

# MICHIGAN FARMER

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## Breeding and Marketing Belgian Hares.

**T**HIS business—for it is becoming an established business—is yet young in this country, but the future will bring it to the front to such an extent as to surprise those who have not given it a thorough investigation.

For the benefit of those who are not familiar with the supply of, and demand for, pure-bred Belgian hares, it will not be amiss to advance some information along that line. In the first place, he who wishes to breed Belgian hares should secure good stock. In fact, this is the keynote to success in breeding any kind of stock. The horse or cattle man, the poultry, sheep or swine breeder, all recognize this fact, and when they purchase stock for breeding purposes aim to buy the best. Stock of any kind that has quality will always sell for a good price, while inferior grades will be a burden upon the breeder. The man who has the best will get the best prices and make the most sales and, best of all, will satisfy his customers.

In order that those who have not had the opportunity to acquaint themselves with the points of superiority in the Belgian hare, I will here give the most essential qualifications which a first-class hare should possess. At maturity, which will be about one year, he should weigh seven to eight pounds and may easily weigh a pound or so more. His color, a very vital point when we consider his value from a breeding standpoint, should be a rich red and extend well down to his feet. He should be long and racy in body, with back well arched. His head should be rather slim with large, bold eyes and good long ears, which are laced or slightly fringed with black at their edges. A fine specimen always reminds me of a little race horse.

A young doe should not be bred before she is seven or eight months old. If she is bred younger her growth will be retarded and she will not, as a rule, mature as large as she otherwise would. At the end of thirty days after the does is bred we may expect five to ten young. If your doe has more than seven, kill the weaker ones at about three days old. Seven is enough for her to raise. They will be worth more than a dozen that are half fed, which will be the case if she has too many to supply with milk.

The hutch in which to keep a doe should not have less than 12 square feet of floor space, preferably four feet long and three

feet wide. The hutches can be built one above another, letting the roofs of the lower one be the floor of the next higher. Three stories are all that is allowable on account of cleaning the hutches and handling stock. Twenty to 25 inches should be the height of each story. The doors should be made of one-inch mesh poultry netting, using 1x2-inch strips for the frame, each door to be hinged separately to its respective hutch, so as to swing outward instead of raising up-

ward. The illustration shows such an arrangement which will be found very satisfactory as well as most convenient.

Some breeders use store boxes for hutches, which answer the purpose very well if the right size, but they take up much more room and are unhandy as compared with hutches built against the wall as described above.

Several days before the doe should have her young, her apartment should be thoroughly cleaned and fresh litter

or straw given her. She should also be provided with a small store box, say 12x16 or 20 inches and 6 to 8 inches deep, partly filled with chaff and straw, well pressed down, in which to make her nest. This small box should be placed in one corner of her hutch. Plenty of fresh water must be kept before her at this time or she may eat her young. Great thirst being caused by the fevered condition of this period. The doe will generally pull a good quantity of fur from her own coat with which to line the nest in order to protect the young from cold, which is very necessary in winter. As soon as convenient the young should be examined and any dead ones which might be in the nest thrown out.

As soon as the little fellows open their eyes, the nest box should be discarded and a nest made for them in the corner of the hutch upon the floor. They will now soon begin to come out and eat. They may, with propriety, be allowed to eat whatever their mother has been eating, which should consist of bread and milk, oat meal or rolled oats, oats mixed with chop or bran and middlings and dampened slightly with salted water. Green feed may also be given, such as clover, plantain, cabbage, carrots, dandelions, etc., care being taken not to feed it when wet with dew or rain, and good judgment being used as to quantity given of such foods in beginning to feed them.

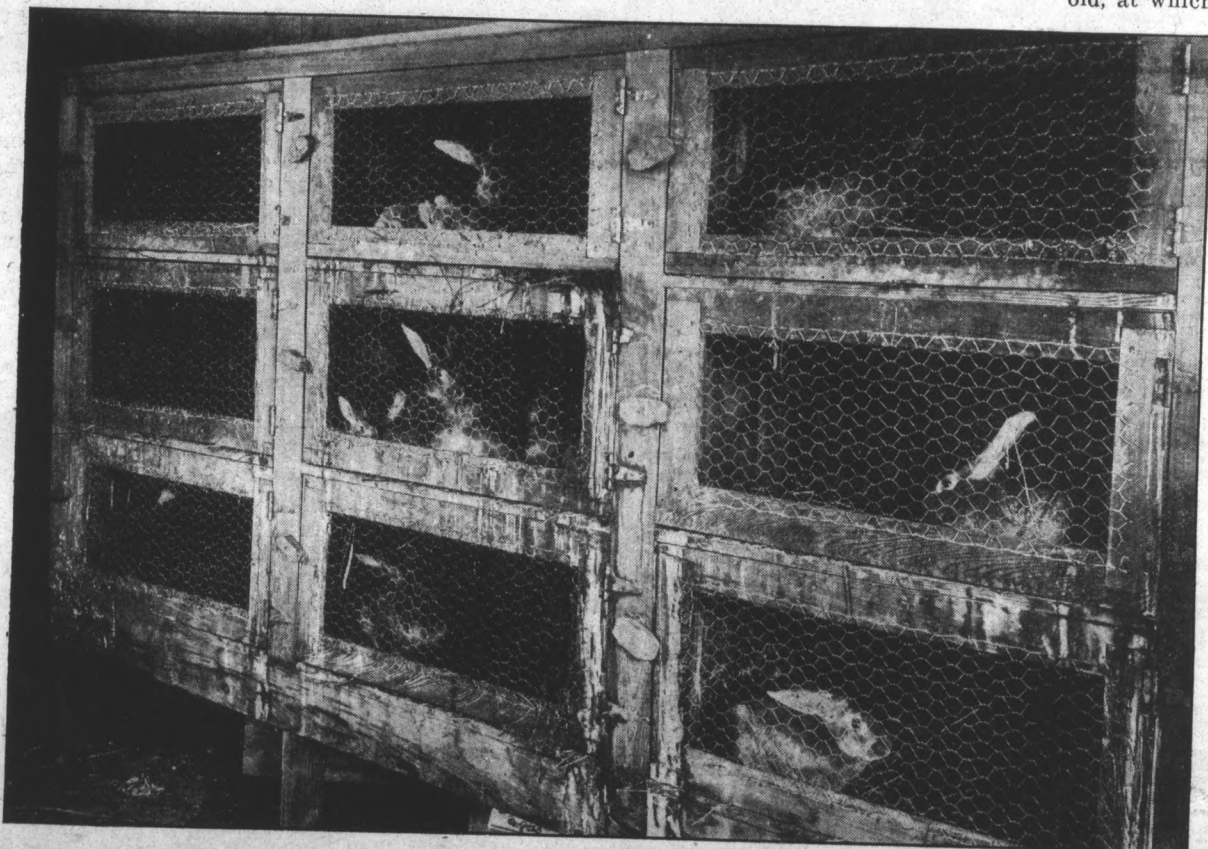
Oats and clover hay form the staple diet of the Belgian hare. The oats may be partly replaced with corn in winter.

The youngsters should not be weaned until they are about eight weeks old, at which time several litters may be turned together in a runway or larger pen and the does again bred. By this method we get about four litters per year which is enough for a doe to produce.

The breeder generally begins to sell his stock at three months old and by the time it is four to five months old the first quality, for the most part, has been sold for breeding purposes at a good price. If he has the room and can produce enough to supply his demands he will do well to mature some stock. Does bred or old enough to breed, as well as a few fine bred bucks are always in demand at good prices. If he has a surplus after he has shipped his best stock for breeding purposes, he still has the meat market to fall back on and if he is adjacent (Continued on P. 502).



A Well-bred Belgian Hare of Good Type and Conformation.



Hutches Conveniently Arranged for Economy of Labor in Caring for Breeding Stock.



# Explosives in Land Clearing.

**E**Xplosives have come to be used quite generally in removing the stump. When large stumps are pulled without first being blasted, their disposal will often cost more than the pulling. It is next to impossible to pile them by the use of a team and blocks so that they will burn. Splitting them even by the use of powder is a hard proposition.

Unless there are many worthless logs and tree tops to pile with them, it is very hard to burn solid, unsplit stumps. They often require to be piled more than once. On the other hand, when stumps are blasted by the use of small charges, just large enough to split and loosen, the stumps without throwing them out of the ground, they may then be removed by the use of the stump puller, a team with blocks and line, or a power outfit. When such pieces of stumps are piled they usually burn quite readily. In some cases larger charges are used in order to remove the stump entirely, or the largest part of it, so that a direct pull of a horse or team will remove any remaining root. This is not practical where the large stumps are found, but may be done in some sections where the white pine stumps predominate.

Many settlers on logged-off land hesitate to use explosives to blast stumps because of an exaggerated idea of the danger connected with their use and handling. While there is an element of danger in their use, anyone who is ordinarily careful can safely handle the low strength explosives used in stump blasting. If possible only fresh explosives should be used. Never accept or try to use explosives that have been materially damaged by improper storage, or that show by the wrappers that the explosive ingredients have leaked out. Explosives that have been frozen should not be thawed unless for immediate use. Large amounts of explosives should not be purchased unless adequate means for storing them are provided.

### Soil Conditions for Blasting.

The time for blasting stumps most advantageously, except on sticky silt or clay soils, is when the soil is well filled with moisture. At this time the water fills the air spaces and the stumps leave the earth more easily. The saving is very apparent in loose sandy soil. Stumps in such soils should never be blasted when the soil is dry. The work should be done on sticky soils when they are dry enough to plow.

In all but exceptional cases of stumping, it is better to use explosives of 20 to 30 per cent strength, rather than stronger explosives. These strengths are found to give good results at minimum expense.

No man should attempt to use explosives without first thoroughly familiarizing himself with the best methods of handling the explosive that he intends using. This can be done by observing others at work, by reading directions furnished by the manufacturer, or the U. S. Department of Agriculture bulletins upon the subject.

### Placing the Charge.

In order to get the best results when blasting stumps, it is necessary to place the charge below the part of the stump that is hardest to lift. To do this is not always an easy matter, and it can be learned only by experience where to place the charge and to estimate exactly the amount of powder to use under a given stump. The rooting system, age, and size of stump, as well as the soil and subsoil must be taken into consideration when placing the charge.

The hole in which the charge is to be placed may be made in several different ways, depending upon the kind

of soil, rooting system, and size of stump. All stumps except those having a taproot are blasted by placing the explosive in the earth beneath the stump. For small-sized stumps that require only small charges the hole may be made with an ordinary crowbar. For larger stumps an auger of from two to three inches in diameter is used, while holes under the largest stumps are often dug with bar and shovel. The making of the holes is the most important as well as the most laborious part of the work. The auger should be started at a point a short distance from the body of the stump between the two largest roots, and the hole should be bored at an angle of 45 degrees or more from the horizontal, until it reaches a point a few inches beyond the center of the stump. The charge should be placed beyond the center of the stump rather than in front of it. From observation it has been noted that there is a greater danger of a blowout on the side from which it is loaded, and if any part of the stump is left in the ground it is the opposite side. For this reason in order to get good results it is necessary to place the charge slightly beyond and well below the center of the stump.

After the hole has been completed and is in the proper place, the required charge is inserted and pressed to the bottom of the hole and compacted by means of a wooden tamping stick. The primer is then placed on the charge. It consists of a blasting cap crimped upon the proper length of fuse and imbedded in the last or top cartridge. When only one cartridge is used it must contain the cap.

### Where Care is Required.

The caps used are very sensitive, and should be handled with care. While they are innocent looking, they are very powerful, and should be kept out of the hands of children and others who do not know what they are handling. When several charges are to be fired at the same time, only electric caps can be used.

After the primer is placed on the charge, fine soil to a depth of three or four inches is sifted upon it and packed lightly, after which the earth can be shoveled in and packed solidly by means of the wooden tamping stick. The tamping should continue until the surface of the ground is reached. When the tamping has been completed, the charge may be fired. If the ground is wet or cold the blast should be fired soon after loading. If neither of these conditions is found it can be left until convenient. The fuse is usually lighted by a match, or often some other form of lighter is used, as a red hot iron rod or a short length of burning fuse. The success of the shot depends upon the position of the charge, and the quality and amount of explosive used. If either of the above is not correct the blast will be only partially successful.

The objections that are offered against the use of explosives in land clearing are that they are dangerous, the use of some kinds cause headache, they are too expensive. Men experienced in this work have reduced these objections to the minimum.

The cost can be reduced to some extent by co-operative buying in large lots.

U. S. Dept. of Ag. H. THOMPSON.

### A COMPARISON.

A monthly farm paper, to be as cheap as the Michigan Farmer at 50 cents a year, would have to sell for 12½ cents a year, and a twice-a-month farm paper to be as cheap would have to sell for 25 cents a year. Markets, veterinary advice and other features would be of the same comparative value.

## Guarantee Bond

NOVO ENGINE COMPANY, LANSING, MICHIGAN

This \_\_\_\_\_ H. P. NOVO Engine No. \_\_\_\_\_ is sold to \_\_\_\_\_ of \_\_\_\_\_ address \_\_\_\_\_ with this understanding that during the life of this engine we guarantee it against damage from freezing, and will replace, without cost to the owner, any cylinder or jacket that is cracked or broken by freezing. It being understood that the engine may be used or left standing in any degree of cold, and that it will not be necessary to drain the cooling hopper.

A record of the number and brake horse power of this engine, as well as all details of its construction, are kept on file in our office, and all that it will be necessary to do is to give us your engine number, in order to have this bond fulfilled.

NOVO ENGINE COMPANY

*H. P. Bement*  
President

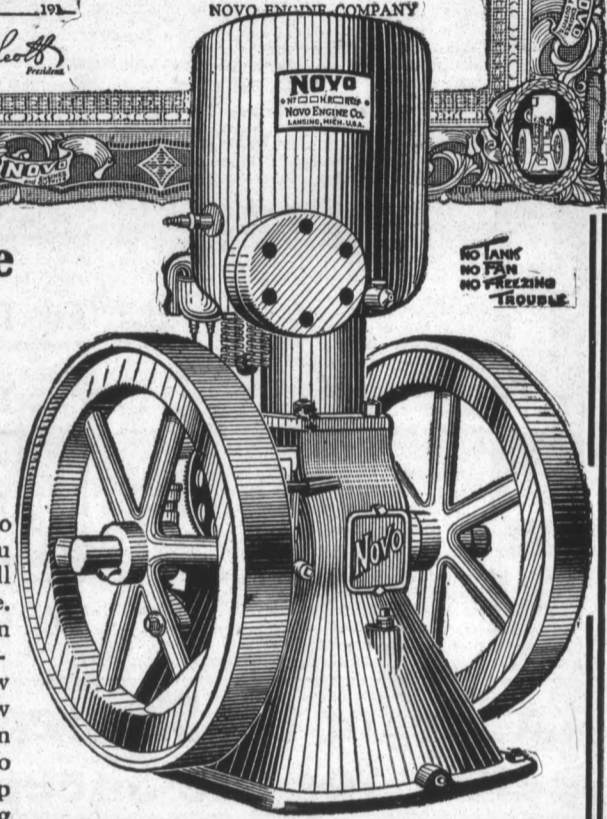
## Novo Engine Is Running 80% of All Concrete Mixers

This means a lot to you even though you never mixed a bucket full of concrete in your life.

If an engine can run a concrete mixer—jarring, bumping, now carrying a full load, now no load at all—you can surely depend on it also to grind your feed, pump water, run a lighting plant, separate, churn, wash clothes, etc.

Novo reliability put it on 80% of the concrete mixers. Novo reliability should recommend it to you.

After all, it's not the engine, but **Reliable Power** that you want.

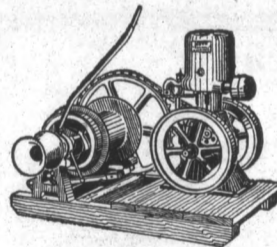


# NOVO

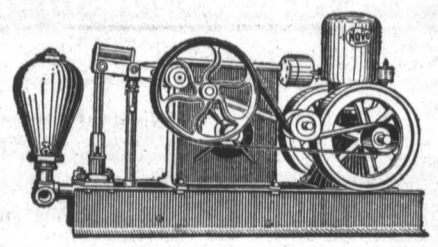
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## ENGINES and OUTFITS

**Fig. 15137—Farmers' Handy Hoist—** This outfit is built to meet a rapidly increasing demand for a small inexpensive hoist on the farm. This hoist will pay for itself in one season. For unloading hay it is far better than a team. Well worth investigating.



**Fig. 200—Novo Deep Well Head—** This outfit is used for pumping from deep wells or in any well where the water level is more than 25 feet from the surface. Can be furnished with air compressor attachment for pneumatic systems. All gears are encased in oil, making it noiseless and durable.



Novo is frost-proof. It has few parts. There are no complicated adjustments necessary. A 12-year-old boy can start and run a Novo. It is the lightest engine for the power developed—therefore, easily moved from place to place. All engines are furnished on either trucks or skids as you may prefer.

Novo is a vertical engine—the type that has been found most efficient and is used in all automobiles. There are no cumbersome tanks or circulating pipes to take up room and get out of order. The fuel is in the base and the water is in the frost-proof hopper around the cylinder.

### Let Us Talk to You Personally

Novo and explain why it is the best engine for your requirements. This will prove much more satisfactory than studying a mail order catalog or confusing circulars. If you buy some other engine without investigating Novo, you'll always be in doubt as to whether you got the best for your money. Novo either is or isn't the engine you want. Find out which. Fill in the coupon below and mail it to-day or send us a postal.

Novo Engines can be furnished for operating on gasoline, kerosene, alcohol or distillate

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Sec'y and Mgr.

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There is a Novo representative in your neighborhood who will gladly show you the \_\_\_\_\_ MF

Novo Engine Company  
Lansing, Michigan

Gentlemen—Without any obligation, please tell me why Novo is the best engine for my requirements. I use an engine for the following purposes:

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# Here's the Work—Here's the Tool

**H**ERE are a few things the Culti-Packer is doing for other farmers. Mark with your pencil the work it could do for you and find out what a useful, profitable tool it is.

**Crushes all Lumps**—The "V" shaped wheels crush every lump, working down three or four inches, making a fine mellow bed of soil.

**Packs Out Air Spaces**—The air spaces left by turning the furrow are all packed out so that roots will not dry out in them.

**Firms Loose Soils**—Loose, ashy soils are made firm so that moisture will gather about the seeds and roots.

**Stirs Surface for Mulch**—The wheels in the front row form a set of ridges and the wheels in the back gang split these ridges, working them over and forming a mulch.

**Saves Moisture in Dry Seasons**—In dry weather it packs the soil underneath so that moisture will gather, and at the same time stirs the dry soil on top to prevent evaporation.

**Starts Seed Quickly**—After seeding it firms the soil around the seed, making it sprout quickly, and giving roots a good firm foundation.

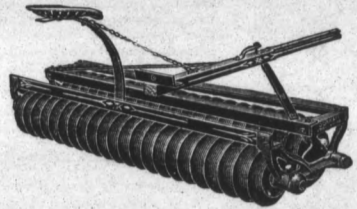
**Prevents Winter Killing**—The Culti-Packer closes up all cracks and air spaces left by frost and settles the soil around roots of winter wheat.

**Stops Soil Blowing**—By running it to made corrugations or ridges at right angles to the wind it will prevent soil blowing.

**Helps Growing Crops**—Until wheat, oats and corn are two or three inches high it will stir the surface like a cultivator, firm the soil around the roots, break up surface crusts, and keep the field in good condition. Wheels can be taken out for straddling larger corn.



Roller Bearing—  
A Two-Horse Machine



**See It At Your Dealer's**  
Eighteen thousand farmers have found that the Culti-Packer will do these things. You will at least want to look it over.

Tear this ad out and take it with you to the nearest John Deere dealer. He has a Culti-Packer to show you. Large stock in every state.

**Ask For Free Soil Book**



These and many other uses are illustrated by fine photographs in our 40-page book "SOIL SENSE."

Ask your dealer for it or drop us a card.

**THE G. G. DUNHAM CO.**  
Berea, Ohio

# Easier for the Shearer and better for the Sheep

**Wool Means Money!**

Why not get all there is from your sheep? You can easily net from 15 to 20 per cent more on every sheep you shear with a Stewart No. 9 Shearing Machine. Don't labor with hand shears, in the old, hard, sweaty way. Don't have aching, swollen wrists. Don't scar and disfigure your sheep with uneven shearing and spoil the wool with second cuts. Take off the fleece smoothly and quickly in one unbroken blanket with a BALL BEARING.

**Stewart No. 9 Shearing Machine**

It gets a length and quality of wool that will bring the highest price. The Stewart runs so easily a child can turn the handle while you shear. Extra profits soon pay for it. It's the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of latest improved Stewart pattern. Price complete, including 4 combs and 4 cutters of the celebrated Stewart pattern, only \$11.50.

Write for FREE catalogue showing most complete line of Sheep Shearing and Horse Clipping Machines.

**CHICAGO FLEXIBLE SHAFT CO. 115 N. LaSalle St. CHICAGO, ILL.**

## \$40 for a 500-Pound Capacity Guaranteed Cream Separator

**THAT'S** what thousands of farmers have been waiting for—a high-grade, modern, guaranteed cream separator of large capacity and approved design, at the RIGHT price. And that is the Dairy Queen, which costs as much to make as any separator possibly can, for it can't be made better. But it doesn't cost as much to sell for you buy it direct. There's no middleman.

Simple, durable, sanitary, a close-skimmer, and light runner. Supply-can lower and crank-shaft higher than others. The women know what this means. Bowl and tinware on opposite side from operator, and out of the way as in cut. All gears enclosed, and run in oil. Full guarantee. Shipped prepaid on approval. 30 days trial. Write today for full details and booklet, "The Dairy Queen."

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## STURGES Guaranteed Capacity MILK CANS

We are the only makers of milk cans who possess sizing machinery that makes it possible to guarantee that every can is true to size. This feature puts an end to costly disputes between shipper and buyer.

Sturges cans are built to stand the hard knocks and are highly sanitary.

If your dealer doesn't handle Sturges Cans drop us a line and we will put you in touch with a nearby dealer who does.

Get Catalog No. 46. "The Cans of Guaranteed Capacity"

**Sturges & Burn Mfg Co., 503 South Green Street CHICAGO, ILL.**

# Scouring In Calves.

By DR. W. C. FAIR.

**S**COURING in calves is very often a common result of indigestion, an effort of nature to unload from stomach or bowels their irritating contents. Feeding calf too much rich cold milk, or milk from cow that has been over-heated at milking time, or allowing calf to go too long between meals; feeding milk that has too much age, which has fermented; drinking milk from cows that are fed on unwholesome food; keeping calf in dark, damp, filthy basement stables; feeding calves too much artificial food; licking hair off other animals, or eating and drinking anything that will cause indigestion may bring on the scours. Whenever indigestion persists and fermentation goes on, the case becomes more difficult to handle. With digestion arrested, the organized fermentations seem to develop a form of scours which is often contagious. When this disease is once seated in a stable, it is no easy task to get rid of it. This contagion can be introduced into a herd by purchasing a diseased calf, or by purchasing a cow from infected herds which is about due to freshen. Light colored calves are the most easily infected; also, those that are from stock with weak digestive organs. Whenever calves are kept in filthy, foul-smelling places where manure is plentiful—this is where the disease thrives best. Anything that has a tendency to lower the vitality of the calves, is a contributing cause of scours. Damaged sour milk from dirty cans, skim-milk from a dirty creamery, or feeding from dirty pails are all common causes of scours. Calves that suck their mothers are much less frequently affected with scours, than those raised by hand.

of mercury in a pint of water; or, give five-grain doses of salol three times a day. Now then, regarding the importance of treating the navel of every new-born calf. First wash the parts with an antiseptic solution, such as one part carbolic acid, 30 parts water—or one part coal tar disinfectant and 20 parts water, or one part bichloride mercury and 500 parts water and tie cord with either a silk or linen string that has been thoroughly saturated in one part carbolic acid and nine parts glycerine or olive oil. One inch from body cut off cord, paint end of it with tincture iodine and dust on boracic acid twice a day until navel is healed. Or, you may use any of the healing solutions I have mentioned. Remember, the contagious germ that causes white scours lurks in a building for a long time, but if the calf escapes this infection, the first two or three days of his life he usually lives, but those that recover from an attack are apt to suffer from inflammation of the lungs a week or two later. It is a good plan to remove a calving cow to a thoroughly disinfected clean stable that is free from infection. She should be furnished with abundance of dry clean bedding sprinkled with a two per cent solution of carbolic acid and her hind parts washed with this same solution. After calving she should be injected with carbolic acid and water made by dissolving two drams of carbolic acid in a quart of water. Now, as a remedy you will find white scours serum a valuable remedy, therefore, I would advise all dairymen that are troubled with white scours in their herds to keep it on hand, and as the directions go with the goods, it is needless for me to state how it should be applied.

We also have acute contagious diarrhea in the new born calf, or develops the first or second day after birth—this form of diarrhea is due to germs entering the calf's body through the navel cord. Of course, other organs as well as the bowels are affected, but the scouring is very characteristic.

The twenty-fifth of 52 special articles to be published in consecutive issues. This is one of several similar articles noted under the general head of "The Emergency Medicine Chest."—Eds.

### LIVE STOCK NEWS.

**Prevention.**  
The prevention of these cases is to guard against constipation and indigestion, of course, not forgetting the importance of treating the navel of every new-born calf. The selection of a strong vigorous stock, keeping them in clean, thoroughly disinfected buildings with proper drainage; furthermore, the excrement from stable should be hauled away and free use made of chloride of lime, not only on the barn floors, but in drains. It is also important to feed the cows with a good quality of food. The calves should be kept some little distance from calving cows. If the calf is allowed to suck, it should either be left with its mother or fed four times a day. Keep in mind the causes I have mentioned and remove them, as near as possible.

**Treatment.**  
You can readily understand that the treatment must vary according to the nature and stage of the disease, but bear in mind that the quicker you give a calf one or two ounces of castor oil to remove the irritant matter from stomach and bowels, the better. It is also important to cut down the milk supply one-third, or perhaps a little more. Give a tablespoonful or two of lime water with each meal—this is made by dissolving a handful of lime in a bucket of water, pouring off the first water, then refill and use. If the stools have a strong offensive odor, give half an ounce or more of calcine magnesina occasionally. It is also good practice to give a dram of nitrate of bismuth in some linseed tea three times a day. It is also good practice to give from one to three tablespoonfuls of the following mixture, made by dissolving seven grains of bichloride

The southern spring lamb crop is reported as 25 per cent less than last year, with fewer ewes bred than usual. Tennessee and Kentucky will not ship lambs before May.

The hog market has at last been placed on a firmer basis as a result of decreasing receipts in the Chicago market and reports from all quarters that from now on smaller shipments will be made by stockmen. The last pig crop has been largely marketed, and it will be impossible to continue to market the large numbers of hogs forwarded to packing centers ever since the first of last November. As matured hogs are going to sell higher in all probability, owners should see that their hogs are made good and fat before shipping them to market.

