

MICHIGAN FARMER

AND LIVE STOCK JOURNAL.
PUBLISHED WEEKLY. ESTABLISHED 1843.

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

VOL. CXLIV, No. 15
Whole Number 3830

DETROIT, MICH., SATURDAY, APRIL 10, 1915.

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

Methods of a Michigan Woman in Gardening.

WE are helped most by those who, in circumstances much like our own, have made a success of their work. That is why Mrs. Fred Osborn, who is the owner and manager of a fine truck garden in Washtenaw county, is attracting much attention. In the face of difficulties and handicaps which would have discouraged many a man, this little woman has dug out of a patch of muck land a competence for herself and family.

Mrs. Osborn was the wife of a missionary clergyman and the mother of two small children when her husband's failing health forced him to give up his work and be relieved of all responsibility. The doctor's injunction was to get out-of-doors. Gardening seemed the only possible thing, and the burden of responsibility was shifted to the wife's shoulders.

After a few years in western Michigan, Mrs. Osborn happened to be in Ann Arbor, where she found that gardeners were getting 25 cents a dozen for celery, whereas she was getting but 10 and 12 cents. "Well," she said, "if I can get that much for celery here, I am coming here, that's all." Inside of two weeks she had rented her little farm in Decatur and moved to Washtenaw county, within marketing distance of Ann Arbor.

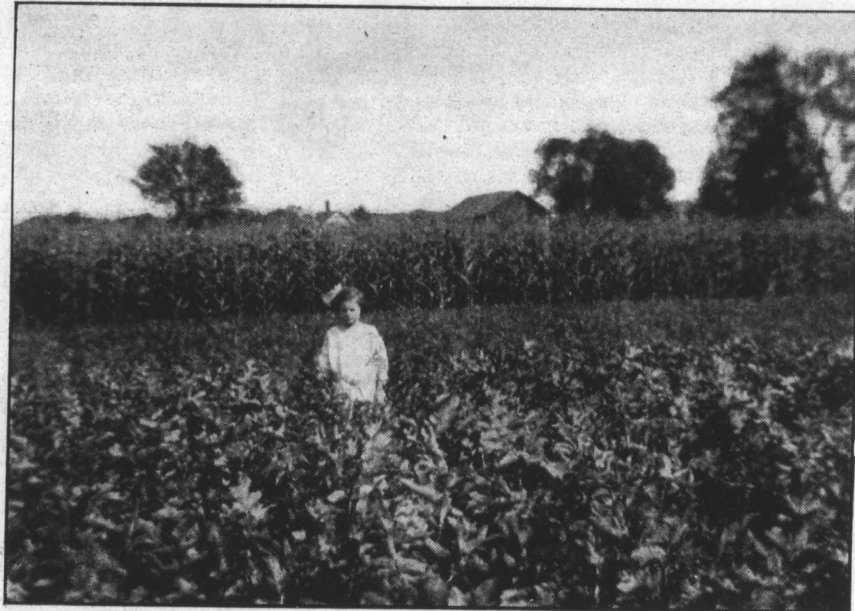
Here she secured twenty acres of muck land, assessed as "Waste lands of Washtenaw county." That was ten years ago. Today she has 60 acres, a



Irrigating Celery by Artesian Wells.

comfortable home. Her two children are being educated at the best schools and last year (1913) this "waste, muck land," brought over \$3,500 income—all through the modest business of truck gardening. Westerners say that muck lands in the east cannot be leveled for irrigation, but Mrs. Osborn has proved that this is not so. It must be done gradually, however. She does a little every year. She is fortunate in having artesian wells, and worked out her own system of irrigation, using about 400 feet of common corrugated conductor pipe, shoved together, with the joints puttied up. This is a very inexpensive arrangement, and may be used on any low lands. In the case of celery she irrigates every other row.

Irrigation increases the value of lands three-fold or more. That may account for the fact that Mrs. Osborn would not sell her little farm today for less than \$300 an acre. She raises cabbage, carrots, onions, potatoes, parsnips, radishes, corn, etc., but her Chinese vegetables are her latest enthusiasm and her celery her special pride. In Ann Arbor she is called the "Celery Lady," and, while she will not



General View of the Truck Garden Operated by Mrs. Fred Osborn.

peddle, she delivers her celery herself, at her own home market town.

She takes infinite pains to satisfy her customers. Every week, on her rounds, she asks them if the celery is all right, if there are any suggestions they can make to better it, etc. One of her rules is, not to send one bunch of celery to market she would be ashamed of, and another is to keep cheery, no matter what rebuffs she may meet, for, as she says,

"That cheerful grin
Will take you in
Where a kicker is never known."

Absolute honesty in dealing with her patrons, tireless energy in producing the best, plus business acumen in marketing, are the secrets of her success. She raises over 200,000 plants, and grades every bunch for market herself, grading about 250 to 300 bunches a day.

She uses French's Success, a variety that does well on most any soil. She sows the seed in the nursery bed the first of April, with the seed drill, in rows about six inches apart, with the covers tied up so that the seed be not covered, and keeps the ground moist. Mrs. Osborn says with emphasis, "The surface should never be allowed to become dry, as the seed is practically on top of the ground. The

soil should be very rich. The plants should be kept free from weeds and left to grow until the first of July."

Meanwhile, the field is manured, plowed, worked down and marked out, the fertilizer put in the row with a one-row fertilizer distributor. Here Mrs. Osborn lays especial emphasis again: "I trust nobody for that work, but go over every bit of the patch myself, and see that every row is irrigated. That is where nine-tenths of the celery raisers fall down. We have not a neighbor who lays enough stress upon that point."

Only a straight, complete row hills up as it should. That is why it is so important that each plant be started right. In fact, it is no good unless it does start right—when the rest start. Great care, too, must be taken that the water does not settle in any one place, or the ground becomes water-

logged as this retards the growth of the plant.

The second irrigating was done last year (1913) the first of September, when the drouth in Washtenaw county was so devastating. This irrigating was what gave the Osborn celery a fresh start, when the neighbors', on the same kind of land, with the same kind of seed, was drying up. It insured her, too, the largest and best celery in the community, bringing her 10 cents a dozen more than her competitors' brought, right along.

Shallow cultivations are given every week after the celery is set out until the first of October, with a common one-horse small-tooth cultivator, winging the dirt with a common wing shovel. About the tenth of October a two-horse celery hiller is started, pulling the dirt up over the celery and repeating these operations about every ten days.

October 25 the shovels are taken from the hiller and the knife put on and eight rows of the celery cut out at a time. It is packed standing up, in pits about 18 inches wide and six rods long, the dirt being shoveled up at the sides more and more as the weather gets colder. A little dirt is covered over the top along about the fourth of November. This is the best way, Mrs. Osborn thinks, to keep and blanch celery.

The next step is finding a market, but as soon as you have demonstrated the superiority of your vegetables, the



Late Culture of the Celery Crop.

market will take care of itself. For example, one carload of carrots, all hand sorted, "The best carrots that ever struck Toledo," the commission men said, established Mrs. Osborn's market for carrots at that city.

When farmers, gardeners and fruit raisers learn the value of marketing the perfect product, as they have learned in the far west, they will find the "acres of diamonds at their own back doors," and that it will not be necessary to go across a continent to obtain a blessing from Dame Fortune.

Washtenaw Co. KATE E. WARD.
The twenty-third of 52 special articles to be published in consecutive issues of the Michigan Farmer.—Eds.



Beans Grown by W. W. Terry & Son, of Isabella County. (See Page 442).

It SAVES the Farmer's Thresh Bill

The farmer has a right to insist that a Red River Special Thresher be used to do his threshing.

It saves his grain. It does not waste time by frequent stoppages, or breaking down. It will thresh right along when conditions will not permit other kinds to run. Built upon the entirely different principle of

Beating the Grain Out of the Straw

All other threshers depend upon its dropping out. E. E. Greer and fourteen other farmers of Sandborn, Indiana, say: "It saved enough more of our grain than other machines to pay our thresh bills." It also makes more money for the thresherman.

GET THE BIG RUN

By equipping yourself with a Red River Special outfit.

It saves the farmer's thresh bill by saving his grain and not wasting his time.

It makes money for the thresherman because it will get the best runs.

It will run continuously and profitably when others cannot run at all.

BUY OR HIRE

A RED RIVER SPECIAL
And SAVE the Farmer's Thresh Bill

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

(2) **BATTLE CREEK, MICH.**



Engine Harrow

CUTAWAY (CLARK) Double Action Harrows are made in sizes for every amount of power.

Whether for a pair of small horses or for a large tractor, you can get the right size

Cutaway (CLARK) Double Action Harrow

You are not limited to a certain amount of horse or engine power. With only two very small horses you can do the same class of work as with four big horses. Or with tractor power you can do the same intensive tillage as with horse power. Ask your dealer about CUTAWAY (CLARK) Double Action Harrows. If he doesn't sell them write us. We ship direct where we have no agent.

Send for new catalog today

THE CUTAWAY HARROW COMPANY
Makers of the original CLARK disk harrows and plows
992 Main Street Higganum, Conn.

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

WANTED—AN IDEA: Who can think of simple things to patent? Protect your ideas, they may bring you wealth. Write for "Newest Inventions" and "How to get your Patent and Your Money" RANDOLPH & CO. PATENT ATTORNEYS, DEPT. 67, WASHINGTON, D. C.

Improving the Pea Bean.

T. B. Terry established a reputation as a potato and clover grower on the heavy clay soils of Ohio.

In Michigan there is another Terry, in Isabella county, who is devoting his life to seed selection and general farming. His work is not only interesting but is accomplishing results. The Michigan Terry's notion in particular is to develop a pure strain of pea beans. If one will examine the average crop of beans with the eye of the trained seed man they are as variable and uncertain as the scrub in animal life. It's these "rogues" in the bean family that the Terry idea is to eliminate, just as the stock breeder gets rid of his grades and starts into the pure line to reproduce "after their kind." The productive bean is the pea type, slightly elongated. The rogues are the long, slim or ill-shaped type, and are poor yielders as compared to the true type. The shape of the bean, allowing these undesirables to go through the screen end first, has been the means of perpetuating these sports, since beans are not hand-picked ordinarily with pure type selection in view.

Mr. Terry was rewarded with the first prize at the exhibit of the Michigan Experiment Association offered by the Michigan Bean Jobbers' Association. An affidavit was made that his sample was not hand-picked, and more beautiful, even-sized beans I never saw and they were practically free from anthracnose. Mr. Terry told the writer that, "not getting satisfactory yield of beans with splendid stands of vines, we were led to think something was wrong. On examining the beans we found we had a very bad mixture of everything except the bean we wanted, namely, beans true to shape. We had big beans, long beans thin beans, some nearly round and a few just right. Discarding this seed we bought the very best seed for shape we could find. We picked this so every bean looked alike. This can not be done with machinery. If it could we would have had perfect seeds of all kinds years ago. We planted this seed by itself, and saved our seed from this for the next year, giving this seed the same picking as the first, planting nothing but perfect seed each year. We did not plant all the perfect seed we raised, but just what we got picked out each year. This picking to shape is very hard on the eyes and it can't be followed long at a time. We have been working these beans down for six years and can truly say we now have a bean that is true to shape and a yielder. In 1913 we threshed 31 bushels per acre."

Beans After Clover.

One of the interesting things about beans, ascertained as a general rule, is that the paying crops were grown last year on clover sod. I suspect that the question of available nitrogen in the clover and a neutral or alkaline soil, proven by the fact that it grows clover, is the condition demanded by beans.

Last year Mr. Terry grew on potato ground, four and a half acres, from seed of less standardized grade, and one year in arrears of his best selected seed, and the yield was 21 bushels to the acre. On clover sod, with his most perfected seed, the yield on five and a half acres was 29 bushels per acre.

With the shape of the bean established, Mr. Terry is going to make a stalk selection with reference to increased number of pods. In 1913 Mr. Terry's crop averaged 31 bushels per acre. A photograph of his field is submitted to show a perfect stand of beans. This picture also serves the purpose of showing clean cultivation. One of the interesting things observed by Mr. Terry is that beans grow-

ing in a corn field, where planted to take the place of vacant corn hills, were free from blight, while the regular clean fields were strongly attacked.

One theory of this immunity is that the growing corn actually acts as a shield and keeps the spores of blight from reaching their desired host. Another theory is that the corn prevents the sun reaching the bean plant and in this way prevents the necessary conditions for blight development.

Blight is the yellow cast given to the bean as distinct from the iron rust colored spot, which is anthracnose. Seed selection gives reasonably immunity from anthracnose but blight seems to be more a matter of season. Anthracnose free beans are found in the northern counties but even these are not free from blight appearance. Beans of different types are grown over wide degrees of latitude. The Mexican bean, or "frigole," (pronounced as if spelled Free-o-le, with the accent on the O), grows in the United States along the Rio Grande on the southern border, while the common white bean grows on the shores of the Straits of Mackinaw. It is this relationship of the pea bean to the pea that thrives best in the cool northern climates, that offers an inviting field for the establishing of a strain distinctly adapted to Michigan and of such purity in reproduction as to make a fixed type. As far as known the work of Mr. Terry and his sons along these lines is distinctly original and decidedly promising.

Shiawassee Co. J. N. McBRIDE.

FARM NOTES.

Buckwheat as a Catch Crop.

With an idea of building up a somewhat run-down clay soil I drilled in rye between rows of corn and have a good stand. This land was an old meadow and has raised two crops of corn since sod was turned under. Now I want to get some kind of a crop off the land this year after turning under the rye. I have clover sod to turn under for this year's corn. I cannot pasture the rye as the piece is not fenced and don't want to fence a field of such shape. There is temptation to sow clover in the rye this spring and harvest the rye, but I did not put the rye in with any such intention, and besides am doubtful if it would get a good stand of clover until soil is built up. What crop, other than corn, would you suggest putting in after plowing the rye under?

Van Buren Co. SUBSCRIBER.

In a case of this kind buckwheat would seem to fit admirably into the rotation. By using this crop the rye could be permitted to get a considerable growth before being plowed down, thus adding more vegetable matter to the soil. The buckwheat could be seeded to clover with fair prospects of getting a stand. A cultivated crop will deplete the soil of humus more rapidly than will a crop of this kind, for which reason the use of buckwheat is suggested.

Treating Seed Oats for Smut.

I would like to treat my seed oats for smut, using formaldehyde. How is the work best done, where can I get the dope, what will it cost per 100 bushels, and how long before sowing should they be treated? Also, how do you treat potatoes for scab?

Macomb Co. J. C. T.

In the treatment of seed oats for smut ordinary commercial formaldehyde should be used at the rate of one pound—or one pint—to 40 or 50 gallons of water. This solution should be thoroughly sprayed or sprinkled on the grain, shoveling it over in the meantime to get every kernel thoroughly wetted. The grain should then be shoveled into piles and covered with a canvas for a couple of hours, and later spread to dry before being sown. The treatment is very inexpensive, as it takes only about a gallon of this mixture to treat a bushel of seed. Formaldehyde may be purchased at any

drug stores and at many general stores.

In treating potatoes for scab, a little stronger mixture should be used or one pound of formaldehyde to 30 gallons of water, soaking the seed in this solution for about one and a half hours.

Seeding Alfalfa in Wheat.

I have a piece of ground that I expect to put out to oats, and another to barley. Also wish to sow wheat on the same ground in the fall. Would it be advisable to sow alfalfa in the spring on this wheat ground, and if so how much seed to the acre? The soil on one piece is clay, and the other is gravel.

Lenawee Co.

W. T. D.

In numerous cases good stands of alfalfa have been secured by seeding same in wheat. On land which has never grown the crop before, and which is not in condition for same, this would not, in the writer's opinion, be the most promising method of seeding. A better plan would be to mix the alfalfa and clover seed, using about six pounds per acre of each. This would give a thick enough seeding that if the alfalfa caught it would become established and make a good stand after the clover disappeared.

Seeding Alfalfa with Early Peas.

I have eight acres of heavy clay soil and would like your advice on seeding. What I have in mind is to sow early peas and sow buckwheat as a second crop and seed with the buckwheat with June clover. What I wish to do is to seed with alfalfa. Would you consider this advisable? Do you think I could get a catch?

Wayne Co.

F. W.

I don't suppose there is any better crop to seed alfalfa with than early peas. The peas come off early and give the alfalfa complete possession of the ground. No other crop will do this so early, before the hot dry weather comes. You can inoculate the alfalfa seed with pure culture or with soil, by the glue method, and sow the peas with a grain drill with grass seed attachment, then both peas and alfalfa can be sown at the same time, and fertilizer applied also without extra expense for applying.

I don't think it would be wise to sow alfalfa with buckwheat after peas, for it will get such a late start it might not be well enough established to stand the winter. Provided you do not think it best to sow the alfalfa with the early peas, I think the next best thing is to fit the ground after the peas are harvested, and seed the alfalfa alone.

Fertilizing Corn.

Will you please give me information in regard to using fertilizer with corn? In drilling corn what quantity of fertilizer can be used to the row without injuring the seed?

Eaton Co.

C. S.

The germinating power of corn is not so easily injured by sowing fertilizer close to it as beans, but it is not advisable to use over 100 to 150 pounds per acre in the row with the seed. With larger applications, the major portion of it, or even all of it, is best applied broadcast before planting the corn and mixed thoroughly with the soil in preparing the seed bed.

BOYS' BEAN-GROWING CONTEST.

A project is on foot for a boys' bean growing contest to be conducted in Kent county this season. A list of prizes has been offered by Mr. E. L. Wellman, of Grand Rapids, for such a contest, to be conducted under rules formulated by a committee, including County Agricultural Agent Skinner. The contest will involve the growing of a full acre of beans by boys entering same, quality and yield to be considered in the awarding of prizes.

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore.—Adv.

MORE ABOUT SWEET CLOVER.

As I am a reader of your valuable paper and have read with much interest the articles that have been written on sweet clover, I would like to express my views and observations on the same.

Sweet clover was brought into this vicinity about forty years ago by a man who kept bees, and was sowed along the highways.

I think sweet clover has all the good qualities claimed for it, but it is a bad master if it gets into your rail fence corners or is allowed to grow as a noxious weed.

I also find that it will not grow in acid soil, but requires land with lots of lime, the same as alfalfa.

I have four and a half acres which I seeded in rye last spring. The seed germinated good, grew about two and a half inches high and then the plants seemed to die.

Litmus paper showed this soil to be acid and only a small amount of sweet clover showed last fall. There was an old fence row, however, which I plowed up in this field and here the litmus paper showed the soil as not acid and here the sweet clover grew most luxuriantly.

The farm on which I live has a railroad along the east side of it and here sweet clover grows most plentiful and my cattle eat every spear of it that gets through the fence; in fact, I have cut it and thrown it over the fence, and it all disappeared but the big stems.

I have found it growing on some poor soil farms, along the rail fences, but out away from the fence it did thrive. I tested the soil by the fence and it showed no acid, but out away from the fence it showed the acid. Two years ago, while working on the highway with an engine and road grader we stopped by a ditch to put water into the tank. Here sweet clover was growing rank on muck or peat soil so I took a spade and dug up a few roots that I doubt if you could have pulled up with a team of horses in any other soil. I investigated a little farther and found that this marsh was underlaid with an excellent quality of marl, hence the big roots on muck soil.

Sweet clover is a great humus crop and should build up any soil that has lime in it.

Your article of March 27 speaks of Mr. Willis' being in danger of arrest by indignant citizens. I would say that the man who brought sweet clover into this vicinity was a doctor and kept bees as a side line, and if the doctor (who has long been dead), could only hear some of the remarks that have been made about him, I think it would cause him to rest rather uneasily, but sweet clover has come to stay and is a mighty good servant but a poor master.

Shiawassee Co. R. E. SHELDON.

TOP-DRESSING WHEAT.

What kind of a fertilizer do you recommend to sow broadcast on wheat this spring, and at about what date? Would it have to be harrowed in? Kindly give us plenty of information on this question, or are we too late to secure any benefit from top-dressing? Do you recommend fertilizing broadcast?

Lapeer Co. M. A. C.

A fertilizer with part of the nitrogen in the form of nitrate of soda would be best, as part of the nitrogen would be immediately available, the balance would become available more slowly as the plant needs it. A 3:8:3 would be a good top-dressing for wheat.

