 50 good ones including 30 imported ewe and ram lambs. None better to start a new flock or improve the old one. 10 imported, one and two year old rams. **THE WHITTUM FARM, Eaton Rapids, Mich.**

BUY A SHEEP

Wait a minute, buy Hampshires. The American Hampshire Sheep Association wants to send you a dandy little booklet with list of breeders. Some near you. Write **COMFORT A. TYLER, Secretary, 22 Woodland Ave., Detroit, Mich.**

Shropshire and Hampshire Rams

In order to finish the ram trade quickly I will give you your choice of a dozen very good yearlings at \$35.00. **KOPE-KON FARMS, COLDWATER, MICH., S. L. WING, Prop.**

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS

"The Sheeprman of the East" I sell and ship everywhere and pay express charges. I will start one man in each town. Write for club offer and descriptive price list. **Shropshire, Hampshire, Ramboulets and Polled-Delaines.** **PARSONS, Grand Ledge, Michigan R**

Shropshire ram lambs of good quality and some ewes all registered. **DAN BOOHER, R. 4, Elvert, Mich.**

Idle Wild Stock Farms Shropshire yearling rams from prize winning stock. Make your selection early. **CHR Middleton, proprietor, Clayton, Mich. R. 3.**

Registered Shropshire sheep, 30 rams and 40 ewes. **HARRY POTTER & SON, Davison, Mich.**

Shropshires Registered ram lambs sired by Imp. Butter Also choice bred ewes. **W. B. McQUILLAN, R. 7, Howell, Mich.**

10 Reg. Shropshire ewes. Bred, First check \$20 takes them. **B.D. KELLY & SON, Ypsilanti, Mich.**

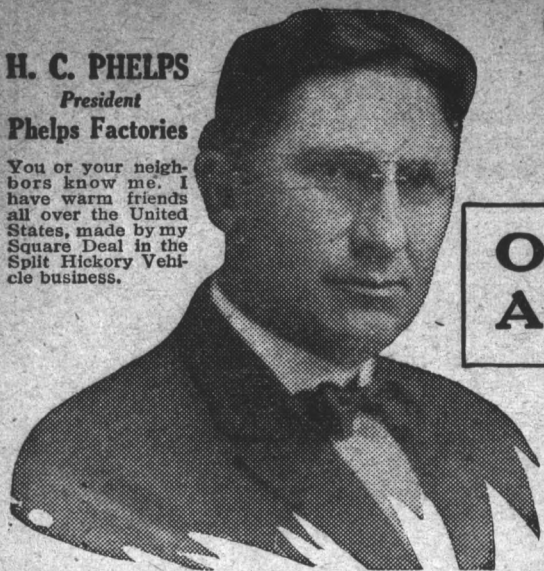
For Sale REG. YEARLING SHROPSHIRE RAMS, with quality and fleece. Priced to sell. **H. F. Mouser, R. 6, Ithaca, Mich.**

Polled Delaine Rams for sale. Good heavy shearers. **F. L. BROKAW, Eagle, Mich.**

Please Mention The Michigan Farmer When Writing to Advertisers.

H. C. PHELPS
President
Phelps Factories

You or your neighbors know me. I have warm friends all over the United States, made by my Square Deal in the Split Hickory Vehicle business.



No Money Down!

Order From This Advertisement

You can have this magnificent \$150 MASTERTONE PHONOGRAPH IN YOUR HOME IN TIME FOR CHRISTMAS, WITHOUT SENDING ME ONE CENT. With the machine I'll send you a selection of fine records to play it with—no money down. You satisfy yourself before you pay ANYTHING. But you will have to send the coupon below, right away, as the Christmas rush for my royal MASTERTONE has already begun.