Colorado sheepmen struck it rich this season, recent shipments of fat lambs of medium weight to the Chicago market having brought prices rarely paid anywhere. The Colorado flockmasters usually stick to the business, and they find that this pays in the long run. Too many farmers are in the habit of abandoning the sheep industry after an unfavorable season and endeavoring to start in after a boom in prices like that of the present time, but the latter is difficult of achievement, as when prices are up hardly any owners are willing to part with either breeders or feeders.

The greatly increased marketing of hogs in western receiving points for the past winter and this spring has resulted in an extraordinary production of provisions of various descriptions, and as consumption has failed to increase correspondingly, stocks have accumulated to an unusual extent. On April 1 the five principal western packing points, Chicago, Kansas City, Omaha, St. Joseph and Milwaukee, held aggregate stocks of provisions footing up 386,331,000 pounds, showing an increase of 20,784,000 pounds during March and a gain of approximately 145,000,000 pounds on stocks held a year ago. These large gains in holdings explain the declines in prices from time to time, placing values on a much lower level than a year ago, but, unfortunately, retail meat markets have made only small reductions in their prices.

## Efficiency on the Dairy Farm—2.

**T**HE dairyman who is seeking to build up a herd of efficient dairy cows will find it practically impossible to maintain a standard of more than 6,000 pounds of milk per cow per year without planning his operations so that he can raise and develop his heifers and from them select cows for his milking herd. A tremendous loss results in raising heifers from inferior sires and dams and also because so many of the calves are neglected and poorly managed from the time of their birth to the time they first freshen that what little dairy capacity they might have inherited is wasted as a result of neglect and being fed unbalanced rations of roughage and grain. The dairy calf should be properly fed and cared for during the formative period when the body, framework, muscles and vitality, which subsequently are to enable it to develop into a profitable cow, are being developed. No matter how well the mature animal is fed, unless this animal has been properly fed and cared for as a calf she will never develop into a money-making cow.

### The Pure-bred Sire.

The first fundamental law of herd betterment is the use of a pure-bred sire from a line of advanced registry ancestry. The only explanation for the use of inferior bred bulls is the fact that dairy farmers are unwilling to invest in anything that does not pay returns the same year. For example of successful herd betterment I have in mind Ernest F. Dye, of Chautauqua county, New York, who set about the problem about fifteen years ago to build up a herd of efficient dairy cows. In those days he could buy good cows for from \$30 to \$50. Prices began to raise until he was compelled to pay from \$60 to \$80 for inferior cows. Simultaneously the price of grain and by-products began to advance. Mr. Dye was a good feeder but he could not make those inferior cows give milk at a profit. He decided to reorganize his business and develop a herd of better cattle. He realized that he must have better cows or go out of the business. He also knew that if he were going to raise his own calves he must have better ones, so he started out in search of a pure-bred sire. While visiting the herd of a well known Holstein-Friesian breeder he found the kind of a sire he wanted; he also found two cows. While buying a bull at a long price he concluded that he could realize better returns from his investment by owning a few choice cows of the same breed. With this modest beginning he has built up a herd of registered Holstein-Friesians that compare favorably with many herds in the country that represent an investment of several thousand dollars. In speaking of his methods and success while visiting his farm last summer Mr. Dye said: "From the very beginning it has been my ambition to build up a herd of efficient dairy cows that would pay a profit at the pail; breeding has been regarded as a side issue. I prefer the Holsteins because they have been the most profitable cattle ever maintained on my farm. When we introduced Holsteins, we began in a small way and did not change our methods and take up the so-called fancy lines of farming; we required that the cattle should either make us a profit under practical farm conditions, such as obtain on almost every other farm, at least in this community, or quit the place. We did not take them on as pasture decorations or because their black and white color harmonized with our color scheme. What a practical dairyman thinks of a breed of dairy cattle is based upon what they can do for him on his farm. If it yields large rewards he can love it to the extent of a loud enthusiasm, but if it does not pay, his affections will be quickly shifted to some other

breed or class of stock. Personally, I have no use for any animal that lacks the ability to return a profit.

### Herd Records Valuable in Selling Stock.

"Building up a herd of efficient dairy cows from the purchase of two cows and a bull is no small undertaking and one is sure to meet with many disappointments. The first few years more than two-thirds of the calves born from the pure-bred cows were bulls and bull calves are undesirable property unless one has established his name as a breeder. I kept at the game, however, until the tide turned in my favor and by the occasional purchase of a promising female and the continued use of improved sires I have worked into a herd of more than twenty pure-bred cows and about that many heifers. In a few years I shall have as large a herd of pure-bred cattle as my farm will carry. Now that I am testing my cows for the advanced registry, I have no difficulty in disposing of my bull calves at remunerative prices and I am gradually bringing my breeding operations down to a definite basis. It is my ambition to develop and test every heifer calf before she is offered for sale. In this way I can build up my own herd and those who buy my stock will have these milk and butter records for a guide in making their selections."

### Supplying Market Milk.

One of the most perplexing problems on farms where market milk is produced is that of buying and selling cows. One of the very few dairy farmers who have succeeded in working out this problem so that they avoid heavy losses, is George Burns, of Delavan, New York. The Burns' farm consists of about 750 acres of land which varies in quality and productivity from rich creek bottom to rough and broken slopes and hillsides which are adapted only for pasture. The farm has two sets of buildings and is operated as two separate units, Mr. Burns himself operating one farm and having a tenant on the other. This enables him to change cows as the occasion requires and maintain both herds at maximum efficiency at various times of the year. It also tends to simplify the problem of keeping up the city milk contract throughout the year, because fresh cows can be shifted from one farm to the other when needed. The two farms produce about 2,000 pounds of milk daily. This, of course, means that many cows must be sold and purchased each year. Regarding this particular phase of his dairy business Mr. Burns said: "As a dealer in cows I find it necessary to buy new cows when and where I can get them for the least money. It is possible many times for me to buy a bunch of 20 or 30 cows that are in various stages of lactation and it would work a hardship upon my tenant to hold these cows over in his dairy until they freshen. By keeping them on the farm that I am operating myself we eliminate this trouble and save many dollars annually, for farmers who have new milch cows to sell, quite naturally, take advantage of the milk producer's wants and ask from \$70 to \$100 for anything that gives promise of giving two or three gallons of milk per day. I figure that, by dealing in cows and having good pasture for my dry stock, I save more than \$1,000 per year. In fact, I have more than maintained my herds at maximum production without going down into my pockets for money to make up an annual deficit.

### Raising the Heifer Calves.

"Some farmers tell me that I should raise my best heifer calves and develop my own dairy cows, but I find that the cost of raising dairy cows, together with the risks and disappointments, is about as great as the cost of new cows, especially in my own case where

(Continued on page 518).



## Which will you buy a "cream thief" or a "savings bank" Cream Separator

WITH A GREAT MANY machines or implements used on the farm it doesn't make much difference which of several makes you buy.

ONE MAY GIVE YOU A little better or longer service than another, but it's mostly a matter of individual preference and often it makes little difference which one you choose.

NOT SO WITH BUYING A cream separator, however. THE MOST WASTEFUL machine on the farm is a cheap, inferior or half worn-out cream separator.

THE MOST PROFITABLE machine on the farm is a De Laval Cream Separator.

A CREAM SEPARATOR IS used twice a day, 730 times a year, and if it wastes a little cream every time you use it it's a "cream thief," and an expensive machine even if you got it as a gift.

BUT IF IT SKIMS CLEAN TO the one or two hundredths of one per cent, as thousands and thousands of tests with a Babcock Tester show the De Laval does, then it's a cream saver, and the most profitable machine or implement on the farm—a real "savings bank" for its fortunate owner.

A De Laval catalog to be had for the asking tells more fully why the De Laval is a "savings bank" cream separator, or the local De Laval agent will be glad to explain the many points of De Laval superiority. If you don't know the nearest local agent, simply write the nearest De Laval main office as below.

### THE DE LAVAL SEPARATOR CO.

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

AS TO HOW MUCH CLEANER the De Laval skims than any other separator, the best evidence of this is the well-known fact that all other makes were discarded by the creamerymen years ago, and that today 98% of the cream separators used in creameries the world over are exclusively De Laval's.

THEN THE DE LAVAL IS SO much better designed and so much more substantially built and runs at so much lower speed than other separators that its average life is from 15 to 20 years, as compared with an average life of from 2 to 5 years for other machines.

THERE ARE OTHER ADVANTAGES as well, such as easier turning, easier washing, less cost for repairs, and the better quality of De Laval cream, which, when considered in connection with its cleaner skimming and greater durability, make the De Laval the best as well as the most economical cream separator.

REMEMBER, THAT IF YOU want a De Laval right now there is no reason why you should let its first cost stand in the way, because it may be purchased on such liberal terms that it will actually pay for itself out of its own savings.

**\$14<sup>75</sup>** Buys a Genuine "IOWA" Cream Separator  
Get Our Free Book  
A Great Offer A Real Bargain

Just the machine for you if your herd is small. Famous patented Curved Disc bowl, owned exclusively by us, skims warm or cold milk exhaustively. Finest grade of tinware. Enclosed dust-proof gears. Quality is guaranteed in every particular. Splendid shop organization, factory equipment and quantity output, accounts for low prices impossible without great output. Equally attractive prices on larger Separators. Write for descriptive Separator book.

ASK ABOUT FAMOUS "CHORE BOY" LINE OF GASOLINE ENGINES—MADE IN ALL SIZES **\$28 AND UP**

ASSOCIATED MANUFACTURERS CO.  
181 Mullan Avenue WATERLOO, IOWA

**Only \$2 Down One Year to Pay!**  
**\$24** Buys the New Butter-Fly Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in four larger sizes up to 6 1/2 shown here.

30 Days' Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "direct-from-factory" offer. Buy from the manufacturer and save half.

ALBAUGH-DOVER CO. (INC.)  
2195 Marshall Blvd. CHICAGO No. 512

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

BUY FEED—CAR LOTS AND LESS—Cottonseed Meal, Hominy Feed, Douglas Gluten, Bran and Middlings. J. E. Bartlett Co., Jackson, Michigan.

**\$15<sup>95</sup> SENT ON TRIAL UPWARD**  
**AMERICAN CREAM SEPARATOR**  
Thousands In Use giving splendid satisfaction justifies your investigating our wonderful offer to furnish a brand new, well made, easy running, easily cleaned, perfect skimming separator for **only \$15.95**. Skims one quart of milk a minute, warm or cold. Makes thick or thin cream. Different from this picture, which illustrates our low priced large capacity machines. The bowl is a sanitary marvel and embodies all our latest improvements.

Our wonderfully low prices and high quality on all sizes and generous terms of trial will astonish you. Whether your dairy is large or small, or if you have an old separator of any make you wish to exchange, do not fail to get our great offer. Our richly illustrated catalog, sent free of charge on request, is the most complete, elaborate and expensive book on Cream Separators issued by any concern in the world. Western orders filled from Western points. Write today for our catalog and see for yourself what a big money saving proposition we will make you. Address:

**AMERICAN SEPARATOR CO., Box 1061, Bainbridge, N.Y.**

# FREE

All you need do is to send us this advertisement, your dealer's name and three trade-marks—the large, red words "MERRY WAR" cut from can labels of

## MERRY WAR LYE.

Then we will send you this

# Genuine Guaranteed WM ROGERS & SON FREE OAK DESIGN SUGAR SHELL

Heavily Plated With Pure Silver

Only One To Each Family On This Special Offer

You'll find uses every day for

### Merry War Lye

Disinfecting - Cleaning - Softening Water - Feeding Hogs and Poultry - Soap-making and many others. Full directions on label.

With your Sugar Shell we will tell you how you can get a Complete Set of beautiful Oak Pattern Tableware to match - and absolutely free - enough to furnish your table elegantly for a lifetime.

Your dealer has Merry War Lye or can easily get it for you. Be sure to give us your own and your dealer's name and address.

E. MYERS LYFCO. Dept. 178 St. Louis, Mo.

## PROTECT THE POULTRY.

Every poultry raiser should, if possible, raise several times as many fowls as he knows he will require for the following year—this gives him a better chance for selection in the fall. Greatest care should be taken in the prevention of disease. The following directions are safe and reliable for keeping fowls sturdy, to better enable them to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes and Worms. Thoroughly mix one teaspoonful Merry War Lye in two gallons of drinking water. Or it may be mixed with dry feed or mash by thoroughly dissolving one teaspoonful of Merry War Lye in one pint of water, which should then be stirred

into two gallons of dry feed or mash. Feed regularly. Poultry raisers who have tried this simple and inexpensive treatment are enthusiastic in its praise.

### WHITE FLOATING SOAP.

You will never know how great is the satisfaction of using a mild, home made, white soap that floats, until you have tried it. Easy to make, too; just put two quarts melted grease into a kettle; then stir one can of Merry War Lye which has previously been dissolved in a quart of hot water and allowed to cool until luke warm, into the grease; add immediately one cup of ammonia and two tablespoonfuls of borax dissolved in half cup of warm water. Stir five minutes; beat the warm soap until it is too stiff to be handled, and put away to cool. Do not use until four weeks old. (All soap improves with age). This formula which is so simple that anyone can follow it makes, at small cost, a batch of excellent floating soap which will give the greatest satisfaction in use.

## Egg Preservation

THERE is not the slightest reason in the world why the farmer cannot hold his own eggs in preservation, i. e., since there is a way by which he can do this cheaply and without loss to the natural freshness of the egg. There are a few persons who will deny this, but the greater majority will verify the truth of the statement. Eggs are invariably high in the winter and low during the time of greatest production, which is the summer and fall seasons.

Where eggs are used to any extent at all, it will pay big to preserve them from time of low prices until they may be economically used during the time of high prices. As far as the sale of the eggs is concerned, I know of no law that forbids the sale of stored eggs provided they are sold as such. They cannot be sold as fresh eggs. Because of the fact that eggs can be so economically stored by the farmer and come out of storage in a practically fresh condition it would be an injustice to the latter if any legislature would pass a law forbidding the sale of the same.

There are two general methods of egg preservation in general practice, i. e., the dry and the fluid. The dry method includes the practices of packing in bran, sawdust, talc, salt, grains, sand, etc. Eggs may be coated or left without a protecting covering. The latter is advised for the prevention of molds and bacteria entering the egg. Eggs can not be preserved for any length of time by this method and for this reason it becomes of little value except for special cases and practices. There is scarcely any expense at all connected with this system.

### Waterglass as a Preservative.

Sodium silicate, or waterglass, is the most efficient, the cheapest in the long run, and the most practical method of preserving eggs for the farmer. The price at the local drug store will vary, but at the best it should not cost more than a cent a dozen for storing eggs. It may be purchased in either liquid or crystalline form. If bought in the crystal form, one part of crystals dissolved in two parts of water will give the ordinary waterglass solution. Of course, this is further diluted as explained below.

The waterglass is usually sold in the liquid form. Of course, it should be bought of a reliable druggist. If one has a hydrometer it would be to his advantage to test it, although it should not be necessary, if the one of whom it was purchased was trustworthy. The specific gravity should be from 1.3 to 1.4. This on the Baume scale would be 41.5. We will assume the solution to be of that density or specific gravity in the following:

A great many people use a ten per cent solution, that is, one part waterglass to nine parts water. However, this makes a very dense solution and the eggs are very apt to float. The per cent of 7.5 has been recommended by a good authority. This is one part waterglass to 14 parts water. This makes an efficient solution. In England, they often go further than this and recommend a five per cent solution or one of waterglass to 19 of water. We ought to content ourselves with the 7.5 per cent solution. In this eggs will keep easily for six to eight months.

### Precautionary Measures.

Water that has been thoroughly boiled and then cooled quickly should be added to the waterglass. In this way all molds, bacteria and other organisms are destroyed before they can enter the solution. The eggs may be added to the solution as desired. It is important that they be added while strictly fresh. The liquid, for safety, should be kept covering the eggs at least two inches above the upper layer of eggs.

For storage purposes, a stone jar or crock is best. Metal vessels should

not be used. Fifteen pints of the solution is sufficient to cover at least 20 dozen eggs. This amount will just about fill a six-gallon jar. Thus it will be seen that one pint of waterglass, before it is diluted, will be sufficient for 20 dozen eggs.

The jar should be placed in a reasonably dry cellar, preferably in the dark and kept covered. The latter precaution is solely to prevent evaporation and thus concentrating the solution. Eggs may be placed in the solution at any time, contrary to the belief of some that the weak alkaline solution will injure the hands. A convenient method of packing is to place the egg upon the small end.

Nothing but strictly fresh eggs should go into the solution. If in doubt, candle the egg, or better still, discard it. Avoid all stales, dirties, cracks, and rots. Washing an egg before placing in storage is not to be recommended. This removes the natural coat of the egg and gives a greater chance for bacteria to enter.

The sources of failure in the past have been due to solutions of impurity, improper strength or to the use of slightly bad eggs to start with. When the egg comes out of the solution, there may be a jelly-like deposit with it. This can be washed off with water and does not injure the egg. The shell of the waterglass egg should come out fresh and clean and the yolk should stand up as well when it comes out as it did the day it went in. Some investigators say that they can detect a faint alkaline taste in eggs that have been stored for a period of eight months, but we have reason to believe that there must have been an especially acute sense of taste vested in them as the majority of investigators say that they can detect no such taste.

L. E. NEUFER.

## BREEDING AND MARKETING BELGIAN HARES.

(Continued from first page).

cent to good hotels, sanatoriums, or hospitals, a very fancy price can be had for all he can spare for meat. Nothing is more delicious than a four-months' old Belgian hare.

As yet very few people in the rural districts have taken up the breeding of Belgian hares. The production of this little animal in commercial quantities is an assured success and the time is not far distant when this fine red fellow, the Belgian hare, will be found in every community and will be a luxury on every man's table.

The rural districts have every facility to be the heavy producers. They have the room, the feed, and a knowledge as to the requirements of any any all kinds of live stock. Nothing can hinder them from producing the hare in commercial quantities. Good stock to start with is all that is needed. They will do the rest.

The little country of Belgium has for years been producing hares for the commercial trade on a large scale. Their export trade to England alone aggregates about 400,000 hares per week under normal conditions.

These facts show that the Belgian hare will soon cut an important figure in the meat production of this country. It will take thousands of good breeders ten years to produce breeding stock enough to put the business on a steady meat-producing footing.

Ohio. A. D. STALTER.

### A WHITE DIARRHEA REMEDY.

Sirs:—I have always lost a great many chicks with white diarrhea, but this year I sent to the Wight Co., B-43, Lamoni, Iowa, for a 50c box of Chicton and I want to say the result has been wonderful, for out of 43 chicks hatched over three weeks ago, I have 42 strong, healthy little fellows. This is a reliable firm and they guarantee Chicton to save 90% of every hatch.—Mrs. Thos. Trisler, Grandview, Ind.—Advertisement.

## DOGS.

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

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

**Belgian Hares Pay**—Guaranteed pedigreed stock, for sale reasonable. Write us for prices. Stalter's Rabbitry, North Lewisburgh, O.

## POULTRY.

**Standard Bred**—Turkeys, Pearl Guineaes, Blue Andalusians, R. & S. O. R. I. Reds, W. Ply. Rocks, S. L. Wyandottes, Belgian & Flemish Giant Hares, Poland China swine. Many prize winners. Eggs (best pens) sent free \$2 per 15. Write wants to French F. & P. Farms, Ludington, Mich.

**RHODE ISLAND REDS and PLYMOUTH ROCKS.** Males 5 to 12 lbs. according to age \$2 to \$5; P. B. hens weight 5 to 9 1/2 lbs., eggs 15 for \$1.50; P. B. eggs \$7 per 100. Mammoth Bronze Tom Turkeys, 8 to 18 lbs. according to age \$3 to \$25, 10 eggs \$4. A. E. Crampton, Vassar, Mich.

**Our Black and White Rock Chickens**, can't be beat in the state, eggs \$1.50 per 15, hens mated this year with \$10 cockerels. J. E. WAY, Pompeii, Michigan.

**White P. Rocks, Pekin and white runner ducks**, White guinea, eggs and day old ducks and chicks, H. V. HOSTETLER, St. Johns, Michigan.

**WHITTAKER'S ROSE COMB REDS.** Eggs and Chicks, Write for Mating List and The Whittaker Guarantee. Interlakes Farm, Box 39, Lawrence, Mich.

**BARRED ROCK** eggs for hatching, from full blood stock. \$1.50 per 13, \$10 per 100. J. A. BARNUM, Union City, Michigan.

**Pine Crest White Orpingtons**—Cockerels, pullets, hens, baby chicks and eggs, from heavy laying strain. Catalogue on request. MRS. WILLI'S HOUGH, Pine Crest Farm, Royal Oak, Michigan.

**White Wyandotte Eggs** from utility & splendid layers. Eggs \$1.50 per 15; \$2.50 per 30; \$6 per 100. A. Franklin Smith, Ann Arbor, Michigan.

**White Wyandotte Cockerels**—Eggs \$1 for 15, \$1.75 for 30, my two best pens \$3 for 15, \$5 for 30. DAVID RAY, Ypsilanti, Michigan.

**Baby Chix \$10 per 100.** R. I. Reds, White Leghorns, Barred Rocks, Buff Orpingtons, White Wyandottes, also Eggs. RIVER RAISIN POULTRY FARM, Dundee, Mich.

**BIG Beautiful, Hen Hatched, Farm Raised Ringlet B Barred Rock Eggs**, settings \$1, \$2, \$3; 100 \$5, Photos, circulars. JOHN NORTON, Clare, Michigan.

**Ringlet Barred Rocks**—The Standard for 30 years. Eggs \$1.50 for 15 from selected mating. PLAINVIEW STOCK FARM, Romeo, Mich.

**Orpingtons**—S. C. White Kellerstrasse, Special prices. Eggs, Chix. Fine grown stock for your new flock. M. E. Thompson, Redford, Michigan.

**BARRED ROCKS.** Parks 200-Egg strain. A strain with Egg records to 271 eggs a year. \$1.50 per 15. Delivered by Parcel Post. Fred Astling, Constantine, Mich.

**R. C. & S. C.** Rhode Island Red Eggs, \$1.50 per 15 postpaid; \$6 per 100 by express. "Satisfy customers". JENNIE BUELL, Ann Arbor, Mich.

**ROCK COCKERELS** (All varieties.) Eggs for hatching. Baby chicks and Pekin Duck eggs. SHERIDAN POULTRY YARDS, R. 15, Sheridan, Mich.

**Chicks:** We ship thousands, different varieties, prices right. Freeport Hatcher, Box 12, Freeport, Mich.

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

**S. C. White Leghorns**—Farm raised, heavy laying strain. Baby chicks \$10 per 100, eggs \$4 per 100. Also White Pekin Ducks, eggs and ducklings. Sunnybrook Poultry Farm, Hillsdale, Mich.

## Join World's Champions

13 more championships won by owners of Belle City hatching outfits. Makes

**Belle City** 21 Times World's Champion Free Book "Hatching Facts" tells whole story. My \$900 Gold Olfers come with Free Book—Money-Back Guaranty Hatching outfit shown in actual colors, Jim Roban, Pres Belle City Incubator Co., Box 14 Racine, Wis.

## Tells why chicks die

E. J. Reefer, the poultry expert of 743 Main St., Kansas City, Mo., is giving away free a valuable book entitled "White Diarrhoea and How to Cure It." This book contains scientific facts on white diarrhoea and tells how to prepare a simple home solution that cures this terrible disease over night and actually raises 98 per cent of every hatch. All poultry raisers should certainly write Mr. Reefer for one of these valuable FREE books.

## BARRED PLY. ROCKS

First prize winners at Chicago, Cincinnati, Indianapolis, etc.

Eggs from fine Utility Matings that are bred to lay, \$1.50 per 15, \$4 per 50, \$7 per 100. From best exhibition stock \$10 per 15, \$25 per 50. Prompt delivery and good hatch guaranteed. G. Earl Hoover, R. 7, Matthews, Ind.

**BUFF LEGHORN** Cockerels and Pullets, Great layers, Eggs \$1.50 per 15, \$5 per 100. Day-old chicks. Dr. William A. Smith, Petersburg, Mich.

**R. & S. C. R. I. RED** Cockerels \$2.50 up. S. O. A. R. GRAHAM, FLINT, MICH.

**White Holland Turkeys!** Large, healthy, hardy. T. B. & E. H. McDONAGH, Burt, Michigan.

**White Leghorns Day-Old-Chicks.** Write for circular, satisfaction to all our customers. MAPLE CITY POULTRY PLANT, Box C, Charlotte, Michigan.

**FOR SALE, R. C. BROWN LEGHORN** eggs and day old chicks. Also Mammoth Pekin duck eggs. CLAUDIA BETTS, Hillsdale, Michigan.

**White Wyandotte Eggs**—Bred-To-Lay stock. Eggs \$2 per 15; \$3.50 per 30; \$8 per 100. HOWARD GRANT, Marshall, Michigan.

**Eggs For Hatching.** White Holland Turkeys 50c each. Toulouse Geese 25c each. Columbian Wyandotte chicks 13 for \$1. Alden Whitcomb, Byron Center, Mich.

**Eggs for Hatching** from prize-winning Barred and White Rocks, Winners at Battle Creek, Three Rivers, Union City and Mich. State Fair. Riverview Poultry Farm, Box 793, Union City, Mich.

**BUFF ROCKS,** 3 out of 4 Firsts Chicago, 1914. Eggs \$4 1/2; utility pen \$2 1/2, \$10 100; S. C. Buff Leghorns, heavy layers, \$1.50 15, \$7.50 100; Blue Orpingtons \$5 15. Catalogue. BIRD LAWN FARM, Box D, Lawrence, Michigan.

**S. C. White Leghorns**—Bred for size, shape, vigor, experience breeding leghorns. Hatching eggs \$4.50 per 100. Baby chicks \$10 per 100. A. O. Howard, Tecumseh, Mich.