The fertilizer should be applied as early as the ground will admit. The fertilizer should be harrowed in and mixed with the soil as much as possible. It is not too late, but too early as yet for this top-dressing.

Fertilizer should be as evenly distributed through the surface soil as possible.

John Deere Implements



John Deere Two-Way Plow

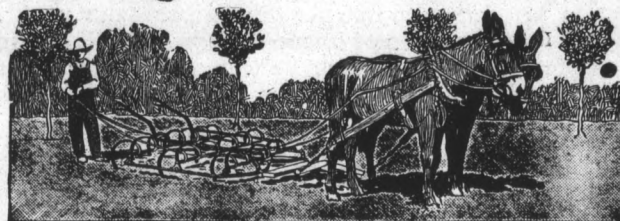
The Sulky with the Steel Frame and Patent Auto Foot Frame Shift

Slight foot pressure swings frame and accurately locates plow bottom. Automatic shifting hitch—clevis cannot fail to move to position.

Automatic horse lift. Operator's foot releases latch. Pull of team raises bottom. Hand lever also provided.

For hillsides or uneven fields it throws dirt all one way.

Write for John Deere Two-Way Book, handsomely illustrated in colors—and secure full information free.

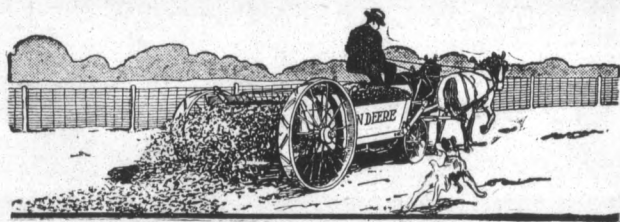


John Deere Syracuse Spring Tooth Lever Harrows

The Uncloggable Spring Tooth Harrows

The originals of this style. Perfect pulverizers, uncloggable. Forty to fifty-point carbon steel in frame and tooth bars as against ten to twenty in other makes. Special high carbon steel teeth without bolt holes.

Write us for information on these harrows. They are the spring tooth harrows that are giving universal satisfaction.



John Deere Spreader

The Spreader with the Beater on the Axle

The beater—the business part of a spreader—and all its driving parts, is mounted on the rear axle. This is a patented feature. You cannot get it on any other spreader. Here is what the beater on the axle means to you:

It means: No clutches to give trouble—all taken off.

It means: No chains to break or get out of line—all thrown away.

It means: Less than half the parts heretofore used on the simplest spreader—some two hundred parts are done away with.

It means: Manure is not thrown on the axle—straw and trash cannot wind around it.

It means: You get big drive wheels and a low down spreader, without stub axles—that means traction and strength.

It means: Drive wheels back out of way when loading—you see where you place each forkful.

The John Deere Only Hip High

The top of the box is only as high as your hips. The John Deere Spreader is easy to load. You see where you place each forkful.

To start spreading, you pull back the lever at the driver's right—that's all. A boy can operate it.

Call on nearest John Deere dealer and see the spreader with the beater on the axle. Write for "Farm Manures and Fertilizers", a valuable text book free.

John Deere Wheel Plows

With Quick Detachable Shares
Unscrew One Nut—That's All

John Deere Wheel Plows, known the country over as "Quality Plows" are now fitted with John Deere Quick Detachable Shares—an exclusive John Deere feature.

Here are some advantages of these shares:

1. No trouble to change shares.
2. Eighty per cent of time saved.
3. No danger of damaging share.
4. Share is drawn up closer.
5. Share is stronger—not weakened by bolt holes.
6. Resharpened or sprung shares can be drawn into place—no drift punch necessary.
7. No unequal strain on share.
8. No danger of injury to hands in taking share off.

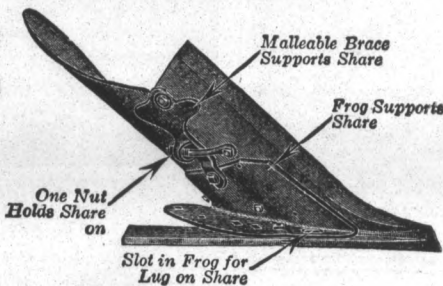
We have beautifully illustrated booklets on the following plows with John Deere Quick Detachable Shares:

New Deere Sulky and Gang (High Lift Frame Plows)

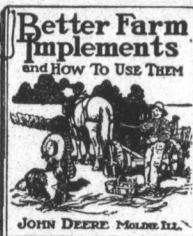
John Deere Stag Sulky and Gang (Low Lift Frameless Plows)

John Deere Two-Way Sulky (Side Hill or Irrigated Land)

John Deere Engine Gangs (For Tractor Engines)



Mention the booklet above that you want and we will send it to you free.



Better Farm Implements and How to Use Them

FREE BOOK

Illustrates and describes the most complete line of farm implements. Tells how to adjust and use farm tools under varying conditions. It is a practical encyclopedia of farm implements worth dollars to you—a 168 page text book.

It tells about John Deere Implements: Steel plows, cultivators and harrows; corn planters, disc harrows and beet tools; farm and mountain

wagons; manure spreaders; portable and stationary grain elevators and corn shellers; hay loaders, stackers, sweep rakes, mowers and side-delivery rakes, motor hay presses; grain drills and seeders; full line of chilled plows; grain binders and corn binders; hit-and-miss and volume-governing gasoline engines.

To get this book, free, state what special implements you are interested in and ask for the book as Package No. X-5.

John Deere, Publicity Department, Moline, Illinois



Sweeping The Field

FRIENDS, here is the New Galloway Sanitary Cream Separator! Its clean skimming, its perfect mechanical design, its smooth oval, sanitary surfaces and years of built-in satisfactory service are winning us customers by the thousands. It is made no good in our factory.

Let me tell you that I will send it anywhere in the U. S. without an export to set it up, to any inexperienced user for a 90-day test against any make or kind that sells for even twice as much as mine and let you be the judge. It's the most modern, the most sanitary, the most scientific, the cleanest skimmer, the most beautiful in design of any cream separator on the market today and I have seen them all. Get my new 1915 price-reducing, sliding-scale proposition before you buy a cream separator of any make or kind at any price. Just drop me a postal today. Address

WM. GALLOWAY COMPANY
Box 183, Waterloo, Ia.
Shipped from Chicago, Waterloo, Kansas City, Council Bluffs or Minneapolis.

All parts interchangeable.

TRAVEL 20,000 MILES Look over every factory in the U.S. and all the foreign countries and you won't find its superior. Built from the finest material on automatic machinery, by skilled workmen, in tremendous quantities.

\$14.75 Buys a Genuine "IOWA" Cream Separator

Get Our Free Book 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

Harvey Bolster Springs

make any wagon a spring wagon. Prevent damage to eggs, fruit, etc., on road to market. Soon save cost—produce brings more—wagon lasts longer.

MADE LIKE FINEST AUTO SPRINGS

Very resilient and durable. The standard springs of America since 1889. 40 sizes—fit any wagon—sustain load up to 5 tons. If not at dealer's, write us. Catalog and list of proof free.

HARVEY SPRING CO., 752-17th St., RACINE, WIS.

GUARANTEED

Only \$2 Down One Year to Pay!

\$24 Buys the New Butterfly 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. (12) 2195 Marshall Blvd. CHICAGO No. 54

Double the Profits of Your Farm

NOT WHAT YOU RAISE in your fields but what you bring to market determines your profit. Ordinary methods of harvesting waste half the food value of the corn. You can save this and convert it into cash by storing *all* your crop in the air-tight walls of an

INDIANA SILO

This will give you feed for twice as many head of stock — better feed than ever before and uniform in character at all seasons of the year. It will enable you to produce two dollars' worth of beef and pork and milk and butter from the same number of acres and the same amount of labor that you now require for the production of one dollar's worth.

50,000 farmers have proved this. The book, "Silo Profits" was written by owners of Indiana Silos and tells exactly how The Indiana Silo has increased their profits. Write for a copy of this book today and for a copy of our splendid 1915 Catalog and prices. They are FREE.

The Indiana Silo Company

582 Union Bldg., ANDERSON, IND.
582 Live Stock Exchange Bldg., Kansas City, Mo.
582 Indiana Bldg., Des Moines, Ia.
582 Live Stock Exchange Building, Fort Worth, Tex.



Feeders' Problems.

Self-feeder for Hogs.

We have eight fall pigs and two brood sows due to farrow in April. I intend to turn them out on an acre of alfalfa, later on changing to an acre of rape. A creek running between the two fields will furnish water. How early should rape be sown? Is it practical and profitable to feed the pigs dry ground mixed feed from a self-feeder? Please tell me how to make such a self-feeder, giving the dimensions of the most practical size. We are going to be very busy with fruit and other crops and wish to raise the pigs with as little labor as possible.

Van Buren Co.

E. W.

There is little authentic experimental data available on the merits of the self-feeder for pigs on pasture. Some farmers who have fed pigs on alfalfa pasture maintain that pigs will not eat more than a half ration of grain on this feed, in which case it would seem to be a practical method of feeding. The accompanying illustrated description shows one style of self-feeder for hogs. These feeders are sometimes made lower and wider with extensions of roof on either side to cover trough, and with divisions or partitions in trough to prevent the crowding out of the small pigs.

Rape may be sown as early as oats, if desired, or at any time later in the season, depending on when the pasture will be most needed.

Value of Potatoes as Hog Feed.

What are cooked potatoes worth as hog feed? I can get 25c per bushel for them on the market. Have got plenty of grain to put with the potatoes and plenty of hogs to eat them.

Van Buren Co.

W. W.

At the Wisconsin station several trials indicated that 441 lbs. of cooked

also a floor for the pigs to stand on. Now put a three-inch board out about eight inches from the bottom of the feed box on each side. This makes a feed trough eight inches wide on each side of the feed box where the pigs, large and small together, will enjoy a meal as wanted. The floor also helps to keep the feeder in position at all times. A cover should be fitted to the top of this box in such a manner as to shed any water that may fall. This feeder will hold several hundred pounds of ground feed at a time. With a feed trough on each side of the feeder it will accommodate 30 or 40 hogs of all sizes, and there will be no pushing or fighting. After the pigs get used to it they will not hurt themselves. I always see that there is plenty of good pure water for them to drink at all times.

Jackson Co.

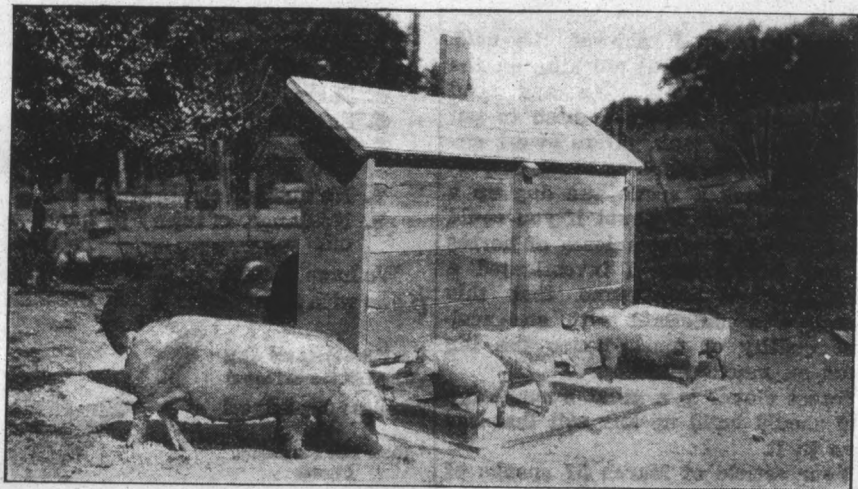
C. E. BECKWITH.

SHORTHORN BREEDERS OF SEVEN COUNTIES MEET.

At the Harrietta Shorthorn Breeders' meeting, on March 30, seven counties were represented. Mr. Neil Martin, president of the association, estimated that there were 400 people in the hall in order to hear the various speakers.

Dr. Eben Mumford, State Leader in Farm Management from M. A. C., gave the first address in the morning on "Co-operation," and brought out the fact that we must have more team work in the rural communities; also the farmers were told that they must advertise their products for market.

Mr. C. W. Crum, of Montcalm county, told of the work accomplished by the Montcalm Shorthorn Breeders' As-



A Home-made Self-feeder for Hogs at Pasture.

potatoes would save 100 lbs. of corn meal when potatoes comprised two-thirds of the ration by weight. Expressed in another way, four and one-half bushels of potatoes would, according to these experiments, be equal to one bushel of corn for feeding hogs when fed with corn in the above mentioned proportions. On this basis it would not pay to feed 25-cent potatoes in the proportions used in these experiments. It might, and probably would pay to feed a smaller quantity, as the relative benefit would undoubtedly be greater where the potatoes were made a smaller factor in the ration than where it was the plan to use as large a proportion of potatoes as possible in compounding the ration.

A SELF-FEEDER FOR HOGS.

The hog feeder is easily constructed by anyone handy with hammer and saw. It is a box seven or eight feet long, four feet high, one foot wide at the top, and one and one-half feet at the bottom, and should be made of good matched lumber. The sides come within three inches of the bottom, this leaves a space for the pigs to work the feed out as wanted.

Next we nail boards on three 2x4's, six or eight feet long. These boards should be the length of the feed box and run lengthwise with same. These boards make the bottom for the feeder,

sociation during the last three years. Mr. Crum's last words were that we are sorry we did not form the association years ago. Their members advertise their stock as an association.

Prof. W. E. J. Edwards, M. A. C., discussed "The Principles of Breeding," and told the members that Shorthorn cattle would mean thousands of dollars to the Wexford county farmers within the next ten years.

Association work in Michigan was discussed by Oscar Skinner, president of the Michigan Shorthorn Breeders' Association.

The question box was in charge of Jas. F. Zimmer, County Farm Agent, and many prominent breeders took part in answering various questions relating to live stock in general.

An excellent dinner was served in the Grange Hall, in charge of Mrs. Wm. Robinson, and many expressed themselves in saying it was the best meeting ever held in Harrietta.

Wexford Co.

JAS. F. ZIMMER.

Hogs have kept coming to market freely, owners evidently being averse to holding after their swine reach a fairly large weight, although the average weight of the receipts in the Chicago market has increased within a month from 226 to 234 lbs. Prices are much lower than in recent years, but at the lowered prices of corn in feeding districts, there is a profit in making pork and lard.

ZENOLEUM

A Remedy for All Live Stock

A Standardized coal-tar disinfectant, insecticide, animal dip; always the same.

Use Zenoleum; get more milk from your cows; more pork from your hogs; more wool from your sheep; more eggs from your hens; more work from your horses. In short, make more money in the Live Stock business by using this great preventative.

Used and Endorsed by 50 Agricultural Colleges

Our guarantee: If Zenoleum is not all that YOU think it ought to be, you can have your money back; no letters, no talk, just money back.

Prices: postpaid—8 oz. 25c; qt. 50c; gal. \$1.50.

Ask for our free 1915 Live Stock Life Insurance Policy.

The Zenner Disinfectant Company
316 Lafayette Ave., Detroit, Mich.

Use Zenoleum Lice Powder for Poultry.



\$15 UPWARD SENT ON TRIAL
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 Twenty-Year Guarantee Protects You 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.



Accurate Measurers as Well as Sturdy Containers

STURGES Milk Cans
Are Guaranteed Correct Capacity!

From now on, there need be no annoyance or trouble about "over measure"—or "short measure," due to inaccurate milk cans. Sturges Milk Cans are all guaranteed true to measure. This feature is exclusive with Sturges cans.

It is an added advantage that you profit by in using these cans. It is another "reason why" most farmers and dairymen prefer to use cans backed by a firm which have for the past half century built milk cans that farmers and dairymen knew were right—and could depend upon.

Write for Catalog No. 46. You'll find interesting reading about "The Cans of Guaranteed Capacity"

STURGES & BURN MFG. CO., 508 So. Green St., CHICAGO



The Care of the Calf.

IT will be well to remember, before we start talking about the calf, that a dairy cow is more artificial than she is natural. In nature the dam gives only enough milk to bring up the calf, and then dries up. As the result of man's endeavor the modern dairy cow is, literally speaking, a milk machine. She is mechanical, highly specialized, and decidedly unnatural. All that she is depends on two factors, namely, heredity and environment. We must admit that environment is a broad term. It includes the idea of feeding, care, surroundings, and other minor things. To bring up the best cow, then, we must start the development by the right care from the beginning. The following ideas have proved themselves valuable in every-day practice.

The Early Care of the Calf.

The calf may be allowed to suck its dam a few times, or for the first day or so, but should then be put in a separate pen. If the calf is strong and the cow's udder is in good condition it is best to separate them the first or second day, as the cow is more easily reconciled to the separation, and the calf can be taught to drink more readily than if it has sucked the cow for some time. If the calf is weak it is better to leave it with the cow a while, as it will feed often and get stronger; or if the cow's udder is caked and inflamed the calf will help to bring it back to proper condition. At any rate the calf should always get the first milk, or colostrum, as it starts his digestive functions to working properly. When the calf is taken from the cow it may not drink at first, but after the omission of a feed or two it becomes hungry and can be taught to drink quite easily.

Fresh, warm, whole milk, preferably from its dam, should be the calf's main feed for two or three weeks. It is best to feed three times a day for the first few days. Eight or ten pounds per day is about right to start with, increasing gradually to 12 or 15 pounds at the end of two weeks. If the cow is a high tester it is advisable to feed the first milk drawn, as it will have a lower butter-fat content, and will be less apt to cause digestive disorders. In case of scours the feed should be reduced immediately, cutting down at least one-half, and if necessary, medical treatment resorted to.

The First Feeding of Grain.

When it is two or three weeks old the calf can be taught to eat a little grain by throwing a handful into the pail after it has finished drinking the milk. The grain should not be mixed with the milk as it would not be properly masticated and digested. A very good mixture for this purpose is three parts corn meal, three parts ground oats, one part bran, and one part oil meal, by weight. As soon as the calf has a good set of teeth he can grind his own corn and oats very well. This is a faculty peculiar to calves and it is well to let them do it, as the grain will be eaten slower and the chewing is good for the teeth. Therefore, after a time the corn meal and ground oats in the above mixture can be replaced by shelled corn and whole oats. Grain should be fed in the proportion of a half to one pound of grain to 100 pounds weight of the calf. It is important to keep the feed box clean and free from musty and mouldy grain.

At the age of two or three weeks the skim-milk supply may begin. The change should be made gradually so that the calf's stomach will adjust itself to the new conditions without trouble. Begin by replacing one pound of whole milk with an equal amount of skim-milk the first day, and replace two pounds the second day, and so on until the change is complete. In this way it would take about a week to

make the change. The amount of skim-milk may be increased to 20 pounds per day by the time the calf is six weeks old, but it is usually not profitable to feed more. Unless skim-milk is very cheap it does not pay to feed it after the calf is seven or eight months old, and it usually can be dropped before that time. The milk should be warmed to body temperature, and should always be sweet. Milk that is run through the hand separator and fed to the calf before it loses its natural warmth is sure to be all right. When using this method be sure to pour off the foam or let it settle before feeding. Creamery skim-milk, unless pasteurized, is dangerous because of the acidity developed, and the possibility of transmitting tuberculosis to the calf. Care should be taken to keep all pails, etc., clean, to avoid scours.

Feeding Hay.

Hay feeding should be started along with the grain. Bright clover hay, of fine quality, or good alfalfa is best for calves. It is a good plan at hay-feeding time to save out and put aside some of the best and finest of the clover for calf feeding. Alfalfa and the clovers, especially the former, are very rich in protein, the most essential element for growth and development of the body. The calf can have all the hay it will eat up clean. Corn silage is a very good roughage for calves, but it should not be fed until the skim-milk is well established, and should be dropped if scours develop.

Fall calves may be turned on grass in the spring as soon as possible, but some grain feeding should be continued even then, depending on the condition of the pasture. If the calf is young a quick change from barn to pasture may cause scouring, but this can be avoided by letting the calf graze only a short time the first day, and increasing the grazing period each day. In the dry summer months when the grass is short and dry, some green feed would be a valuable addition to the pasture. The calf should have access to water after it is three or four months old, as the milk furnished will not be sufficient drink.

Ingham Co. B. A. HEATH.

SOY BEANS GROWN IN CORN.