JUST fill out the coupon. Send no money, no pay of any kind. Back comes this big MASTERTONE with the handsomest art cabinet you ever saw—and six record selections. **If you mail the coupon this week you'll have the MASTERTONE and records before Christmas!** It will make a fine present for your wife, your children—the whole family. You use the phonograph and the records as your own for ten days. Play it for your neighbors—your friends. Take a vote of the whole family on it—and if you don't say it is as fine as any phonograph costing twice as much—if you want to part with it for any reason—I'll take the phonograph and the records back and you won't be out one cent of the purchase price.

Why I Can Make My Low Price to You

Simply because I sell my MASTERTONE to you direct from my factory. By dealing direct with me you get the benefit of all the saving of my sales method. At one small margin above the actual factory cost I put this splendid instrument in your home.

In the last twenty years I have made friends all over America by dealing *personally* with my customers on a direct, straightforward money-saving basis.

I give you a **lifetime guarantee** with my MASTERTONE because I know the workmanship is not surpassed at any price.

Your Choice of Mahogany or Walnut

You have your choice of Walnut or Mahogany satin finish, hand polished; the most beautiful art cabinet you ever saw. My MASTERTONE is built like the finest heirloom furniture. It is in the latest art style and it adds dignity to *any* room. It is at home among the richest furniture. When you see how much finer—how much more impressive—the MASTERTONE is than the commonplace, you will appreciate its real grace and beauty. It has a charm and distinction of appearance that harmonizes with the superior quality of its performance. It is full size—the home size agreed on by the master cabinet builders—48 inches high, 20 inches wide, 23½ inches deep. With record space for 150 records.

**You Try My MASTERTONE
10 Days in Your Home**

Play it with my records or any records. If you want to keep it send me only

\$79⁵⁰

I want you to send for it on this low price offer **now because the price must soon go up.** You know what conditions are. Labor is scarce and high. Materials are going up. I can not promise to hold my MASTERTONE down to \$79.50 much longer. My present stock at that price may last ten days or a few weeks. I cannot tell. Your only assurance is to order from this advertisement **now.** It may be your last chance to get one of the world's three greatest phonographs at a clear saving of \$50 to \$75 cold cash.

I have letters from delighted owners of my MASTERTONE all over the country. They

tell me how *perfectly* it plays all records. They praise its silent, velvety motor—its freedom from the grind of gears. They talk about the wonderful MASTERTONE Reproducer with genuine imported India Mica diaphragm, which gets the **exact shading** of the voices of the famous singers, and the clear, smooth liquid tones of the finest instruments. They compare it with the **other two** greatest phonographs, and they say the MASTERTONE is unequalled.

Now—try it yourself. Remember it is at **my risk.** You do not assume any obligation to keep it unless you are satisfied. Here's the coupon that brings it. Fill it out and mail it today.

**H. C. Phelps, President, THE PHELPS FACTORIES
Department 105 COLUMBUS, O.**

FILL OUT THIS COUPON TODAY

THE PHELPS FACTORIES, Dept. 105, Columbus, Ohio

Gentlemen: You may send me one MASTERTONE Phonograph in.....finish (you have choice of Walnut or Satin Finish Mahogany) on your ten days' free trial offer. I agree to pay the transportation charges and if after ten days' trial I find it perfectly satisfactory in every respect, I agree to send you \$79.50 in full payment within ten days from receipt of Phonograph. It is understood that this does not place me under any obligation to keep the Phonograph. If for any reason I am not satisfied with it and do not want to keep it, I agree to return it at your expense. It is understood that the Phonograph remains your property until I pay for it in full.