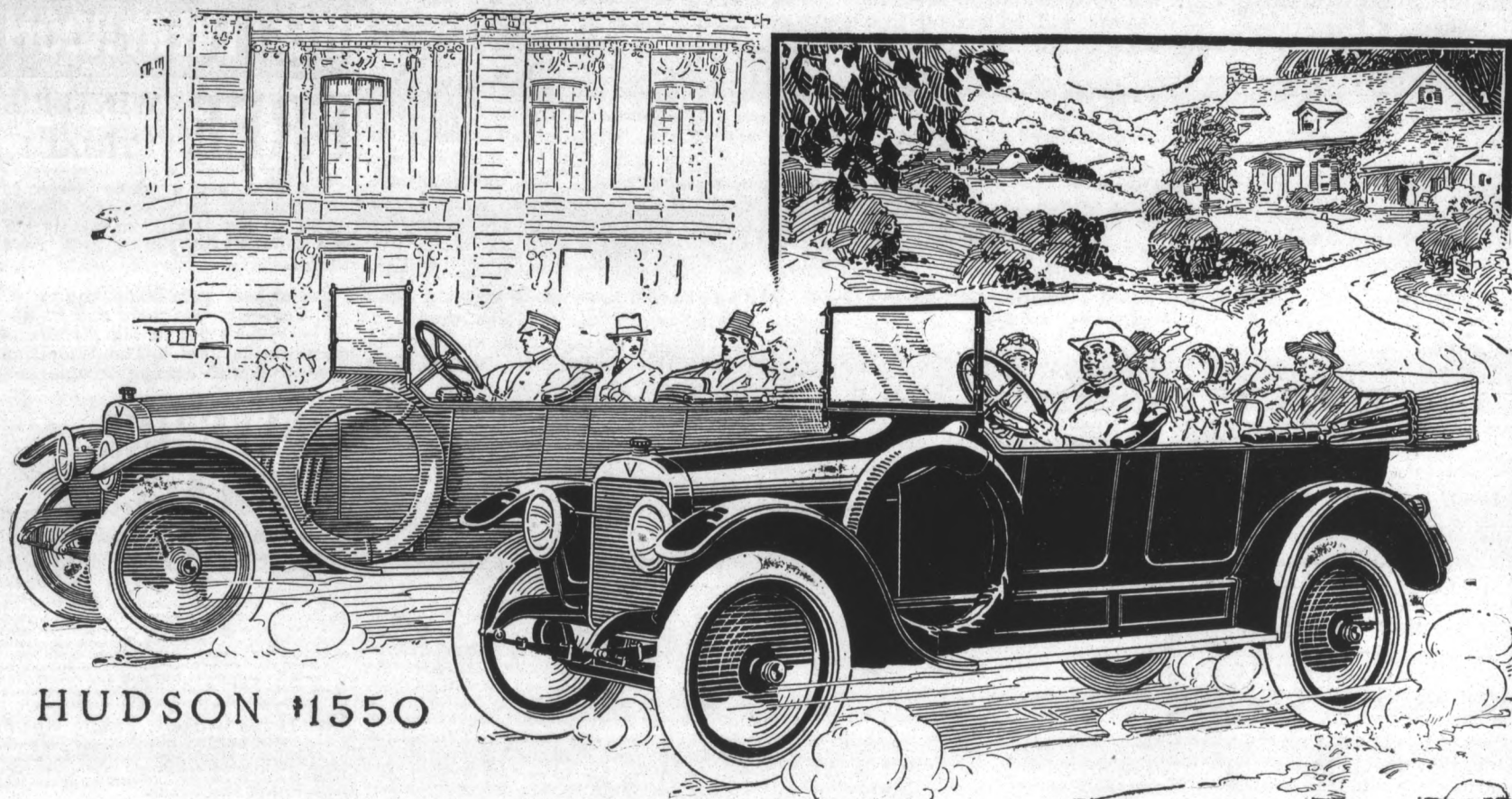
**WHITE LEGHORN CHICKS**—We can fill some more orders for April, May and June delivery. Order now. April \$12 per 100, May and June \$10. Eggs for hatching March and April \$6 per 100. May and June \$5. Satisfaction guaranteed. H. B. BRACKNEY & SON, Clayton, Michigan.

**STATE FAIR WINNERS.** White Wyandotte and Pekin Duck Eggs. Also Baby Chicks & Ducklings. Hemlock Poultry and Stock Farm, Prescott, Mich.

**Barred Rock** Hens \$1.50 each, eggs with the chick in them 15 for \$1.25, 100 \$6, baby chicks 100 \$15. W. C. COFFMAN, R. No. 6, Benton Harbor, Mich.

**S. C. White Leghorns:** Bred to Lay. "Barron Strain." Eggs \$1.50 per 15 postpaid, \$6 per 100 by express. Satisfaction guaranteed. Baby Chicks, Bruce W. Brown, R. No. 3, Mayville, Mich.

**Barred Rock Eggs**—Start right with your Barred Rock Eggs with eggs from a pen direct from Bradley Bros. Yards. A. A. Pustallo, Dookerville, Mich.



HUDSON #1550

## Every HUDSON Owner Finds Himself In Splendid Company Today

If you went to New York you would see on Fifth Avenue hundreds of HUDSON cars. You would see in them women of fashion and men of wealth.

If you went to Washington you would see in HUDSONS men of national repute. Many senators own them, one cabinet member, and other well-known men.

So wherever you go. You will find HUDSONS owned by leaders. And nowhere will you find a finer car, a handsomer car, or a car that men more respect.

Do you know what that means—to feel that your car is the class car? To know that it proves you discriminating? And do you know that a man ashamed of his car loses half the enjoyment of motoring?

### It's More Than Pride

Distinguished men, of course, like to own distinguished cars. But it is more than pride that leads big men to buy HUDSONS.

These men of wealth and position are usually experienced motorists. They have driven cars for years—cars of various makes. They have learned in those years the need for quality cars. They know that it pays to buy them.

Note that under-grade cars are usually bought by new buyers. They are not bought by men who know. Men who have been through the mill insist on getting the best that can be built.

### Suppose You Save \$200

Suppose you could save as much as \$200 by getting a lower-grade Light Six. How long would it take you to lose that saving when parts began giv-

ing out? But the days you'd lose—days of pleasant driving—would mean more than the money.

An under-grade car may look well when you buy it. It may drive well for awhile. But the finish soon grows shabby. The skimping, weakness or mistakes are bound to show in time. The second season is a costly time with a poor car. Every old-time motorist knows this. That's why they buy quality cars.

A HUDSON, if you wear it out, will last years longer than a low-grade car. If you sell it later, it will bring a much higher price.

So you save nothing at all when you sacrifice quality. And you lose content, lose pride of ownership, lose half the fun of driving. Any man who has had experience will tell you not to do it.

### The Day of Light Sixes

The Light Six today is the standard, popular type. Few cars are sold above \$1100 which are not of this up-to-date class.

Every ambitious motorist has long wanted to own a Six. It means continuous power, flexibility, luxury of motion. But Sixes for years were high-priced and heavy. They were costly in tires and fuel. Only the few could own them.

The HUDSON wiped out those obstacles in creating this new-type Six. By better materials and better designing it saved more than 1000 pounds. It cut tire cost and fuel cost in two. And it brought down the price until this new HUDSON—the ideal Light Six—costs but \$1550.

### Why HUDSON is Best

Nearly all the better makers have now come to

Light Sixes. But the HUDSON still leads for these reasons:

HUDSON is the original. It created the Light Six type. Our whole engineering corps, headed by Howard E. Coffin, has devoted four years to perfecting it. So the HUDSON today shows all the final refinements. It shows the Light Six as it will be.

This is the only Light Six designed by Howard E. Coffin, who has led for years in motor car designing.

And there are 12,000 HUDSON Light Sixes in use. In the past two seasons these cars have been driven some 30 million miles. So this is the proved-out car of this type. It is utterly certain that this car will develop no weakness or shortcoming. In a new-type car, so much lighter than old types, this is a very important matter.

That's why we urge you to see this new HUDSON. It's a car you'll be proud of. It is a finished production, and you know it is right. It gives you a value which would be utterly impossible without our enormous production.

See it now. Last spring thousands of men waited weeks for this car. This spring we have trebled our output, but there are sure to be delays if you wait.

### 7-Passenger Phaeton or 3-Passenger Roadster, \$1550, f. o. b. Detroit

The HUDSON Company never loses interest in the cars it sells. So long as a car is in service we maintain our interest in the character of its service. That's one great reason for HUDSON reputation.

**HUDSON MOTOR CAR COMPANY**  
DETROIT, MICHIGAN

We have dealers everywhere. These are a few in your vicinity:

#### MICHIGAN DEALERS

Ann Arbor—Ann Arbor Garage.  
Big Rapids—C. P. Judson.  
Bessemer—E. H. Ekman.  
Battle Creek—American Motor Co.  
Birmingham—Morris Levinson.  
Bay City—Peter J. Oswald.  
Chassell—Edwin E. Warner.  
Durand—Durand Auto Co.

Dundee—McIntyre Bros.  
Detroit—The Bemb-Robinson Co., 288  
Jefferson Ave.  
Eagle River—R. L. Blight.  
Flint—A. A. Farnam.  
Gladstone—Holmgren Auto Co.  
Grand Rapids—Reid Auto Co.  
Hillsdale—L. E. Roethlisberger.  
Iron River—Lindwall & Lindstrom.  
Ionia—Eugene Kerstetter.  
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**CURRENT COMMENT.**

**The Wool Situation.** Considerable interest is manifest on the part of readers of the Michigan Farmer, touching the wool situation and the probable future of the wool market upon which this season's clip will be sold. There has been criticism from some sources of the wool market news and quotations published in the Michigan Farmer during recent weeks. The following letter is typical of communications which have been received on this subject from a number of our readers:

You have continually quoted wool strong and higher in your paper for the last two months, but we farmers have been unable to find any such conditions. In fact, everything looks lower at all points about here and we would be glad if you would tell us who is paying these prices as we would like to sell them our wools.

The reader should understand that the wool quotations given in our regular market report are Boston quotations, Boston being the recognized wool market of the country, as Elgin is the recognized butter market. As has been explained in the comment accompanying these quotations in numerous issues of recent date, quotations have been largely nominal, very little fleece wool, in which class Michigan wool grades, having changed hands during recent weeks. There has been but a limited supply of these wools and they have been held strongly by the speculators or dealers holding them, and there has been every indication that wools of this class would bring a better price this spring than was the case last year.

As is quite natural at the approach of the flush marketing season, a strong effort is now being made on the part of the trade to bear the market and force values down to a more favorable speculative basis. To this end recent importations of fine wools from Australia, South Africa and South America have been emphasized in Boston market news. Likewise, claims that the demand for goods has not been as large as was anticipated, and that for this reason manufacturers are not expected to be unusually strong buyers during the early marketing season. Notwithstanding these influences, however, the outlook for wool is logically better than it has been at a similar season in recent years. The trend of the market for sheep and lambs indicates the relative scarcity of these animals in our own country and it is conceded that no large stocks of wool are being carried over by dealers or manufacturers.

The European situation is of course, uncertain, and this may have a more or less direct influence upon market conditions, but there would seem to be no valid reason why wool growers

should not be fairly strong holders of their season's clip, since there is apparently a world shortage of wool at the present time. Naturally local dealers will be careful in their purchases until the market for the new clip becomes well established. The weakness so far shown has been mainly on western grades and it is yet too early to predict with any assurance how far fleece wools may share in the reaction. As the market becomes more settled however, competition will doubtless be more keen in the purchase of the new Michigan clip. In the meantime conservative marketing would seem the wise course for Michigan wool growers.

**Public-Co-operation of the U. S. Department of Agriculture Should Continue.**

The Bureau of Animal Industry of the U. S. Department of Agriculture announced early in April that for the first time since the appearance of the disease last October, there were no animals known to be affected with foot-and-mouth disease in the United States. A few cases have occurred since this announcement was made, and additional cases are expected from time to time, due to germs which have survived the disinfection following the slaughter of diseased animals. Where such sporadic cases occur they can be quickly and effectually dealt with, provided the authorities are promptly advised of their presence. For this reason every suspicious case should be at once reported to the state or federal officials, to the end that there may be no new centers of infection for this disease, which has been stamped out at such great cost.

The Department has recently issued a bulletin on foot-and-mouth disease known as Farmers' Bulletin No. 660, which, among other information, contains a brief description of the symptoms of the disease and the character of the lesions which it causes in the mouth and about the feet. The interest and co-operation of the farmers of the country should continue until the eradication of foot-and-mouth disease has been finally and effectually accomplished. It is probable that no more cases will occur in Michigan, but if local outbreaks should be found they should be promptly reported to both federal and state authorities.

**Potato Products.**

Acting under authority granted him by the Legislature, Secretary Carton, of the Public Domain Commission, has recently made a careful investigation of the possibilities of utilizing the pulp drying machinery in the Michigan sugar factories for the purpose of preparing dessicated potato products. At the outset, it was thought that this method might be taken to relieve the market of some of the surplus of last season's crop in order that any loss from this surplus might be avoided.

The report has been completed and is available for distribution to those interested. The possibilities are apparently encouraging, since it is pointed out in the report that the machinery used in drying beet pulp could be employed in the drying of potatoes for the manufacture of potato flour without additional equipment. Secretary Carton's report recommends that further consideration be given to the subject by the State Board of Agriculture. Incidentally the report covers the operations of two factories now operating in Michigan in the making of dried potato products; these are marketed through a Canadian firm which operates seven other factories in Canada.

The market outlook for dried potato products would appear to be very bright indeed, in fact, potato flour manufactured in Norway, Sweden, Holland and Germany is now being sold in the United States in package form and is in increasing demand by housewives for use in cooking opera-

tions. A proper amount of potato flour used in the baking of all kinds of bread and pastry adds a desirable flavor and has the effect of keeping it fresh much longer. There is undoubtedly a good field for the manufacture of products of this kind in Michigan, particularly in a year like the present when potatoes are abnormally cheap. An industry of this kind, to be available in such years, must be established on a permanent basis. The merchantable value of our potato crop could be increased in any year by a proper grading of the tubers and the use of certain grades in the manufacture of products of this kind, while in years when a surplus of potatoes was produced, an industry of this kind which could relieve the market of a considerable percentage of the crop would be of great value to the growers by adding stability to their business. This report is one which should be perused with interest by the potato growers of the state by whom future developments will be awaited with interest.

**HAPPENINGS OF THE WEEK.**

**Foreign.**

**The European War.**—The war situation remains unchanged from last week. In Belgium, northern France and the Vosges district considerable fighting has been done, but only minor advantages gained and these seem to have been well divided between the Germans and the Allies. The Allied forces are now making a desperate effort to either cut off or drive back the strong German wedge at St. Mihiel; so far, however, nothing decisive has been accomplished. In the east the condition remains unchanged. The Russian invasion of Hungary has been checked, strong German forces having come to the aid of the Austrians. It is intimated, however, that the Russians have taken precautions to secure their lines of communications before advancing upon the plains of Hungary. In the south Serbia keeps up artillery activity but no important change in positions is noted. The Russian Black Sea fleet attacked Kara Burun, Sunday. This point is thirty miles north of Constantinople. It is also reported that several Turkish garrisons in European Turkey are being removed to Constantinople. The English report success in the Suez district and are advancing upon the German owned railroad in the valley of the Euphrates.

The United States government, upon investigating the activities of the Japanese in Turtle Bay, lower California, report that the work of the Orientals is confined to salvaging work.

**National.**

The past week has been a rather interesting one in business circles. On the New York Stock Exchange the week will go into history as one of the most active on record, the number of shares changing hands averaging around a million a day. Large war orders from belligerent European nations have stimulated industrial manufacturing, especially steel. As a result of this and the improved domestic demand, steel stocks have advanced rapidly in the markets of the country. Besides federal statistics show that the balance of trade since December 1st is near the \$600,000,000 mark, and it is estimated that by the end of June the balance will aggregate \$1,000,000,000, which will exceed the high record of 1913 by \$300,000,000.

Electric car accidents were numerous in Michigan last week. On April 14, in west Detroit, a loaded electric car was run down by a freight train and 15 persons were killed and a score injured. On Sunday morning an interurban car struck an automobile in Kalamazoo and two persons are dead as the result. At Clarenceville, Wayne county, another automobile was hit by an interurban car and two lives were lost.

Ex-Senator Nelson W. Aldrich, who for nearly a generation represented Rhode Island in the upper house of Congress, died in Washington last week. Funeral services were held on Sunday at Providence.

Of the 98 men convicted in the Terre Haute conspiracy case, 16 were sent to the Federal penitentiary at Leavenworth, Kans. The others are confined in the local jail.

The trial of Col. Roosevelt for libel starts at Syracuse N. Y., this week. In Illinois 22 incorporated villages are voting on local option this week.

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**MICHIGAN FARMER**  
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ESTABLISHED 1843.

The FARM BOY  
and GIRL  
SCIENTIFIC and  
MECHANICAL

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

## How the Raiffeisen System Serves the German Farmer.

GERMANY is the natural place to study rural credit because it is the home of rural credit. The farmers of Germany are financed in the sum of nearly \$2,000,000,000 on long time mortgage loans at low interest, while \$1,250,000,000 have been loaned to the farmers, the small tradesmen, the mechanics, the farm laborers, on what we might at first flush call inadequate security. And this is explained by the Raiffeisen and Schulze-Delitzsch banking systems and the landschaften mortgage loan system.

"Vater Raiffeisen," as he is affectionately called in Germany, has gone to his reward, but a monument has been erected to his memory. It stands a few steps from where he lived in front of the first union he established, at Neuwied on the Rhine. This first union is still in prosperous condition and grown to large proportions.

Sixty-five years of experience in Germany has demonstrated that character, moral worth, industry, sobriety and thrift constitute security, safe enough for loans which pass the billion dollar mark. Collective responsibility is a cardinal principle in the little Raiffeisen banks. Unlimited re-

sponsibility, one man one vote, restricted area of operation and management on the principle of promoting the interests of borrowers instead of making profit for those who loan, have proven by long experience to result in very few losses as compared with banks organized on the basis of commercial profit.

It is important to note the Raiffeisen spirit of Christianity and patriotism. Raiffeisen was a religious man and he made Christianity one of the foundations of this society. The articles of every society to this day contain this:

"The society aims less at realizing profits than at strengthening those economically weak and promoting the intellectual and moral welfare of its members. Its activities must accordingly extend to: (a) The furtherance of thrift; (b) The accumulation of an indivisible foundation fund for the promotion of the economic conditions of the members; (c) The organization of means for the cultivation of rural social welfare and of love of home; (d) The establishment of conciliatory courts of the society for the pur-

pose of checking litigation; (e) The active opposition to such transactions in real property as are against the public good, and such participations in the relief of landed property from debt as may be expedient; (f) The holding of instructive lectures and the exchange of practical experiences at the meetings of members.

"The society rests on a Christian and patriotic foundation. At meetings and in all of the activities of the association opinions and measures of a religious or political character are absolutely prohibited."

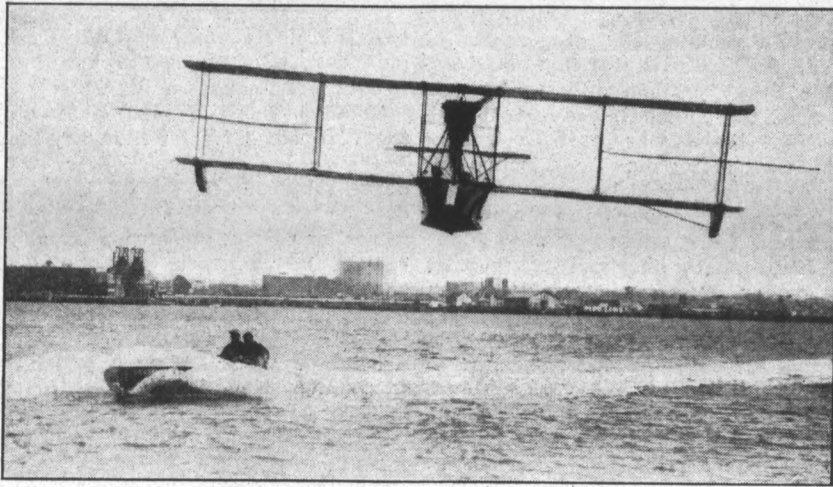
And these provisions seem to be lived up to. Habits of industry and thrift and sobriety are reported wherever these little banks have been organized. Whole communities are said to have been redeemed by the leaven of these banks.

It is, of course, a very simple matter to organize one of these banks. Ten or a dozen men, the minimum is seven, get together and organize, adopt what we would call by-laws, they call them "statutes," under a general form provided. They elect a manager or cashier and executive

or discount committee and a supervisory committee. The executive committee passes on all loans and the majority must in writing approve an application. The supervisory committee keeps constant watch over the manager and executive committee. The meeting decides what shall be the maximum loan to an individual, the maximum amount to be loaned in the aggregate, and all other details. The highest limit allowed to an individual is \$2,500 and in the small societies is much less. The members pay their entrance fees or for their stock, which may be paid in installments, register the society at the government registry office, join the federation, (of Raiffeisen banks), and get in touch with the central bank, and the society is ready for business.

The manager is generally the village school teacher or clergyman, or one of the larger farmers—an educated man who can keep a simple set of books and figure interest. He gets from \$2.00 to \$12 a month salary in proportion to the amount of business. No other salaries are paid unless the business grows so as to require clerks giving their whole time, in which case they get the going wages. The bank

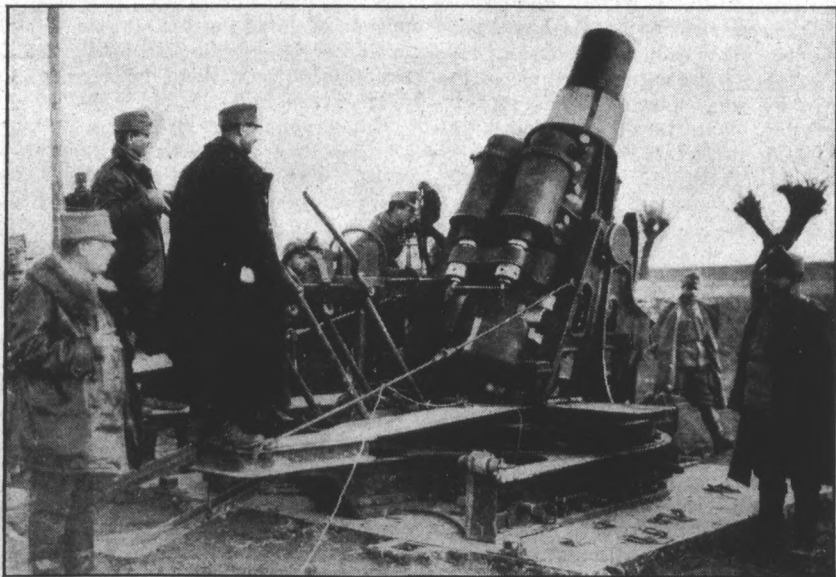
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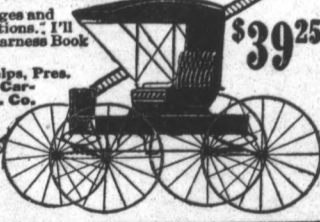
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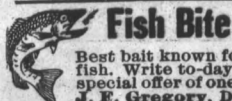
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is frequently in a little back room in the manager's house.

The banks are open certain hours on certain days in the week, others every day. Deposits are received from members, who are paid interest—one per cent less than is charged on loans. Deposits are also received from non-members who are paid from one-fourth to one per cent less than are members. The loans are made to members only. If a loan is made to a non-member the society becomes a commercial bank and is taxed by the government. This distinction is recognized as eminently fair as between a society of borrowers not organized for profit and a bank which is organized for profit.

When a member makes an application for a loan he must bring two other members as sureties and must explain for what the money is to be used. He must not only show them that the purpose is productive or economic in the abstract, but that in this specific instance he can and will carry it out so as to insure a money return that will guarantee the payment of the loan. Loans are made from periods of from three months up to periods of two or three years and are extended when advisable up to ten years, which is the limit. Loans running longer than a few months must be reduced by partial payments annually.

Interest varies from three and one-half to five per cent. It was a striking fact that a stringency about the time the American Commission were making their investigations, had caused the interest charged by the bank owned by the Imperial government to advance to seven per cent and that of the commercial banks to eight per cent. These little credit societies continued to serve their members at the usual cheap rates with apparently no injurious knowledge of the shortage of money. The bank keeps in the little safe only such money as is needed from day to day, two or three hundred dollars; the balance being held at the central bank, drawing interest. If its members need more money than the local bank has, the Central Bank advances it at a low rate of interest.

Here the unlimited liability comes in: A member becomes liable not only for his friends but for the other 99 members of the society. All of the little properties of a member might not be worth a thousand dollars and would be practically worthless as a security for a commercial bank, for the expense and trouble of selling and realizing would be far greater than the small sum earned in interest. But all these little possessions foot up a thousand dollars, and when all the hundred members is combined in the society it becomes a hundred thousand dollars of Raiffeisen's security. And so your society has a rating of a hundred thousand dollars although its capital is only two or three hundred dollars. And at any time the central bank, without any other security, will advance one-tenth of this rating, or ten thousand dollars.

And so a bank organized with a few hundred dollars capital can take care of all the needs of a small community. The answer to this big surprise, as it seems to be to the average American, is that the government reports show that while the capital of these 17,000 banks average less than \$500 of the hundreds of millions of dollars they handle annually, nearly 90 per cent comes from their own deposits, one and two-tenths per cent from share capital, two and six-tenths per cent from accumulated surplus, and but eight per cent borrowed from the central bank or from some other source.

It is of much importance to remember that the large aggregate of working capital thus created by the German farmers and through their rural credit systems conserved for the promotion of their own interests, is not simply 90 per cent their own capital but what is more important, perhaps,

it is largely new capital. As they say, "It is the little savings hoarded in tin cans and old stockings, and the new savings that have come into existence by reason of new habits of industry and thrift and sobriety that make up the enormous total in the co-operative bank—money that has never been in an ordinary bank and much of it probably never would be."

It is shown that the establishment of these little banks with the millions they have drawn as deposits has not reduced the volume of deposits in the savings and commercial banks. They have continued to increase at a normal rate. In three years in Germany, while deposits in co-operative banks have increased \$150,000,000, about a third, deposits in savings banks increased about a sixth, aggregating \$400,000,000.

The safety of these little banks is

eloquently proclaimed by government statistics. In a period of 16 years up to within a year or two of the time the American Commissioners were there the statistics covering the whole 15,000 of these banks show that there were just 19 failures and in no case did a depositor lose a cent. For every one of these little banks that failed 55 commercial banks failed, many of the latter largely capitalized.

The average size of loan in these little Raiffeisen banks will be a surprise to many, but they illustrate how responsive they are to the small needs of the farmers and workers they care for. The report of the federation for 1910 shows 16 per cent of the loans were less than \$25; 28 per cent from \$25 to \$75; 16 per cent from \$75 to \$125; 17 per cent from \$125 to \$250; 12 per cent from \$250 to \$500, and 11 per cent over \$500.

## THE RED MIST.

By RANDALL PARRISH.

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### CHAPTER II.—(Continued).