Please balance a ration from the following feeds: Corn silage twice a day, good June clover once a day, wheat bran at \$1.55 per cwt; cottonseed meal at \$1.55 per cwt; corn meal at \$1.65 per cwt. Will soy beans mature about the same time that corn will when planted together for silage?

Ingham Co. F. R.
If you plant your corn for silage it will not give the soy beans much of a chance, yet even thus I think they will pay well for the seed and planting, and that is all they will cost. But the thinner you have the corn, the better the beans will grow. I am growing sweet corn for the canning factory and plant as you would field corn. In this way I have grown many well developed beans. The beans will develop sufficiently for silage. They don't need to be ripe, neither does the corn want to be ripe. Even a medium late variety will do for silage. I planted as late as July 7 last year and grew a splendid forage crop.

Feed what silage and clover hay the cows will eat fairly clean. They should have a good feed of clover hay once a day. Feed one and a half pounds of cottonseed meal to each cow, three-quarters of a pound night and morning, and feed this on the silage. Mix wheat bran and corn meal equal parts by weight, and feed a sufficient amount of this to make the total grain ration equal one pound of grain for every four pounds of three and a half per cent milk or less, or for every three pounds of milk testing four per cent or above.



DE LAVAL Cream Separators are by far the most economical

Real economy is never short-sighted. It never confuses PRICE with VALUE.

PRICE is what you pay for an article.

VALUE depends upon the amount and quality of service the article gives you.

You get by far the greatest actual VALUE for your money when you buy a De Laval—BECAUSE it will give you much better and longer SERVICE than any other separator.

From the standpoint of its greater durability alone the De Laval is the most economical cream separator to buy, and when you also take into consideration its cleaner skimming, easier running, greater capacity and less cost for repairs, the price of the "cheapest" machine on the market is most exorbitant compared with that of the De Laval.

And there is no reason why you should let its FIRST COST stand in the way either, because the De Laval may be purchased on such liberal terms that it will actually pay for itself out of its own savings.

A De Laval catalog to be had for the asking tells more fully why the De Laval is the most economical cream separator, or the nearest local De Laval agent will be glad to explain this and many other 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

Pump, Grind, Saw
Double Geared Steel, bronze bearings
OILLESS WIND MILLS
No oil, no climbing towers.
Made for Hard Use. Feed
Grinders, Steel Tanks, Wood
Wheel Wind Mills, 2 1/2 to 20 H.
P. Fuel Saving Engines.
Perkins Wind Mill & Engine Company
Est. 1860. Catalogs free.
135 Main St., Mishawaka, Ind.

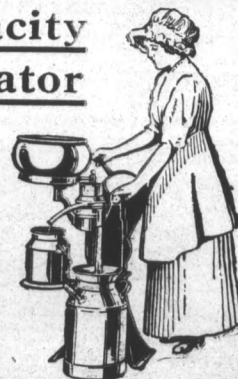
Get **MORE Cream**
by using a
Sample Speed Indicator
on your Cream Separator. Fits any make
of separator. Attached in two minutes; easy
to adjust; control speed of machine; abso-
lutely accurate; can't get out of order. Price
\$3. Agents wanted. Splendid proposition.
Simple Speed Indicator Co., Box 211,
Sidney, O.

\$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."



THE DAIRY CREAM SEPARATOR CO. 1202 West Washington St. LEBANON, INDIANA

E.C. SIMMONS KEEN KUTTER
TRADE MARK REG. CUTLERY AND TOOLS U.S. PAT. OFF.

Farming Tools
are money savers. High quality considered, the lowest price tools made. Last twice the "life" of common tools. Cost nothing for repairs and do better work after years of use than many other tools do when shining new from the Hardware Store.

Every hand farming tool on which you find the Keen Kutter trade mark is covered by a broad-gauge guarantee. If a Keen Kutter fork, hoe, rake, scythe, snath, shovel, axe or hay knife doesn't prove satisfactory, the dealer is authorized to return the money and take back the tool.

Send for our Garden Tool Booklet No. AS 1646.
"The Recollection of Quality Remains Long After the Price is Forgotten."
Trade Mark Registered. —E. C. SIMMONS.
If not at your dealer's, write us.

Simmons Hardware Company
St. Louis New York Philadelphia
Toledo Minneapolis Sioux City Wichita

Forecasting the Fruit Crop.

FOR some years I have been interested in the study of the buds of our common fruit trees, reading the stories of promise for the coming year and the histories of past seasons' bearing. This is done during the dormant period of the tree's life, when the limbs are bare of leaves and the wind shrieks its wintry wail around the stark trunks. An examination of the apple orchard any time during this period reveals, to the initiated, just what the trees have been doing for a few years past and what they are likely to do for the year to come. It is also true that the buds and fruit spurs reveal the measure of care the orchard has had.

Practically all of our fruit trees and shrubs, as well as the native berries and small fruits, form their fruit buds the year previous to fruiting. Exceptions to this rule are the grape and the quince. Both of these start into early spring growth and bear their blossoms on new wood. It is, therefore, true that previous care makes this year's crop, and the rewards for this season's cultivation and pruning will be garnered next year and the year after.

The Buds of the Apple Tree.

If we would examine our trees with a view to forecasting the crop we must first learn to distinguish between the fruit and the leaf bud. Take the apple. There will be found buds of two kinds if the tree is to bear the coming year. The round, robust appearing buds are fruit buds and the narrow, sharp-pointed ones will produce nothing but leaves. If there is any doubt in the mind as to the difference, select a few of the buds and cut them open lengthwise. The fruit buds will show all the component parts of a flower, while the leaf buds just as plainly show the rolled up leaf. After dissecting a dozen there will be no further question as to which is the embryo fruit. Another infallible distinction is the position in which the buds are borne. Having learned the appearance of the different buds, next notice the position in which they are borne. This is the experienced man's unerring sign. Thus the fruit buds always appears at the end of a short spur. This shoot is as necessary to the fruit as the bud itself. It may be a short side spur, less than half an inch in length, or a zig-zag twig showing scars of the fruitage of a number of years. In the latter case it is apparently the prolongation of the branch that bears the fruit; it is in reality just as much a fruit spur as the side branchlet. Examination will show to the careful observer the measure of each season's growth. In the case of such a spur, one will note a number of scars where apples have grown for perhaps eight or ten separate years, if the tree is an annual bearer, or if not, the seasons that have given no returns are clearly obvious to the initiated. It is not a difficult matter to understand these historical facts, on the contrary one should be able to quickly comprehend the prophecy that is written, simply by studying the position and appearance of the buds.

After one crop has been produced, judicious care ought to keep the orchard bearing annually, and all the processes of preparation going on each season. If the trees are allowed to bear heavily one year, they are so taxed with perfecting the fruit that they have no energy left to grow spurs or buds. This is the scientific reason for thinning the fruit. In short, cultivation and fertilization to induce growth, pruning to induce correct shape and room for spurs and thinning to prevent over-exertion in fruiting are the lessons learned from the apple buds.

Pear tree buds are borne in the same general way as apple buds, although the arrangement of spurs to the casual observer may appear decidedly different. The general rules that apply to apples will also apply to pear trees.

Determining the Crop on the Peach.

Peach trees bear their buds along the sides of twigs, not at the end of short spurs. With a vigorous bearing tree these buds appear in threes at intervals along the branch. It will be noted that the buds are not all alike. The center one is narrow and pointed. It is a leaf bud and will produce a tuft of leaves or perhaps be prolonged during the season into a branchlet. At either side are shorter rounded buds and these are the ones that will eventually open. It is quite important to understand the peach buds, as, by this knowledge, it may be ascertained if buds have been injured by cold weather. Annually it is desirable to cut back the trees and this should be done more thoroughly when the crop prospects are good, in order to assist in the thinning work. In this cutting back, which is best done in early spring while the trees are still dormant, one should remove the poorer branches and cut back some of the others. Fruit buds are borne on vigorous shoots of the previous season's growth, indicating that annual inducements for growth are needed with the peach. To ascertain if the buds have been injured by cold, cut the bud crosswise through the center. Live buds show green and perfect, while the blasted ones are dark and withered.

Plums vary considerably in the general arrangement of buds. Some form spurs, with single buds, while the Japanese varieties have clustered buds on short spurs. In general the fruit buds are shorter and fuller than leaf buds. The dissection of a few will readily indicate to the inquirer the difference.

Cherries bear their fruit buds in clusters along the side of shoots which were grown the year before. They appear much like those of the plum.

IN THE ORCHARD.

As soon as frosty weather is over we mix up lime whitewash add a few cans of concentrated lye and go over the trunks of our 125 orchard trees. With an old stubby broom, or brush, the stubbier the better, we brush in the whitewash from the ground up well into the forks and crotches, scrubbing loose all rough, shaggy bark where insects may lurk. The trees are later given a thorough spraying with lime-sulphur and it pays big returns.

We have practiced this method on our trees for the past twelve years, and now the trunks are quite as smooth as the smaller branches of the tree. And the large apples, I have sold them in the market three for a dime, and at the grocery and fruit stores they netted me \$2.00 a bushel. I think this pretty fair money for our little effort in scrubbing and spraying. One day each spring does the work of scrubbing over our orchard.

Penn.

H. W. SWOPE.

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.

PULVERIZED LIMESTONE
For HIGH GRADE MATERIAL and PROMPT SERVICE place your orders with
D. O. MARKLEY,
862 Division Ave. South, Grand Rapids, Mich.

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.

PURE FIELD SEEDS
Clover, Timothy, Alsike, Alfalfa and all kinds of Pure Field Seeds direct from producer to consumer. Free from noxious weeds. ASK FOR SAMPLES.
A. C. HOYT & CO., Box M, Fostoria, Ohio

Our Trees and Vines Grow—Wholesale prices, big surplus of Apple, Peach, Pear, Plums, Vines, etc. Catalog free.
W. A. ALLEN & SONS, Geneva, O.

SWEET CLOVER—White and large biennial yellow. Prices and circular on request. **W. B. YARIGN, BARFON, Box 129, Falmouth, Kentucky.**

SEED CORN—Mich. Yellow Dent, home grown, fire dried, tested. Golden Fleece and Reg. Swedish Select Oats. Send for sample and circular. **F. A. Bywater, Memphis, 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 Acquainted
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, 3 D'Anjo, 5 Kieffer, 1 Elberta Peach, 1 Ea. Crawford, 1 Montmorency Cherry 3 to 5 ft., 1 Orab Apple, 1 Burbank plum 5 to 7 ft., 10 Grape Vines, 5 Concord, 5 Niagara, 1 yr., 25 Blackberry large size, 25 St. Rosa Red Raspberry, 1 year. Get my big Catalog. It's Free. I sell only trees I grow.
D. G. BANKER, DANVILLE, N. Y.

SEED OATS—Garton's No. 5—"The Great Corn Belt Oats" Has yielded 120 bu. per acre. Straw very stiff and will not lodge. Large berry, thin hull. Re-cleaned, free from smut. Sample, etc.
E. S. CHRISTIANSEN, Coral, Michigan.

NEW STRAWBERRIES CATALOG FREE TO ALL
Reliable, interesting and instructive—All about the New Everbearers and other important varieties. Address
C. N. FLANSBURGH & SON, JACKSON, MICH.

Edwards' Legume Bacteria

Inoculate your alfalfa and other legume seeds with "Made in Michigan" pure culture of the bacteria essential for success with any legume crop. Made by a Bacteriologist of 15 years professional experience. Cultures made for all legume crops. Cost only one dollar each for culture to inoculate one bushel of seed. This means 33 cents or less per acre for alfalfa depending on seed used. All cultures sent fully prepaid. Order direct, Circular free. Address Dept. B.
THE EDWARDS LABORATORIES, Lansing, Mich.

MILLIONS of TREES PLANTS, VINES, ROSES, ETC.

The oldest, largest, and most complete nursery in Michigan. Send for catalog. Prices reasonable.

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

POTATO
Michigan's Standard, Sir Walter Raleigh. Pure and well grown 90 cents bushel.

OAT SEED
Worthy—Our own seed, \$1 bu. Member Michigan Experiment Asso.
H. E. SAUER, Lansing, Michigan.

PEDIGREED OATS
Worthy, Alexander, and other varieties. Bred and tested by the Agricultural College. Best of hundreds of varieties tested. Grown in Michigan and adapted to Michigan conditions. Also improved varieties of Barley, Corn, Soy Beans and other crops. Michigan Grown Sweet Clover Seed. Write to
SECRETARY MICHIGAN EXPT ASS'N, East Lansing, Michigan.

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

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

Senator Dunlap Strawberry Plants for sale at \$2.50 per 100. Fine one
W. M. YARIGN, St. Johns, Michigan.

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

TREES Plant For Profit Our All kinds trees & plants Trees
Free catalogue. Special prices on apple or peach. No San Jose Scale Here. We pay freight. Salesmen wanted. Outfit free. Write at once.
MITCHELL'S NURSERY, BEVERLY, OHIO.

BEARDLESS BARLEY—\$1.20 per bushel re-cleaned, bugs inc. **H. L. COLE, Palmyra, Mich.**

Pedigreed Oats—Great Dane yielded over 200 bushels per acre. Price \$1.20 per bushel. Golden Fleece or Regenerated Swedish selected 90 cents. Re-cleaned and bags free. **W. J. MERRIAM, Almont, Mich.**

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

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

EARLY SEED CORN.
Golden Glow (Wis. No. 12) has brought Wisconsin within the corn belt. Matures in 100 days. Official yields of over 100 bu. per acre reported. Fire dried. Perfect Germination. Guaranteed.
HENRY MICHEL, R. 7, Malone, Wis.

Seed Potatoes—Oillaway's Improved Rural Russet. Blight proof. Biggest yielder and best keeper. Write for price and information. **L. OILLAWAY, Lake City, Michigan.**



Fig. 15144—Novo Portable Buzz Saw—Built for heavy work. Engine and saw mounted on trucks together. Engine may be detached for separate work. A very handy outfit that a team can draw anywhere.

Will You Accept the Judgment of the Most Exacting Engine Buyers?

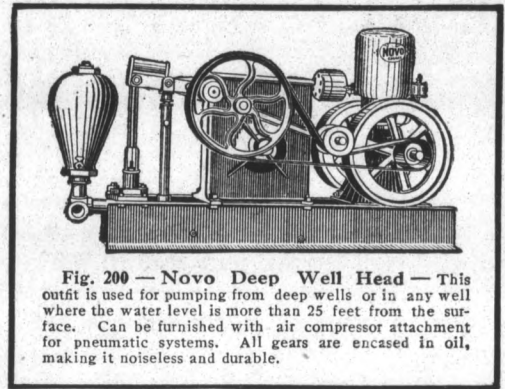


Fig. 200—Novo Deep Well Head—This outfit is used for pumping from deep wells or in any well where the water level is more than 25 feet from the surface. Can be furnished with air compressor attachment for pneumatic systems. All gears are encased in oil, making it noiseless and durable.

80 Per Cent Favor Novo Engines

Concrete mixer manufacturers must have reliable power to run their mixers. No test could be more severe than running a concrete mixer—jarring—bumping—now a full load, now no load, and at all times exposed to grit and dirt. The mixer manufacturers have tested many engines—probably tested them more thoroughly than you would. In each case Novo was selected after exhaustive trials had demonstrated that it would stand the most grueling work.

Today over 80% of the concrete mixer manufacturers are equipping their mixers with Novo Engines. It's the greatest endorsement ever given any gasoline engine.

Farm Work Demands Reliable Power

The increasing number of uses for power on the farm makes it imperative that the power be reliable.

In the earlier days of gasoline power when an engine was used only for running a windmill pump and a few minor jobs, such careful investigation into the design, construction and workmanship of the gasoline engine wasn't so necessary.

But now the demands of power are much greater than in those days. The gasoline engine must saw the wood, grind the feed, run the ensilage cutter, the separator, water and lighting systems, etc. A balky engine is out of the question.

The engine you buy now must be reliable.

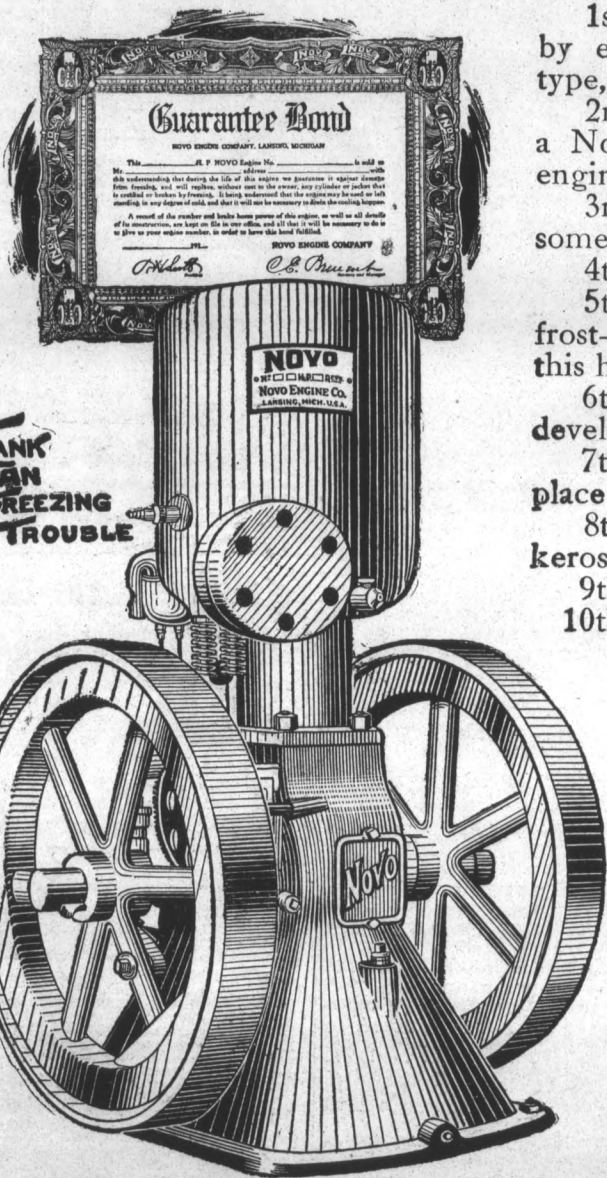
NOVO

REG. U.S. PAT. OFF.

ENGINES and OUTFITS

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

Ten Reasons Back of Novo's Supremacy



1st—Novo is built according to the principles conceded to be best by experienced engineers. Unlike most engines Novo is of vertical type, the same as engines used in all automobiles.

2nd—Novo is simple—anyone can start and run a Novo. The illustration shows the complete engine.

3rd—There are no complicated parts, cumbersome tanks or circulating pipes.

4th—The fuel is in the base where it is safe.

5th—The cylinder is cooled by water in the frost-proof hopper. It is never necessary to drain this hopper. Positive guarantee with each engine.

6th—Novo is the lightest engine for the power developed.

7th—Therefore the most easily moved from place to place.

8th—Novo runs equally well on gasoline, kerosene, alcohol and distillate.

9th—All working parts are dust proof.

10th—Novo is reliable under any conditions.

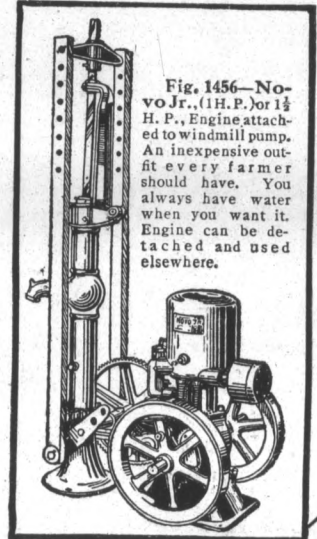


Fig. 1456—Novo Jr. (1 H.P.) or 1 1/2 H.P. Engine attached to windmill pump. An inexpensive outfit every farmer should have. You always have water when you want it. Engine can be detached and used elsewhere.

Let us Explain Novo Fully

We don't ask you to struggle through a catalog and buy with only pictures to guide you. We offer to show you the engine itself and test to your satisfaction. All you need do is fill in the coupon below or send us a postal card and the Novo man in your neighborhood will show you every detail of a Novo without obligation.

NOVO ENGINE CO.

CLARENCE E. BEMENT, Sec'y and Mgr.