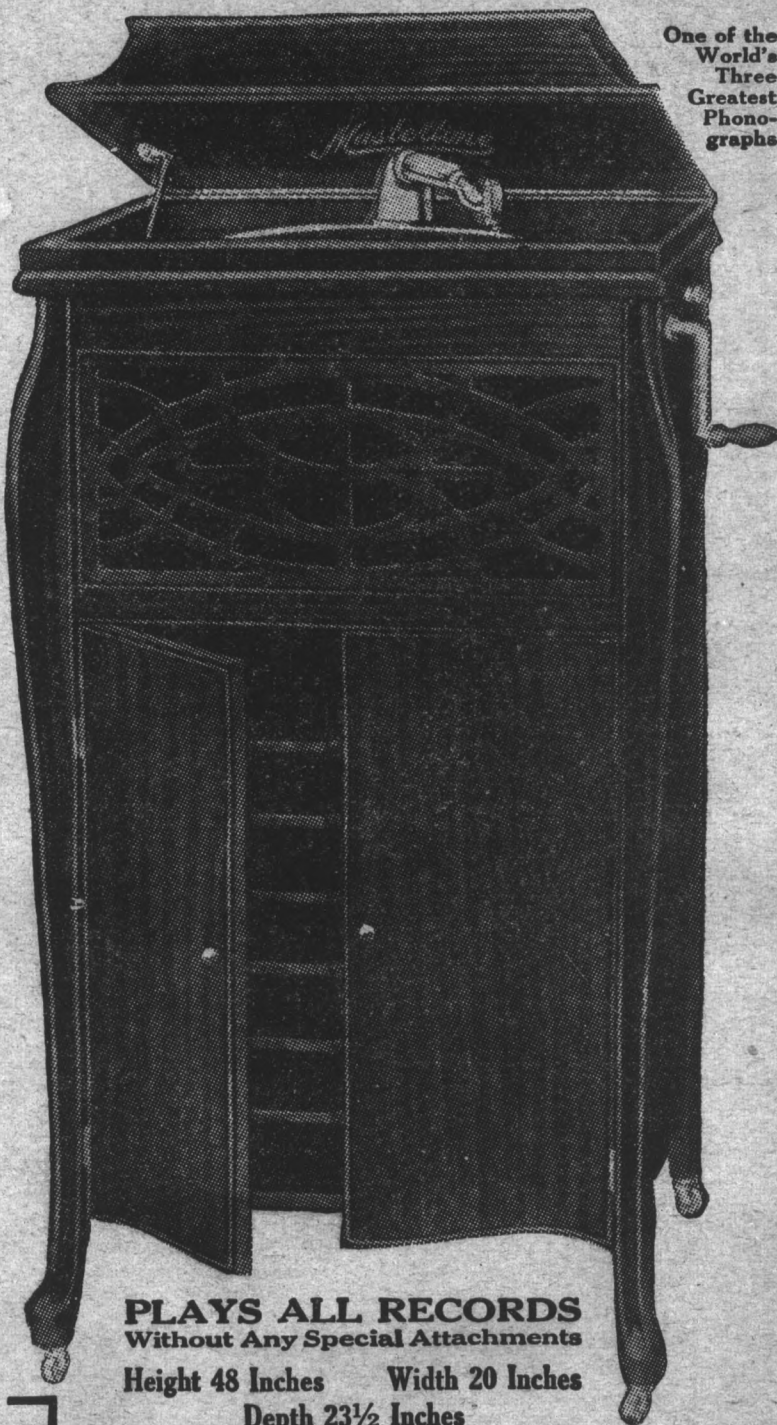
Name.....Town.....

State.....St. No. or R. F. D.....

Do you own property? If so give description and name of bank or any one else you desire to give as reference. Give complete description of property and name of references on separate sheet of paper.

Shall we ship by freight or express?.....

NOTE: We recommend that you have Phonograph shipped by express to insure its reaching you promptly.



One of the
World's
Three
Greatest
Phono-
graphs

**PLAYS ALL RECORDS
Without Any Special Attachments**

Height 48 Inches Width 20 Inches
Depth 23½ Inches

SPECIAL—Write for the MASTER-TONE Portfolio whether you order or not. Your name and address on a post card will bring you full description and illustration of the phonograph in colors. I will send you FREE my book of Old Favorite Songs—the old-time melodies that everybody loves—50 famous songs—words and music. Write today.