His voice was hardly as cordial as his words sounded, but I felt it best to accept the rather surly invitation. I led my horse down the dim path indicated, until I came to where the other animal—a rangy, ill-groomed sorrel—was securely hidden. I had blindly stepped into a trap, but just what kind I could not as yet determine. I must win the man's confidence, and learn what I could. The fellow, whoever he might prove to be, was evidently in concealment—but for what reason? Was he deserter or spy? And, if it was true, as he claimed, that he was also bound for the Green Briar, how was I to easily avoid traveling in his company? To refuse would arouse suspicion at once, and might plunge me into greater peril. Yet, if, on the other hand, we did continue to consort, how was I to conceal my real purpose and identity? Once we were in the neighborhood of Lewisburg, my impromptu claim of being a Cowan would be easily exploded. I had assumed that particular name on the spur of the moment, chancing to remember there was such a family prominent along the Green Briar, but the deception would be very apparent so soon as we crossed the mountains. Even now I had grave reason to doubt if I had actually deceived this man by my sudden invention. There had been a look in those glinting blue eyes that told of cunning suspicion. However, at present nothing remained but to play out the game and thus gain all the advantage possible. Whoever the man might prove to be—spy, scout, bushwhacker, or deserter—beyond all question he possessed intimate knowledge of the country lying beyond the Alleghenies. He knew the existing conditions there, and was acquainted with the people. Once his confidence could be fully secured, providing his sympathies were with the cause of the south, as was most probable, his information would be of the utmost value. And surely, if we journeyed together, there would be some revelation of his identity, his reason for being where he was, and the side he espoused in the quarrel. Reticent as he was, suspicious and close-mouthed, a silent, typical mountaineer, he could surely be induced to let fall some scrap of information. And somewhere along the way an opportunity must surely arise whereby I might escape from his company, if such a move became really desirable. The fellow could not remain on guard night and day, and once convinced of my honest his suspicious would naturally relax. Revolving these thoughts rapidly in my mind I returned to the hut, carefully bearing the bundle containing the Federal uniform tucked under my

arm. The gaunt mountaineer, busily engaged in preparing breakfast at the open fireplace, scarcely favored me with a glance of recognition, but began to arrange the scant supply of food on an overturned box.

"Just pitch in, an' help yerself, Cowan," he said affecting a cordiality of manner not altogether natural. "Thar ain't much of it, but we'll eat whut we've got, an' then rest awhile. If yer a goin' ter travel along with me it will be done mostly at night til' we git down Covington way."

I seated myself without ceremony. "You are in hiding then?" I asked carelessly, not even glancing up at the expressionless face opposite.

"Wal' not exactly. Thar's nuthin' I'm specially feered of, an' I reckon it's more habit than anything else. We've grown pretty skeery back in the hills—nobody thar knows their friends from their enemies these days. Yer liable ter git popped at most any time, an' never know who did it. Yer ain't been thar lately, I reckon?"

"No; not for over a year."

"Things has changed sum since then. Nobody lives ter hum eny more. It's sure hell in Green Briar these days—somebody is gettin' kilt every day er two. The cusses travel in gangs, murderin' an' burnin' from one end o' the county to the other." He spoke in an even drawing voice, with not the slightest show of emotion, as though telling an ordinary bit of news: "Damned if I know which outfit is the wus—the Yanks, or the Rebs."

"Which are you with?"

"Who, me!" He paused in his bolting of food, and gave vent to an unpleasant laugh. "I rather reckon it would puzzle the Lord Almighty ter find that out. I don't give a whoop fer neither of 'em. I'm fer ol' Jem Taylor, an' it keeps me toler'ble busy tendin' ter his affairs, without botherin' 'bout no government."

"Then your name is Taylor?"

"I recokn it has been fer 'bout sixty years. Thar's a slew o' Taylors over along Buffalo Creek, an' som' of 'em are Yanks, an' a parcel of 'em are Rebs, but the don't git ol' Jem ter take nary side. At that, I'm gittin' all the fighting I hanker arter. Naturaly, I'm a peaceful critter, if th' cusses let me alone."

"Quieted down some over there lately, hasn't it?"

"Not thet I've heard of."

"Why, I understood that the Federal troops from Charleston were in control, and held the county?"

"Huh! Thar's a rigiment o' blue-coats at Lewisburg, an' a few cavalrymen ridin' ther pikes. Don't amount ter a hill o' beans as fer as ther boys

(Continued on page 508).

# Land O' Nod Stories.

By HOWARD T. KNAPP.

## A Funeral in the Great Forest.

"Ho, ho, ho," laughed Tinker Teele Tee, when a big clumsy beetle flew in Billy's face frightening him so that he fell over backward onto a bed of moss that replaced the snow drifts when Spring arrived, driving Old Father Winter back to his home at the North Pole and changing the White Forest to the Greenwood. "I see the Sexton Bug is around again. Now I wonder if he is merely out for a stroll or has some business to attend to."

"Well I hope he has some other business than going around bumping into people," grumbled Billy Be By Bo Bum, picking himself up from the bed of moss.

"He has," replied the merry little elf. "The Sexton Bug is the official undertaker and grave digger of the big woods. Whenever one of the Little People dies, he arranges the funeral, digs the grave and buries the body. In fact, there would not be any funeral at all, at all, if it wasn't for the Sexton Bug."

"Do you see any green in my eye?" demanded Billy. "You can't make me believe a bug can dig a grave large enough to hold a mosquito, let alone one of the Little People."

"Oh, can't he?" retorted Tinker. "Well, unless I am very much mistaken—"

But Billy interrupted him by crying, "Oh, look, Tinker, there is a dead field mouse under that skunk cabbage."

"Yes, and here come the Sexton Bugs to bury him," answered the elf, as two big beetles dropped to the ground and crawled under the skunk cabbage. "Now, Billy Boy, you will see for yourself just how they conduct a funeral in the Greenwood."

So Billy and Tinker sat down on a log and watched to see what would happen. They did not have long to wait, for the beetles, without wasting any time, went straight to work. Crawling under the body of the poor, dead mouse they began to dig, and before long they had thrown out quite a fair sized pile of dirt. Then two more Sexton Bugs dropped to the ground and joined in the work, making the dirt fly like sixty. For nearly an hour Billy and Tinker watched them, and they worked so hard and so fast that at the end of that time they had hollowed out quite a hole under the mouse.

"If you come along here tomorrow looking for that mouse, you wouldn't find him," said Tinker. "By that time he would be buried good and deep and the earth piled back in the grave, covering up the body so you could hardly tell where the funeral had been held."

"But why do they want to bury him?" asked Billy.

"They are prompted by instinct," replied Tinker.

"But what is instinct?" persisted Billy.

"Instinct is what makes an animal, or a man do something without thinking. It is a trait inherited from your ancestors. If you fall into the water, you don't have to stop and think what to do, you just start swimming for shore. That is instinct. And so it is with animals. They do lots of things without knowing why they are doing them, or without stopping to think about it, things that they must do to live and prosper in the big woods, and that is instinct.

"Now, when Mr. Mouse is safely buried, Mrs. Saxton Bug will lay her eggs on his body, so when the eggs hatch out the baby beetles, who, when they are first born, are nothing but grubs, will have plenty to eat until they grow wings and can take care of themselves.

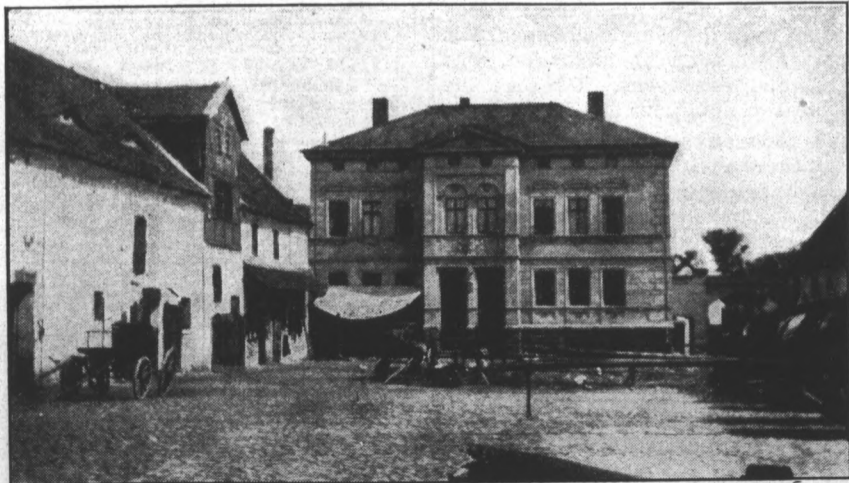
"But there is another reason why the Sexton Bugs go around digging graves for the Little People. You see, Billy Boy, if a dead animal is not buried it soon decays and smells badly and often breeds disease. So Old Mother Nature picked out the Sexton Bugs to be her undertakers and keep the Greenwood free from any dead body."

"I don't see how the Sexton Bugs know when one of the Little People dies," said Billy.

"That is one of the mysteries of nature," answered the elf. "It is one of the things no one can explain. Now, down south the turkey buzzards are the official undertakers, and whenever an animal dies they are always on hand to dispose of the body. Maybe a turkey buzzard hasn't been seen in the neighborhood for years, but if a dead animal is left in the fields, it won't be long before a whole flock of buzzards arrive to attend the funeral."

"But where do they come from?"

"A turkey buzzard's eyes are something like telescopes and he can see a long distance. So when he is hungry he flies up and up until he is out of sight, lost in the clouds, but his eyes are so sharp he can see everything on the earth below him. Around and around he soars in a wide circle until at last he sees a dead animal on the ground. Then he swoops down and his flight attracts the attention of the next buzzard, who may be miles away. So he starts, and the buzzard next to him sees something is going on and he follows the other two. So in a few minutes a whole flock of undertakers is on hand for the funeral, and when they leave the bones of the dead animal are picked clean."



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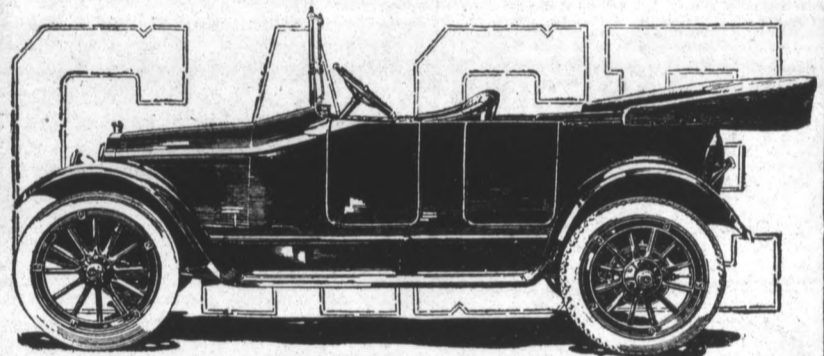
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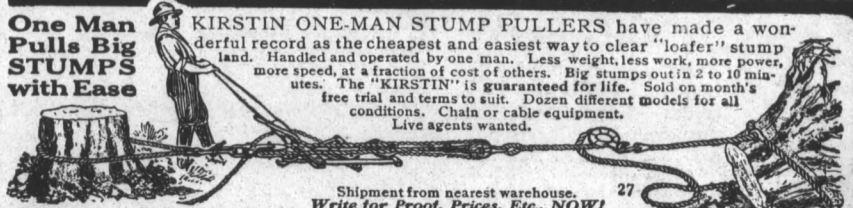
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BY ALONZO RICE.

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A cornstalk at the fallow field's far end;  
Yon farmer draws now without crook or bend  
His furrow, broad and deep, with steady hands:  
This badge, do men behold from distant lands,  
And countless vessels overseas will send;  
Daily, will Commerce all the trips attend,  
For, lo! each day harsh Hunger makes demands.

Full soon, within the wake of cleaving share,  
Will sowers go; then gleaners in a throng;  
Here, rustic Peace and Plenty shall repair,  
Wooded by tanned Labor's cheerful evensong:  
Signal of thrift and strength in the mild air,  
The faith of continents in you is strong!

**THE RED MIST.**

(Continued from page 506).

are concerned. All they got ter do is go further back in the hills, an' be a bit more keeful. I reckon, young man, ye'll find plenty o' deviltry goin' on in Green Briar, if ye ever git out that away. Wal, thet's all thar is fer us ter eat, an' I'm goin' ter take a snooze."

He closed the door, fastening it securely with a wooden bar, and then stretched himself out on the floor. The room was dark, as the only window was tightly boarded up, and, using my bundle for a pillow, I lay down also. For a short time I remained staring up through the dim light, thinking, and endeavoring to plan some feasible course of action, but there was no reason to remain awake, nothing to fear immediately, for his heavy breathing was evidence enough that Taylor slept. Slowly my heavy eyes closed, and I lost consciousness.

The sun was below the mountain ridge, when the heavy hand of the old mountaineer shook me into sudden wakefulness. I had aroused once during the day, and lay listening to the sound of heavy wagons passing along the pike—a strongly guarded train to judge by the voices of men, and the thud of steadily marching feet. Ammunition, no doubt, destined for the Army of the Valley, in preparation for the coming campaign. Then my eyes had closed again in dreamless sleep. With nothing left to eat we were not long in preparing for departure. I endeavoring vainly to get my silent companion to converse, being rewarded merely by grumbled and evasive answers. Finally I desisted in the attempt, content to follow his lead. Taylor, astride his sorrel, with gun resting grimly across his knees, rode straight through the brush, away from the pike, down the valley of a small stream. In crossing, the horses drank their fill.

"How about the valley road?" I asked as we climbed the opposite bank. The leader glanced beck at me.

"This yere way is nigher, an' a darn sight mor' quiet," he answered gruffly. "Soldiers been marchin' over the pike all day. Mout be all right fer you, if yer've got a pass—but I ain't got none. We'll hev' good 'nough ridin' in 'bout a mile mor'."

"You are aiming for the cut-off?"  
"I be—yer do know sumthin' of this yere kintry, I reckon, but yer've got more eddication than eny Cowan I ever hooked up with afore. Yer don't talk none like mountin' folks."

I drew a quick breath, sensing the return of suspicion.

"That's true," I admitted readily. "You see I went to school at Covington; they were going to make a preacher out of me."

"The hell they wus," and he chuckled to himself. "A blue-bellied Presbyterian I'll bet a hog. Their ol' stock—them Cowans—hell fire, infant dam-

nation. So you wus goin' fer ter be a preacher—hey?"

"That was the program?"  
Taylor stared into my face, his vague suspicion seemingly gone.

"Well, I'll be damned—a preacher."  
He rode on into the dusk, chuckling and I followed, smiling to myself, glad that the man's good humor had been so easily restored.

We were fed at a hut far back in the foot-hills, where an old couple, the man lame, were glad enough to exchange their poor food for late news from the army, in which they had a son. Then we rode on steadily to the south along a deserted, weed-bordered road, meeting no one to obstruct our progress. Earlier in the war the Army of the Kanawa had passed along this way on forced march, and the ruts left by battery wheels were still in evidence, the frozen ridges making fast riding impossible. There were no villages, and only a few scattered houses, but the night was not so dark as to prevent fairly rapid progress. When dawn came we were to the west of Waynesboro, in broken country, and all through those long night hours scarcely a word had been exchanged between us. We camped finally in the bend of a small stream, where high banks concealed us from observation. There was little to eat in our haver-sacks, but we munched what we had, and Taylor, his eyes on the horses, broke the silence.


"I recokn the critters don't need mor'n a couple hours' rest," he said. "They ain't been rid noways hard, an' I'm fer gittin' through the gap durin' daylight—the road ain't overly good just now."

"Across the mountains? Is there a gap here?"

"Ther road ter Hot Springs is 'bout two miles below yer. I cum over it ten days ago an' I reckon I kin find my way back. It's 'bout forty miles from thar ter Lewisburg, mostly hills, but a good trail. I know folks et Hot Springs who will take good keer o' us, onct we git thar."

We rested dozing, but neither sound asleep, for nearly three hours. Whatever might be in Taylor's mind, the lonely night had brought to me a new thought relative to my companion. The fellow was evasive, and once he had frankly lied in seeking to explain his presence in the valley, and the reason for his secrecy of movement. By now we were decidedly at cross-purposes, each vigilantly watching the other—Taylor in doubt as to what the bundle contained, which I never permitted out of my grasp, and myself as deeply interested in gaining possession of a packet of papers, a glimpse of which I had caught in an inside pocket of the mountaineer's coat. The belief that the fellow was either a Yankee spy, or a messenger between some Union emissary in the Confederate camp, and the Federal commander in western Virginia, became clear and distinct. His explanation that he had been seeking payment for losses occasioned by Confederate troops, was far from convincing. Had this been true he would certainly have been provided with a pass, and there would be no necessity for riding these back roads at night to avoid being challenged. His mission, whatever it might be, was secret and dangerous. Of that his ceaseless vigilance was proof.

We rode on side by side through the rocky gap in the chain of mountains, and along the rough hills beyond, through bloomy stretches of wood, and over wind-swept ridges. It was cold and blustery, the clouds hanging low, and threatening storm. We were silent, suspicious of each other, never relaxing our vigilance. We encountered few travelers, and with these scarcely exchanged a word. Not a soldier was seen, although there was a Confederate garrison at Covington a few miles to the south. The light of a dying day still clung to the western sky when our wearied horses bore us into the village of Hot



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Springs. It was like a deserted hamlet, few houses appearing inhabited, and the shop windows boarded up. Occasionally a face peered at us cautiously through closed windows, and a man, tramping across the square, paused to stare curiously in our direction; but these were the only signs of life visible. Over a stone building—possibly the post-office—flapped a small Confederate flag, ragged and disreputable. Taylor, glancing neither to right or left, apparently indifferent to all this desolation, rode straight down the main street, and turned onto a pike road, leading to the left. A mile beyond, a frame house, painted white, barely visible through the deepening dusk, stood in a grove of oaks. The fence surrounding it had been broken down, and the gate stood wide open. The mountaineer turned up the broad driveway, and dismounted before the closed door. Almost at the same moment the portal opened slightly and a black face peered out.

CHAPTER III

The Body on the Floor.

TAYLOR stood at the foot of the steps, pausing in uncertainty.

"Is that you, Sam?"

"Yas, sah, but I don't just make out who you gentl'men am, sah."

"Well, never mind that now. Is Mister Harwood yere?"

I insensibly straightened in my saddle. Harwood? What Harwood, I wondered—surely not Major Harwood of Lewisburg, my father's old friend! What was it I had heard about him a few months ago? Wasn't it a rumor that he was on General Ramsay's staff? And the daughter—Noreen—whatever had become of her? There was an instant's vision before me of laughing eyes, and wind-blown hair, a galloping horse, and the wave of a challenging hand. She had thus swept by me on the road as I took my mother southward.

"I don't peer fer to recollect no such name, sah," replied the negro, scratching his wool thoughtfully. "I done reckon as how you got the wrong house."

"No, I reckon not," said the other dryly. "Git 'long in, an' tell him Jem Taylor is yere."

The door opened wider.

"Suah, I know you now, sah. Jest step right 'long in, the both of yer. I'll look after them horses. You'll find Massa Harwood in the dinin'-room, sah."

I followed the mountaineer up the steps, and into the hall, utterly indifferent as to whether my company was desired or not. But Taylor paid no apparent heed to my presence. The interior was that of an old-fashioned residence, which, as yet, had not suffered from the ravages of war. Evidences of neglect were numerous enough, yet the furniture remained intact, and the walls firm. The hall was carpeted, and the stairs leading upward were covered with a rug of brightly woven rags, yielding a touch of color. It was not yet dark, but a lamp burned on a near-by table, and a cheerful fire glowed at the farther end. A door standing open revealed what must have been the parlor, a seemingly large room in which hair-cloth chairs and sofas were dimly visible. But a brighter glow of light streamed from a room beyond, and Taylor, evidently acquainted with the house, walked directly forward, around the bulge of the stairs, and stepped within the open door. Determined to miss nothing, I was so close behind, that my quick eyes caught what I believed to be a swift signal of warning to the man within. This, however, was an impression born from my own suspicion, rather than any real movement, for Taylor took but a single step across the threshold, and stopped, leaning on his gun. Behind him, standing in the open door, I had full glimpse of the interior.

There were two lights—one hanging above the table, the other on a side-board to the right. The room itself was panelled in dark wood, the two windows heavily draped with hanging curtains, a few pictures decorating the walls. There was a fireplace, with a grate fire smouldering, and over it a pair of crossed swords and an old powder horn. The single occupant sat upright, before him the remnants of a light repast, his hand toying with a spoon, and his eyes shifting from Taylor's face to that of mine. He was heavily built and broad of shoulder, the face, illumined by the hanging lamp, strong and masterful, the jaw prominent, the forehead broad, the nose roman. It would have been a hard face, but for a gleam of good humor in the eyes, and the softening effect of gray hair, and a gray moustache. The man had aged greatly, yet I recognized him instantly, my heart throbbing with the possibility that I also might be remembered. Yet surely there was no gleam of recognition in the eyes that surveyed me—and why should there be? I had been an uninteresting lad of fifteen when we last met. This knowledge gave me courage to meet that searching glance, and to lift my hand in the salute due to an officer of rank.

"Ah!" said Harwood in deep voice, "a soldier from the valley?"

"Yes, sir," respectfully, "the Sixty-fifth Virginia."

"Oh, yes; there was a company of mountaimen from Covington way in that command. Daniels your captain?"

"Yes, sir."

"Deserter?"

"No, sir; on thirty days' furlough."

"Oh, indeed! so 'old Jack' thinks he has plenty of time, and can let part of his army go home, does he? Well, that's his business, of course. How does it happen you wear artillery uniform?"

Expecting the question I answered unhesitatingly.

"They'd lost so many gunners, some of us were detailed to help. Recruits are coming in now."

"What was your battery?"

"Staunton Horse Artillery, sir."

"Stationed?"

"At Front Royal—that was our winter camp."

He nodded, tapping his spoon against the table, favorably impressed by my prompt replies. His keen eyes sought the face of the silent mountaineer.

"You know this man, Taylor?"

"Wal, I can't exactly say that I dew, Major," he said drawlingly, shifting his feet uneasily. "He wus sorter wished on me, an' as he wus bound this way, I reckoned as how it wus best fer us to ride 'long together. He says he's a Cowan, frum over on Buffalo Creek."

"A Cowan—you mean—"

"No, he don't claim ter be none o' ol' Ned Cowan's brood—his mar's a widdier woman. They ain't no kin, I reckon."

Whatever thoughts might have been in Major Harwood's mind were concealed by an impassive face, as he sat there for a moment in silence, gazing at the two of us.

"No doubt you did what you believed to be best, Taylor," he said at last quickly. "We will talk it over later. You are both hungry enough to eat, I suppose? Draw up some chairs, and Sam will find something. No objection to remaining over night, Cowan?"

"I'd be glad to get on, sir, but my horse is about used up. The roads have been hard, and we have traveled rapidly."

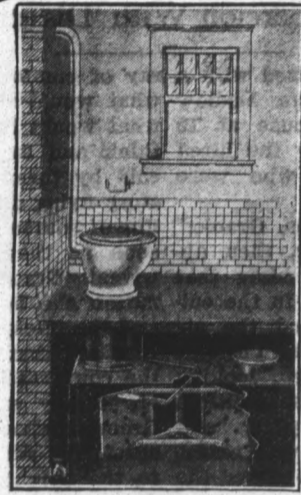
"Well, there is plenty of room, and you are welcome. This house," he explained, "belongs to a friend of mine, who had to leave the country—too Yankee for his neighbors. I find it rather convenient at times. Ah, Sam, that rasher of bacon looks prime—I'll try some myself."

(Continued next week).

# YOU NEED This Sanitary Chemical CLOSET

Sanitary  
Convenient

Odorless  
Economical



Only \$53.50 for this complete closet

Pure white china bowl, polished mahogany finished seat and cover, ventilating pipe and fully equipped steel tank.

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Our Price Only

**\$53.50**

F. O. B.  
Lansing.

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### GET RID OF FLIES

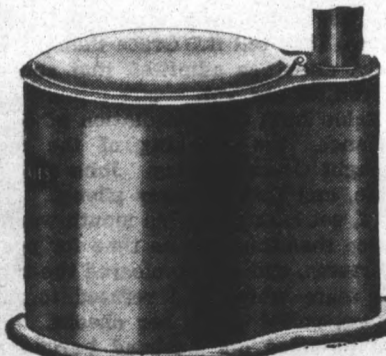
Outside closets and flies together are responsible for the spread of contagious diseases, such as typhoid and intestinal troubles, especially during the hot months. Did you know that 30,000 people die annually in the United States from these diseases alone? This is the remedy—do away with the outside closet now and install a "Wolverine" Outfit, which will give your home all of the toilet conveniences of a city residence.

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# Woman and Her Needs

## At Home and Elsewhere



### The Domestic Crucible—11.

Grace Tries Coercion With Disastrous Results.

THE kitchen screen closed with a vicious bang as John Ludlow stamped into the house at 12 o'clock, closely followed by the hired man and two neighbors who were helping for the day.

"We're hungry as wolves, Gracie," he proclaimed boisterously, then appraised by the absence of odors that something had gone wrong in the culinary department he sniffed the air hungrily. "Where's that steak I bought last night?" he demanded, looking round the kitchen which was guiltless of pots and skillets and pans, "and the early corn I told you was ready, and the raspberry pie John picked the berries for?"

"Your dinner is on the table," Grace replied coolly. "The thermometer is 95 in the shade and it was too hot to start a fire, so I gave you a cold dinner."

With appetites whetted by a long forenoon in the fields the four men filed into the dining-room. Two huge pitchers of separated milk, two plates of neatly cut bread and two plates of doughnuts made up the noonday meal.

"My husband is saving money for a gasolene engine," Grace explained as she poured out the blue milk, "so we are selling all the cream. Next summer we're going to have a gasolene stove and then I'll be able to cook even in dog days, but we can't afford them both this year and the engine is more important."

She flashed John a defiant look as she spoke, but it was quite lost. In the white heat of anger, John did not even deign her a glance. He still stood with his hand on the back of the chair he had started to pull from the table, with mouth set and eyes flashing fire.

"I guess my wife mistook the date. She evidently thought this was April first," he said quietly, so quietly that Grace wished he had struck her instead. "We'll drive to town for dinner. There'll be just time to get there before the dinner hour in the hotel is over."

There was a weak protest from the two neighbors, which was summarily ended by John's marching out of the room. Glad to escape an uncomfortable situation the other men followed him, and the rattle of wheels soon told Grace they were on their way to the village three miles down the road.

Too stunned to move, she sat in her chair, like Marius among the ruins, viewing the desolation she had wrought. If there was one thing on which John prided himself more than another it was on always having a good table. He had a horror which almost amounted to an obsession of being regarded stingy. And here she had set two neighbors down to a dinner of bread and milk, and skim-milk at that! Skim-milk, and two quarts of cream for table use standing in the cool cellar at that very moment! And, worse than all, she had told those men that she and John couldn't afford anything better. Was it any wonder that John was so mad he couldn't even speak?

Anyway, he had redeemed himself in the eyes of the neighbors by taking them to the hotel. They would know he wasn't the miser, there was one

ray of comfort in that for her. But what would they think of her? And what would the rest of the neighbors think and say. She turned hot and cold by turns as she thought of the story flying all over the neighborhood. For of course the men would tell it as soon as they got home. And their wives! Grace shuddered as in imagination she heard the telephones ring and the click, click of receivers along the line that went down to take in the conversation. Before sundown every family around would know that Grace Ludlow set out nothing but skim-milk and bread and fried cakes to the neighbors who had been kind enough to help her husband with his work. She could tell to a word what the different women would say, and see the righteous tossings of feminine heads. She knew exactly what each man would do "if his wife ever cut up such a dido." John's sufferings from righteous wrath were as nothing to the lashings of remorse and shame which swept over his wife.