564 Willow Street

LANSING, MICHIGAN

M.F.

Novo Engine Company, Lansing, Mich. Gentlemen—

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

and require about _____ H. P.

Name _____

Address _____

The Michigan Farmer

Established 1843. Copyright 1915.

The Lawrence Publishing Co.

Editors and Proprietors.

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

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

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

I. R. WATERBURY.....Associate Editor
BURT WERMUTH.....Associate Editor
FRANK A. WILKEN.....Associate Editor
ALTA LAWSON LITTELL.....Associate Editor

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

TERMS OF SUBSCRIPTION:

One year, 52 issues.....50 cents
Two years, 104 issues.....1.00
Three years, 156 issues.....\$1.25
Five years, 260 issues.....2.00
All sent postpaid.
Canadian subscriptions 50c a year extra for postage.

RATES OF ADVERTISING:

40 cents per line agate type measurement, or \$5.60 per inch (14 agate lines per inch) per insertion. No adv't in series for less than \$1.20 each insertion. No objectionable advertisements inserted at any price.

Mem Standard Farm Papers Association and Audit Bureau of Circulation.

Entered as second class matter at the Detroit, Michigan, postoffice.

DETROIT, APRIL 10, 1915.

CURRENT COMMENT.

A U. S. Employment Bureau. A plan for aiding the unemployed and also those seeking to employ labor, has been developed through the co-operation of the U. S. Department of Labor and the Postoffice Department of the Federal government. This plan has been tried out through the operation of a government employment office in New York city which has been in operation for a number of years and has been quite successful. During the early part of the present year other similar offices were opened in a number of cities, including Detroit. The country is divided into zones and the main office for the zone in which Michigan is included is located in Chicago, with what are called sub-zone offices at Detroit and Sault Ste. Marie. The state of Michigan is divided into districts which are assigned to these three stations or offices, the upper peninsula being assigned to the office of Sault Ste. Marie, and the lower peninsula to the Detroit office, with the exception of a few counties in the southwestern part of the state, which are more easily reached from Chicago.

Originally these offices were established with a view of supplying farmers with help in response to applications from all parts of the country. Later the service was extended so as to include all classes of help, both skilled and unskilled. Michigan Farmer readers will, however, be particularly interested with the branch of the service relating to employment of farm labor. Those needing help should communicate with the office in the territories above indicated, stating their requirements in full. Applications for work fulfilling these requirements are then directed to the positions offered. Full information regarding the service can be obtained at the local postoffice. No fees are charged to either employer or employes for the service rendered. A reservation is made, however, that no labor will be supplied where trouble is known to exist between employer and employes or where such labor would interfere with proper labor conditions. It is possible that this new service will be of some value to the farmers of Michigan in securing needed farm labor.

The Foot-and Mouth Campaign. Figures recently compiled by the U. S. Department of Agriculture show that 134,141 animals have been slaughtered in the campaign against foot-and-mouth disease from the inception of the outbreak in October to March 25 last. The total value of the animals killed is estimated at between five million and six million dollars, of which the federal govern-

ment paid half and the states half. This, of course, represents only a part of the loss to the live stock industry of the country, inasmuch as all payments for animals killed are made on the utility basis and there was included among them many valuable pure-bred animals and herds.

In this connection the action taken by prominent live stock organizations which have held meetings since the outbreak of the epidemic will be of interest. The U. S. Live Stock Sanitary Association adopted resolutions at their eighteenth annual convention held in Chicago during February, recommending the co-operation of states and individuals with federal authorities and providing for the appointment of a committee for the purpose of drafting and submitting at each annual session recommendations whereby joint and uniform control of one of the contagious and infectious diseases may be submitted and recommended to all live stock sanitarians of the United States. The Percheron Society of America at its annual meeting passed resolutions favoring the reimbursement of owners of pure-bred animals on the basis of a fair valuation of such animals for breeding purposes, in case it became necessary to slaughter same as a measure for the public welfare.

The losses due to interference of normal movements of live stock in the big markets of the country have been very considerable; the packers have been able on account of the quarantine to force prices to a low level much more easily than would have been the case under normal conditions. But it is now believed by federal as well as state officials that the outbreak has been practically subdued and that while there may be some sporadic cases of infection, there will be no further general spread of the disease and restrictions on shipments will gradually be relaxed as it appears to be safe until the quarantine is entirely raised.

The Progressive Farmer. There is a type of progressive farmer to be found in almost any community who is keeping up with the new developments in agriculture, constantly trying out new scientific theories and experimenting with new crops or methods of soil management. In far too many cases it will be found that the great majority of the other farmers of that community are inclined to ridicule his efforts in this direction and to be more ready to advertise his failures than emulate his successes in this pioneer agricultural missionary work. In future years it quite often happens that some farmers follow the lead of their more progressive contemporaries, but generally without giving them any credit for the work done in trying out the new things and demonstrating their practicability under local conditions.

This is a most regrettable tendency, not so much because of the injustice done to the farmers of the class above mentioned as because of the untoward influence upon the younger farmers of the communities in which they live. The man who becomes sufficiently interested in agriculture to make it a constant study and a matter for continual experimentation generally cares little, in a personal way, whether his efforts are or are not appreciated by his neighbors. He is getting his pay in satisfaction as he goes along although that satisfaction very often costs him considerable, in both time and money. He is also doing a valuable work for agriculture, and this is added compensation. He does not need sympathy nearly so badly as does the man who belittles his efforts, more often perhaps because of jealousy than for any better reason. If we have been in the past inclined to such an attitude, let us, in the future, rather profit from work of this kind which may be carried on by many of the progressive farmers of our com-

munity. Indeed, let us ourselves get into that class and help in the better development of modern agriculture.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The foreign situation is little changed from last week. On the west unimportant shifting of lines were reported. The Germans have taken a small point on the west bank of the Yser canal and the French have pushed their lines forward in the Woevre district. In the east the troops have been more active; the Russians declare the contest in north Poland to be developing greatly in their favor, while in the Carpathian district the fighting for the passes is becoming more violent. The Russians are sending large bodies of troops to the different points, while the Austrians are bringing every resource into play in defending these avenues that lead into Hungary. Another factor has arisen along the southern frontier during the week just past; Bulgarian mobs are now attacking the Servians, and although they succeeded in occupying Serbian territory they were finally repulsed and driven back into Bulgaria. The attack upon the Dardanelles by the Allied fleets of the English and French continues, but few reports of any gains by either side have been received. The Russians have made some effort against the forts along the Bosphorus. Dispatches from London indicate that land forces will be sent to co-operate with the fleets in opening up the watercourse.

Australia is sending 10,000 more troops to England, which will make a total of 60,000.

The situation in China seems to be in abeyance. In a recent interview President Yuan-Shih-Kai declared that the assurance given by the United States that China's integrity would not be broken by the European war, has been of great assistance in restraining political unrest over the Japanese question.

The people of Great Britain are now actively discussing the question of prohibiting the manufacture and sale of alcoholic liquors, at least during the remainder of the war period. The royal court and members of the parliament have voluntarily taken the stand against the use of wines and other intoxicants at all public functions and in their private families, while public men everywhere are crying down the use of such beverages, especially during trying times like these.

A commission representing the Carranza interests in Mexico is enroute to the United States on a secret mission. In an effort to protect the 25-foreigners in Mexico City, a plan has been proposed and accepted by Generals Villa and Zapata to make Mexico City a neutral zone. An effort will be made to secure the sanction of Gen. Carranza.

Fishermen from the Newfoundland Banks report that seal fishing in that district has been a complete failure this year.

Outrages against Americans and refugees in missions in northwestern Persia were checked by the heroic efforts of the missionaries in charge. An investigation is now being conducted, but no satisfactory information has as yet been received.

A contract has just been signed by the authorities of greater Berlin for the purchase of 53,000 acres of woodlands adjacent to the capitol for the development of permanent parks.

National.

Much damage was done by the storm which swept the Atlantic coast last Saturday. Nine ships have been reported missing, traffic has been tied up, wires along the shores are down and several deaths and many injuries are reported at various points. Fears are held that the Dutch steamer Prins Maurits went down with 49 persons on board, off Cape Hatteras.

The German cruiser Prince Eitel Friedrich is still at Newport News. It was expected that the vessel would take to sea last week. It is now reported that the German battle cruiser Von Der Tann is enroute to the relief of the Eitel.

The state of Texas is bringing action against packing house corporations of Chicago for alleged violation of the federal anti-trust law.

The Niagara Hotel, of Toledo, was burned Sunday morning and one person is dead and eight others are missing and believed to have perished in the flames.

Billy Sunday, who has just closed a successful evangelistic campaign in Philadelphia, began similar services at Paterson, N. J., this week.

The United States District Court is continuing its investigation into the election frauds of last November at Terre Haute, Ind. One witness asserts that he balloted 22 times on that day and was only challenged once.

Easy to own an Engine Now

Direct from Factory to User

2 H-P.	\$34.95
4 H-P.	69.75
6 H-P.	97.75
8 H-P.	139.00
12 H-P.	197.00
16 H-P.	308.80
22 H-P.	399.65

Proportionally Low.

WITTE Engines

Kerosene, Gasoline and Gas
Stationary, (skidded or on iron base), and Mounted Styles. Long-wearing, separable, semi-steel cylinders and 4-ring pistons; automatic ignition; spark shift; vertical valves; variable speed; and other merits without which no engine is now high-grade.

Liberal 5-Year Warranty
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?
Now Book Free. Tells you the "inside" of engine selling as well as manufacturing. Get the facts whether you buy from me or not.
Ed. H. Witte, Witte Engine Works, 2198 Oakland Ave., Kansas City, Mo.

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, stationary or portable, from 1 1/2 H. P. to 18 H. P. Our new booklet describes this money-saver. Send for your copy.

ELLIS ENGINE CO.
2839 E. Grand Boulevard,
Detroit, Mich.

Don't Stop Spraying

It is easier to keep up than catch up. It takes two years for trees to bear after the foliage is destroyed. Remember, too, that dormant spraying is important, and in some states spraying is compulsory. Sprayed fruit is good fruit, and good fruit always brings a good price in any season.



IRON AGE
Bucket, Barrel, Power and Traction Sprayers include 70 combinations for orchard, field, garden, poultry house and home use. Our "Spray" booklet shows how you can buy barrel or bucket sprayer now and build to larger uses when you need it. Ask your dealer to show this line and write us for "Spray" booklet and our spray calendar, both free.
Bateman Mfg Co.
Box 244
Grenloch, N. J.

CONTENTED COWS Insure Bigger Profits

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

Geta Bokop Harrow This Spring

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

- Cuts your time in two.
- Saves your horses.
- Pulverizes any soil perfectly.
- Cuts down delays and repair bills.
- Increases crops.

Let us tell you how the BOKOP combines the best features of all harrows ever made. Write today.
The Welding Co., Box P-2, Defiance, O.

CONCRETE FOR THE FARM

Make your own concrete products—blocks, bricks, tile, fence posts, silos, etc., and make your improvements permanent. You'll make and save some big money by doing it yourself. Mix your materials with a hand or power mixer. We show you every "in and out" of the whole proposition, and place equipment in your hands at prices that will astound you. This space forbids extensive mention. But write for our FREE 66-PAGE BOOK, which tells the whole story, giving our lowest direct-from-factory prices. State what interests you most.
Do It Now
This Ad May Not Appear Again.
ECLIPSE MACHINE MFG CO.
403 Factory St., Kendallville, Ind.

Magazine Section

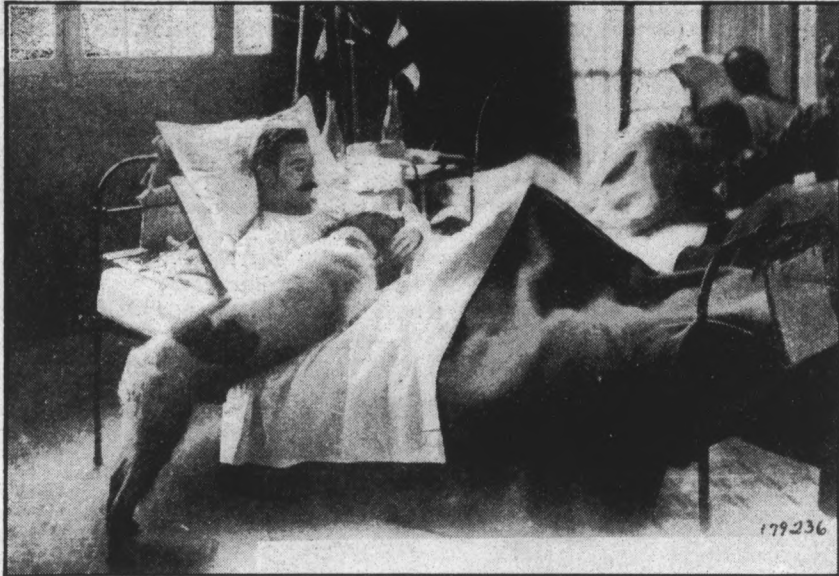
LITERATURE
POETRY
HISTORY and
INFORMATION

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

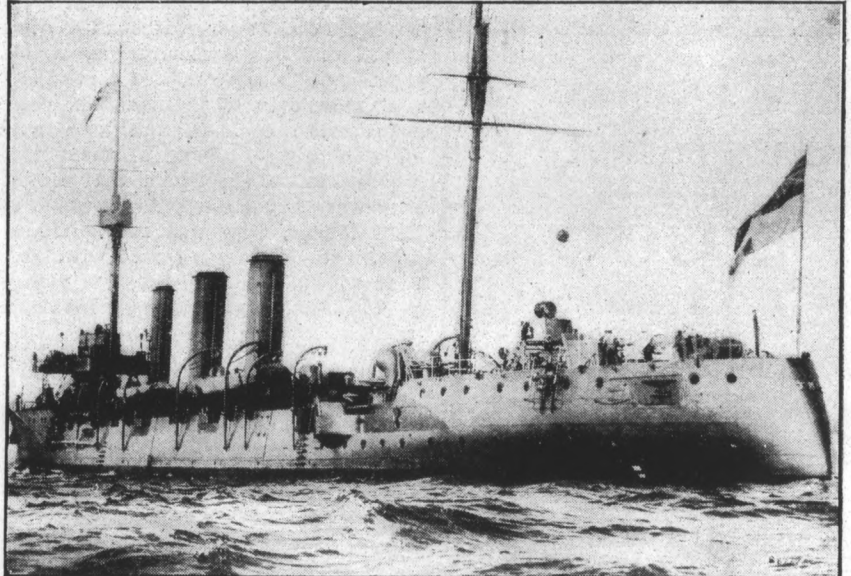
The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

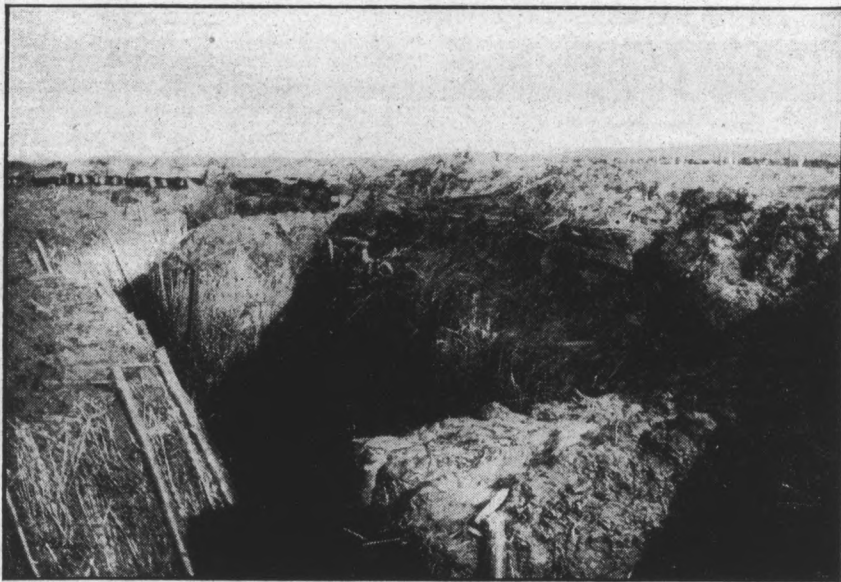
WORLD EVENTS IN PICTURES.



Dog who Dug Master from Trench Allowed to Remain at the Bedside of Comrade.



British Cruiser "Amethyst" Braves Tremendous Fire to Cut Cables Across Dardanelles.



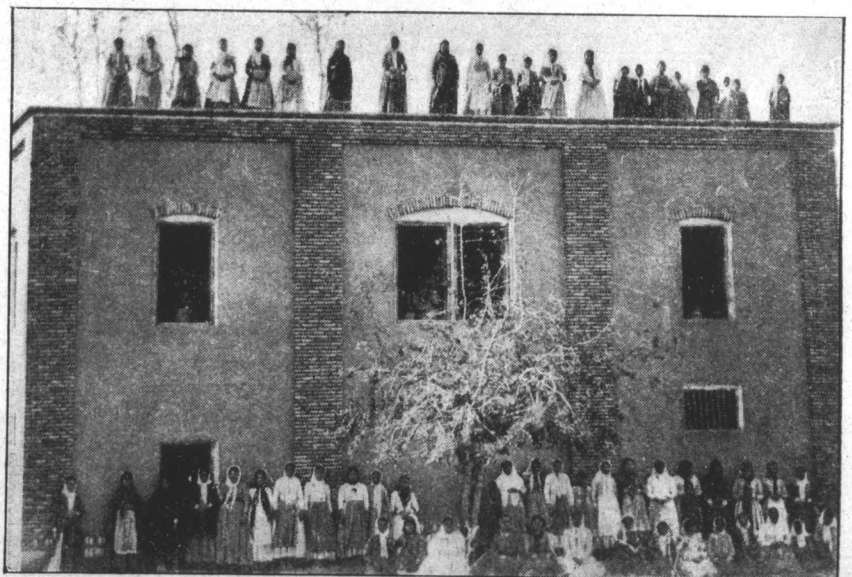
Showing Construction of First Line of Trenches as Built by German Soldiers in Northern France.



Colt Born at the Front is Now Being Faithfully Cared for by Soldiers of the Austrian Army.



Above.—Przemysl, Galicia, Recently Taken by Russians. Below.—General View of Constantinople.



Copyright by Underwood & Underwood, N. Y.

General American Mission in Persia where Hundreds Fled for Safety from Riotous Kurds.

Be fair to yourself —try Ajax Tires

YOU owe it to yourself to try Ajax Tires. Put them to the test. Know the protection you have in the Ajax written guarantee of 5000 miles. The implied life of other standard makes is but 3500 miles. Won't you make this saving for yourself? This saving of from \$4 to \$20 a tire, according to the wheel size you use. Act upon your present impulse. Decide today to try Ajax Tires!

AJAX TIRES

Guaranteed
in writing

5000 MILES

"While others are claiming
Quality we are guaranteeing it."

AJAX-GRIEB RUBBER CO.
1796 Broadway, New York City
Factories: Trenton, N. J.

GET IN BUSINESS FOR YOURSELF.
A hustler, handy with tools, can make himself independent by handling a product heavily advertised. Not a luxury but a necessity to all property owners whether farmer or town man. Large profits. No investment necessary, only satisfactory references. For details address — Montross Company, 147 Erie St., Camden, N. J.

Winston of the Prairie

BY HAROLD BINDLOSS.

Copyrighted by Frederick A. Stokes Company.

It might have appeared unusual in England, but it was much less so in a country where the specialization of professions is still almost unknown, and the man who can adapt himself attains ascendancy, and on the morrow Winston arrived at a big wooden building beside a pine-shrouded river. It appeared falling to pieces, and the engineer looked disdainfully at some of the machinery, but, somewhat against his wishes, he sat up with his companion most of the night in a little log hotel, and orders that occasioned one of Graham's associates consternation were mailed to the city next morning. Then machines came out by the carload, and men with tools in droves. Some of them murmured mutinously when they found they were expected to do as much as their leader, who was not a tradesman, but these were forthwith sent back again, and the rest were willing to stay and earn the premium he promised them for rapid work.

Before the frost grew arctic, the building stood firm, and the hammers rang inside it night and day until when the ice had bound the dam and lead, the fires were lighted and trials under steam began. It cost more than water, but buyers with orders from the east were clamoring for flour just then. For a fortnight Winston snatched his food in mouthfuls, and scarcely closed his eyes, while Graham found him pale and almost haggard when he came down with several men from the cities in response to a telegram. For an hour they moved up and down, watching whirring belt and humming roller, and then, whitened with the dust, stood very intent and quiet while one of them dipped up a little flour from the delivery hopper. His opinions on, and dealings in, that product were famous in the land. He said nothing for several minutes, and then brushing the white dust from his hands turned with a little smile to Graham.

"We'll have some baked, but I don't know that there's much use for it. This will grade a very good first," he said. "You can book me the thousand two eighties for a beginning now."

Winston's fingers trembled, but there was a twinkle in Graham's eyes as he brought his hand down on his shoulder.

"Gentlemen," he said, "I was figuring right along on this when I brought the champagne along. It was all I could do, but Imperial Tokay wouldn't be good enough to rinse this dust down with, when every speck of it that's on you means dollars by the handful rolling in."

It was a very contented and slightly hilarious party that went back to the city, but Winston sat down before a shaded lamp with a wet rag round his head when they left him, and bent over a sheaf of drawings until his eyes grew dim. Then he once more took up a little strip of paper that Graham had given him, and leaned forward with his arms upon the table. The mill was very silent at last, for of all who had toiled in it that day one weary man alone sat awake, staring, with aching eyes, in front of him. There was, however, a little smile in them, for roseate visions floated before them. If the promise that strip of paper held out was redeemed, they might materialize for those who had toiled and wasted their substance that the eastern peoples might be fed would that year, at least, not go without their reward. Then he stretched out his arms wearily above his head.

"It almost seems that what I have hoped for may be mine," he said. "Still, there is a good deal to be done first, and not two hours left before I begin it tomorrow."

CHAPTER XXVII. Reinstatement.

A year of tireless effort and some anxiety had passed since Winston had seen the first load of flour sent to the east, when he and Graham sat talking in their Winnipeg office. The products of the St. Louis mills were already in growing demand, and Graham appeared quietly contented as he turned over the letters before him. When he laid down the last one, however, he glanced at his companion anxiously.

"We have got to fix up something soon," he said. "I have booked all the St. Louis can turn out for six months ahead, and the syndicate is ready to take the business over, although I don't quite know whether it would be wise to let them. It seems to me that milling is going to pay tolerably well for another year, and if I knew what you were wanting, it would suit me better."

"I told you I wanted thirty thousand dollars," said Winston.

"You've got them," said Graham. "When the next balance comes out you'll have a good many more. The question is, what you're going to do with them now they're yours?"

Winston took out a letter from Dane and passed it across to Graham.

"I'm sorry to tell you the Colonel is getting no better," it ran. "The specialist we brought in seems to think he will never be quite himself again, and now he has let the reins go, things are falling to pieces at Silverdale. Somebody left Atterly a pile of money, and he's going back to the old country. Carshalton is going too, and, as they can't sell out to anyone we don't approve of, the rest insisted on me seeing you. I purpose starting tomorrow."

"What happened to Colonel Barrington?" asked Graham.

"His sleigh turned over," said Winston. "Horse trampled on him, and it was an hour or two before his hired man could get him under shelter!"

"You would be content to turn farmer again?"

"I think I would," said Winston. "At least, at Silverdale."

Graham made a little grimace. "Well," he said resignedly, "I guess it's human nature, but I'm thankful now and then there's nothing about me but my money that would take the eye of any young woman. I figure they're kind of useful to wake up a man so he'll stir around looking for something to offer one of them, but he's apt to find his business must go second when she has got it and him, and he has to waste on house fixings what would give a man a fair start in life. Still, it's no use talking. What have you told him?"

Winston laughed a little. "Nothing," he said. "I will let him come and you shall have my decision when I've been to Silverdale."

It was next day when Dane arrived at Winnipeg, and Winston listened gravely to all he had to tell him.

"I have two questions to ask," he said. "Would the others be unanimous in receiving me, and does Colonel Barrington know of your mission?"

"Yes to both," said Dane. "We haven't a man there who would not hold out his hand to you, and Barrington has been worrying and talking a good deal about you lately. He seems

to fancy nothing has gone right at Silverdale since you left it, and others share his opinion. The fact is, the old man is losing his grip tolerably rapidly."

"Then," said Winston, "I'll go down with you, but I can make no promise until I have heard the others."

Dane smiled a little. "That is all I want. I don't know whether I told you that Maud Barrington is there. Would tomorrow suit you?"

"No," said Winston, "I will come today."

The creeping darkness found them still upon the waste, and the cold grew keener when the stars peeped out. Even sound seemed frozen, and the faint muffled beat of hoofs unreal and out of place in the icy stillness of the wilderness. Still, the horses knew they were nearing home, and swung into a faster pace, while the men drew fur caps down, and the robes closer round them as the draught their passage made stung them with a cold that seemed to sear the skin where there was an inch left uncovered. Now and then a clump of willows or a birch bluff flitted out of the dimness, grew a trifle blacker, and was left behind, but there was still no sign of habitation, and Alfreton, too chilled at last to speak, passed the reins to Winston, and beat his mittened hands. Winston could scarcely grasp them, for he had lived in the cities, and the cold he had been sheltered from was numbing.

For another hour they slid onwards, and then a dim blur crept out of the white waste. It rose higher, cutting more blackly against the sky, and Winston recognized with a curious little quiver the birch bluff that sheltered Silverdale Grange. Then as they swept through the gloom of it, a row of ruddy lights blinked across the snow, and Winston felt his heart beat as he watched the homestead grow into form. He had first come there an impostor, and had left it an outcast, while now it was amid the acclamations of those who had once looked on him with suspicion he was coming back again.

Still, he was almost too cold for any definite feeling, but the sting of the frost, and it was very stiffly he stood up, shaken by vague emotions, when at last the horses stopped. A great door swung open, somebody grasped his hand, there was a murmur of voices, and partly dazed by the change of temperature he blundered into the warmth of the hall. The blaze of light bewildered him, and he was but dimly sensible that the men who greeted him were helping him to shake off his furs, while the next thing he was sure of was that a little white-haired lady was holding out her hand.

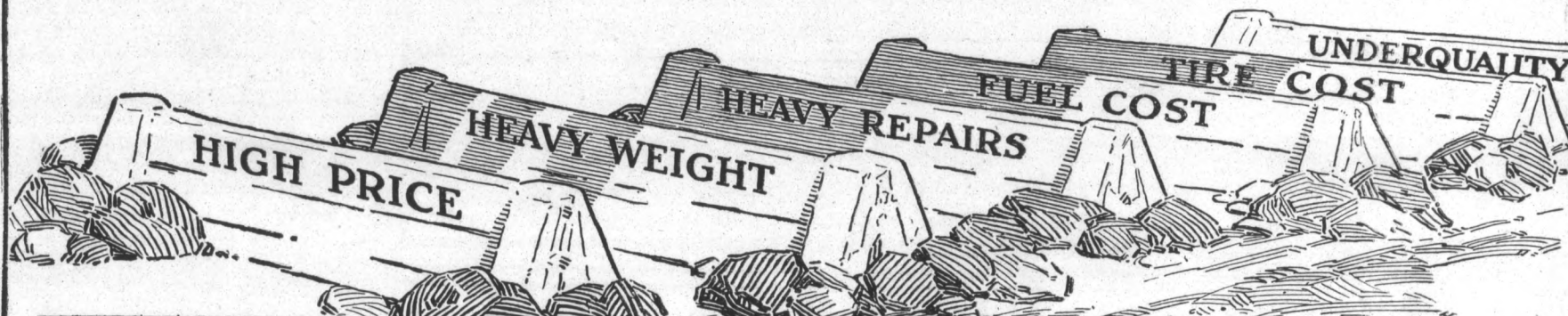
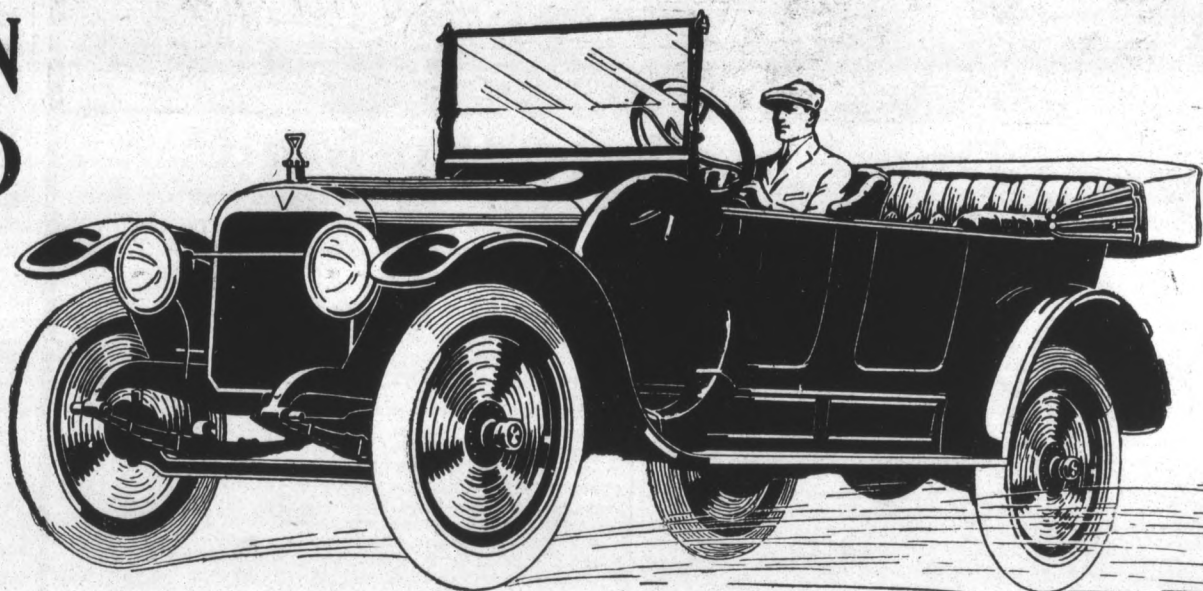
"We are very glad to see you back," she said, with a simplicity that yet suggested stateliness. "Your friends insisted on coming over to welcome you, and Dane will not let you keep them waiting too long. Dinner is almost ready."

Winston could not remember what he answered, but Miss Barrington smiled at him as he moved away, for the flush in his face was very eloquent. The man was very grateful for the greeting, and what it implied. It was a few minutes later when he found himself alone with Dane, who laughed softly as he nodded to him.

"You are convinced at last?" he said. "Still, there is a little more of the same thing to be faced, and, if it would relieve you, I will send Alfreton, who has some taste in that direction, to fix that tie for you. You have been five minutes over it, and it evidently does not please you. It's the first time I've ever seen you worry about your dress."

Winston turned, and a curious smile crept into his face as he laid a lean hand that shook a little, on the toilet table.

HUDSON
\$1550



The Hudson First Surmounted All These Barriers to Sixes

Look back four years, please—to the time when Howard E. Coffin started to design this HUDSON.

Every Six was a high-priced car.

Every Six was a heavy car.

Every Six was costly in tires, in fuel, in upkeep. All men envied, but few could enjoy, the luxury of Sixes.

Note Conditions Now

Then came this new-type HUDSON, weighing under 3000 pounds. Price, fuel and tire cost were cut practically in two.

Motorism fairly gasped. And they said, you know, that such things were impossible in a sturdy, high-grade car.

Look now where the Light Six stands. It dominates the field above \$1000. It is almost taken for granted, when one speaks of a class car, that it is of this HUDSON type.

Remember that as one contribution which HUDSON engineers made to motoring. They opened the gates to Sixes.

10,000 Now Running All Doubters Won Over

Most motorists, we think, never doubted that this new-type car was right. It was a Howard E. Coffin creation—a HUDSON—and that was assurance enough. They bought hundreds before they saw it. Then they came by

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 Bembs-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.
Jackson—Temple Garage Co.

Kalamazoo—Kalamazoo Auto Sales Co.
Lansing—F. A. Roethlisberger, Jr.
Marquette—Superior Garage, Ltd.
Menominee—Auto Service Co.
Manistique—L. Yalomstein.
Owosso—Ferris Bros. & Wolaver.
Plymouth—J. R. Rauch & Son.
Port Huron—George E. Yokom.
Saginaw—Saginaw Hudson Sales Co.
Union City—F. B. Hart.
Wyandotte—A. W. Pardo.

the thousands. For one whole year we kept weeks behind on orders, while we multiplied our output by five.

Now more than 10,000 are running. In the past two seasons they have covered millions of miles. If there are now any doubters, there are owners near by to say, "HUDSON is perfect—it's my ideal car."

Others May Be Right

Other Light Sixes among the newcomers may prove themselves right in time. But HUDSON has proved already. It's an attained success. Its designers had a four-year start. In a hundred ways it is better than when new, just as other new cars will be bettered.

The HUDSON is a finished production. Every touch and detail shows this. It is the lightest 7-passenger Six. And it stands preeminent in most minds, we think, as the class car of this type.

Inquiry and comparison will point you to the HUDSON. This car is certainly right. No car ever built is a safer investment. And men who take pride in their cars like to say, "My car is a HUDSON."

Our dealers are everywhere.

7-Passenger Phaeton, \$1550, f. o. b. Detroit
Four other body styles

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



Don't Stick in the Mud

Get full service out of your car all the year 'round. Travel over any road, no matter how muddy, greasy or slippery, with perfect safety and comfort. Every Farmer should equip his car with

Weed Anti-Skid Chains

The Only Positive Safeguard Against Slipping or Skidding

Spring rains churn up the mud and make country roads almost impassable. Without Weed Chains it is impossible to secure traction. Wheels equipped with Weed Chains automatically lay their own traction. Rubber slips—never grips. It slides on wet roads like a cake of soap rubbed on the moistened hands. Rubber lacks the bite-and-hang-on ability to prevent slipping and skidding. Can you afford to take the chance of being "stalled" in the mud and smashing your car when you know that Weed Chains will prevent such accidents?

Skidding is the greatest danger that besets the motorist. It comes without warning, turns pleasure into peril and takes enormous toll in human lives and wrecked cars. No other device has ever been invented to take the place of Weed Chains. All kinds of makeshifts have been tried—useless and worthless all. They are slipped on in a moment without a jack. They don't injure tires, even as much as one little slip or skid. The time to provide against accidents is before they happen—not after. Exercise caution. Buy a set of Weed Chains today.

Sold for ALL Tires by Dealers Everywhere

WEED CHAIN TIRE GRIP CO., Bridgeport, Conn.



"I also think it's the first time these fingers wouldn't do what I wanted them. You can deduce what you please from that," he said.

Dane only nodded, and when they went down together laid a kindly grasp upon his comrade's arm as he led him into the great dining-room. Every man at Silverdale was apparently there, as were most of the women, and Winston stood still a moment, very erect with shoulders square, because the posture enabled him to conceal the tremor that ran through him when he saw the smiling faces turned upon him. Then he moved slowly down the room towards Maud Barrington, and felt her hand rest for a second between his fingers, which he feared were too responsive. After that, everybody seemed to speak to him, and he was glad when he found himself sitting next to Miss Barrington at the head of the long table, with her niece opposite him.

He could not remember what he or the others talked about during the meal but he had a vague notion that there was now and then a silence of attention when he answered a question, and that the little lady's face grew momentarily grave when, as the voices sank a trifle he turned to her.

"I would have paid my respects to Colonel Barrington, but Dane did not consider it advisable," he said.

"No," said Miss Barrington. "He has talked a good deal about you during the last two days, but he is sleeping now, and we did not care to disturb him. I am afraid you will find a great change in him when you see him."

Winston asked no more questions on that topic until later in the evening, when he found a place apart from the rest by Miss Barrington's side. He fancied this would not have happened without her connivance, and she seem-


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.

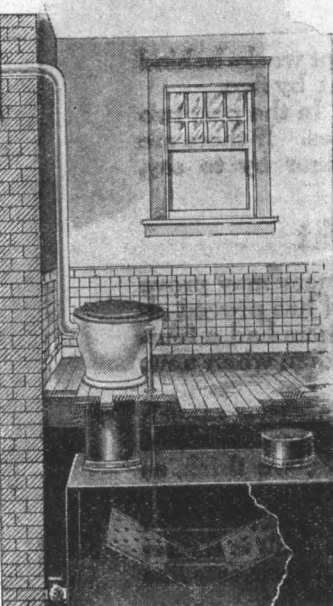
152 Louis St., Grand Rapids, Michigan.

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.

BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER, V. S.
118 West 31st Street, New York



America's
Pioneer
Dog Remedies



\$53.50

FOR LANSING

For This "Wolverine" Chemical Closet

Think of it! A complete closet consisting of a pure white china bowl, highly polished mahogany finished seat and cover with nickled brass post hinges, ventilating pipe and fully equipped steel tank—FOR ONLY \$53.50. Even if you are so situated that you could install a water-closet system in your home, where would you be able to buy it for anywhere near this price?

It is to you folks who live in sections where sewage disposal is not possible—to those who still have the old-fashioned outside closet which is a menace to health—that this advertisement is addressed. The "Wolverine" Chemical Closet solves the sewage problem in the rural community. It may be installed in any home, school, church or public building without water or expensive plumbing. The "Wolverine" Sanitary Chemical Closet has been endorsed by health officials after careful tests and observation in actual use. The Government says that 30,000 people die annually in the United States from typhoid and intestinal diseases. It is an indisputable fact that a large part of these deaths are traceable to insanitary closets, flies, etc. Safeguard your home and community by seeing to it that a Wolverine Sanitary system is installed. Dr. Rich, a Michigan State Sanitary Engineer, says: "A properly operated chemical closet deals death to all disease germs contained in the discharge of bowels or kidneys."

Guaranteed Odorless.
Notice the tank for chemicals. This tank is filled with Wolverine Chemicals—strong alkalis or caustics, 18 times stronger than carbolic acid, that sterilize and liquefy all organic matter and paper that enter the tank. It makes impossible the obnoxious odors that are usually noticeable around cess-pools and outside closets. We positively guarantee the "Wolverine" Closet to be as free from odor as closets used with any water system, if properly installed according to our instructions. Observe the ventilating system. A 4-inch white enameled vent pipe runs upward from the bowl and if possible, into a chimney with a good draught—if not, then through the roof.

Sanitary—Convenient.
The greatest convenience, comfort and necessity of country life. That is exactly what the Wolverine Chemical Closet is. Consider the inconvenience of an outside closet. This feature alone would justify the expending of \$53.50, to provide for the greater comfort and convenience of yourself and family. Then when you think of the expensive nurse bills, doctor bills, and loss of time occasioned by an outside closet, you will agree with us in saying that money you pay out for a modern, sanitary closet like The Wolverine is the best investment you ever made. Insanitary closets on dairy farms have been known to cause typhoid and thereby cut off the entire income of the home because milk from such farms could not be sold.

Get Rid of FLIES!

If every resident of a rural community would do away NOW with the outside closet, install a "Wolverine" Sanitary Chemical Closet and take precautions about disposing of the manure from his barn thousands of lives would be saved in this country each year.

Don't provide breeding places for this disease-carrying insect. An ounce of prevention is worth a ton of cure. One fly now means 1,500,000,000 flies in September. Don't let it be said that you did not take every possible sanitary precaution to protect your family from disease or death. Order a Wolverine Chemical Closet—NOW.

READ These Specifications and Description of Complete Closet.

TANKS.—Made of 14-gauge steel, acetylene welded at all joints. Painted with Anti-rust Primer. Tube leading to tank is made of 24-gauge galvanized steel and we supply enough with each order for any first-floor installation. Each tank fitted with 2-inch nipple for connecting drainage pipe. Manhole is to permit charging of tank without putting chemical through bowl.

AGITATOR.—Our improved agitator has been put to severe tests and has shown itself superior to every other type. One stroke of the agitator rod affects a thorough mixing of the contents of the tank. The solid matter is broken up so that the chemical acts directly and greatly facilitates the liquefying and disintegrating process.

EMPTYING TANK.—Tank requires emptying only about twice a year, cost of chemical about one cent per day. Contents of the tank are in liquid form and will seep away in ordinary soil. Absolutely free from disease germs and cannot pollute the soil or water supply.