Added to these goads were the thoughts of the time John would lose, to say nothing of the money. It would take probably two hours to drive to town, eat dinner and come back, an hour and a half anyway. The money for the dinner wouldn't be much, but two hours out of the heart of a busy day, might mean the loss of part of the crop, for the men could not come back tomorrow. Why had she been such a foolish woman? Yes, a downright wicked one. Her act had been nothing short of a crime and she ought to be punished. Well, she would be, all right. John would never, never forget this.

Too miserable even to cry, Grace arose and cleared up the table. She heard the men when they returned and watched them file laughingly out to the field, glad that they could not see her and make her still more conscious of her misdemeanor.

Then with a determination to expiate her misdeeds with a punishment that fitted the crime, she built the hottest fire she could manage and plunged into preparations for a big supper. The raspberry pie, a whipped cream cake, the particular jumbles that John liked most, she made them all, with a thermometer hovering around 102, and a stove so hot she had to leave the oven door open part of the time and stand by to watch that her viands did not scorch.

The table groaned under the weight of good things when the men came up. But the neighbors declined her embarrassed invitations to supper and departed hastily for home.

"They can't even wait a half hour before they tell it," Grace thought bitterly, and then admitted that she deserved all she got.

Aside from the consolation of doing penance the cooking of the meal brought Grace nothing. John ate but little, and that in stony silence. The hard, set look about his mouth warned Grace that this was no time for peace overtures, and as she cleared the table the tears which had refused to flow before, rolled down her cheeks. She had offended her husband beyond all hope of reconciliation.

"Time heals all wounds, they say,"

Grace reflected mournfully, "but time will never help this. Whatever made me think I'd get my gasolene stove by playing such a mean trick? Aunt Ann says sugar catches more flies than vinegar, and she's always right. Well, I don't deserve a new stove. I ought to broil the rest of my life. And," as she remembered John's face, "I guess I'm likely to."

DEBORAH.

#### ABAS "BLUE MONDAY."

"As goes Monday so goes all the week," runs the old saying. Fortunately it has as little truth in it as most old saws, else our weeks would be one continual gloom, for "Blue Monday" is as old a saying as the one just quoted, and with more truth.

"Blue Monday" is a condition which is brought about in most homes by the advent of the weekly washday, and the blueness is caused by the frame of mind of the housewife as she contemplates the pile of soiled linen to be rubbed, and feels in advance the terrific backache she will have acquired by 10 a. m. If the lifting and bending and rubbing could be avoided, "Blue Monday" would be turned into "Sunny Monday."

Luckily in many farm homes the miracle has been accomplished, as it can easily be, by having the house piped for water. With water in the house stationary tubs come as a natural consequence, which solves the problem of lifting and emptying. Then as a next step comes the water-power washing machine, which can be purchased for from \$15 to \$18 and the rubbing is a thing of the past. In thousands of homes now, hand-power machines are in use, and the women who have learned the value of a good washing machine are the first to buy the power washer. Perhaps it is not a water-power motor that is bought. On many farms the gasolene engine is used to run the washer and the cream separator, while still others on the roads where electricity can be easily secured are using electric motors. The electric motors are more expensive but they are very convenient.

Power washing machines of some sort are finding their way into the farm homes, to the great benefit of the entire family. For we are learning that whatever adds to the comfort and health of the home-maker increases the enjoyment and efficiency of all.

#### WOMAN'S NATIONAL MADE IN U. S. A. LEAGUE.

The Woman's National Made in U. S. A. League has been formed, with national headquarters in Washington, D. C. It has for its sponsors, patrons and chairmen, the most prominent women in the country. It already has a tremendous membership made up from every state in the Union.

To put the duty of a member of the Woman's National Made in U. S. A. League completely, it is this:

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Insist that the quality and price be right.

Buy with discrimination and intelligence.

Insist upon honest labels.

Encourage American designers, manufacturers and producers.

Respect good work and workmen.

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There are no dues. When a woman

has signed the pledge inserted herewith, and sent it to National headquarters in Washington, and lives up to the pledge to the best of her ability, she is carrying out her duties as a member of the League. Any woman who reads this article can use the blank pledge inserted herein as her pledge.

#### Pledge.

Buying everything, whenever possible, "Made in U. S. A." is practical patriotism.

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"I pledge myself for the welfare of our country, while the war lasts, to demand and buy everything, whenever possible, "Made in U. S. A.," and urge my friends to do likewise."

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Sign and send to National Headquarters, Woman's National Made in U. S. A. League, 1329 E Street, Northwest, Washington, D. C., and help your fellow country men and women in all parts of the United States. There are no dues.

The Woman's National Made in U. S. A. League and the general committee in charge of this propaganda are going to see to it that the national trade mark is not used or misused as a medium of selling cheap, shoddy, unworthy goods and articles.

#### HOME QUERIES.

Household Editor:—In answer to request of Mrs. W. H. for recipe for steamed corn bread, I send the following: One egg, two-thirds of a cup of sugar, one cup sweet milk, two cups of buttermilk, one teaspoon of salt, one teaspoon of soda, one cup of flour, two cups of meal. Stir thoroughly, turn into a greased mould and steam for three hours.—Mrs. A. D. H.

Household Editor:—Will you please answer the following question: Can a husband compel his wife to live with his people if it is distasteful to her to do so, and make her work for the whole family without recompense or a voice in any of their affairs?—Subscriber.

The law assumes that the husband is the head of the house and can decide where the home shall be. The wife is therefore obliged to live wherever he decides, unless she can prove that her health or nerves are impaired by living in the home he selects. If she leaves him and can not prove that her surroundings were detrimental to her health she can not force him to support her. If she can prove that the home he provided injured her health she can compel him to pay her bills. There is no law on the Michigan statute book regarding this, the matter is left to the discretion of the judge. The law explicitly states, however, that a husband is entitled to his wife's services, and she is expected to do the work in their home. Whether she could be forced to work for his relatives, too, is an open question. Most of these matters can be settled out of court if both sides are open to reason.

#### SHORT CUTS TO HOUSEKEEPING.

When sweeping, instead of dampening the broom, sew a two-inch strip of woolen cloth around the top of it, then pour a little warm water from time to time on the cloth. It will keep the fibres just damp enough to banish the dust.—Mrs. H. R.

# Practical Science.

## RURAL SANITATION.

BY FLOYD W. ROBISON.  
(Continued from last week).

It is not usual to urge sanitary consideration from an economical point of view. It is so frequently the rule that sanitary matters are attended to only when an actual and immediate health consideration makes it necessary. But with our broader understanding of sanitary matters, their deep-seated relationship to the economical problems involved in everyday life is more and more apparent, and, we are glad to note, becoming more appreciated by the general public. So much time and energy is devoted to the cultivation of crops and the harvesting and marketing of them that it is quite easy on the farm to neglect a consideration of sanitary matters, and it is fortunate that we are able to show a decided economical aspect of the sanitary problem and thus be able to command the attention and consideration of the farmer.

### The Farmer's Family is of More Consequence than the Farm.

It seems to be the rule, as determined by average conditions, that the farmer gives first consideration to conditions which facilitate farm operations, and consequently the conveniences installed in the farm home too frequently are secondary to the conveniences installed in the other buildings on the farm. How common it is in driving through the country to feel the truth of this statement. The barns and adjoining buildings are very frequently arranged with a considerable regard for order, and then the home in which the family spend their lives is too frequently devoid of any of the appearances of convenience which are manifest in the other buildings. There is reason for this, of course, but in our judgment, with an equality of other considerations, it is a decided mistake. Our ideas contemplate a reversal of this condition and a fair consideration of sanitary efficiency and its close relationship to rural economy will, we think, compel a concurrence in these views by the farmer.

### Destruction of Nuisances is in the Interest of Farm Economy.

The tolerance of flies and mosquitoes on the farm is directly opposite to rural economy, and being so measurably uneconomical, their destruction is in the interests of farm efficiency as well as of farm sanitation. Rats and mice on the farm would not be tolerated by a farmer if he had a keen appreciation of the costs of these rodents to agriculture. If there were large agents contributing one-quarter as much to the destruction of real values on the farm as are rats and mice there would be an urgent demand for their repression. We have seen many instances of almost a 50 per cent reduction in young poultry due to the destructive activity of rats, without any very great attempt on the part of the farmer to get rid of them. Rats and other rodents are a very decided uneconomical pest. We know also at the present time that they are surely potential sources of contagion. Such diseases as bubonic plague have been traceable to rats and at the present time, to secure a complete eradication of this disease as well as the removal of other suspected diseases, the city of New Orleans is carrying on a relentless warfare against rats. A little thought on the order and arrangement of farm buildings, the collecting of debris which is scattered here and there all over the farm and the destruction of unnecessary rubbish, will make the eradication of rats and mice a comparatively easy matter.

## Cleanliness Pays.

The time is not far removed when it was considered that certain of the domestic animals on the farm would thrive better and do better generally under certain conditions which we now know to be decidedly unsanitary. There is virtue, it is true, in the mud bath and in the dust bath, provided they are properly disinfected and are not allowed to become sources of infection and contamination. Even with swine it is now definitely known that a clean hog is a more healthy hog than a filthy one. Nowhere does filth promote sanitation even when applied to domestic animals, and when we realize that it complicates very materially the sanitary problems surrounding the farm home, the necessity for the suppression of such places and such conditions is given sufficient explanation.

The association of sanitary considerations with economical ones was given undoubtedly its first great impetus when cities began to demand that certain sanitary precautions in the production of milk should be followed on the farm. Not only has this been forced from the consumers' point of view but now milk, if of a high degree of cleanliness and produced under more scientific sanitary regulations, demands a much higher price in the markets. To produce clean milk it becomes necessary that certain direct changes be instituted on many farms. This means more thought being given to the housing of the stock, to the conditions of sanitation under which the stock are housed, to the disposal of the manure and other refuse matters, and to the light and ventilation of the barns and stables. In the city it is necessary that places where manure is stored must be screened in order that fly breeding from these places is impossible. There is no reason why precautions with this same end in view should not be followed on the farm, and we make free with the assertion that economical production and efficiency of farm stock as well upon the farm will follow the institution of such precautions.

### Poultry, at Large, a Nuisance.

One of the great assets of the farm is poultry husbandry and there is no feature of agricultural husbandry which is so apt to become a nuisance, as the way in which poultry is handled on the farm. The allowing of poultry to run at large all over the farm and the farm yards is certainly antagonistic to effective sanitation. Why this department of farm endeavor should not be conducted in an organized and systematic fashion, we are at a loss to understand. The fact that it is not done is too frequently we think, the result of effort expended in that direction, for we have seen and know of many farm homes where as far as these types of nuisances are concerned, the farm home is as free from them as are the homes in the city. All of these various matters come in for their due share of consideration and should be considered in planning an effective scheme of sanitation upon the farm.

When they are properly cared for none of them become sources of pollution for the farm water supply. We have conceded the question of the farm water supply to be the most important point of sanitary consideration on the farm, just as it is the most important item of consideration in the city. To the end that the importance of this factor in moral sanitation may be more generally appreciated we will give it further consideration in the next issue.



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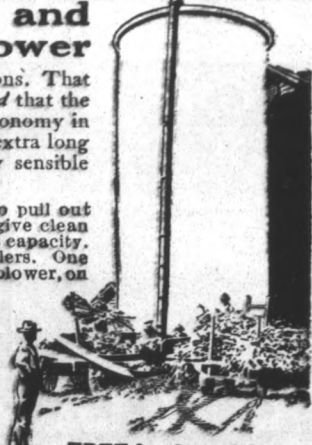
than any other silo filler operating under equal conditions. That guarantee is based on what repeated tests have proved that the Appleton Silo Filler will do. By its efficiency and economy in use, its positive safeguards against breakdowns and its extra long life; the Appleton proves that service-cost is the only sensible basis on which to choose a silo filler.

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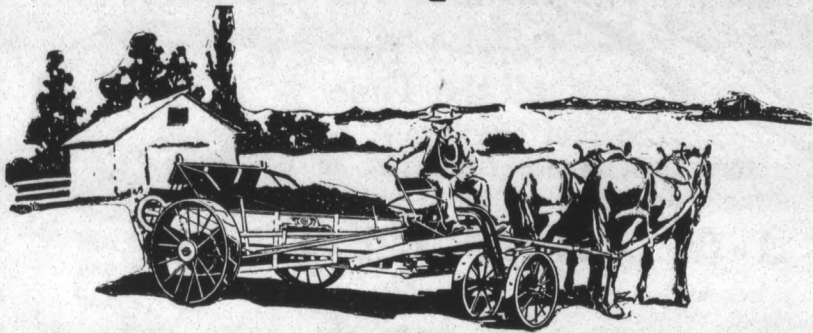
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caused over 100,000 fires in six months. While the misuse and abuse of acetylene caused but four fires during the same period. And there are over a quarter of a million COUNTRY-HOME-ACETYLENE-PLANTS in use. A mighty fine showing for acetylene.

A hundred feet of acetylene makes more light than a thousand feet of city gas. For this reason acetylene light burners have small openings — so small that not enough gas could escape from an open burner — in a whole day — to do any harm whatever.

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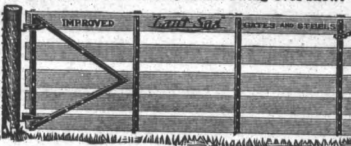
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# Farm Commerce.

## The American Cheese Trade.

AMERICAN cheese, of which the exports had decreased from nearly 150,000,000 pounds in the fiscal year 1881 to less than two and one-half million in 1914, is again finding its way to foreign markets in rapidly increasing amounts. The half-year ending with December showed a total export of over two and one-half million pounds; January, 1915, 3,000,000 pounds; and February, nearly 7,500,000 pounds, the aggregate for eight months of the current fiscal year being 13,000,000 pounds, or more than in any fiscal year since 1907.

### Where Our Cheese Goes to.

England is now, and for many years has been, the largest foreign market for American cheese. The February shipments thither included, according to recent statistics of the Bureau of Foreign and Domestic Commerce, 3,000,000 pounds from Maine and New Hampshire, 2,000,000 from New York, and 1,000,000 from Michigan, out of a total export of 7,500,000 pounds. In the fiscal year 1894 when our exports of cheese were much larger than at present we exported 61,500,000 pounds to the United Kingdom, 10,000,000 pounds to Canada and other British North America, and nearly a half million pounds to South America. Last year's exports were distributed, not only to the foregoing countries, but also to Panama, the British West Indies, Cuba, China, Hongkong, and other oriental countries.

### Assisting the Trade.

Both federal and state laws have tended to restrict the sale of cheaper grades of American cheese. The most recent general legislation affecting its sale was the pure food and drugs act of June 30, 1906, which requires manufacturers to state specifically on the label the character of the goods offered for sale. "Filled cheese," by which is meant cheese from which the butter-fat has been removed and foreign fats added, has been legislated against in several states, though it is understood that certain grades of cheese which may not be lawfully manufactured for sale in the United States may be manufactured for export in response to foreign orders for those grades.

### What we Import.

The domestic cheese product, ranging between 320,000,000 and 330,000,000 pounds annually, is from five to six times as much as the annual import of foreign cheese. In the period from 1893 to 1902 imports of cheese fluctuated between 10,000,000 and 17,000,000 pounds annually, from 1903 to 1906, between 20,000,000 and 30,000,000, and from 1907 to 1913, between 30,000,000 and 50,000,000, while in the fiscal year 1914 the total was 63,784,313 pounds, valued at \$11,010,693.

Italy and Switzerland are the lead-

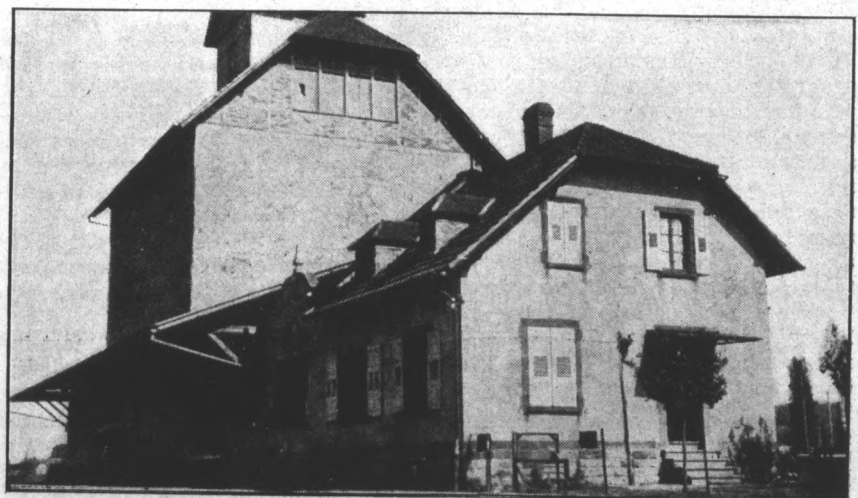
ing sources of our imported cheese, having supplied last year 26,500,000 and 22,500,000 pounds respectively, as against nearly 5,500,000 pounds from France, three and two-third millions from the Netherlands, 3,250,000 from Greece, 1,000,000 from Canada, and smaller amounts from Norway, Germany, England, and Austria-Hungary. The most popular varieties imported, according to special reports made by the collectors of customs in connection with an investigation by the Department of Agriculture as to the possibility of manufacture in the United States are: From Italy, the Gorgonzola, made from the unskimmed milk of the cow; Parmesan, or Reggiano, a cow's milk cheese popularly used for grating into macaroni or soup; Romano, or Pecorino, from sheep's milk; Caciocavalli, said to be thus designated because it originally bore the imprint of a horse's head as a trade mark; and Provoloni, a hard rennet cheese from the milk of the cow or buffalo; and from Switzerland the Schweitzer, a rennet cheese, and the Emmenthal, similar to the Schweitzer, but harder and of richer milk. Cheddar and Cheshire cheeses, made in England, are very popular in this country, as also the Roquefort and Neufchatel cheeses of France, the Camembert of France and Germany, the Stilton cheese of England, and the Edam cheese of the Netherlands. The tariff act of 1913 changed the duty on imported cheese from six cents per pound to 20 per cent ad valorem.

### Producing States.

Our consumption of cheese in 1910 was 3.8 pounds per capita. The census of that year credited Wisconsin with a production of 149,000,000; New York, 106,000,000; Michigan, Pennsylvania, and Ohio, from 12,000,000 to 14,000,000 pounds each; and Illinois, Oregon, California, Vermont and Minnesota, from 3,000,000 to 5,000,000 pounds each. Utah and Iowa each produced over 1,000,000 pounds, and Colorado, Indiana, Arizona, Washington, Missouri, and New Hampshire, approximately a half million pounds each.

### CO-OPERATIVE MARKETING.

More than a billion dollars' worth of agricultural products are sold by co-operative and farmers' marketing associations in the United States each year, according to a report of a survey which has been made by the Office of Markets of the Department of Agriculture. The extent of co-operative marketing which this investigation shows will prove a surprise to many persons who have been under the impression that co-operative selling in the United States is yet in an undeveloped stage. The investigators have listed more



Showing Permanent Character of a Co-operative Elevator in Germany.



than 8,500 market associations, 2,700 co-operative and farmers' elevators, 2,500 co-operative and farmers' creameries and more than a thousand co-operative fruit and product associations in this country.

The idea of co-operative marketing is becoming more popular each year in the United States, according to men who have been engaged in the government's work of surveying this form of business, and better results have been obtained than under the old-fashioned system of individual handling. Through the handling of agricultural products through co-operative associations farmers have been encouraged to improve their crops and to standardize in the packing of products. The discovery of the best daily market has also been one of the principal advantages of the system, resulting in advantages, it is said, both to the consumer and the producer.

**NATIONAL CROP REPORT.**

The Crop Reporting Board of the Bureau of Crop Estimates, United States Department of Agriculture, makes the following estimates from reports of its correspondents and agents:

The average condition of winter wheat on April 1 was 88.8 per cent of a normal, against 95.6 on April 1, 1914, 91.6 on April 1, 1913, and 87.6 the average condition for the past 10 years on April 1. There was an increase in condition from December 1, 1914, to April 1, 1915, of 0.5 points as compared with an average decline in the past 10 years of 2.7 points between these dates. The acreage planted, as estimated last December, was 11.1 per cent larger than the acreage planted in the preceding year.

The average condition of rye on April 1 was 89.5 per cent of a normal, against 91.3 on April 1, 1914, 89.3 on April 1, 1913, and 90.1, the average condition for the past 10 years on April 1.

**MICHIGAN CROP REPORT.**

The condition of wheat on April 1 in the state and southern counties was 86, in the central and northern counties 85 and in the upper peninsula 94. The condition one year ago was 91 in the state, 92 in the southern and central counties, 90 in the northern counties and 94 in the upper peninsula.

The average depth of snow on March 15 in the state was 1.02 inches, in the southern counties 0.07, in the central counties 0.14 of an inch, in the northern counties 1.10 and in the upper peninsula 8.97 inches.

On March 29 the average depth of snow in the state was 0.58, in the southern counties 0.06, in the central counties 0.09, in the northern counties 0.66 of an inch and in the upper peninsula 4.88 inches.

The number of days protection to wheat by snow, in the state was five, in the southern counties two, in the central counties three, in the northern counties seven and in the upper peninsula 25.

In answer to the question, "Has wheat during March suffered injury from any cause?" 205 correspondents in the southern counties answered "yes" and 41 "no," in the central counties 86 answered "yes" and 16 "no," in the northern counties 79 answered "yes" and 37 "no" and in the upper peninsula five answered "yes" and 21 "no."

The total number of bushels of wheat marketed by farmers in March at 69 flouring mills is 107,850 and at 33 elevators and grain dealers 120,015 or a total of 227,865 bushels. Of this amount 166,586 bushels were marketed in the southern four tiers of counties, 48,440 in the central counties and 12,839 in the northern counties and upper peninsula. The estimated total number of bushels of wheat marketed in the eight months, August-March, is 9,250,000. Sixty-four mills, elevators and grain dealers report no wheat marketed in March.

Rye.—The average condition of rye in the state and southern counties is 90, in the central and northern counties 89 and in the upper peninsula 98. One year ago the condition in the state was 93, in the southern and central counties 94, in the northern counties 92 and in the upper peninsula 96.

Meadows.—The average condition of meadows in the state is 88, in the southern counties 86, in the central counties 87, in the northern counties 91 and in the upper peninsula 98. The condition in the state one year ago was 89, in the southern counties 85, in the central counties 91, in the northern counties 92 and in the upper peninsula 95.

Live Stock.—The average condition

of horses and sheep in the state is 96, cattle and swine 95.

Fruit.—Correspondents throughout the state are generally of the opinion that present fruit prospects are considerably above the average. The following table shows the prospect for an average crop of the various kinds of fruit in the different sections of the state:

	So. Co.	Ce. Co.	No. Co.	Up. Co.
Apples	80	79	75	88
Pears	80	81	73	82
Peaches	79	78	78	84
Plums	82	82	78	86
Cherries	88	89	82	91
Small fruit	88	88	86	93

In regard to the question "what per cent of orchards are being sprayed?" correspondents report 46 in the state, 49 in the southern and northern counties, 33 in the central counties and 29 in the upper peninsula.

**Crop and Market Notes.**

**Michigan.**

Monroe Co., April 14.—Condition of wheat and rye above the average but meadows need warm rains. Farmers are busy sowing oats, about the usual acreage being sown. April so far could not be better for spring work. Farmers planning for a large acreage of corn. Apple, peach and cherry trees budding and are not damaged so far by the heavy frosts we are having. Butter 28c; cream 27c; eggs 18c; oats 55c; corn \$1 per cwt; potatoes 35@40c; cows \$50@75; horses \$150@250.

Livingston Co., April 12.—Wheat and clover have come through the winter in excellent condition, and a good rain has started up grass and pastures. Considerable plowing has been done. There will be about the usual amount of spring crops sown. The milk business has been anything but satisfactory the past winter, the price having ranged lower than for years, and as this is a dairy section it is rather discouraging to the farmers. Not much grain being marketed, although there is a considerable amount in farmers' hands.

Sanilac Co., April 13.—Meadows and wheat have stood the freezing and thawing wonderfully well, and look green and healthy. Some oats already sown, but the ground is in poor condition for working, the weather being cold with no warm spring rains. A large acreage of oats and barley will be sown, and a smaller acreage of beans than last year. A large amount of corn will be planted. Fruit buds are rather slow, with no warm weather to start them. Wheat \$1.46; oat 53c; butter-fat 29c; eggs 18c; beans \$1.60.

Washtenaw Co., April 12.—The condition of meadows and wheat is very good, and the outlook is for a normal crop. Spring work is opening up nicely, everyone is plowing, and some oats already sown. Indications are for a large acreage of both corn and oats. Potatoes will be planted quite largely in this vicinity. Prices for milk and butter-fat are rather low, and the price of cows has dropped considerably in consequence. A very good cow can now be bought for \$50; hay \$12; butter 30c; eggs 18c; poultry, live 15c.

Darke Co., April 12.—Farmers are almost through plowing, and oats are all sowed. Wheat is looking fine, and meadows have begun to grow. Fruit buds are all right. Butter-fat 28c; eggs 17c.

Clermont Co., April 13.—Meadows are in fine condition. Wheat and rye have withstood the winter well and look nice. Farmers are busy plowing, also improving the roads. Fruit buds seem safe. About the usual amount of oats, corn and potatoes will be raised, but a larger percentage of tobacco than usual. Some have not sold their last year's tobacco crop. Eggs 15c; butter 23c; butter-fat 23@27c.

Greene Co., April 13.—Meadows are in fine shape since the spring rains. Wheat and rye generally look good. Spring work is well advanced, oats are sown and more plowing done than usual for the time of year. The usual acreage of oats and probably an increased amount of corn will be planted. Fruit buds are in excellent condition so far. Milk 13-15c per gallon; butter-fat 29c. Hay and roughage is in good demand, as some are short on account of prolonged cold weather.

**Indiana.**

LaGrange Co., April 12.—The spring rains have appeared at last. It has been exceedingly dry until today. The meadows and spring grains came through the winter in excellent shape. Alfalfa has started in fine shape, very little of it having been winter-killed. Hauling manure and plowing for corn is the main work of the farmers at present. The dry spring has given the farmers an excellent chance to get an early start in farm operations. Many men are sowing clover since the drought last year killed most of it. A larger acreage of corn will be planted than usual. The fruit buds have not been injured as yet by the frost.

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# Markets.

## GRAINS AND SEEDS.

April 20, 1915.

**Wheat.**—While values have fluctuated the price tendency in the wheat market has been upward during the past week. The encouraging feature of the trade is the strong position of July wheat, which on Monday advanced two and a half cents, while cash wheat only gained one cent. Both European and American markets were active buyers. Crop conditions in this country and Canada are favorable but this apparently amounts to little in face of the bullish war news. Exports are double the primary receipts, and the outward movement of wheat is expected to increase during May. Flour is again in demand. One year ago No. 2 red wheat was selling locally at 97½¢ per bushel. Quotations are as follows:

	No. 2	No. 1	July
	Red.	White.	
Wednesday	1.60	1.56	1.30
Thursday	1.60	1.56	1.31
Friday	1.60	1.56	1.34½
Saturday	1.60	1.56	1.36
Monday	1.61	1.57	1.38½
Tuesday	1.59	1.55	1.35

Chicago, (April 19).—No. 2 red \$1.62½@1.63½; May \$1.64¼; July \$1.37½.