No Water or Sewer Necessary.
No Pipes to Freeze—The "Wolverine" Chemical Closet requires no water connections, no expensive plumbing equipment and no sewer system. Here is an outfit which can be installed in your home with very little trouble. The expense for the complete "Wolverine" system is small compared to what a running water equipment would cost you in money, time and trouble. Even the most costly plumbing gets out of order at times—that means an extra drain on your pocketbook. This closet is manufactured with no complicated parts—it is practically trouble free. Full instructions are sent with every outfit and it does not require an expert to put it in place. After installation is made, there is nothing in sight except a pure white china bowl with highly polished mahogany seat.

For
**Schools, Churches,
Lodges, Public Buildings.**

We can supply Wolverine Systems for schools, churches and public buildings. Installation depends on construction of building. Our Engineering Department furnishes plans and recommendations without charge to those interested.

FREE Catalog and descriptive matter. Very instructive, profusely illustrated, sent free on request. Fill out the coupon NOW, while you think about it.

DAIL STEEL PRODUCTS CO.,
Lansing Mich.
Gentlemen:—I am interested in your Wolverine Chemical Closet. Please send me your catalogue, price list and descriptive matter free of charge.

Name.....
Town.....
R. F. D..... State.....

DAIL STEEL PRODUCTS CO., Box 17, LANSING, MICHIGAN.

ed graver than usual when he stood by her chair.

"I don't wish to pain you, but I surmise that Colonel Barrington is scarcely well enough to be consulted about anything of importance just now," he said.

Miss Barrington made a little gesture of assent. "We usually pay him the compliment, but I am almost afraid he will never make a decision of moment again."

"Then," said Winston slowly, "you stand in his place, and I fancy you know why I have come back to Silverdale. Will you listen for a very few minutes while I tell you about my parents and what my upbringing has been? I must return to Winnipeg, for a time at least, tomorrow."

Miss Barrington signed her willingness, and the man spoke rapidly with a faint trace of hoarseness. Then he looked down on her.

"Madam," he said, "I have told you everything, partly from respect for those who only by a grim sacrifice did what they could for me, and that you may realize the difference between myself and the rest at Silverdale. I want to be honest now at least, and I discovered, not without bitterness at the time, that the barriers between our castes are stronger in the old country."

Miss Barrington smiled a little. "Have I ever made you feel it here?" "No," said Winston gravely. "Still, I am going to put your forbearance to a strenuous test. I want your approval. I have a question to ask your niece tonight."

"If I withheld it?" "It would hurt me," said Winston. "Still, I would not be astonished, and I could not blame you."

"But it would make no difference?" "Yes," said Winston gravely, "it would, but it would not cause me to desist. Nothing would do that, if Miss Barrington can overlook the past."

The little white-haired lady smiled at him. "Then," she said, "if it is any comfort to you, you have my good wishes. I do not know what Maud's decision will be, but that is the spirit which would have induced me to listen in times long gone by."

She rose and left him, and it may have been by her arranging that shortly afterwards Winston found Maud Barrington passing through the dimly-lighted hall. He opened the door she moved towards a trifle, and then stood facing her, with it in his hand.

"Will you wait a moment, and then you may pass if you wish," he said. "I had one great inducement for coming here tonight. I wonder if you know what it is?"

The girl stood still and met his gaze, though dim as the light was, the man could see the crimson in her cheeks.

"Yes," she said, very quietly. "Then," said Winston, with a little smile, though the fingers on the door quivered visibly, "I think the audacity you once mentioned must have returned to me, for I am going to make a very great venture."

"It is you I came for," he said. "Still, for you know the wrong I have done, I dare not urge you, and have little to offer. It is you who must give everything, if you can come down from your station and be content with mine."

"One thing," said Maud Barrington, very softly, "is, however, necessary." "That," said Winston, "was yours ever since we spent the night in the snow."

"Then," she said, "what I can give is yours—and it seems you have already taken possession."

It was some little time later when Miss Barrington came in and, after a glance at Winston, kissed her niece. Then she turned to the man. "My brother is asking for you," she said. "Will you come up with me?"

Winston followed her, and hid his astonishment when he found Colonel

Barrington lying in a big chair. His face was haggard and pale, his form seemed to have grown limp and fragile, and the hand he held out trembled.

"Lance," he said, "I am very pleased to have you home again. I hear you have done wonders in the city, but you are, I think, the first of your family who could ever make money. I have, as you will see, not been well lately."

"I am relieved to find you better than I expected, sir," said Winston. "Still, I fancy you are forgetting what I told you the night I went away."

Barrington nodded, and then made a little impatient gesture. "There was something unpleasant, but my memory seems to be going, and my sister has forgiven you. I know you did a good deal for us at Silverdale, and showed yourself a match for the best of them in the city. That pleases me. By and by, you will take hold here after me."

Winston glanced at Miss Barrington who smiled somewhat sadly.

"I am glad you mentioned that sir, because I purpose staying at Silverdale now," he said. "It leads up to what I have to ask you."

Barrington's perceptions seemed to grow clearer, and he asked a few pertinent questions before he nodded approval.

"Yes," he said, "she is a good girl—a very good girl, and it would be a suitable match. I should like somebody to send for her."

Maud Barrington came in softly with a little glow in her eyes and a flush on her face, and Barrington smiled at her.

"My dear, I am very pleased, and wish you every happiness," he said. "Once I would scarcely have trusted you to Lance, but he will forgive me, and has shown me that I was wrong. You and he will make Silverdale famous, and it is comforting to know, now my rest is very near, that you have chosen a man of your own station to follow me. With all our faults and blunders, blood is bound to tell."

Winston saw that Miss Barrington's eyes were a trifle misty, and he felt his face grow hot, but the girl's fingers touched his arm, and he followed, when, while her aunt signed approbation, she led him away. Then when they stood outside she laid her hands upon his face and drew it down to her.

"You will forget it, dear, and he is still wrong. If you had been Lance Courthorne I should never have done this," she said.

"No," said the man gravely, "I think there are many ways in which he is right, but you can be content with Winston the prairie farmer?"

Maud Barrington drew him closer to her with a little smile in her eyes. "Yes," she said simply. "There never was a Courthorne who could stand beside him."

THE END.

THANK YOU!

We desire to take this opportunity to thank the many readers of "Winston of the Prairie," who have expressed their appreciation of the story. It has been a surprise to learn how many were reading it, and satisfying to know that every reader is praising it as the kind the family paper should bring into the home. During the winter a long list of stories have been examined that we might select one to maintain the high standard set by the serial just completed. We are confident that in "The Red Mist," by Randall Parrish, the story selected to follow "Winston," we have one that will sustain the interest of all who delight in a clean, uplifting story with plenty of action and a hero and heroine of the type that wins the admiration. The new story begins in the issue of April 24. Readers will find the weekly installments a happy diversion during the hot summer days.

Big Ben

Made in La Salle and Peru, Ill., by Westclox



—there's Big Ben

What if some important job calls for a get-up long before sunrise?

What if the household must be astir for a prompt breakfast right on the scratch?

—there's Big Ben.

Big Ben will get you up and out either way you tell him—with a straight five minute call or ten successive taps at half-minute intervals.

His pay for service is \$2.50 in the States—\$3.00 in Canada. If your jeweler hasn't him, a money order addressed to his makers, Westclox, La Salle, Illinois, will put him in your employ.



Let It Stand Between Your Motor and Deterioration

Hundreds of thousands of motorists in the Middle West alone—all won to POLARINE in the last seven years—know the protection, the efficiency and the pleasure resulting from this scientifically perfect lubricating oil.

Do YOU know this oil?

—an oil sufficiently fluid to lubricate and completely cover the remotest friction surface.

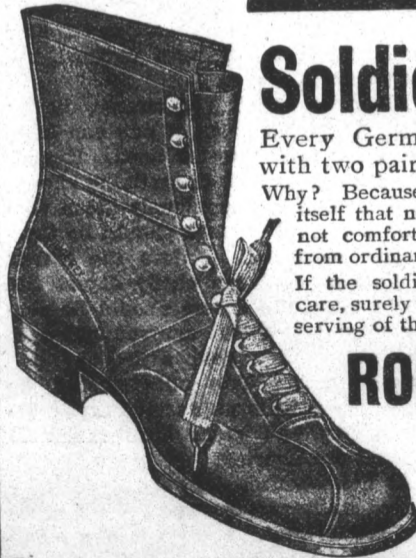
—an oil of maximum durability and correct lubricating body at any motor speed or temperature.

—an oil that pays back its cost, not only by saving repairs but by maintaining a high re-sale value for your car.

Why experiment?—when the greatest of all specialists in matters of lubrication have experimented for you. Use Polarine.

STANDARD OIL COMPANY (AN INDIANA CORPORATION) Chicago, Ill.

Use RED CROWN Gasoline. It means More Power, More Speed, More Miles per Gallon (318)



Soldiers Well Shod

Every German soldier is constantly equipped with two pairs of shoes.

Why? Because the German government has satisfied itself that no man can be an efficient fighter if he is not comfortably shod, and his feet thereby protected from ordinary injury and the elements.

If the soldier in his work of destruction needs this care, surely the man whose work is constructive is deserving of the same protection.

ROUGE REX SHOES

are made to be just the kind of protection to the laboring man that he needs to make him the most efficient at his work.

No. 446 here illustrated is of brown stock, made as nearly waterproof as

leather can be made. Top is 8 inches high, and the soles are of chrome tannage of excellent quality.

Write for name of nearest dealer and descriptive book.

HIRTH-KRAUSE COMPANY

Hide to Shoe Tanners and Shoe Manufacturers
Grand Rapids



Woman and Her Needs

At Home and Elsewhere

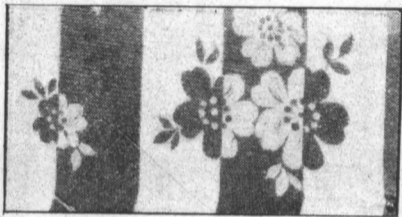
First Aids to Success.

It is said that the Chinese in archery have one rule which reads thus:

"When the archer misses the center of the target, he turns around and seeks for the cause of the failure in himself."

The rule is an excellent one for producing superior archers, for in a large percentage of instances the patient seeker after the fault finds it in some shortcoming of his own.

In the affairs of life the same rule would produce excellent results if we could be induced to try it. In 99 cases



Pussy Willow Taffeta.

out of 100, failure can be directly traced to a fault in the person who rides his luck.

The trouble with most of us is that we are unwilling to admit we are not always doing our best. We blame our misfortunes on everyone but the right person, not even neglecting nature herself. How often we excuse our bad tempers, our lies, our petty pilferings, by saying, "I can't help it. It is my nature." As a matter of fact, we never try to help it. We accept our inward nature just as it was given us, and neglect entirely to make it over.

The bad tempered person is especially prone to excuse himself on the score of nature. "I know I have a beastly temper," is the excuse, "but I just can't help it. It is my nature, my grandfather and my father had the meanest tempers," etc., etc.

If the same person had a physical defect, however, would she be so willing to remain as nature made her? If she had poor teeth, or crossed eyes, or a hare lip would she not spend every cent she could save in an effort to have physicians and surgeons remedy her personal blemishes and make her beautiful? She corrects nature in her garden, pulls up weeds, prunes trees and cuts back shrubs in an attempt to make nature over. But in her own inner life it takes too much will and perseverance to correct unlovely traits. It is easier to fly into a passion and say an unkind thing than it is to keep still and control one's evil nature. But it would be exactly as sensible to refuse to pull weeds in the garden because nature put them there as it is to refuse to correct one's in-born unlovely tendencies because we "were made that way."

In the business world it is the man who looks for the faults in himself who makes a success. The man who fails is the one who blames his boss, the fellow at his side; or, on the farm, who blames the weather, poor seed, bad drainage, early frosts and spring freshets. Every failure, if honestly studied, could be the foundation for future success. If instead of saying the weather was to blame the farmer should say, "I made a mistake in planting too early," or, "I planted the wrong crop for this climate," and act upon his dearly bought knowledge his next season might be a success.

As a matter of fact, we are all too prone to blame God or the devil for

our failures. "God needn't have made me so," and, "the devil tempted me," have been stumbling blocks in the way of progress for centuries. We hold within ourselves the power to choose what we shall do, and the will to do what we choose. It is only the weakling who blames his failures on forces outside of himself. DEBORAH.

MICHIGAN'S HAPPY BABIES. No. 14.

WITH spring and summer coming on the mother of the bottle-fed baby is bound to be worried more or less by disturbances in the baby's digestion caused by changes in the milk. Just as the nursing infant is affected by any change in the character of the mother's milk, so the bottle-fed infant is bound to be affected by a change in the cow's milk. And some change is sure to come with a change in the character of the food, as the change from the dry food of the winter to the grass of summer.

The milk fed from cows which are stabled and fed clover hay with a moderate amount of bran or middlings is better for the baby than that from cows that are allowed to roam through pastures and woods, eating everything they desire. Large amounts of green food almost always show in the infant in colic and a disturbed condition of the bowels. It would be better, if possible, to keep one cow stabled for the benefit of the baby, especially if there is any tendency to digestive troubles.



Bordered Cape Meteor.

In no case should the animal be fed waste products from a distillery or brewery.

In feeding the infant the old saying, "The best is none too good," does not always hold true. We are accustomed to regard Jersey milk and that from thoroughbred animals as being the best, but experience has shown that such milk is usually the worst for infants. The milk from sturdy animals, as Holsteins or common grade cattle, is better, as these animals are not so easily upset by changes in food and temperature.

All milk should, of course, be as fresh as possible, but if one can have ice, older milk may be used. It goes without saying that the milking should be done under scrupulously clean conditions and all utensils should be thoroughly sterilized. Unless the infant is vigorous and can easily digest the whole milk, the cream should be separated and just that amount added to skim-milk which your own baby can digest easily. The milk should be cooled as quickly as possible after being drawn and great care taken to prevent its souring.

As hot weather draws on the baby is frequently restless and cries a great deal from thirst. Many mothers make the mistake of giving it milk to drink at this time, forgetting that milk is a food as well as a drink. It would be as sensible for the mother to eat a slice of bread and butter or a hot potato when she is thirsty. Milk is the baby's food, and should never be given to relieve its thirst. Give it water in-

stead, all it desires. There is no harm done by giving plenty of cool water, but of course it must never be given very cold water or ice water. It is well to reduce the amount of food given during the hot weather, instead of to increase it. DEBORAH.

FRESH AIR NECESSARY.

BY L. H. COBB.

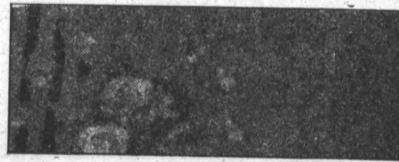
Fresh air! Do we realize its importance? The winter season brings closed doors and oxygen consuming lamps. Are we taking these things into consideration?

Were it not for the great difference between the inside and the outside temperatures in winter, and the natural rush of cold air in, and heated air out, when the slightest opportunity offers, our carelessness in this matter would have much more serious results than now attends, and yet the results are often serious enough.

In many loosely constructed houses there are cracks enough around the doors and windows to supply plenty of ventilation, for in winter the exchange of air is rapid, but in the sleeping rooms there is seldom enough ventilation unless some special arrangement is made. The opening and shutting of doors during the day in other rooms tend to increase the ventilation also, but the bedroom is seldom entered from the outside. It must be ventilated directly or it is not ventilated at all.

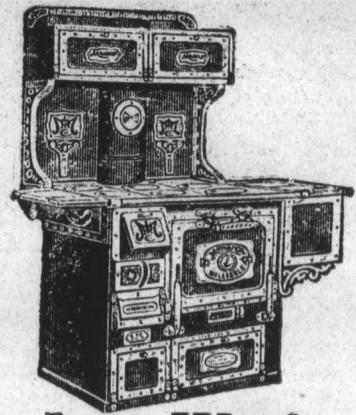
One should never sleep in a close room with no preparation for ventilation. Open a window at least. If there is danger of draft fasten a coarse cloth over the opening. A very good plan is to have two frames made and covered with muslin, one for below the sash and one for above it. Lower the upper sash and raise the lower, putting the frames in place, and you will have a perfect circulation. Do not fear its getting too cold, for the muslin frame is not colder under ordinary circumstances than the glass. Glass is almost a perfect conductor of heat, and your frames will not cool the air more rapidly than the glass would, unless there is a very heavy wind blowing, and I am not certain it would even then.

It is unwise to heat a room with one of the oil stoves that burn with a wick and have no pipe leading outside. One of these heaters will consume more oxygen and release more carbonic gas than a crowd of people. I have seen one of these stoves in a close room on a very cold day consume the oxygen until the flame was



A New Silk.

reduced to a mere rim above the wick. The air was so foul it was suffocating the flame. When a door was opened the flame would brighten immediately, and it was found that the room could be kept much warmer by admitting some outside air all the time. I have been in rooms where my head would begin to throb in a little while, and I have slept in rooms where I would arise in the morning with a dull heavy headache, and feel an overmastering desire to get into the fresh air. How my lungs would rejoice and my head cease to ache and new life would seem to come into me. Nature fights these



Less Work Less Fuel, Better Cooking

Banish kitchen drudgery. Do your work in half the time with half the effort. Give your cooking skill the best opportunity to prove itself. The

Monarch Malleable Range

is the housewife's best helper. In construction, workmanship and design, it is years ahead of all other ranges. The Monarch is made of malleable iron and steel. It has complete triple walls— asbestos and steel. The top and oven heat quickly, saving fuel. Every seam is riveted tight—no bolts or stove putty to loosen and fall out. The Duplex Draft and Hot Blast Fire Box insure even heat and full use of all the fuel. The polished top never needs blacking.

Many more Monarch advantages are fully explained in our two free books. Mail us postal now! Address

Malleable Iron Range Co.,
741 Lake Street, Beaver Dam, Wis.

FREE Write for Kresge's Kata- log of the World's Best 5 & 10c Bargains

CONTAINING OVER 3,000 BARGAINS



10c For This New Spring Style Boudoir CAP

AX45. This beautiful New Spring Style Boudoir Cap is made of fine quality soft finish fancy figured lawn in light colors. Made full head size with wide turn back, trimmed with scalloped edge heavily embroidered. Adjustable elastic band in the back. This is a special value and a new design for Spring and Summer wear. Send us your order today for one of these charming Boudoir Caps. You are certain to be more than pleased with this bargain. Our special price only 10c, postage to extra—11c in all.

Be sure to write today for FREE copy of Kresge's Catalog containing over 3,000 bargains in useful and practical 5 and 10c merchandise. We guarantee to please you or return your money. All orders shipped promptly.

Our References: Any Bank in the World and millions of customers
Address: Office Box A-8
Parcel Post 5 & 10c Stores
S. S. KRESGE COMPANY
1100-1108 Wabash Ave., Chicago

Try This Washer FREE

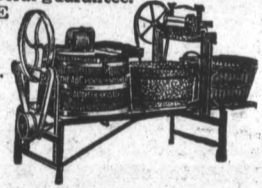
in your home for 14 Days and prove that it is the best investment you can make. Saves money, labor and health.

A. B. C. Power Washer

Excels in many ways—Sliding Power Wringer, All Steel Frame, Adjustable Height Platform, Gas, gasoline or electric power. Eight models. Low prices. Liberal guarantee.

Ask for FREE Book "Washing Secrets," name of nearest dealer & Free Trial Offer.

ALTORFER BROS. CO.
Roanoke-Peoria, Ill.
Dept. AF4



Watchmaking, Jewelry, Engraving and Optics

Say, Boys! Have you made up your mind what you are going to be? Shall it be a trade, a profession, or something in the mercantile line? How would you like to become a Watchmaker and also take up Jewelry work and Engraving? It is a nice clean business and a trade that pays good salaries. Address HOROLOGICAL DEPARTMENT, Bradley Polytechnic Institute, Peoria, Ill., asking for full particulars and catalogue.

DO YOU NEED FARM HELP? We always have able, experienced and inexperienced, who want farm work. Our object is to encourage farming among Jews; no charges to employer or employee. If you need good, steady, sober men, write to Jewish Agricultural Society, 714 W. 12th Street, Chicago, Illinois.

Home Canners—All sizes. Used by U. S. Government Schools, Girls Clubs, Collaborators and Farmers everywhere. For Catalog and Special Offer, write, Royal Home Canner Co., Dept. R. Albion, Ill.

Just Say—Saw your ad. in the Michigan Farmer when writing advertisers.



HOME MADE ACETYLENE brings greatest of city conveniences to the country

The Chicago Gas Company has over 500,000 customers. Other big city gas companies have proportionately as many. These millions of city people wouldn't know how to get along without gas. They long ago found it so superior to oil and coal that they hardly know what these things look like.

City folks used to have this great convenience to themselves. But today Home-Made Acetylene is even a greater boon to country homes than city gas is to city homes.

Acetylene is ten times richer than city gas—the light is white, more brilliant, and far more beautiful. Acetylene is also like city gas, a perfect cooking fuel. With an acetylene range in her kitchen the country housewife can enjoy cooking in cool comfort, without any of the drudgery of handling kindling, coal or ashes.

The light fixtures are, too, handsome brass or bronze—selected from a catalog of many styles.

The men folks on the place can have big white lights of their own in barns and out-buildings—and have all fixed to light with the pull of a chain—without matches.

A quarter of a million farmers now make this light and fuel right at home. Each one fills his acetylene generator once a month with the acetylene producing stone, Union Carbide. The generator does the rest. The new models are inexpensive and are wonderful improvements over the early types.

We will be glad to answer questions and mail out very interesting advertising literature. Write to

UNION CARBIDE SALES CO. Dept., F
42nd Street Building, NEW YORK, or
Peoples Gas Building, CHICAGO ILL.



WAR ON HIGH PRICES

Get Your Stove at Wholesale—Direct from the Great Kalamazoo Factory—Save about ONE-HALF

DON'T pay double prices when you can buy direct from the makers, freight prepaid, and get a real quality stove for less than the cheapest kind are ordinarily sold. Don't pay two prices just because you may want credit. Write us and get the better time terms, still at factory prices.

Arm Yourself with the Big Kalamazoo Stove Book. It has saved millions and millions of dollars for stove buyers. 250,000 customers—some near you—write for names. All have saved \$5.00, \$10.00, \$20.00 or \$30.00 each according to stove or range purchased.

Write for This Book Now and the long list of reduced prices on the finest stoves and ranges made. Ask for Catalog No. 113

Kalamazoo Stove Co. MANUFACTURERS
Kalamazoo, Mich.

A Kalamazoo Direct to You

Official Denial

No War Tax on Homestead Land in Canada.

The report that a war tax is to be placed on Homestead lands in Western Canada having been given considerable circulation in the States, this is to advise all enquirers that no such tax has been placed, and there is no intention to place a war tax of any nature on such lands.

(Signed) W. D. SCOTT,
Ottawa, Can., Mar. 15, 1915. Supt. of Immigration

evils valiantly and we escape the penalties we think, but sooner or later we must pay the price of our carelessness.

New Sleeves and Skirts.

A FEATURE of the new spring dresses are the double skirts. These started some months ago as tunics, and grew longer with the passing days until now they reach the bottom of the underskirts in points back and front, and are shorter only at the sides. Or perhaps it is long side points, with the shorter length front and back. These double skirts are seen in nearly all the dressy gowns, over a cloth or silk underskirt. Many of the top skirts measure three and four yards around, especially if of the veiling material, but the underskirt measures only two or two and a half yards

In the separate cloth skirts and in suit skirts pleated models are favorites. They give the extra fullness at the ankles and are sufficiently like the tight skirts of last season to endear them to most women. The circular skirts are too great a change for many.

Almost any material you choose will be good for your gown, crepe de chine, taffeta, organdy, voile, plain or embroidered, lawn or linen. It is hinted, however, that linens may be rather expensive as the war will make them difficult to get.

The newest sleeve is long, short sleeves being seen most on lingerie waists. Bell shaped sleeves and the old mutton leg are promised. Most of the sleeves have a flare at the wrist, either in the cut of the sleeve itself or a flare cuff.

Children's dresses follow the grown-ups in fuller skirts and overdresses for the party frock. There are many with high waist lines, too, though the low belt is still good. The materials are the same, lawns, organdies and crepes for the best dress, and gingham, percales, chambrays and linens for everyday wear. Dutch necks and round necks are both good.

Children's coats show the flare effect, also. Belts are much used, some at the normal waistline, but many at the low waist line. Serge, gabardine and black and white checks are favorite materials for the small folks' coats.

DEBORAH.

HOME QUERIES.

Mrs. B. M.—I have not been able to find the crochet pattern you ask for in our files. Will furnish one, however, in a later issue.

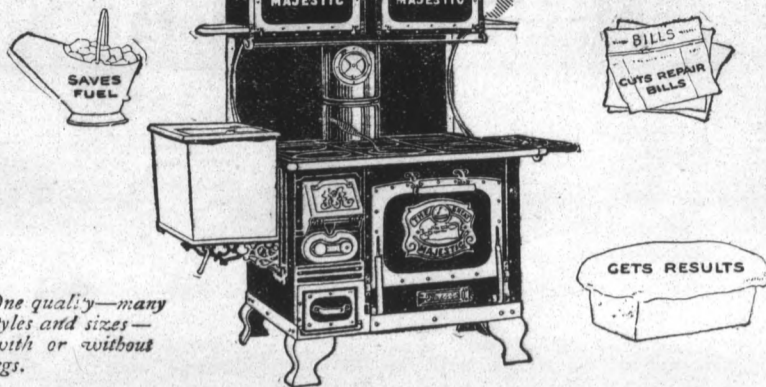
Mrs. C. V. H.—We will furnish the crochet pattern in a later issue.

M. L. W., Sanilac County.—We can not publish the names of business firms in this column, so all requests for addresses must be accompanied by your name and address and a stamp for reply. However, if you write to any of the big publishing houses in Chicago or New York they can undoubtedly give you the address of a firm where you can buy the book.

Mrs. M. B.—This is the best and easiest recipe for orange marmalade I know. One large orange, one large grapefruit, one large lemon. Cut the grapefruit in half and remove seeds and tough fibre which separates sections. Then cut everything else into fine pieces. Cut the lemon and orange also into small pieces, discarding nothing but the seeds. Measure the fruit and add three times as much water. Let stand all night, boil ten minutes, let stand another day, add sugar, cup for cup, and boil until it jellies. This usually takes about three-quarters of an hour.

Household Editor.—We would like to know the recipe for old-fashioned carpet rag dyes for the colors yellow, blue and green, and others if you have them.—Mrs. J. S.

Great Majestic



One quality—many styles and sizes—with or without legs.

The economy of the best range

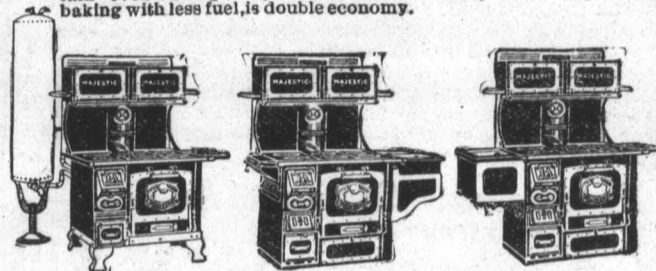
Every bread-baking that fails; every cake that falls, adds to the excessive cost of a cheap range. The range that will produce the best results is the most economical.

The Majestic gets sure baking results because the heating is distributed evenly over all parts of the oven, and is reflected onto the baking by the asbestos lining, thus baking evenly, without turning. Sure baking means economy of both food and fuel.

The heat cannot escape because the oven is hammer riveted and requires no putty. Heat being retained, less fuel is needed to maintain even baking temperature. Better baking with less fuel, is double economy.

The Majestic is made of malleable iron for strength and charcoal iron for rust-resisting—a combination that cuts repair bills and substitutes long service. Preparing better food, with less waste, and less fuel and fewer repairs, over a long period of years, is triple economy, that makes the little extra you pay for Majestic quality and service return big dividends.

The Majestic has many improvements that lighten the labor of cooking and add to its certainties. These are illustrated in "Range Comparison", a little book that will post you fully about ranges. Send for free copy today.



There is a Majestic dealer in every County in forty-two States. If you don't know him, write us for his name.

MAJESTIC Manufacturing Co.
Dept. 21
St. Louis, Mo.



"OUR DAINTY MAID"

If every woman was as careful with her baking as we are in milling

NEW CENTURY FLOUR

There would be no complaints about poor bread. There couldn't be. Whether you are having trouble or not, we urge you to try a sack and if not satisfactory will refund your money.

Isn't that worth a trial, when it costs no more than ordinary flours.

NOT BLEACHED.

Insist on the sack with "Our Dainty Maid" Most Grocers Sell It.

General Sales Agents:

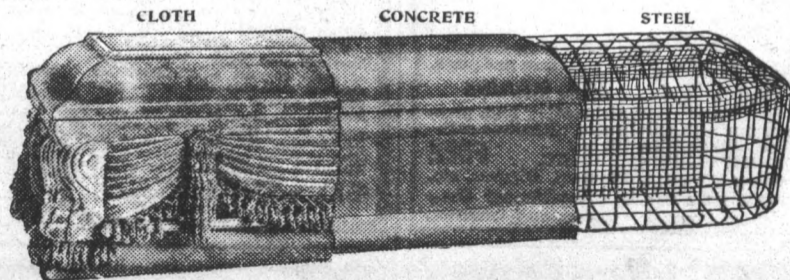
New Century Co., Detroit
With Branches at

BAY CITY GRAND RAPIDS
SAGINAW PORT HURON

THE LAST WORD IN REFINED INTERMENT

"IMPERISHO" Caskets

MOLDED OF RE-INFORCED CONCRETE BY A PATENTED PROCESS. IMPERISHABLE, PERFECT SECURITY FROM ALL INTRUSION. HERMETICALLY SEALED. THE ONLY BURIAL CASE THAT WILL ENDURE THROUGHOUT THE AGES.



It serves the combined purpose of casket and vault.

INCOMPARABLY SUPERIOR TO ALL OTHER CASKETS. BEAUTIFULLY FINISHED IN MANY ARTISTIC DESIGNS, MODERATELY PRICED. ASK TO SEE THE "IMPERISHO" CASKET. IT LASTS FOREVER.

MANUFACTURED BY THE
CEMENT CASKET MANUFACTURING CO.,
ALBION, - MICHIGAN.

When Writing to advertisers please mention The Michigan Farmer.

International Harvester Manure Spreaders



IT is an interesting sight to see a manure spreader spread an even coat of manure on a strip of ground nine feet wide. When you buy any International Harvester spreader, you can now get a wide spreading attachment that will do this regularly for you.

You can adjust this strong, simple attachment to spread any width from the width of the wheels up to nine feet. Then run your feed gear in "high" notch and you will have unloaded in half the time, going half as far. Yet you will cover the same amount of ground as in the ordinary way.

Another point is that when you are coming back spreading a second strip, you can run your rear wheel a foot or more off the covered ground and still leave no space unspread between. You need not run your rear wheel on the manure.

Probably you are familiar with some of the strong points of construction and operation that have placed International Harvester spreaders on so many American farms. Call at the IHC dealer's and see one of them demonstrated—or write the nearest branch house for catalogue and information.

International Harvester Company of America

(Incorporated)

CHICAGO

USA

Champion Deering McCormick Milwaukee Osborne Plano



Buy This **MIXER** For \$49.50 Only \$49.00



The Van Duzen mixer saves enough material to pay for itself. Makes a quicker, better mix than back-breaking labor with a hoe.

A Mix a Minute

Hand or engine power. Mounted on skids or trucks easily moved about. Machine-mixed concrete lasts forever. **FREE** Booklet on "What To Use and How To Mix and Lay Concrete." Write today.

THE VAN DUZEN-ROYES CO., 403 Hartman Bldg., Columbus, Ohio.

Inoculate Clover, Alfalfa

Peas, Beans, Vetch and All Other Legumes. Get a "catch"—bigger yield—greater feeding value—richer soil. Treat your seed with

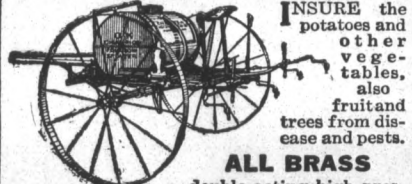
NITRAGIN



A granular medium, packed in ventilated cans. Vitality and virulence of germs guaranteed for 6 months. Avoid imitations. Get the original. Look for the Armour Oval Label on can. See your seed dealer or write for free booklet.

ARMOUR FERTILIZER WORKS, Dept. 114
Chicago, Ill. Baltimore, Md. Atlanta, Ga.
Greensboro, N.C. Jacksonville, Fla. Nashville, Tenn.

O. K. Champion Sprayer



INSURE the potatoes and other vegetables, also fruit and trees from disease and pests.

ALL BRASS

double acting high pressure pump with relief valve. Absolute satisfaction. Write today for our **FREE** DESCRIPTIVE LITERATURE, ETC. Describing Sprayers, Planters, Diggers, etc. **Champion Potato Machinery Co.,** 145 Chicago Avenue, Hammond, Indiana.

"More Potatoes"



From ground planted secured by use of The **KEYSTONE POTATO PLANTER** than by any other method of planting. Work perfectly accurate. A simple, strong, durable machine. Write for **CATALOG**, price, etc. **A. J. PLATT, MFR.,** BOX J STERLING, ILL.

Mention the Michigan Farmer when writing to advertisers.

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

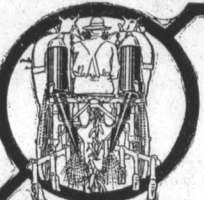
BLIZZARD Ensilage Cutters

What Users Say

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 Jos. Diek Mfg. Co. Box 24 Canton, O.

BLIZZARD Ensilage Cutters



Raise Larger Crops

by fertilizing while cultivating with the

KRAUS

Pivot-Cultivator equipped with the

Akron Fertilizer Distributor

The Akron Fertilizer Distributor is a new and exclusive feature of the KRAUS. Its use hastens the sturdy growth of plants, offsets bad weather conditions and will often mature a crop that would otherwise fail.

The KRAUS is controlled entirely by foot levers; it works so easily that a boy can run it all day without getting tired. Width of cultivation controlled by lever; high or low wheels; enclosed end grease cups. Wheels and shovels move sidewise simultaneously, making it a

Perfect Hillside Worker

Simple in construction, least number of parts, greatest adjustability. All steel and malleable iron except pole piece, singletrees and neck yoke—the strongest and most durable cultivator made. It will last longer and cost less for repairs or per acre of cultivation than any other. Ask your dealer for the KRAUS—accept nothing said to be "just as good." Write us today for catalog. **The AKRON CULTIVATOR CO.,** Dept. 65 Akron, Ohio



Farm Commerce.

Essentials of Agricultural Co-operation.

By A. J. BENTALL.

THE local conditions will almost entirely determine the essential details of co-operation as applied to any one community. For instance, a man came into our country (western Michigan) and his talk was all "take the stems off the cherries." Now, we couldn't agree because our market demands cherries with the stems on, while the market which this man's district supplied demanded cherries without the stems. He has to take his cherries off the stems, while we have to clip ours off the trees if they are to find ready sale at first market prices. Among the most essential details of co-operation in agricultural matters, we have:

A Leader with Power to Do.

1. There must be sufficient leadership. We have had experience with this matter and know that there must be a goodly amount of authority vested in a leader of the enterprise. Many of our co-operative associations had a fine outlook but the members were not willing to vest enough power in the leader to give him a chance to do good work. There is a dearth of men who have had the business training and have the natural ability to lead such a movement. If the leader does not know that the directors are behind him, he is not always just certain what to do with a particular product. In order that sales may be made advantageously and that supplies may be bought when the time is ripe, the manager and leader should have power behind him.

Keep Members Acquainted with what is Being Done.

2. Suspicious movements should be avoided. We farmers are very suspicious of any such undertaking and all the movements and projects of the association should be made public to the members and there should be nothing about the organization which is not readily accessible to all the members. They should be able to find out the prices which dealers have to pay for the association's product and also the price which the association has to pay for crates, barrels, supplies, etc. As Mr. Sheldon, of Litchfield, has said before, I believe the matter of publicity is an important one in stimulating interest in any co-operative undertaking and I do not doubt but that the success of the Litchfield movement has been due in part, at least, to the publicity which has been adopted by the management.

Have Books Audited.

3. We have just gone into a large organization of the whole of the Grand Traverse region and after some investigation, we believe that we have a good arrangement under the law. We have a board of eight auditors who audit the bills and accounts and in addition the books are audited once a year by an expert accountant. None of the eight auditors can be directors of the association. This gives the members more confidence in the integrity of the movement.

The Iron-clad Contract.

4. The members should be closely bound together by a contract. Two years ago Mr. Bassett and myself appeared on this program and at that time I was not in favor of an organization in which the members were closely bound together by a contract and thought a loose organization would be more flexible and better all the way around. He held that there should be an iron clad contract and each member positively agrees to sell all his surplus products through the

association. This gives the management something to base their contracts on and if they do not have any idea of the amount of produce that is to be marketed through the association, it is often embarrassing.

Now, after two years more of experience with agricultural co-operation I have come fully to Mr. Bassett's view and I believe that for the good of all concerned in the work, the members should be bound by a strong contract to sell their products through the association. While I was at Northport I was in close touch with all the members of the association and it did not seem necessary to have an iron-clad contract, but since I have moved away from there, I have come to the conclusion that this is safer.

A Real Co-operative Society.

5. Organize something that is really co-operative. In England co-operation is the very life of the country. I was back there a short time ago and I found that all the old shop keepers who had kept shop when I lived there in my boyhood had been crowded out. The so-called co-operative stores had taken their places. In England there are some co-operative associations built on something the same plan as our American associations, but the term "Co-operative Store" is there applied to such as the chain stores of this country. They are not truly co-operative in the sense in which we speak of such movements in this country, and so I say we should organize something that is really co-operative. Not only is it necessary to co-operate that the growers of the product are benefited but there should also be co-operation as is intended to benefit the consumer as well.

Limiting Membership of Local Societies.

6. Do not attempt to form too large a membership. We should be careful also to form a unit, such that it may be able to go in with other like units and form a large association, as has been done in the California Fruit Exchange. Where there are a lot of small organizations in the district, necessarily there is more or less competition between them for sales and, of course, this cuts down the efficiency of the organization as the competition costs. If the work can all be handled from the central house, it gives the growers a chance to so direct the marketing that no market will be glutted at once. This effects more even distribution of the products and insures more even prices.

How Much Shall the Shares Be?

7. We must not be too anxious to get something for nothing. We farmers are in the habit of wanting to get something for nothing and usually get just what we pay for. When an organization is formed, there is usually some protest against the shares at \$100 each for it seems a lot of money, but if it is not worth this much to a man, it is sure that he would not make a very desirable member. At first we had some experience with smaller shares, but I have come to the conclusion after some experience, that a \$100 share is about the right size. I have noticed that those stockholders who hold the larger shares are the most interested in the work and make the best members.

8. "Personal liberty" must be foregone. There has been some discussion as to how these contracts take away the member's personal liberty. They do to a certain extent, but the altruistic movement should be culti-

Any girl can now drive the Ford



Starts from the seat with an easy pull

No more must wife or daughter say, "I'd like to drive the car but I can't crank it." Simply pull a handle on the dash, right beside the steering post. No possibility of back fire. No chance for injury. Turns motor every time.

The Boston Starter makes your Ford worth more. Saves time. Saves work. Costs only \$25. Adds only 12 lbs. to weight of car. No upkeep expense.

Any garage man or mechanic can install it in 2 hours.

Ask your Ford dealer or garage man to show you the

Boston Starter

If he doesn't have one, send us his name and we'll see that you have full description, details and demonstration. Write today to

Automatic Appliance Co. 172 Columbus Avenue, Boston, Mass.

Cut Prices on Lumber

Lumber and building material of all kinds at less than manufacturers' prices. Special. Extraordinary savings now. Lower prices than ever offered before. Send for catalog and all our special offers.