**Corn.**—A renewal of strength is evident in this trade, prices having advanced over three cents during the week. Domestic and foreign demand is good and the visible supply shows a decrease of nearly four million bushels. One year ago No. 3 corn was quoted at 67½¢ per bushel. Quotations are as follows:

	No. 3	No. 3	Yellow.
	Mixed.	Yellow.	
Wednesday	74	75	75
Thursday	75	76	76
Friday	75½	76½	76½
Saturday	77½	78½	78½
Monday	78½	79	79
Tuesday	78½	79	79

Chicago, (April 19).—No. 3 yellow corn 78½¢@79c; May 77wc; July, 79½¢ per bushel.

**Oats.**—This market did not advance with the other major grains. The trading is steady and easy with primary receipts almost equaling the demand for consumption and export. The visible shows less than a million bushels decrease. One year ago the price for standard oats was 41¢ per bushel. Quotations are as follows:

	No. 3	White.
	Standard.	
Wednesday	61½	61
Thursday	61½	61
Friday	61	60½
Saturday	60½	60
Monday	61	60½
Tuesday	60½	60

Chicago, (April 19).—Standard oats 58½¢@59c; May 57½c; July 56½c.

**Rye.**—This trade is inactive with cash No. 2 selling at \$1.12, which is one cent below last week's price.

**Beans.**—The market shows some improvement in demand and prices. The Detroit quotations are: Cash \$3; May \$3.05. Chicago trade is ordinary and featureless. Red kidneys are unchanged. Pea beans, hand-picked, choice, quoted at \$3@3.10; common \$2.80@2.90; red kidneys \$3.25@3.75. At Greenville beans are up 20c to \$2.70 per bushel.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$7.50; seconds \$7.25; straight \$7.00; spring patent \$7.80; rye flour \$7.10 per barrel.

**Feed.**—In 100-lb. sacks, jobbing lots are: Bran \$30; standard middlings \$30; fine middlings \$32; coarse corn meal \$30; corn and oat chop \$27 per ton.

**Hay.**—Quotations are higher. Carlots on track at Detroit are: New No. 1 timothy \$16.50@17; standard \$15.50@16; No. 2, \$14.50@15; light mixed \$15.50@16; No. 1 mixed \$14.50@15; No. 1 clover \$13@13.50.

Chicago.—Offerings are moderate and demand good. Prices are steady. Choice timothy \$18@19; No. 1, \$16.50@17.50; No. 2, \$15@16.

New York.—Steady. No. 1, \$22; No. 2, \$21.50.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—Liberal receipts caused a decline of 2c. Demand moderate. Extra creamery 29c; firsts 28c; dairy 21c; packing stock 17½c.

Chicago.—Market is dull and weak at lower prices. Receipts are larger than daily trade is absorbing. Extra creamery 28½c; extra firsts 28c; firsts 25½@27c; seconds 22@25c; packing stock 18½c.

Elgin.—Market is easy and quiet at

lower prices. Quotation for the week is 29c.

**Poultry.**—Small supply keeps market firm at unchanged prices. Live.—Springers 17½@18c; hens 13@18c; ducks 17@18c; geese 12@13c.

Chicago.—Market is steady at unchanged prices. The supply and the demand are good. Fowls 14½c; springs 14@18c; ducks 15c; geese 8@9c; turkeys 12c.

**Eggs.**—Good demand and moderate receipts caused a ½c advance. Buying for storage purposes is active. Fresh stock sells at 20¼c per dozen.

Chicago.—Market is steady and active. Large receipts are being taken care of by consumptive and storage demands. Prices ¼c lower. Miscellaneous lots, cases included 18@19½c; ordinary firsts 18¼@18½c; firsts 19¼@19½c.

**Veal.**—Quoted steady at 12½@13c for fancy, and 10@11c for common.

**Pork.**—Market is steady for dressed hogs, light weights selling at \$8 per cwt; heavy \$7@7.50.

## FRUITS AND VEGETABLES.

**Apples.**—Market is firm at unchanged prices. Demand is satisfactory. Baldwins \$3.25@3.50 per bbl; Greenings \$2.75@3; Steele Red \$3.50@3.75; No. 2, 40@50c per bushel.

Chicago.—Market is easy except for fancy goods which are held firmly. Baldwins \$2.50@3.25; Greenings \$3; Northern Spy \$2.50@6.

**Potatoes.**—Market steady at slightly higher prices. Carlots 40@42c per bushel. At Chicago the trade is fairly active. A wide range in prices exists on account of differences in quality. Michigan white, in bulk, are quoted at 40@46c per bushel; at Greenville farmers are receiving 32c per bushel.

## WOOL.

Boston.—The market is quiet, this being the off season. While in some lines there is an easier tone, the general sentiment in the market seems to be one of firmness. The lines suffering most from depression are those used in filling war orders; it appears that mills having such orders are supplied with raw material. The disposition of growers in the west to hold out for firm values will probably keep the market on a higher basis than if they were disposed to sell at whatever figures they could obtain. In Michigan, Ohio and Indiana, where shearing is just beginning, an occasional sale is reported at 30c. On the Boston market fine delaine fleeces are quoted at 34@35c for washed and 29@30c for unwashed.

## GRAND RAPIDS.

The potato market has been climbing during the past week, going from 25@35c and with prospects of still higher prices. The egg market opens this week at 18½c. Dairy butter is higher, selling at 23c. Hothouse lettuce has dropped to 3c a pound, the lowest mark of the season. Local stores dealing in garden seeds are doing a rushing business just now. Vacant lot cultivation will be undertaken in Grand Rapids, Kalamazoo, Holland and many other cities of the state, with a view to cutting the cost of living. Red wheat has advanced to \$1.51.

## LIVE STOCK MARKETS.

### Buffalo.

April 19, 1915.

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

**Cattle.**—Receipts 140 cars; market steady. Prime steers \$8.35@8.50; butchers \$7.25@7.85; fat cows \$5@6.75; heifers \$6@7.15; bulls \$5@6.50.

**Hogs.**—Receipts 90 cars; market active; heavy \$7.90@8; yorkers and pigs \$8@8.10.

**Sheep.**—Receipts 40 cars; market is strong; top lambs \$9.85@10; yearlings \$8@8.25; wethers \$7.25@7.50; ewes \$6.50@7.

Calves.—\$5@10.25.

### Chicago.

April 19, 1915.

**Cattle.** Hogs. Sheep.  
Receipts today..18,000 21,000 12,000  
Same day 1914..25,307 31,779 24,009  
Last week.....40,385 103,263 53,364  
Same wk 1914..40,877 93,972 87,370

Shipments from here last week amount to 7,922 cattle, 14,716 hogs and 13,559 sheep, comparing with 6,093 cattle, 3,779 hogs and 4,348 sheep a week earlier and 15,333 cattle, 20,173 hogs and 16,360 sheep a year ago. Hogs received last week averaged 231 pounds.

Another week opens with a good demand for fat butcher cattle and fat steers of light weights, these being largely a dime higher, but undesirable offerings and heavy steers are no better, heavies being neglected, as the weather is much warmer. Hogs are 15c higher, with sales at \$7.10@7.80 and plenty of sales at the top, while one carload of fancy light shipping hogs brought \$7.85. Sheep and lambs

are scarce and higher, with prime lambs held for \$10.75@10.80.

Steers were marketed last week at \$7.15@8.50, the best class of heavy steers going at \$8@8.50, with a good class selling at \$7.80 and over and medium grade lots at \$7.40 and upward.

Warmed-up steers went for \$7@7.35, and while not much trading was done below \$7, limited numbers of undesirable, thin, light-weight steers sold all the way down to \$6. Yearlings sold at \$7@7.50 for the commoner offerings, with sales made all the way up to \$8@8.50 for the choicer class, while fancy yearlings were not offered at all.

Butchering cows and heifers had an outlet at \$4.80@8.30 for common to prime lots, with sales of a few head of fancy yearling heifers at \$8.75, while the best cows brought \$7.25. Extra choice yearling steers were nominal at about \$8.60@8.75. Cutters went at \$3.90@4.75, canners at \$2.50@3.85 and bulls at \$4.25@7, with prime little yearling bulls going the highest.

Calves were marketed liberally. There was a fairly active demand, with sales all the way from \$4.50@8.50 per 100 pounds for coarse heavy calves to prime light vealers. The calves received ran largely to 105 to 112-lb lots, and the killers gave their preference to heavier lots. During the latter part of the week offerings of cattle were smaller and good advances followed.

Advances in hog values have followed one another in quick succession, and in all probability further good advances will take place as receipts undergo further reductions. Light shipping hogs were the highest sellers. Opening a "free" division last week in the stock yards, enabling shippers to compete with local buyers and stimulating values appreciably. Speculators also bought quite freely at times. At the week's close hogs sold at \$7@7.65, with pigs going at \$5.50@7.25, the heavier pigs going highest. Prime heavy hogs sold about 25c below top figures of hogs, and the pigs selling above \$7 were what are frequently called "light-light" hogs, averaging around 130 to 145 lbs. A week earlier hogs sold at \$6.75@7.27½.

Sheep, yearlings and lambs have been selling higher than ever. Offerings are small—demand vigorous. As the season advances, the proportion of shorn fleeces increases. At the week's close woolled consignments sold as follows: Lambs \$8.75@10.70; yearlings \$8.75@9.75; wethers \$7.75@8.75; ewes \$5.50@8.50; bucks \$6@7. Lambs weighing from 90 to 100 lbs. brought \$9@10.40, and shorn lambs sold at \$6.50@8.90. The general market was about 25c higher than a week earlier.

Horses were in larger demand than usual last week, and prices were well maintained for desirable kinds. Farm workers sold at \$95@150, with farm mares purchased at \$150@175.

## LIVE STOCK NEWS.

There will be no extensive movement of southern stock cattle to the northwest this year, as young cattle are not available. With stock cattle bringing higher prices down in Texas than anywhere else in the country, restocking northern pastures is bound to be a most difficult and extremely expensive proposition. At the same time Kansas and Nebraska have managed to make considerable purchases of stock cattle at the different Missouri river markets, and on the whole very fair purchases have been made for summer grazing purposes. Different conditions prevail in the states east of Chicago, if Pennsylvania and Virginia are excepted, these two states having succeeded in obtaining very good supplies of stock cattle some time ago, and there will be good supplies of beeves for summer marketing, it is claimed. Other eastern parts of the country are not so fortunate, however, and Ohio, Indiana and Michigan are known to have purchased very limited supplies of stock and feeder cattle since the latter part of last autumn.

Western bankers have exerted a marked influence for some months past, or ever since the first serious outbreaks of hoof-and-mouth disease, in materially checking purchases by stockmen of cattle for feeding purposes, their stand being that at such a period of greatest uncertainty, it was too risky business to loan money on cattle paper, as no one could form any intelligent idea as to when and where the dreaded malady would next appear. A leading stockman of South Dakota, whose residence is in Alexandria in that state, showed up on a recent day in the Chicago live stock market, bringing two carloads of cattle. He remarked that the bankers of his part of the country had done all they could to discourage former stockmen from continuing in the industry, and he added that, for that reason, comparatively little cattle feeding will be carried on this year. He said corn has been selling in his locality at 54c a bushel and the spring has been very backward.

Sheep shearing has been in progress

recently in Ohio and Michigan, and sales have been reported at from 30@31c a pound.

The poor shipping demand in the Chicago cattle market for some time past has given the local packers a great advantage, for without genuine outside competition, they were in a position to hold prices down. Usually the buyers have patronized the commission firms doing the largest business first and the smaller firms later in the day.

Recent purchases of stock and feeder steers weighing from 650 to 1,000 pounds were made in the Kansas City market at a range of from \$7@7.75 per 100 pounds. At the same time the best beef cattle were taken at \$7.75@8.15.

Fat lambs are advancing to such fancy prices that lamb for the table is becoming beyond reach of most families. The country's supply of sheep and lambs is extraordinarily small, and lots of farmers are eager to begin breeding or feeding, but few owners can be found who care to sell.

There is a growing demand for good breeding young Percheron mares, and inquiries are coming from various parts of the country.

Limited numbers of genuine baby beeves have been marketed at Chicago recently, plump, finished 650-lb. cattle having been sold for \$8.65@8.75 per 100 lbs. They made good money for their owners.

Muddy feed lots in Nebraska are forcing on the market many cattle that would otherwise be held considerably longer. Some of the feeding pens are described as knee-deep in mire. Similar conditions are reported in other states.

Receipts of sheep and lambs in the Chicago market this year have run half a million head behind those for the same period last year, and lessened supplies are reported in other markets. There is a great shortage of lambs, and sheepmen west of the Missouri river will need all their ewe lambs for building up their seriously depleted flocks.

## CHANGE IN FIRM NAME.

The new catalog of the Witte Engine Works, Kansas City, Mo., announces this change in the firm name from Witte Iron Works, as the firm has heretofore been styled. This change has been made because of the fact that for many years the business of the concern has been exclusively the manufacture of engines. This change makes the name more expressive of the business. These catalogs contain other information as well, and will be sent upon request.

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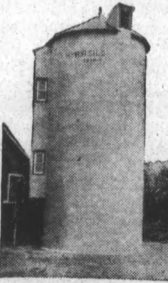


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## Hy-Rib Concrete Silos



Are low in cost, easily built, and give satisfaction everywhere. Built with out forms, with only the usual scaffolding and ordinary farm labor. Walls not injured by silage juices. Water-proof, fire-proof, storm-proof, rat-proof. Nothing to rot or wear out. Need no painting or repairs. For farm buildings of every kind, use Hy-Rib construction. Hy-Rib combines within itself reinforcement, forms, lath and studs. Silo Catalog Free. Containing useful information, and examples of farm buildings. Write today. Agents Wanted.

TRUSSED CONCRETE STEEL CO.

688 Trussed Concrete Building, Detroit, Mich.

### REDWOOD

**The Best From Mother Nature**

Long before Columbus guided his ships across the Atlantic, Mother Nature was giving her best to the Redwoods, making them staunch and sturdy, protecting them against the elements, giving them a preservative that makes Redwood proof against rot and decay, long lived and fire resisting.

Redwood does not shrink or swell when properly dried. Redwood is fire-resisting—a fact that makes it desirable for farm buildings.

**Redwood for Silos**

Redwood is particularly fitted for silo building. It isn't affected by silage juices, moisture, or rot and decay. A Redwood Silo is practically permanent. Its non-shrinking and non-swelling properties eliminate hoop troubles. Redwood Silo walls hold the heat and keep out the cold, allowing silage to ferment properly.

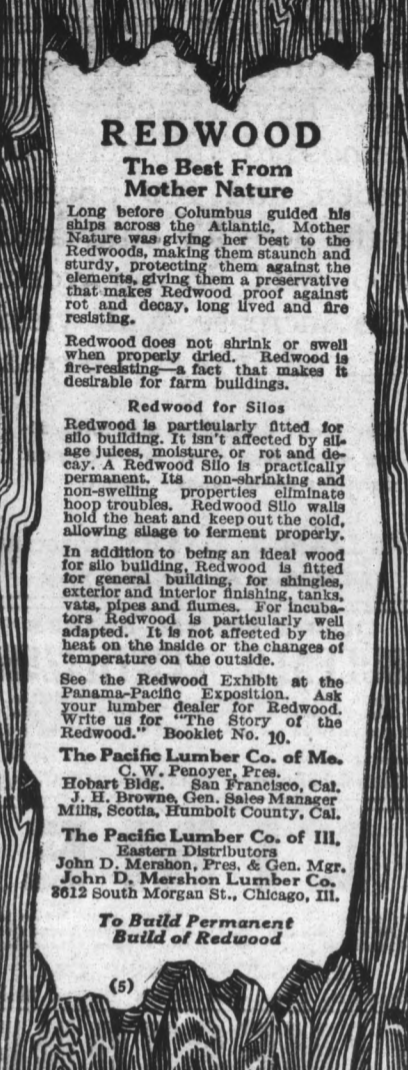
In addition to being an ideal wood for silo building, Redwood is fitted for general building, for shingles, exterior and interior finishing, tanks, vats, pipes and flumes. For incubators Redwood is particularly well adapted. It is not affected by the heat on the inside or the changes of temperature on the outside.

See the Redwood Exhibit at the Panama-Pacific Exposition. Ask your lumber dealer for Redwood. Write us for "The Story of the Redwood." Booklet No. 10.

**The Pacific Lumber Co. of Me.**  
C. W. Penoyer, Pres.  
Hobart Bldg., San Francisco, Cal.  
J. H. Browne, Gen. Sales Manager  
Mills, Scotia, Humboldt County, Cal.

**The Pacific Lumber Co. of Ill.**  
Eastern Distributors  
John D. Mershon, Pres. & Gen. Mgr.  
John D. Mershon Lumber Co.  
8612 South Morgan St., Chicago, Ill.

**To Build Permanent Build of Redwood**



THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market. April 15, 1915.

**Cattle.** Receipts none. Market steady at packing plants; yards open for cattle April 26. Best heavy steers \$7.80; best handy weight butcher steers \$7@7.50; mixed steers and heifers \$6@6.50; handy light butchers \$5.75@6.25; light butchers \$5.50@6; best cows \$5.25@5.50; butcher cows \$4.50@5; common cows \$4@4.50; canners \$3@3.75; best heavy bulls \$5.25@6; bologna bulls \$4.50@5; stock bulls \$4.75@5.25.

**Veal Calves.** Receipts 248. Market strong. Best \$9@9.50; others \$6@8.50.

Bishop, B. & H. sold Sullivan P. Co. 10 av 138 at \$7.75, 3 av 130 at \$8.50, 4 av 155 at \$8.50, 5 av 125 at \$8.50, 6 av 150 at \$8, 2 av 140 at \$8.50, 2 av 140 at \$7, 10 av 170 at \$9, 1 wgh 120 at \$7.50, 6 av 140 at \$8.50; to Newton B. Co. 4 av 155 at \$9; to Rattkowsky 6 av 125 at \$9; to Parker, W. & Co. 9 av 125 at \$9, 1 wgh 150 at \$7.50, 7 av 125 at \$8.50; to Goose 5 av 150 at \$9, 3 av 130 at \$7.50; to Rattkowsky 3 av 130 at \$9.50, 7 av 135 at \$9.25.

Sandal, S., B. & G. sold Mich. B. Co. 2 av 110 at \$7; to Goose 3 av 380 at \$6; to Rattkowsky 4 av 105 at \$6, 11 av 135 at \$8.50, 3 av 115 at \$7, 4 av 110 at \$8, 1 wgh 270 at \$5; to Goose 7 av 150 at \$8.50.

**Sheep and Lambs.** Receipts 1290. Market steady. Best wool lambs \$10@10.25; fair lambs \$9@9.75; light to common lambs \$8@8.75; clip lambs \$8@8.75; fair to good sheep \$6@7; culls and common \$4@5.50.

Sandal, S., B. & G. sold Mich. B. Co. 24 clip lambs av 63 at \$6.75; to Rattkowsky 1 buck wgh 190 at \$6; to Newton B. Co. 5 sheep av 95 at \$5, 8 lambs av 55 at \$9, 3 do av 65 at \$9.50.

Bishop, B. & H. sold Fitzpatrick 13 clip lambs av 70 at \$8, 2 clip sheep av 90 at \$6, 4 do av 110 at \$6, 28 clip lambs av 55 at \$7.25, 66 do av 70 at \$8.75, 8 clip sheep av 95 at \$6.25, 44 sheep av 110 at \$6, 4 lambs av 60 at \$9; to Newton B. Co. 14 sheep av 85 at \$5, 42 lambs av 55 at \$8; to Parker, W. & Co. 39 do av 75 at \$10.25, 30 do av 80 at \$10, 20 do av 60 at \$9.50; to Sullivan P. Co. 72 clip lambs av 75 at \$8.75; to Mich. B. Co. 12 do av 52 at \$7, 24 sheep av 105 at \$6.75, 8 lambs av 75 at \$9, 55 clip lambs av 70 at \$8.15, 23 do av 105 at \$8.50; to Nagle P. Co. 119 av 70 at \$8.60, 96 do av 63 at \$8, 13 sheep av 85 at \$5.50.

Haley & M. sold Parker, W. & Co. 21 lambs av 68 at \$10, 15 clip lambs av 80 at \$8.50, 4 sheep av 105 at \$6.50.

Williamson sold Sullivan P. Co. 56 sheep av 105 at \$6, 8 do av 95 at \$6.25, 42 clip lambs av 65 at \$8.

Roe Com. Co. sold Barlage 3 sheep av 80 at \$6, 12 lambs av 65 at \$9.

Reason & S. sold Mich. B. Co. 2 sheep av 125 at \$6, 13 lambs av 75 at \$10.

**Hogs.** Receipts 5466. All grades \$7.35@7.40 at yards; \$7.50 at packing plants.

Bishop, B. & H. sold Parker, W. & Co. 1510 av 200 at \$7.40, 150 av 115 at \$7.35.

LIVE STOCK NEWS.

Now that the spring season has opened for the free marketing of Wisconsin dairy calves at Chicago, Tuesdays are lively days for veal calves, with the greater part of the calves received on that day, known as "calf day." Prices have had bad breaks under such generous offerings.

Contrary to some reports, Kansas has no considerable numbers of cattle available for early marketing. B. H. Heide, live stock agents of the Chicago Stock Yards Company, returned to that city a short time ago from a visit to Kansas for the purpose of investigating the cattle supply, it having been reported that Kansas had a big cattle supply for the April, May and June market. The large supply failed to show up, and Mr. Heide said: "While Kansas has been a greedy buyer of thin cattle for months past, they are merely in storage, waiting to be placed on grass. Owing to high cost of feed and a disappointing winter market, Kansas did not shovel much corn into the feed trough during the winter. The cattle went in largely to replace stock sacrificed during the 1913 drouth, but they are being roughed through for summer and fall finishing purposes. Any impression that Kansas is full of fat steers is erroneous."

Texas grass cattle will reach northern markets later than usual, and few will be shipped out before the first of May. It is said that as many of these cattle will be shipped as a year ago, but they will be largely light in weight, with Mexicans prominent.

## 160 ACRE FARMS IN WESTERN CANADA FREE

### WAITING FOR YOU

Yes, waiting for every farmer or farmer's son — any industrious American who is anxious to establish for himself a happy home and prosperity. Canada's hearty invitation this year is more attractive than ever. Wheat is higher but her farm land just as cheap and in the provinces of Manitoba, Saskatchewan and Alberta

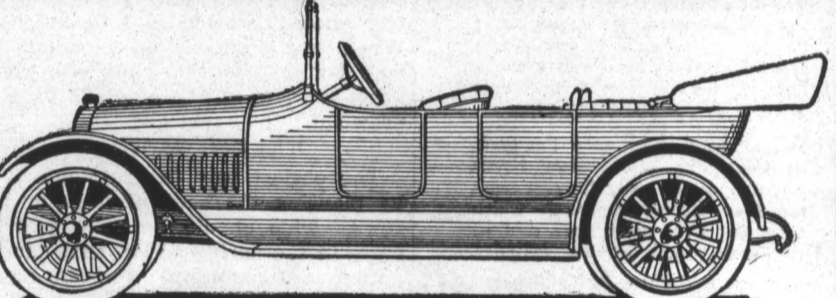
**160 Acre Homesteads are Actually Free to Settlers and Other Land at From \$15 to \$20 per Acre**

The people of European countries as well as the American continent must be fed — thus an even greater demand for Canadian Wheat will keep up the price. Any farmer who can buy land at \$15.00 to \$30.00 per acre — get a dollar for wheat and raise 20 to 45 bushels to the acre is bound to make money — that's what you can expect in Western Canada. Wonderful yields also of Oats, Barley and Flax. Mixed Farming is fully as profitable an industry as grain raising. The excellent grasses full of nutrition, are the only food required either for beef or dairy purposes. Good schools, markets convenient, climate excellent. Military service is not compulsory in Canada but there is an unusual demand for farm labor to replace the many young men who have volunteered for service in the war.

Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or to

**M. V. McINNES,**  
176 Jefferson Avenue, - - - Detroit, Mich.  
Canadian Government Agent.

## ENGER SIX



**50 H. P. Continental Motor—125 inch Wheel Base.**  
**PRICE, \$1,495, FULLY EQUIPPED.**  
**E. M. BUNCE, Michigan Distributor,**  
851 Woodward Avenue, Detroit.

### Light Running Silberzahn Simply Can't Be Clogged

The simple, scientific, carefully worked out construction of the "Light Running Silberzahn" makes it absolutely impossible to clog throat or blower, no matter how fast the corn is thrown in. The Silberzahn is rightly called

**"The King of Ensilage Cutters"**

because of its simplicity, strength, power, durability, safety—its absolute supremacy among ensilage cutters. Has best knife adjustment. Speed of blower can be regulated to suit height of silo. It is guaranteed to do more and better work with less power than any other cutter on the market. Write for catalog and proof.

GEHL BROS. MFG. CO. 1545 S. Water St. West Bend, Wis.



### FREEMAN Dollar-Saving, Powerful Ensilage Cutters

Embodiment more labor-saving and money-making features than any others made. There is no clogging or wasting with the Freeman positive, steel, enclosed carriers (Patented). We have made this machinery for 47 years and we have improved it every year. Simplicity and strength personified, 100% efficiency.

**THE S. FREEMAN & SONS CO.**  
212 Michigan Street  
Racine, Wis.

**FREE BOOK**—We will send you a free book that explains and pictures the complete Freeman line of cutters for every purpose from hand-power up. A postal will bring your copy of this book.



### Saginaw Steel-Built Silos

Two of the Steel-Built features of the Saginaw Silo—the All-Steel Door Frame and the Angle Steel Rib. The Door Frame is the keystone of the Silo—a rigid tower of strength that provides an even bearing for all the staves and allows the doors to work smoothly and easily.

The Angle Steel Rib prevents vibration of the staves, holds them securely in position. Both Door Frame and Steel Rib are made of Rail Carbon Steel—a steel of double stiffness and strength.

Learn all about the Steel-Built features that made the Saginaw famous. Write for Circular No. 117 today.

**The McClure Co.**  
Saginaw, Mich.  
Cairo, Ill.  
Ft. Worth, Texas  
Des Moines, Ia.  
St. Paul, Minn.

**To Build Permanent Build of Redwood**



### Let users answer your questions on ensilage cutters

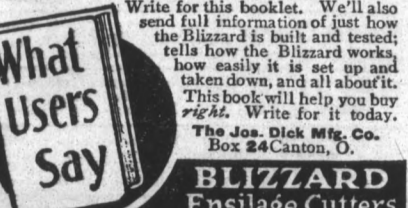
How much power needed—does it cut silage evenly—how big is its capacity—how high will it elevate—how long will it last—is it easy to run? These and all your other questions are answered in our great book by actual users of

**BLIZZARD Ensilage Cutters**

Write for this booklet. We'll also send full information of just how the Blizzard is built and tested; tells how the Blizzard works, how easily it is set up and taken down, and all about it. This book will help you buy right. Write for it today.

**The Joe. Dick Mfg. Co.**  
Box 24 Canton, O.

**BLIZZARD Ensilage Cutters**



**POTATOES—HAY**—More Money if you Consign to THE E. L. RICHMOND CO. Detroit. 21 years in business. Reference your Banker

**FARMERS**—We will pay you the highest official Detroit Market quotation for your eggs shipped direct to us by express. Write us for information. It will pay you. **AMERICAN BUTTER & CHEESE CO.,** Detroit, Michigan.

**HAY OUR NEW LOCATION**—623-625 Wabash Bldg., Pittsburgh, Pa. **Daniel McCaffrey's Sons Co.**

## THE 4th ANNUAL CONSIGNMENT SALE

of the West Michigan Holstein Breeders' will be held on the **West Michigan State Fair Grounds, Grand Rapids, Michigan,**  
**On TUESDAY, MAY 4th, 1915.**

**100 HEAD** of Registered Holstein Cattle of excellent type and breeding will be sold. Sons and daughters of 30-lb. sires. One young heifer of 35-lb. breeding, and one son of the 40-lb. sire, Johanna McKinley Segis. Good A. R. O. cows and heifers bred to bulls from 30-lb. dams and sire, closely related to King of the Pontiacs, Hengerveld De Kol, Judge Hengerveld De Kol, King Segis Pontiac, King Segis, Pontiac Korndyke, and Traverse Princess Weg. Choice heifer calves whose type and breeding will make them valuable foundation stock in establishing new herds. **Remember the Date and Place.**

All cattle over six months of age will be carefully tuberculin tested by a Veterinarian from the Bureau of Animal Industry, or by competent graduate Veterinarians and Certificates of Health approved by the Michigan State Veterinarian. Sale Catalogs will be out April 20th.

This is the buyer's opportunity to buy good healthy cattle, consigned from territory which has been free from "Foot and Mouth Disease." If interested write for Sale Catalog.

**W. R. HARPER, Middleville, Mich., Sales Manager.**

### Livingston County Holstein Breeder's Sales Co. Will Sell 90 Head of Registered Holsteins

At the State Fair Grounds, at HOWELL, MICHIGAN, on **Wednesday, May 19, 1915.**

Our consignments will include a granddaughter of the \$50,000 bull, 32 cows that are sisters to cows with records of 30, 31 and 33 lbs., a daughter of a 3/4 brother to the \$50,000 bull and A. B. O. cows and daughters of A. B. O. cows, also a 3-yr-old son of Friend Hengerveld DeKol Butter Boy.

Our reference sires include, a son of the World's record Junior 4-yr-old for 7 and 30 days, a son, and two grandsons of Pontiac Korndyke, a son of the \$0,000 bull, a brother to the sire of Tilly Aloastra who holds the world's milk record for one year, and sons of 30 and 31 lb. cows. Catalog May 10th.

**Perry and Mack, Auctioneers.** **F. J. FISHBECK, Secretary, Howell, Mich.**

**BUY OR HIRE  
A Red River Special  
THIS YEAR**

Note the difference to both thresherman and farmer.

It is a money maker for both of them.

It saves the Farmer's Grain because it **Beats it Out**.

It saves time for both Farmer and Thresherman because it will thresh when others cannot run at all, and thresh faster all the time.

Hans J. Thomsen and eleven other farmers of Avoca, Ia., say: "It surely pays the farmers to insist upon having their threshing done with the Red River Special, for it saves their grain."

The thresherman should equip himself with what the farmer wants. He should equip himself with the RED RIVER SPECIAL.

**IT SAVES  
THE FARMER'S THRESH BILL**

The reason is that it uses the only correct principle in taking the grain out of the straw. It **beats it out** just as you would do by hand with a pitchfork. It is the only thresher which does **BEAT OUT THE GRAIN**.

All others depend upon the grain dropping out. The RED RIVER SPECIAL is the only thresher with the Man Behind the Gun which takes out over ninety per cent of the grain right at the cylinder.

Send for new Red River Special Paper, FREE

**NICHOLS & SHEPARD CO.**  
(In continuous business since 1848)  
Builders of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors  
(4) **BATTLE CREEK, MICH.**

**A FARMER'S GARDEN**

Helps his wife to plan her table in busy times. Saves work and worry, saves buying so much meat, gives better satisfaction to the help. A good garden will be almost impossible in your busy life without proper tools. They cost little and save much hard work.

**IRON AGE WHEEL HOES AND DRILLS**

will sow, cultivate, ridge, furrow, etc., better than you can with old-fashioned tools and ten times quicker. A woman, boy or girl can do it. Can plant closer and work these hand tools while the horses rest. 38 combinations from which to choose at \$2.50 to \$12. One combined tool will do all of the work. Ask your dealer to show them and write us for booklet, "Gardening With Modern Tools" Free.



**BATEMAN MFG CO.**  
Box 242  
Grenloch, N. J.

**The "Berlin Quart"**

**The White Basket**

That secures highest prices for your fruit. Write for 1915 catalog showing our complete line and secure your baskets and crates at WINTER DISCOUNTS.

The Berlin Fruit Box Co.  
Berlin Heights, Ohio.

**POTATO**

Michigan's Standard, Sir Walter Raleigh. Pure and well grown 90 cents bushel. Member Michigan Experiment Asso.  
**H. E. SAIER, Lansing, Michigan**

**Early Corn Hardy Variety Big Yields**

**BLOODY BUTCHER**—Matures in 90 days, ears 8 to 12 inches long—12 to 16 rows, reddish or flesh colored kernels, good for Northern States where season is short.  
**PENNSYLVANIA FLINT**—Extra long ears, very attractive, reddish yellow. Also desirable type Wheat, Oats, Rye, and Barley. Write for samples and prices.  
**HARVEY SEED COMPANY, Buffalo, N. Y.**  
169 Ellicott St., Buffalo, N. Y.

**SEED CORN**

Wisconsin No. 8 and Pink Nose Dent, two Standard varieties, graded and tested. \$2.50 per bushel; sacks free. Both grown in Livingston County, Michigan. **R. E. BARRON, Howell, Michigan.**

Seed Corn—Early Rose, Yellow Dent. Supply limited. \$2 bu. shelled while it lasts. Address Pleasant Point Farm, R. No. 2, Box 37, Hillsdale, Mich.

**SEED CORN—BEST VARIETIES** Michigan Grown. **YOUNG-RANDOLPH SEED CO., Owosso, Michigan.**

**ADMIRAL PEA SEED**—\$2.50 per bushel in small orders. \$2.10 per bushel over 5 bushel orders. Six free. F. O. B. this city. **FRANK KINCH, Grindstone City, Michigan.**

**SEED OATS**—Michigan Grown. Write for samples. **YOUNG-RANDOLPH SEED CO., Owosso, Michigan.**

**SEED OATS**—Regenerated Sweedish Select. **SEED POTATOES**—Green Mountain and Late Potokoy or Rural Russets. Write for sample and prices. **COLON C. LILLIE, Coopersville, Michigan.**

**Onions a Leading Truck Crop**

**W**HERE the labor situation is such that help may be hired at prices not too prohibitive, the onion is one of the most profitable of crops for the market gardener and truck grower. It is a crop that will grow in a great variety of soils, deep or shallow, muck or loam, sand or clay. In fact, there seems to be but one or two requirements—one is that the soil must not be sour and another is that it must not be wet. Muck land sometimes produces as high as a thousand bushels per acre, but usually not until it has been well limed. Decayed organic matter or "humus" is necessary, and plenty of fertilizing materials. The soil must also be well prepared and pulverized by thorough harrowing and raking. All clods should be broken up and sods removed or turned under deeply. Land that has had a year or two of cultivation under some other crop is best. A good coat of stable manure—preferably rotted—should be worked into the soil. When land is once fitted for onions, it may be kept in the same crop year after year, if plenty of plant food is provided.

**The Best Varieties.**

The easiest way to grow onions is by planting the seed directly in the rows. This should be done just as early in the spring as the land can be gotten into condition. For this method of growing, choose Yellow Globe Danvers or Southport Yellow Globe, these being the kinds that sell most readily in the markets. Sometimes for a special demand the Southport White Globe and Silverskin varieties are planted, both being white, as the names would indicate. Again, red varieties sell well in some markets. Southport Red Globe is the best red and Red Wethersfield is a close second. Whatever variety is planted, an endeavor should be made to procure the best of seed. It is a good plan to test a sample of the seed before planting, as it will be too late to plant over if the first sowing does not germinate. Northern grown seed is best for northern localities.

Having the land properly prepared, which means all the clods broken and the surface raked free from rocks and sods the seed should be drilled in with a garden drill. Four or five pounds per acre is about right to sow on ordinary sandy loam, and the drill should be adjusted to cover the seed about half an inch deep. Have the first row perfectly straight and allow 12 to 14 inches between the rows. The plants show above the surface in about ten days. From the first, every weed should be kept out. The advantage of early sowing is to get the plants started before the weeds. If weeds once get a start, while plants are yet small, damage will be done from which the plants will never recover. Cultivation should be started with the wheel hoe just as soon as the rows can be followed. If this is kept up throughout the season, but little hand work will be necessary. If, also, the manure with which the land is enriched is free from weed seeds it will help much in the cultivation. Hand weeders help a great deal in keeping down the weeds. Where boys can be hired, who wish to work after school or during vacation, they make good onion weeders. By keeping up the work with the wheel hoes, it is sometimes possible to raise onions with only one hand weeding. It is usually necessary to go over the patch about twice, however.

**Harvesting the Crop.**

When the tops have died down, it is time to harvest the crop. Select pleasant weather and pull the onions, allowing them to thoroughly dry on the ground before being taken to the storage house. For the large grower, specially constructed houses are necessary. The small grower will do bet-

ter to market the crop with as little delay as possible. Sometimes they are put directly into shipping crates when harvested, the crates afterwards being piled in an open shed where the wind may finish the work of drying them out.

N. H. CHAS. H. CHESLEY.

**TROUBLE DEPARTMENT.**

**The Plum Curculio.**

I have several nice plum trees which blossom very full every spring but something stings the plums, causing them to drop off before they reach any size. Would like information on when to spray and what to spray them with.

Mecosta Co. SUBSCRIBER.

The most common cause of plums dropping after blossoming is the curculio. The female, after hibernating in the ground all winter, comes out shortly after blossoming time and punctures the newly formed plum in a crescent shape for the purpose of laying her egg. Plums so punctured usually drop shortly after being attacked.

The control of the curculio is affected by the use of arsenate of lead, just before the blossoms open, and immediately after the petals drop. As the spraying for the control of the rot is done at the same time a fungicide should be used, either lime-sulphur or Bordeaux being effective. The lime and sulphur should be used at the strength of 1:50 and the arsenate of lead two and a half to three pounds to 50 gallons. The Bordeaux mixture if used, should consist of four pounds of copper sulphate and five pounds of lime to 50 gallons. The amount of arsenate of lead used should be the same as with lime-sulphur.

Other means of control are allowing chickens to run in the orchard to dig up the hibernating insects and jarring the tree after a sheet has been spread under it. When the curculio is disturbed it plays possum by doubling up its legs and dropping to the ground as if dead. With a sheet under the tree and the tree jarred many of the insects can be caught in that way.

The latter method is quite laborious and has gone out of use to a great extent since spraying has proved so efficient. Thorough spraying at the two times stated, and if the curculio is very serious, again ten days after the blossoms have dropped will save practically all of the crop which has formerly been destroyed by curculio.

**SWEET CORN.**

Sweet corn should not be planted until danger of frost is passed in the spring and the ground is fairly dry, as it is liable to rot in cold, wet ground. Rich, deep soil is essential for a good yield of corn and where the fertility is poor a little phosphate in the hills will be of benefit. One quart of seed will plant an hundred hills of corn. The dwarf varieties of corn may be planted three feet apart and the hills from two-to two and a half feet apart in the rows, the taller varieties may be planted four feet apart. After the corn is up a few inches the hills should be thinned out to three plants in a hill, and if, later, all side shoots not forming ears are removed fuller and more perfect ears of corn will result.

Corn can scarcely receive too much cultivation but after the corn has reached two feet or more in height the spike-tooth drag may be substituted for the cultivator and a dust mulch maintained by this method which will be quite as useful as cultivating, and leave the ground in better shape.

Branch Co. IDA D. BENNETT.

A garden well-fed with fertilizer better resists attacks of pests than one that has had scant attention.

**TOP** dress all your crops with Nitrate of Soda alone, no matter what other fertilizers you may have used. 100 pounds to the acre for seeded, and 200 pounds to the acre for cultivated crops will do the work. The increase will yield large profit over the cost.

Our really attractive and interesting books sent free. Write on post card for these money makers

**WILLIAM S. MYERS, Director**  
25 Madison Avenue, New York

**LILLIE'S SPECIAL BRANDS  
BUFFALO FERTILIZER**

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

**LIME**

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

**LAKE SHORE STONE CO.,**  
Muskegon, Mich., and Benton Harbor, Mich.

**LIMESTONE**

**For General Farm Use.**

Finely pulverized, made from highest high calcium stone. Quick shipments in closed cars. Let us send sample and price.

**Northern Lime Co., Petoskey, Mich.**

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

Choice **SEED POTATOES**  
Northern Grown  
CATALOGUE SENT ON REQUEST  
**NORTHERN SEED COMPANY**  
Box 26--:-- Grand Rapids, Michigan.

**BANKER'S TRIAL COLLECTION. Let's Get 100 Fruit Trees, Berry Bushes & Grape Vines, \$5 Money back if not satisfied when you see the trees. 20 Apple trees—5 to 7 ft. 2 years—4 Baldwin, 2 Bananas, 2 McIntosh, 2 R. I. Greening, 2 Red Astrachan, 2 Stayman, 2 York Imperial, 2 Black Ben Davis, 2 Stark, 10 Pear trees No. 1—2 year—2 Bartlett's, 3 D'Anjo, 3 Kieffer, 1 Elberta Peach, 1 Ea. Crawford, 1 Montmorency Cherry 3 to 5 ft., 1 Crab Apple, 1 Burbank plum 5 to 7 ft., 10 Grape Vines, 5 Concord, 5 Niagara, 1 yr., 25 Black-berry large size, 25 St. Regis Red Raspberry, 1 year. Get my big Catalog, it's Free. I sell only trees I grow. **D. G. BANKER, DANVILLE, N. Y.****

**WHITE SWEET \$ 00  
CLOVER 6 Per Bu.**  
**YOUNG-RANDOLPH SEED CO., Owosso, Michigan.**

**TREES Plant For Profit** Our Trees  
All kinds trees & plants Grow  
Free catalogue. Special prices on apple or peach. Ne San Jose Scale Here. We pay freight. Salesmen wanted. Outfit free. Write at once.  
**MITCHELL'S NURSERY, BEVERLY, OHIO.**

**PEDIGREED OATS**—Garton No. 5—"The Corn Belt Oats" Straw will not lodge. Big yielder. Free from smut, 5 bu. or more 90c. Less than 5 bu. \$1.25. Bags FREE. Member Michigan Experiment Association. **E. S. CHRISTIANSEN, Coral, Michigan.**

**Senator Dunlap Strawberry Plants** for sale at \$2.50 ones. **W. M. YARIGN, St. Johns, Michigan.**

**LARGE Michigan Yellow Dent and Pony Dent Seed Corn**, \$1.75 bushel. Bags free. **JOHN LOHMAN, Hamilton, Michigan.**

**Seed Corn**—Silver King (No. 7), Golden Glow (No. 12), Fire dried, Germination 98. Write. **Wm. C. Voight, Jr., Lorain, Wis.**

**SEED CORN**—Pickett's Yellow Dent. Satisfaction guaranteed. **JESSE W. PICKETT, Caledonia, Michigan.**

**SWEET SEED.**—White and large biennial yellow. Prices and circular on request. **EVERETT BARTON, Box 129, Falmouth, Kentucky.**

**CHOICE OSAGE MELON SEED**  
\$1.00 a pound Postpaid.  
**R. J. McMullen, Hand, Michigan.**

**WHITE CAP DENT SEED CORN**, fire dried, 99% germination \$2.50 per bu., bag included. **ALFADALE FARM, R. No. 8, St. Johns, Mich.**

**Garden Seeds** at wholesale prices. New Sound, Fresh Seeds that will please you. Catalog free. **ALLENS SEED HOUSE, Geneva, Ohio.**

**SEED CORN**—Mich. Yellow Dent, home grown, fire dried, tested. Golden Fleece and Reg. Sweedish Select Oats. Send for sample and circular. **F. A. Bywater, Memphis, Mich.**

## Grange.

### THE GRANGE IN SOCIAL SERVICE.

Early in its history, the Grange became a power in legislative reform. Along this important line of work, it has often distinguished itself, in fact, its victories have been so many and so important as to inspire confidence on the part of the public generally, in those principles for which the order stands, and to make the average legislator very anxious to learn the will of the Grange in the matter of any proposed legislation in any way touching the interests of agriculture.

The order does not propose to abandon this very worthy and highly necessary field of labor. In fact, its work here has but begun. But there are many ways in which the desire of an individual or an organization to be of service in the world, may find expression. Thus, we have in our order many excellent men and women who have little interest in legislative matters. They are good members of the Grange. They attend regularly, help in the social work and assist in the lecturer's program, but you could not get them to worry a bit about the "Torrens System of Land Transfers," nor to take any particular interest in "The Tonnage Tax."

This matter should not worry us. We should remember how very large the old world is, and how many things in it need doing. It is well after all, that we do not all want the same job, and refuse to do anything else, for in such a case, many of us would be out of work, and a lot of things would never get done.

Reader, did you ever stop to think of the variety of thought units possessed by different individuals? Here is a man whose interest is centered in his home. He seldom takes any interest whatever in any public enterprise. He has no time to attend Grange, he seldom goes to school meetings, yes, he belongs to the church, perhaps, and goes quite regularly, but in this he has considered only his own spiritual interests and those of his family. Should the church of his choice consider any plans for rural betterment, or launch a program of social reform in the community, quite likely he would oppose it, and if he did not, he would probably take no part in it. Still, he is a kind husband and father, an honest man, and perhaps very much in earnest about everything that pertains to the interest of his family.

Beside him, lives a man who is always thinking about the welfare of the community. Another neighbor has been a member of the township board for many years, and is ever watchful in the interest of his township. Another has his mind on the matters pertaining to county or state politics.

(Continued next week).

### GRANGES ORGANIZED AND RE-ORGANIZED.

The number of Granges organized and re-organized from Jan. 1, 1915, to March 31, 1915, both inclusive, is as follows:

#### Organized.

Colorado, 13; Connecticut, 1; Delaware, 2; Idaho, 1; Illinois, 8; Indiana, 4; Iowa, 1; Kansas, 34; Kentucky, 1; Maine, 1; Maryland, 4; Massachusetts, 4; Michigan, 10; Minnesota, 2; Montana, 4; Nebraska, 21; New Hampshire, 1; North Dakota, 3; New York, 14; Ohio, 41; Oklahoma, 1; Oregon, 13; Pennsylvania, 12; South Dakota, 10; Washington, 8; Wisconsin, 5; Wyoming, 7. Total 226.

#### Re-organized.

Colorado, 1; Ohio, 1; Oregon, 2; Pennsylvania, 1; Washington, 2; West Virginia, 1. Total 8.

#### Some High Points.

Ninety-six new Granges for March, 1915, is the best month record since 1876; 226 New Granges, for quarter ending March 31, 1915, is the best quarter since 1876. Interlaken Grange, N. H., organized by Richard Pattee with 277 charter members, in my opinion, stands at the top in Grange work.—C. M. Freeman, Secretary National Grange.

## Farmers' Clubs

### OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—R. J. Robb, Mason.  
Vice-president—C. J. Reed, Spring Arbor.

Secretary and Treasurer—Mrs. J. S. Brown, Howell.

Directors—Alfred Allen, Mason; Joseph Harmon, Battle Creek; C. B. Scully, Almont; C. T. Hamline, Alma; W. K. Crafts, Grass Lake; Edward Burke, St. Johns.

Address all communications relative to the organization of new Clubs to Mrs. J. S. Brown, Howell, Mich.

#### Associational Motto:

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

#### Associational Sentiment:

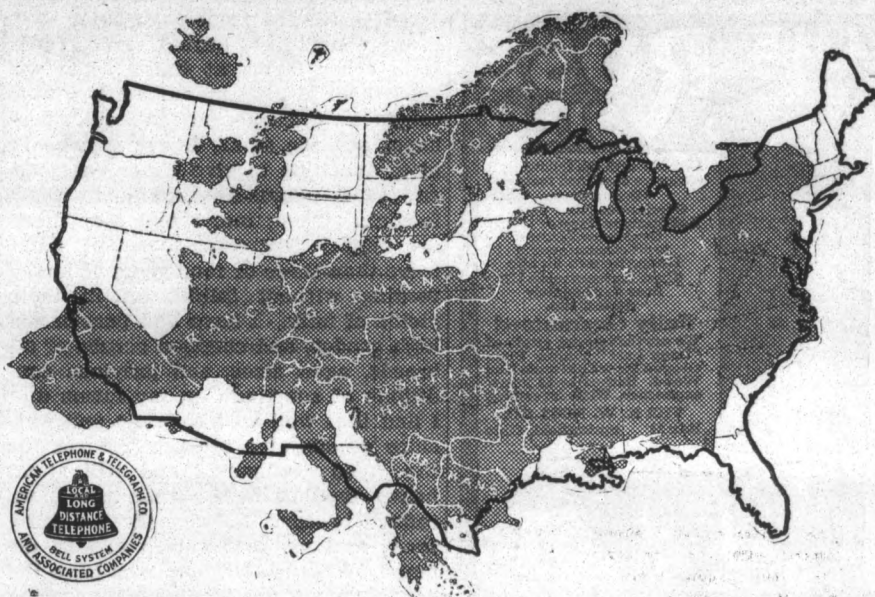
"The Farmer: He garners from the soil the primal wealth of nations."

#### CLUB DISCUSSIONS.

**A Corn Special.**—The April meeting of the Washington Center Farmers' Club was held at Highland Home, with Mr. and Mrs. F. L. Cook. It was, as usual, a pleasant and instructive meeting, with a good attendance. The usual forenoon routine was observed and a question carried over from last meeting was discussed. "Do we appreciate the hardships endured by the pioneers of Washington township?" The descendants of those pioneers certainly do appreciate the years of hardship and toil that have given them this splendid farming country. A corn dinner was served and one is surprised at the many dainty and wholesome dishes that can be prepared from the most useful grain raised on the farm. The afternoon session was opened with music by Miss Brown, assisted by Miss Payne and Mrs. Tobey. Roll call was responded to by "What I will grow in 1915." "What rights belong to a farm boy?" This subject was led by O. J. Campbell, and discussed by all. The boy should be taken into partnership as soon as old enough; should be given stock to raise which should be his own all the way through; should be taught farm book-keeping, how to do business at the bank, and many other things that would keep him interested in the farm. The same rights belong to the girls on the farm. Mrs. Crowell gave an interesting talk on the entertainment of our friends. A paper written by Leonard Crowel, a 14-year old member of the Club, was read, entitled, "How I grew my corn." These were not quite an acre and after the chickens and other domestic animals had sampled it, 95 bushels of splendid corn was husked. A fine exhibit of this corn was made at the Club Fair last October. "Buying farm and garden seeds of traveling salesmen," was discussed. It was thought safe if the law concerning the selling of seed was complied with. The question box brought out a number of questions of local interest. The May meeting begins the half-day meetings of the year and will be held with Mr. and Mrs. W. W. Mette, the second Thursday in May.—Mrs. S. N. French, Cor. Sec.

**Last All-Day Meeting.**—The Wells-Dayton Farmers' Club met at the home of Mr. and Mrs. George Spencer, April 7, it being the last all-day meeting. There were about 40 members and visitors present. After a bountiful dinner, which was served by Mrs. James Weeden, the meeting was called to order by the vice-president, the president being absent. Mrs. Riley sang, accompanied by her daughter, Miss Agnes. A paper by Stanley Stokes on "Potato Growing," was of great interest, as it was practical and from his own experience, and as he is a large potato grower, raising last year over 2,000 bushels from six acres the Club was greatly pleased with the paper. Mrs. S. G. Rose read a paper on "The Farmer's Garden and Spring Housecleaning." Mrs. A. L. Adams gave a recitation on "How Betsy and I fell out," and another on "How Betsy and I made up," both being much appreciated. S. G. Ross read "St. Peter at the Gate," by request. The next order of business was the voting to buy a large coffee pot and one dozen chairs. The next meeting will be held at the home of Everitt Ross, in Caro, the first Wednesday in May.—Mrs. S. G. Ross, Cor. Sec.

The 1915 catalog of the C. E. DePuy Co. of Pontiac, Mich., lists a line of high-grade northern-grown field and garden seeds offered by this company. The catalog is liberally illustrated with half-tone engravings from photographic scenes.



## The Agency of a United People

A striking comparison between a homogeneous country and a heterogeneous group of countries is obtained by placing over the map of the United States the map of Europe. These represent the same area—about 3,000,000 square miles—if a few of the remote provinces of Russia are omitted.

Europe has the advantage in population, with more than four times as many people as the United States; in the number of large cities, with two and a half times as many cities of over 100,000 population.

Yet the United States, a comparatively young country, has outstripped Europe in the diffusion of civilization, because of its wonderfully greater means of communication between all parts of its area. The United States not only excels in transportation facilities, but it has nearly three times as many telephones as Europe, or about eleven times as many in relation to population.

By the completion of the Transcontinental Line we now talk from one end of this country to the other, while in Europe the longest conversation is no farther than from New York to Atlanta, and even that depends on the imperfect co-operation of unrelated systems.

Europe, with twenty-five countries and many different languages, serves as an illuminating contrast to the United States, with one language and a homogeneous people, despite the fact that our population has been derived from all parts of the world.

During the last forty years the steadily extending lines of the Bell System have contributed in no small measure to this amalgamating of different races.

The latest achievement—the linking of coast to coast—has given greater force to the national motto, "E Pluribus Unum."

### AMERICAN TELEPHONE AND TELEGRAPH COMPANY AND ASSOCIATED COMPANIES

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Universal Service

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Direct from Factory to User

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12 H-P.	197.00
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Cash or Easy Terms. Why pay double price for any good engine, or take a poor one, for any price, when the WITTE costs so little and saves you all the risk?

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Ed. H. Witte, Witte Engine Works, 2198 Oakland Ave., Kansas City, Mo.

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and see how quickly it will pay for itself. Here are 5 Reasons why you need it—

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- Saves your horses.
- Pulverizes any soil perfectly.
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The Welding Co., Box P-2, Defiance, O.

**FARM DYNAMITE**

and accomplish more work in removing stumps, rocks, also planting trees, digging ditches, etc., than twenty men. It's effective, safe and easily used; guaranteed Standard Brand; shipped DIRECT from Mill in this state lowest prices. No salesmen. Established over 30 years. Write for full particulars.

BRUNS POWDER CO. TERRE HAUTE, INDIANA.

**BROWN FENCE**

Over 150 styles for every purpose—hogs, sheep, poultry, rabbits, horses, cattle. Also lawn fence and gates.

13 CENTS PER ROD UP. ALL DOUBLE GALVANIZED

Write now for new catalog and sample to test.

The Brown Fence & Wire Co., Dept. 49 Cleveland, Ohio

**Cooper Dip**

ONE DIPPING KILLS ALL TICKS

and keeps SHEEP free from fresh attacks. Used on 250 million sheep annually. Increases quantity and quality of wool. Improves appearance and condition of flock. If dealer can't supply you send \$1.75 for 12 packet. Specially illustrated booklet on "Ticks" sent free for asking; a post card brings it. Address

WM. COOPER & NEPHEWS, 128 W. Huron St. Chicago, Ill.

**CREOSOTED TAMARACK POSTS FENCE.**

EVER-LASTING Fence Posts treated throughout under heavy pressure, prices compare with the best cedar. We operate a Wood Preserving plant, treating ties, poles, posts and timber of all kinds with pressure treatment.

NOTE—We do not use a dipping process.

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**MICHIGAN WOOD PRESERVING CO.** Reed City, Michigan.

**IDEAS WANTED**—Manufacturers are waiting for patents procured through me. 3 books with list 200 inventions wanted sent free. Advice Free. I get patent or no fee.

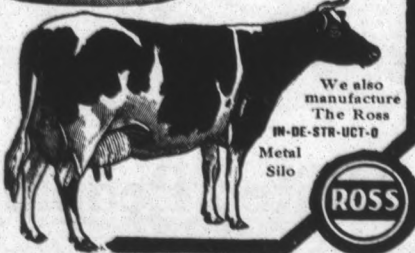
R. B. OWEN, 127 Owen Bldg., Washington, D. C.

**Michigan White Cedar FENCE POSTS**

GEORGE M. CHANDLER, Onaway, Mich.

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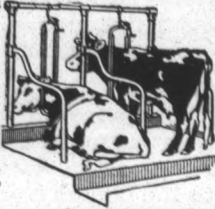
Is made with the following exclusive combined features:  
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 These features make the Ross an absolutely perfect silo.  
**Fully Guaranteed**  
 We use the highest grade of "Long Leaf" Yellow Pine, Oregon Fir & California Red Wood. Backed by 65 years' experience. Write for catalog  
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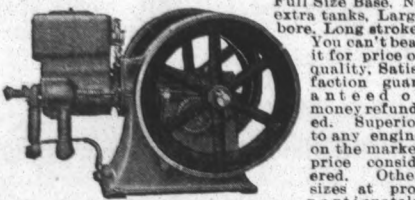
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They give more and better milk when stabled in comfortable stalls and stanchions. All users recommend  
**BUCKEYE Stalls, Stanchions and Litter Carriers**  
 They are simple and accurate in construction, easily assembled and give comfort to the cow. Differ from all others. New interlocking connections. Write at once for catalog.  
**Mast, Foss & Co., Box 103 Springfield, Ohio**



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Full Size Base. No extra tanks. Large bore. Long stroke. You can't beat it for price or quality. Satisfaction guaranteed or money refunded. Superior to any engine on the market price considered. Other sizes at proportionately low rate. Buy from us and save money.

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**BECK-ADAMS COMPANY,**  
 LANSING, MICHIGAN.

## LOESER BROS.

We have sixty head of imported Belgian and Percheron stallions and mares, from weanlings up. We are also offering a car lot of big drafty grade brood mares all in foal, weighing 1600 to 1800 pounds.

## LIGONIER, IND.

**PERCHERONS**—Imposant, one of the heaviest horses in state, at head of stud. Brood Mares as good, young stock for sale. **CHAS. OSGOOD & SONS,** Mendon, Michigan  
**FOR SALE**—Registered Percheron Stallion Mares and Fillies at reasonable prices. Inspection invited. **F. L. KING & SON,** Charlotte, Mich.  
**FIVE REGISTERED PERCHERON STALLIONS,** blacks, from weanlings to 12 years old, and sound. **WM. McRODAN,** Dutton, Kent Co., Mich.  
**Clydesdale Stallion and Mares** at bargain prices, also some Ayrshire bull calves fit for service. Terms to suit. **FINDLAY BROS.,** Fairgrove, Michigan.

**FOR SALE**—2 Reg. PERCHERON MARES, sound F and right in every way. Weight about 1,600 lbs. **M. A. BRAY,** Oakemos, Ingham Co., Mich.  
**Registered Clydesdale Stallions For Sale.**  
**F. A. PETZ, CAPAC, MICHIGAN.**

**Black Percheron Stallion**  
 Pilot 63258. 6 years old. An unusually good size is offered for less than he is worth.  
**BROOKWATER FARM, Ann Arbor, Mich**

**Registered Percherons.**  
 Brood Mares, fillies and young stallions. Priced to sell. Inspection invited.  
**HILL CREST FARM, Eaton Rapids, Michigan.**

**JACKS AND MULES**  
 Raise mules and get rich. 200 head fine large Jacks, Jennys and mules 14 to 17 hands high. Large registered Jackson Draft Stallions, cheap now. Will trade for sheep, cattle or horses. Write for prices today. Stock guaranteed. Address  
**Krekler's Jack Farm,**  
 West Elkton, O.

**Pigeon Pony Farm**—Reg. Shetland Ponies, mostly spotted, 1 spotted stallion and young stock for sale. **Dr. W. T. Morrison,** Pigeon, Mich.  
**Shetland Ponies**—Closing out at low prices on account of selling my farm. Registered stock. **J. M. BEDDOW,** Birmingham, Mich.

(Continued from page 501).

I am constantly buying new cows from other farms at times when we need them to keep up our market milk contract. Such a practice would, perhaps, pay the small dairyman who is in the position to give his calves good care and personally attend to their feeding. Then, too, I find that there are mighty few cows that will stand more than three or four years of heavy feeding without falling off in their yields of milk. I have had pure-breds, high grades, and common scrubs of all breeds, ages, sizes, and previous conditions of servitude on my farms and I find that well-bred Holstein and Ayrshire grades give the best returns for the feed consumed and will stand heavy feeding longer than the more refined breeds. I always keep a pure-bred, for my best calves are in demand by other dairymen who have the conveniences for feeding and rearing them for dairy purposes. The young bulls are usually sold as soon as they are fit for veal. By buying the better class of cows and sorting them over pretty well before deciding which ones to keep for milk production on my own farms I have managed to keep my annual production up to about 6,000 pounds per cow per year."

### Utilizing the By-products.

On the majority of dairy farms there is a woeful waste of opportunity in utilizing the by-products. It requires some careful planning to adjust the number of young animals being fed so that one can realize maximum benefits from these valuable by-products. Perhaps the greatest losses come from neglecting to properly supplement them with other feeds so that the rations are better balanced to meet the needs of the animals being fed. For example, Banks sold his milk to the creamery and had several hundred pounds of skim-milk to haul back to his farm every day. For years he fed this to calves, giving them all they would eat, but very little other feed. He began to study the feeding problem and decided to improve his methods. The next fall he started a bunch of ten heifer calves and fed them skim-milk and grain. By the first of May they were sufficiently developed to make good use of grain and hay ration. By this time his six brood sows had farrowed and along in June the pigs were put on pasture and fed skim-milk and wheat middlings. A little shelled corn was fed with the skim-milk and green feed. By the first of September they were ready for the fattening pens and were finished on a ration of corn meal and skim-milk. When they were sold Banks had another bunch of calves started to take the skim-milk. What the calves didn't need was fed to the brood sows. After he got his new system working his books showed that by buying 14 tons of grain feeds and six brood sows he had raised \$1,200 worth of pork and ten better calves than he had raised when they were fed nearly all of the skim-milk they would eat until they were nearly ten months old.

Now, if Banks had not studied the feeding problem the chances are he would be wasting three-fourths of the value of his skim-milk and wondering why dairying was unprofitable. Experiments show that skim-milk has a far greater feeding value when fed to young animals than to older ones, and furthermore that it can produce the best results only when fed along with other foods that take the place of the fats and carbohydrates removed in skimming, and yet there are thousands of dairymen who persist in wasting more than three-fourths of the value of this by-product because they are too busy with cows and crops to bother with such foolish problems as efficiency methods in their business.  
 New York. W. MILTON KELLY.

Buttermilk should not be put in sweet milk cans as the sour taint is hard to remove from them.

## Veterinary.

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

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

**Fistula on Jaw.**—I have a four-year-old mare with bunch on jaw which has not healed since last July. Our local Vet. lanced bunch three times during the month of July. A. O. B., Blanchard, Mich.—Apply equal parts of iodiform and boracic acid—place this medicine in a gelatine capsule and force it to bottom of sore every day or two.

**Sow Sucks Tongue and Boards.**—I have a sow which is due to farrow in about four weeks; for the past six months she has formed a habit of sucking boards or anything else that she can grab hold of and if whipped away will stand and suck her tongue. R. T., LeRoy, Mich.—There is no remedy, either mechanical or in the drug line, that will have a permanent effect in stopping her of this vice.

**Raising Orphan Pigs.**—I am anxious to know if it is possible to raise orphan pigs "on cows milk" from birth? The mother of this litter has chills and refuses to eat and, of course, her milk yield ceased. N. E., Lansing, Mich.—As you perhaps know, young pigs should be fed with care; the feeding utensils kept perfectly clean and you should also add both sugar and cream to cows milk in order to make it as rich in fat as the sows milk is. Very soon you can add to their milk some meal; furthermore, you should place water within their reach. Give the sow 4 grs. of quinine and 10 grs. of nitrate of potash three time a day and be sure that her bowels act free.

**Vertigo.**—I have a four-year-old Jersey cow that dropped her first calf all right, but soon commenced having spells every month or so, falling on her right side, remaining down about two minutes, then she appears to be all right. She had her second calf last September and gives a nice flow of milk. Would you advise me to breed her again? P. K., Ottawa Co., Mich.—A chronic ailment of this kind is incurable; therefore, I would advise you not to breed her, but perhaps dry her late this summer and fatten her next fall. Drugs will not make much impression on a case of this kind; however, she should be given one or one and a half pounds of epsom salts immediately after she shows sickness. Also give her ½ oz. doses of bromide of potash three times a day for two days.

**Capricious Appetite.**—We have a pair of horses that eat old rotten wood every time they get a chance, but both of them are in good condition. C. H. McC., Coleman, Mich.—Give each of your horses a tablespoonful of bicarbonate soda, a tablespoonful of ground gentian and a tablespoon of powdered charcoal at a dose in feed three times a day. Change their feed, and feed them some roots.

**Heart Disease—Plural Adhesions.**—I found a growth of something in the heart and a portion of lung firmly attached to the ribs. This cow lost flesh, swelled in limbs and never laid down. What caused her death? S. P. L., Pellston, Mich.—The tumor growth you speak of in heart doubtless interfered with heart action, which caused the death of your heifer. The plural adhesions was doubtless the result of a mild attack of pneumonia.

**Spasm of Muscles of Neck.**—I have a cow that has occasional sick spells, holding her head high, nose poked out, neck muscles appear to be rigid and she occasionally shakes head as if in pain. These spells come and go with four and six-hour intervals, but she eats all right and her digestion is good. She was dehorned about four years ago, but she holds her head very much like a cow that had been recently dehorned. W. S. B., Albion, Mich.—This crampy condition of the muscles of neck is doubtless the result of an injury affecting the circulation of blood to and from head and she will be benefited by rubbing the parts with gasoline and camphor made by dissolving one pound of camphor gum in a gallon of gasoline. Give her 1 dr. of ground nux vomica and 1 dr. fluid extract belladonna at a dose three times a day when she has these sick spells.

## A Sure Remedy for Sheep Scab

And sheep ticks and an absolute preventive of most parasitic skin diseases—Dr. Hess Dip and Disinfectant. It keeps the wool in good condition and is positively harmless to the skin.

### Dr. Hess Dip and Disinfectant

is non-poisonous and non-irritating. It is always uniform in strength—therefore the safest to use. Meets the requirements of the U. S. Government as an official dip for sheep scab. A splendid preparation for disinfecting stables, pens, troughs, sinks, drains, garbage cans, etc. Sold in pint bottles, quart and gallon cans; also in barrels.

Write for free Dip Book. If your dealer can't supply you, write us.

**DR. HESS & CLARK**  
 Ashland, Ohio.



**CHEAPEST and BEST FEED For Cows**  
 All of the sugar beet left after man's food (sugar) has been soaked out by water. Clean, wholesome, pure, dried vegetable food.  
**LARROWE'S DRIED BEET PULP**  
 Free from adulteration. Don't buy bran, middlings, cornmeal, barley, oats or other carbohydrate feed when you can get a better feed like Dried Beet Pulp for less money per ton. Ask your dealer  
**THE LARROWE MILLING CO.,**  
 1009 Gillespie Bldg. DETROIT, MICH.

**Powerful—Economical**  
 Ellis Engines develop more power on cheap kerosene than other engines do on gasoline. No cranking, no excessive weight, no carbonizing, less vibration, easy to operate. All  
**ELLIS ENGINES**  
 are sent on 30 days' free trial and guaranteed for 10 years. We do this because we know that Ellis Engines are the biggest value the engine industry has ever known. Thousands of enthusiastic users.  
 Made in vertical and horizontal types, either stationary or portable, from 1 1/2 H. P. to 18 H. P. Our new booklet describes this money-saver. Send for copy.  
**ELLIS ENGINE COMPANY**  
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**Better Blocks**  
 Made of better tile—lap-joined—stronger, more durable silo wall.  
**LANSING Vitrified Tile Silo**  
 defies age, winds, winter frosts and hot summer heat. Reinforced twisted steel. First cost, only cost. Write for catalog.  
**J. M. PRESTON COMPANY**  
 Dept. 309 Lansing, Mich.  
 Get our offer on Climax Silage Cutters and Didwell Thrashers

**The Grand Rapids VETERINARY COLLEGE**  
 Offers a three years Course in Veterinary Science. Complying with all the requirements of the U. S. Bureau of Animal Industry. Established 1897. Incorporated under State law. Governed by Board of Trustees. Write for Free Catalog.  
 152 Louis St., Grand Rapids, Michigan.

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Aberdeen-Angus Bulls. We are offering 12 extra good bulls...

FOR SALE ANGUS CATTLE. One cow consisting of 13 head registered cows...

ABERDEEN-ANGUS HERD FOUNDED IN 1900. Steins represented consist of Trojan Ericas...

FOR SALE—Two registered yearling Aberdeen Angus bulls...

ANGUIRES—One of the foremost dairy breeds. The most economical milk producers...

Four Registered Aberdeen Angus Bulls, from top to excellent months old...

BROWN SWISS—6 choice bull calves for sale...

THE VILLAGE FARM, Grass Lake, Michigan, GUERNSEY CATTLE.

MILO D. CAMPBELL. CHAS. J. ANGEVINE

BEACH FARM GUERNSEYS

A Dairy Show Every Day. 120 Head of Dairy Stock. Milking done by machines...

Fairview Dairy GUERNSEY

FOR SALE—Six registered bulls, one year old, and one registered bull, two years old...

For Sale—Registered GUERNSEY COWS, HEIFERS AND BULLS of choice breeding...

Three Guernsey Bulls—Aged from 6 to 11 mos. Good individuals...

REGISTERED GUERNSEY BULL CALVES for sale cheap at W. Windomero Farm...

HEREFORD;—Three bull calves and one yearling...

Do You Want A Bull? Ready For Service.

From a grand daughter of The King of the Pontiac. Sired by a bull that is more than a half brother to the Champion Holstein Cow of the World...

Three Reg. Holstein Friesian Bulls at \$100 Each. Two from 31-lb. dams. Also bull calves...

ESPANORE FARM, LANSING, MICHIGAN.

Home of the great Holstein Bull "PLEDGE SPOFF-FORD CALAMITY PAUL" with 33 A. B. O. daughters...

FOR SALE—A Bull Calf sired by this Great Bull. CHASE S. OSBORN, ADAM E. FERGUSON, Owners.

FOR SALE—Registered Holstein bulls ready for service. Heifers and cows due to freshen soon at reasonable prices...

Registered Holstein Cattle—Bull calves for sale, out of A. B. O. cows...

FOR SALE—Three young Reg. Holstein cows, are safe in calf. No culls. Price \$125 each...

Bull calf—3 sisters from 30.08 to 34.31 lbs. Sire's sire Pontiac Korndyke...

HOLSTEIN BULL CALF, 5 mo. old, good individual, well grown from A. B. O. dam...

\$250 Buys a Registered Holstein heifer and bull ten months old. Not akin. Choice stock and breeding...

Holstein Bull For Sale, Born Dec. 20, 1912, of the DeKol and Colantha IV families...

35—Purebred Holstein-Friesians—35 To Be Sold at Public Auction at Belleville, Michigan, Friday April 30th, 1915

This herd comprises the offspring of many noted sires and the blood of such bulls as Hengervald DeKol, Beauty Pieterie Butter King, etc...

100-Registered Holsteins-100 5th Annual Consignment Sale OF THE HOWELL Consignment Sales Co. Livingston County, Michigan.

This sale represents the best families of the breed. King King, Hengervald DeKol, Pontiac Korndyke, Paul DeKol...

HOLSTEINS FOR SALE 5 Good Bulls, ready for service. 10 Very Choice Bull Calves. 2 Two-year-old Heifers, bred. 1 Six-year-old grand-daughter of King Segis...

L. E. CONNELL, Fayette, Ohio. "Top-Notch" Holsteins. Extra large fine young bull, 1/2 white, born Oct. 4, 1913...

Reg. Holstein Bull calves and Herd Bull. Can supply all wants in Reg. Chester White swine...

A "BARGAIN" "ONLY" \$50 Registered Holstein Bull Calf. Best blood and best A. B. O. back...

High Class HOLSTEINS My herd is headed by Smithdale Alcatraz Pontiac, whose dam is the famous Alcatraz Polkadot...

Bigelow's Holstein Farms Breedsville, Michigan. Highest Class Registered Stock For Sale.

FOR SALE Registered Holstein Bulls ready for service, and bull calves, also females...

Registered Holstein Bull Calf, whose sire is full brother to Lady Toke DeKol...

HOLSTEIN BULL CALVES—Don't buy until you write us. No better breeding in Michigan...

I offer for sale three bull calves sired by Colantha Johanna Creamello Lad, extra fine ones...

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

HOBERT W. FAY, Mason, Michigan. Holstein-Friesian cattle. Nothing for sale at present.

MICHIGAN HOME AND TRAINING SCHOOL LANSING, MICHIGAN. Breeder of High Grade Holstein Cattle...

Lillie-Farmstead—Jersey Cattle, Yorkshire Hogs, Oxford Sheep. Write for what you want...

\$138 a Cow per Year is a late average of a Washington State Jersey herd. Many Jersey

Cows have records of 500 to 1000 pounds of butter annually—a telling lesson to people who are struggling along with \$20 to \$30 cows...

THE AMERICAN JERSEY CATTLE CLUB 324 W. 23d St., New York City

FOR SALE Entire herd of registered Jerseys, 18 cows, 6 heifers and 1 bull...

HERMAN HARMS Reese, Michigan. Maple Lane Register of Merit Jersey Herd. Tuberculin tested by U. S. Government...

The Wildwood Jersey Herd. Registered Jersey Cattle of Quality. Majesty's Wonder is one of the best sons of Royal Majesty heads the herd...

JERSEYS—For list of stock for sale and Jersey facts write MRS. P. H. WALKER, R. R. No. 8, Kalamazoo, Mich.

FISHERTON FARM JERSEYS—Some fine grandsons of Hood Farm Posie 9th, from Register of Merit Dams...

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

JERSEYS—THE REGISTER OF MERIT KIND, BROOKWATER FARM, R. No. 7, Ann Arbor, Mich.

Jersey Bulls for Sale from high-producing dams, with testing Assoc. records, also on semi-official test...

MILKING SHORTHORNS—Young bulls sired by a Grand May & Otis bull for sale...

Dairy Bred Shorthorns of best Bates strains. No stock for sale at present...

FOR SALE—Shorthorn Bulls, red and rears, by sons of Avondale and Victor Linwood...

BIDWELL SHORTHORNS Registered Bulls For Sale. Big and strong in prime condition for immediate use...

BIDWELL STOCK FARM Box D, Tecumseh, Michigan.

Shorthorns For Sale—Young bulls sired by Bright Sultan. Also cows and heifers...

Shorthorns—Dairy or beef bred. Breeding stock all ages for sale at farmers prices...

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

SHEEP. IT PAYS TO BUY PURE BRED SHEEP OF PARSONS. I sell and ship everywhere and pay express charges...

Leicesters—Yearling and ram lambs from Champion and flock of 10 months of Mich. Also select Berkshire swine...

OXFORD-DOWN SHEEP, NO STOCK FOR SALE. M. F. GANSSLEY, Lennan, Michigan.

Wool-Mutton Shropshire Ewes, bred to imported outstock quick. Mostly sired by imported ram. Write today...

HOGS. Duocs & Victorias—Grand bunch of Gilts due March and April...

Berkshire Hogs—Choice gilts bred to farrow in March and April. Also a number of Barrow Plymouth Rock Cookerels...

BERKSHIRES—Open or bred sows. Registered. \$30 for choice, all guaranteed...

Royalton Bred Berkshires—No more bred sows. Fine old. Young sows and boars born last October...

HAMPSHIRE SWINE—Breeding stock of all ages from most popular strains. Write for breeding inspection invited...

WEST WINDS HAMPSHIRE SWINE. Booking orders for sows pigs immediate shipment...

Chester Whites—Sept. farrow either sex. Also registered. F. W. ALEXANDER, Vassar, Mich.

O. I. C. Fall Pigs—Choice gilts bred to one of the best boars in the State...

Big Type, O. I. C.'s and Chester White Swine. 400 fall pigs either sex, special prices for the next 30 days...

ROLLING VIEW STOCK FARM Cass City, Michigan. —Spring boars all sold. We have some O. I. C. fine fall pigs ready to ship...

O. I. C. Registered Pigs Write for photo and prices. J. OARL BOWETT, Mason, Michigan.

O. I. C.'s—Serviceable boars. Gilts bred for May and June farrow. I pay express...

O. I. C.—Serviceable boars of Sept. farrow, also farrow. H. W. MANN, Danaville, Michigan.

O. I. C. SWINE—Write for new price on hand service boars, also other sex of Ang. farrow. I am also booking orders for March and April Pigs...

O. I. C.'s, nothing for sale at present but will take orders for Mar. and Apr. pigs, pairs not akin, Reg. free and shipped on approval...

O. I. C.'s—Spring pigs, pairs and trios, not akin, from state fair winners. AVONDALE STOCK FARM, Wayne, Mich.

O. I. C.—25 sows bred for Spring farrow. 75 Fall pigs, large and growing. Write your wants. BLENDWATER STOCK FARM, Zeeland, Michigan.

O. I. C. Choice Sept. pigs, either sex. Gilt due June 21, boar weighing 225 lbs. \$25, will take orders for March, April & May pigs, not akin...

O. I. C. THIS SOW WEIGHED 932 LBS. AT 23 MONTHS OLD. IONIA GIRL. I have started more breeders on the road to success than any man living...

O. I. C.'s—STRICTLY BIG TYPE. Have a few Gilts left bred for early May farrow. Also a good yearling sow bred for early May farrow...

O. I. C.'s—Two good boars 12 months old, good fast fall pigs, either sex, and this spring boars...

O. I. C.'s—Two serviceable boars, sow coming two-yr. old, bred for March farrow, fall pigs, all stock registered...

DUROC JERSEYS—A few fall boars and 12 Duroc Jerseys bred gilts for sale. CAREY U. EDMONDS, Hastings, Michigan.

Duroc Jerseys—A few choice gilts bred for April and May farrow. Fall pigs either sex...

DUROC JERSEYS. From Prize-Winning Stock. Write, or better still, come. Brookwater Farm, Ann Arbor, Mich., R. F. D. 7.

DUROC JERSEYS—Some good fall boars and open gilts. W. C. TAYLOR, Milan, Michigan. HAVE ONE GOOD GILT, weight 135 lbs., farrow April 10th...

Capitol Herd Duroc Jersey Swine. Established 1888. Young boars and bred sows for sale...

DUROC JERSEYS—A few bred gilts, fall males ready for service...

STRICTLY B. T. Polands—Absolutely none larger or better. My herd represents best herds in U. S. Spring & fall farrow pigs at bargain prices...

Duroc Jerseys: A few choice boars ready for service. Cliff Middleton, Idlewild Farm, R. F. D. No. 3, Clayton, Mich.

Duroc Jersey—March pigs either sex, sired by a son of Volunteer Champion of 3 State Fairs...

Duroc Jerseys. Big boned service boars; gilts for June farrow, bred to son of Volunteer, Gd. Champ. at 1912 International...

POLAND CHINAS—The big type. Boars ready for service. Sows bred for spring farrow...

LARGE STRAIN P. C. A few choice boars ready for service, and bred gilts...

POLAND CHINA BRED GILTS—Bargains in big, heavy bone fall boars. Satisfaction guaranteed...

POLAND CHINAS—Choice gilts bred to "Big Type," boars of great quality; also young boars...

LARGE TYPE P. C.—Either sex, pairs and trios, not bred gilts...

Big Type Poland China Boars and Gilts plenty of B size and great quality. I know I can please you...

POLAND CHINAS—The type that wins, weighs, and pays—big with quality. Bred sows and pigs either sex...

LONG Bodied Heavy Boned Poland China, rearing L and fall boars at Bargains...

Big Type P. C.—Two boars old enough for service. Bred by Big Smooth Jumbo...

Poland Chi—s, either sex, all ages. Something good at a low price...

Big Type boars by Big Smooth Jumbo. Greatest boar in State...

THE FARMER'S HOG—Butler's Big Boned Frollo Poland Chinas grow big, keep easy, mature early...

LARGE TYPE P. C. Largest in Michigan. Bred gilts all sold...

Mule Foot Hogs, both sexes, all ages. Satisfaction guaranteed...

50 YORKSHIRES—All ages. Red Polled Cattle, Oxford Down Sheep...

MULEFOOTS—Special low price on boars and gilts for 30 days...

Registered Yorkshires The World's Bacon Breed. Imported Strain. Both Sexes. Prices Reasonable. Hatch Herd, Ypsilanti, Michigan.

YORKSHIRES Bred gilts, service boars, September and October pigs. Prices reasonable...

For Sale Yorkshire Boar Pigs—From large early pure bred boar and increase the quality of your hogs...



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