Sacrifice Offers We have 25 million feet of bright dry lumber in the sheds at our mills. Look at these mill prices per 1000 ft. on flooring, siding, sheathing, and dimension:

- 1x4 & 1x6 clear yellow pine flooring \$29.50
- 1x4 & 1x6 No. 1 select yellow pine flooring 15.00
- 1x4 No. 2 common yellow pine flooring 12.50
- 1x6 No. 2 common yellow pine flooring 21.00
- 1x6 clear yellow pine barn siding and drop siding 18.00
- 1x6 No. 1 select yellow pine barn siding and drop siding 15.00
- 1x8 & 1x10 No. 1 select yellow pine shiplap 18.00
- 1x8 & 1x10 No. 2 common yellow pine shiplap 15.00
- 1x8 & 1x10 No. 2 common yellow pine sheathing 13.00
- 2x4 - 14 & 16 ft. No. 1 dimension 14.00
- 2x8 - 12, 14 & 16 ft. No. 1 dimension 15.00
- 2x12 - 12, 14 & 16 ft. No. 1 dimension 13.50

Write today so that we can quote prices on everything delivered at your station. Our delivered prices will surprise you. Mill work—doors, windows, frames, mouldings at less than factory prices. Doors from 75c up.

Asphalt roofing, high grade, amazing price cut. Guaranteed rubber roofing, per roll 90c. Superior Wall Board—absolutely the best. Very special discount of 20 per cent for a strictly limited time.

Free Lumber Catalog Send your name and address on a post card and get the most useful lumber catalog ever printed. Also free samples of roofing and wall boards. This is the biggest special cut price offer ever made on lumber and building material. Write quick and get the full benefit. Or send in your bills and get exact prices laid down at your station.

Home Lumber & Supply Co. 343 So. Dearborn St., Dept. 3398, Chicago, Ill.

ZYRO Metal Silos

are made of pure-galvanized-iron, valued for its rust resistance. They are durable, easy to erect and absolutely air-tight. Experience has proven that they

Preserve Silage Perfectly

ZYRO Silos are fire, storm and trouble-proof, with many unique patented features. They are practical, lasting and ornamental. All superior "ZYRO" points are fully explained in our illustrated catalog. Let us send you your FREE copy. Please write today.

The CANTON CULVERT and SILO CO., BOX 20 CANTON, OHIO



WE PAY FREIGHT

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

Make your own Fertilizer at small cost with

Wilson's Phosphate Mills From 1 to 40 H. P. Send for catalogue. WILSON BROS. Sole Mfrs., Easton, Pa.

vated. Anything which serves the community serves every member of that community and we should be anxious to serve the community, laying aside some of our own personal ambitions.

A LABEL THAT IS A SLIENT SALESMAN.

The Michigan fruit law now demands that every package must be labeled with the grade of the fruit, and the name and address of the grower. But the up-to-the-minute farmer will not stop there. He will plan to make the label a positive force in the selling of his fruit.

Mr. M. D. Buskirk, now manager of the Fremont Co-operative Company, has applied this principle in an effective way to his own fruit. Mr. Buskirk grows grapes in a large way and packs with great care.

In order that one basket of grapes may help sell another, he uses a red handle as a distinguishing mark. In addition to the information required by law the cover of the basket bears the slogan, "Ask for the Red Handle." The right to use this trade-mark is protected by registration under the patent law.

Such a label is far more effective than a highly colored but meaningless lithograph. Everyone knows the advertising results secured by slogans. Fruit growers and co-operative associations will do well to earnestly consider the selection of a trade-mark that grips the attention.

Crop and Market Notes.

Michigan.

Berrien Co., March 25.—Wheat and rye are looking well, and clover fields though few in number, are looking fine. Peach buds and fruit buds of all kinds seem safe. Weather and roads are all that could be asked for. The soil is unusually dry for the time of year, and plowing and disking for oats and clover seed is under way. There is no grain or hay to ship, as all will be required for home use. Many sales are being held, with live stock and implements selling rather low. Farm help is very scarce and wages high. Butter 25c; eggs 16c; potatoes 30c.

Branch Co., March 23.—Weather is ideal for spring work. Wheat, rye and grass looking good, though there was not much wheat sown on account of the fly. Live stock is wintering in good condition. Not much stock being fed for market owing to the high price of grain. A few farms changing owners at \$60@100 per acre, according to location and improvements.

Emmet Co., March 23.—Weather is fair but rather cool. Some snow still remains in old drifts, and some frost in the ground. No spring work done yet except pruning, hauling manure, etc. Feed is getting scarce. Eggs 18c; beef and pork \$7@9. There is no snow, but the roads are bad. Not much land changing hands, and not as many auction sales as usual. Farmers are showing considerable interest in an association organized for the handling of farm products. Quite a lot of hay is being shipped, bringing \$10@12 per ton. White beans \$2.75; wheat \$1.39@1.43; oats 53c; rye \$1; beef, live \$4.50@7; hogs, live \$6.25; butter 25c; eggs 16c.

Ohio.

Medina Co., March 24.—Roads are in fair condition for the time of year. Meadows and wheat have withstood continued freezing and thawing fairly well. Spring plowing has commenced. There is considerable live stock on hand. Wheat \$1.50; oats 52c; hay \$14; hogs 7c; eggs 17c

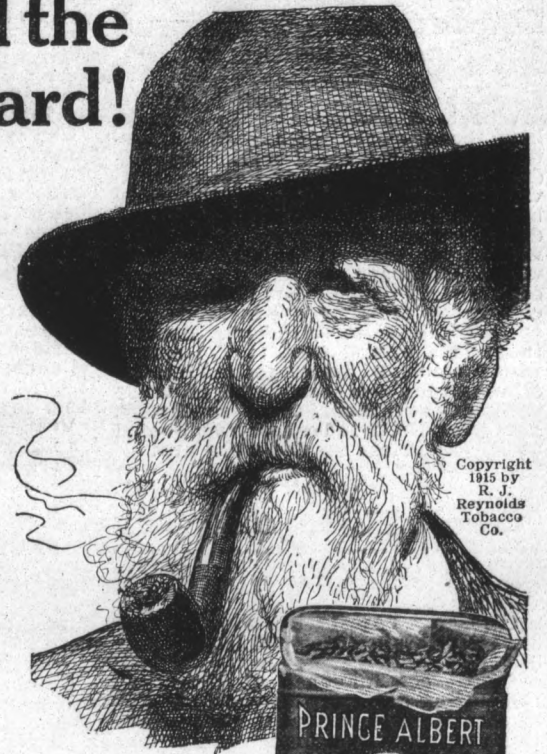
Hardin Co., March 26.—Farmers are making good use of the fine spring weather, and some have finished their plowing. Some oats have been sown. Live stock has wintered very well. There seems to be plenty of rough feed, but corn is scarce. Wheat has been somewhat hurt by the freezing and thawing, but will mak good yet. Hens are laying fairly well. Hay \$12; hogs, live 7c; oats 50c; eggs 15c.

Wisconsin.

Wauwasha Co., March 23.—Snow is thawing slowly, though there are still some deep drifts and roads in rather poor condition. Frosty nights, followed by thaws, are commencing to heave clover and rye. Potatoes remain at 20c, and quite a few are being fed to live stock; rye \$1.10 per bu; eggs 15c; the market for butter seems rather dull, but cheese prospects are brighter than usual.

Old-time jimmy-pipers rally round the P.A. standard!

Col. J. S. Powell of Pensacola, Fla., 95 years old, and nephew of William Henry Harrison, the ninth President of the United States, has just been elected to the "old-time jimmy-pipers" club. Col. Powell has smoked for 85 years, breaking into harness as a ten-year-old. We will be glad to receive pictures of old-time smokers.



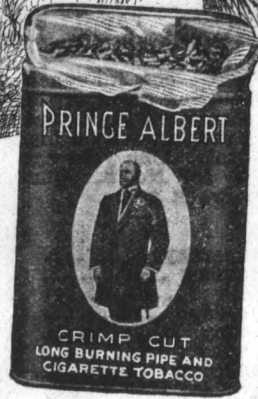
Col. J. S. Powell of Pensacola, Fla.

Copyright 1915 by R. J. Reynolds Tobacco Co.

Now, everybody sit around close:

Any farmer along the friendly road will tell you never to judge the depth of a well from the length of its pump-handle. Just like it's back-shuffling cards to choose your tobacco from the looks of the package!

Pick P. A. for pipe joy and you'll be just as happy as a June bug in an apple tree. For it's mighty widespread news nowadays that Prince Albert is made by a patented process that takes the teeth out of the smoke and leaves your tongue as calm and peaceful as a harvest-moon night. That's jimmy-pipe joy that comes via



PRINCE ALBERT

the national joy smoke

While the spring's young, tune up that old jimmy-pipe and bud-out into a real and true pipe smoker. Sure enough, you'll be in full bloom before the day is done, if you'll smoke P. A. For there's no more teeth in it than in a mocking bird's tune box. And let that drift into your system!

Buy P. A. in tippy red bags, 5c; tidy red tins, 10c; pound and half-pound tin humidors—and that classy crystal-glass pound humidor with the sponge in the top that keeps P. A. so good.

R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, N.C.

"The EVERLASTING TILE"



THE FARMER'S OPPORTUNITY.

The European war has created an enormous demand for American Farm Produce. It is the farmer's opportunity to reap a golden harvest, but first he must increase the earning capacity of his land by developing more acres, draining more ground. This means bigger and better crops—Higher Prices! Our vitrified salt glazed drain tile, in sizes ranging from 3 to 24 inches is the standard of the world. It is the farmer's guarantee of fertile acres and maximum harvest. Made in Michigan by Michigan men.

Without obligation write today for free literature and our suggestions on drainage helps.

AMERICAN SEWER PIPE CO., 200 St. James Ave. JACKSON, MICH.

"ONCE LAID ALWAYS WORKING"

DON'T BUY until you get our factory guaranteed heavy galvanized, open hearth Bessemer steel wire fence, 28-inch hog fence, 14c per rod, 41-inch farm fence 21c per rod, 45-inch poultry fence 23c per rod. NOTE: All wires are galvanized before woven. Write for free catalog.

THE TIGER FENCE COMPANY, Box 85, Waukegan, Wis.

Michigan White Cedar FENCE POSTS

GEORGE M. CHANDLER, Onaway, Mich.

LEARN TELEGRAPHY Young men wanted for Railway Telegraph Service. We teach them and so cure for them GOOD PAYING SITUATIONS. Address: Oberlin Telegraph School, Oberlin, Ohio

"Can't-Sag" Gates Cost Less Last 5 Times as Long

I'll save you big money on your farm gates. My new catalog quotes such astonishingly low prices on CAN'T-SAG GATES and GATE STEELS that you simply can't afford to build another clumsy, all wood gate. My FREIGHT PAID PRICES are half what others charge for short-lived steel, wire and gas pipe gates.

30 Days' Free Trial—5 Year Guarantee

I give 30 days free trial and a signed 5-year guarantee. Send for my big free Gate Catalog at once—see why Can't-Sag Gates outsell and outlast all others. Read what other farmers and stockmen say about them. When you get this book you can either select complete CAN'T-SAG GATES, ready to hang, any height, any length—painted or unpainted or if you prefer you can order just the GATE STEELS which includes everything but the boards. With these you can build your own Gates in 30 minutes and SAVE BIG MONEY.



Note These Special Features Each board double bolted between 4 pairs of ANGLE STEEL uprights and 6 TRIANGULAR TRUSS BRACES. Patent reinforced SELF-LOCKING HINGE. Gate swings easily both ways—always hangs square and plumb. Elevating Attachment (furnished at slight additional cost) permits gates to be raised over deep snow or allows small stock to pass under. Write for Free Catalog and FREIGHT PREPAID OFFER, A. V. Rowe, Free, ROWE MFG. CO. 4406 Adams Street, Galesburg, Ill.

When writing to advertisers please mention the Michigan Farmer

JOHNS-MANVILLE SERVICE
COVERS THE CONTINENT

J-M Auto Clock
Jones Speedometer
Carter Carburetor
J-M Lens
Long Horn
J-M (Mezger) Soot-Proof Spark Plug

One Firm One Service
One Guarantee
back of every J-M Automobile Accessory.

JOHNS-MANVILLE SHOCK ABSORBER

\$15
PER PAIR

Built Right and Priced Right

Smooths out the ruts and bumps in every road. Does away with the vibrations which shorten the life of every automobile part. A real shock absorber in performance as well as in name. Fits any spring up to 2 1/4" wide. Adjustable to any weight of car. Attachment simple—no special knowledge or special tools required. Supplied with spring perch for attaching to Ford cars.

If your dealer can not supply you, write us direct. Send for Booklets.

J-M Non-Burn Brake Lining

Economy Commends It Safety Demands It

Over half a century's specialization in Asbestos products has taught us how to make good brake lining. And by this we mean brake lining that not only insures safety by proving dependable in every emergency, but also economy because it outlasts ordinary lining. J-M Non-Burn Brake Lining is made from pure, long-fibred Canadian Asbestos, tightly woven and reinforced by strong brass wire. It will not burn on the steepest, longest down-hill grade. It is impervious to water, oil and gasoline. Sold in cartons containing cut pieces of exact size for the brake bands of all popular makes of cars.

H. W. JOHNS-MANVILLE CO.
302 Madison Avenue, New York
47 Branches Service Stations in all Large Cities

Canadian Wheat to Feed the World

The war's fearful devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and there is an unusual demand for Canadian wheat. Canada's invitation to every industrious American is therefore especially attractive. She wants farmers to make money and happy, prosperous homes for themselves while helping her to raise immense wheat crops.

You can get a Homestead of 160 acres FREE and Other lands can be bought at remarkably low prices. Think of the money you can make with wheat at its present high prices, where for some time it is liable to continue. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to the acre. Wonderful crops 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 extra demand for farm labor to replace the many young men who have volunteered for the war. The Government this year is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or

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

160 ACRE FARMS IN WESTERN CANADA FREE

GASOLINE ENGINES

2 H. P.—\$ 45.00
4 H. P.— 75.00
6 H. P.— 100.00
8 H. P.— 140.00

Other sizes at proportionate prices.

Machinery of all kinds for wood, iron and tin working, Belting, Pulleys, Shafting, Hangers, etc. Contractors, Supplies, Builders Material, Rails, Beams, Angles, etc.

RIVERSIDE MACHINERY DEPOT,
24-26 St. Aubin, Detroit, Mich.

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. It is strong, powerful safe, economical—that's why the

Light Running Silberzahn Ensilage Cutter

has been rightly called "the King of Ensilage Cutters." Has positive safety device, best knife adjustment, strongest built frame and other valuable features not found in others. Sold under positive guarantee. Write for catalog and proof of "Silberzahn" Superiority.

GEHL BROS. MFG. CO.
1544 S. Water Street
WEST BEND, WISCONSIN

Practical Science.

THE LASTING QUALITIES OF FENCE WIRE.

BY FLOYD W. ROBISON.

A problem of far reaching importance to farmers is involved in the substitution of modern fence wire for the now obsolete materials in fence building. The introduction of steel wire into fences has introduced a problem which has been of considerable importance financially to farmers generally throughout the country. Practical experience has demonstrated to the satisfaction probably of every farmer in the state, or perhaps to his dissatisfaction, that there is at the present time absolutely no uniformity in the quality of the wire supplied for fencing purposes. In fact, there seems to be no uniformity in the wire of a single manufacture, and fence wire which is stretched across the field will deteriorate in spots while other spots will apparently resist atmospheric conditions indefinitely.

There has been little inquiry into this subject by any of the various agencies who are interested in matters pertaining to the farm and the farmer. Curiously enough, while manufacturers of metal products have of necessity been compelled to standardize their metals used in other lines of manufacture, there has been apparently little, if any, attempt on their part to study the various problems which cause the corrosion and destruction of wire used for fence purposes. As a consequence they have not been prepared to put a wire upon the market which can be guaranteed for any definite period of time against conditions to which it has been subjected upon the ordinary farm. It seems as though it would be a proper subject for experiment station investigation to exhaustively inquire into the causes which produce corrosion. In our judgment these will be found to lie very closely around the question of composition of the iron itself.

Steel Corrodes Faster than the Older Iron Wires.

It seems to be the consensus of opinion that modern steel wire corrodes much more rapidly than did the old-fashioned iron wire. It is not at once apparent why this should be so, for supposedly, steel wire is produced under much more standard conditions than was the old-fashioned iron wire, and since the introduction of galvanizing, which in itself is supposed to be a protection against rusting and corroding, it would seem offhand, that the difference in composition would not be so material. That the composition of the wire, however, is of vital importance is shown very plainly by the manner in which corrosion so frequently takes place. For example, many times we will find a steel wire nail corroded in one particular portion until the nail is eaten almost completely through, while the other portions remain perfectly bright and unattacked. Again, on a wire fence, galvanized or otherwise, portions of the wire will remain firm, solid, bright and uncorroded, while other spots will be very vigorously attacked, in fact, almost completely destroyed. It seems to us, without any doubt, this must be due almost entirely to a difference in the composition.

How Carbon Gets Into Iron.

We know now, for example, that the different ways in which carbon is established in iron exercise a very important relationship to the life of that iron. In the production of iron from iron ore, which is one of the various oxides of iron, that is, a combination of metallic iron with oxygen gas, it is necessary to mix the iron ore with quantities of carbon in the

form of coke and the like. Under the influence of heat this carbon from the coke unites with the oxygen from the iron ore and passes off in the form of vapor, leaving the residual iron free from oxygen and in a molten condition in which it is run into the various molds. Molten iron has a considerable affinity for carbon, consequently when the ore is burned with coke, while the oxygen combines with the carbon, the excess of the carbon becomes dissolved in the iron itself and when it subsequently cools either the carbon is retained in the iron more or less evenly distributed, in which condition it is called "combined carbon," or it remains in patches, becoming crystallized, from which it is known as "graphitic carbon." It is this very uneven distribution of graphitic carbon which materially influences the value of the iron for certain purposes.

Steel Also Lacks Uniformity.

In the manufacture of steel from this iron manganese in varying proportions is introduced. In fact, one of the important points of the Bessemer steel process consists in the manner in which manganese is worked into the product. Here, again, is an opportunity for a lack of uniformity in the steel. Besides containing varying quantities of carbon it may at the same time contain manganese unevenly distributed and this unevenness in composition we think without doubt must have its influence upon the life of the steel wire. Without doubt, therefore, a careful investigation, and it is a research which may require two or three years to satisfactorily work out, the question of the uniformity of composition and the question of composition itself of the steel wire, has much to do with the question of the corrosion of the steel.

Again, just what influence the electrolysis has on the life of steel wire is an item which has not been investigated. We do not understand why some firm handling this product has not inquired into and benefited itself by an investigation along these lines.

Electrolysis is a rather common term and most people are somewhat familiar with the manner in which it takes place. Electrolysis is simply a work of nature to establish an electrical equilibrium. When properly understood it may be taken advantage of and work be accomplished therefrom. Any difference in potential between two points will cause a passage of an electric current, and therefore the question of electrolysis again may be seen to hinge upon the lack of uniformity in a wire. Electrolysis will not take place in a perfectly uniform medium without the current is induced from without. The atmospheric conditions to which iron is subjected are ideal for the electrolytic corrosion of the metal and this is surely a worthy subject of investigation, to ascertain just how electrolysis of wire is promoted under ordinary conditions; what factors induce electrolysis, so that it may be possible to institute in the process of manufacture of wire such checks as will reduce to a minimum at least, the corrosion due to electrolysis.

A Problem Worthy of Study.

There is at the present time practically no data available on these points. It is a problem which in our judgment is clearly within the possibility of solution and one which is surely of a great deal of importance to farmers. The manufacturer who first solves the problem and will produce a wire which is non-corrosive will certainly have a tremendous advantage in the fence wire business.

Lap Joint Blocks

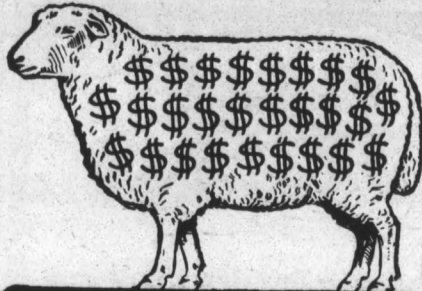
Make Better Walls

Less mortar exposed between joints—yet every joint as solid as rock. This means stronger, more durable walls—better settling of silage—less chances for frost. Write us for these facts on

LANSING Vitrified Tile Silo

Costs no more than most other silos but is far more durable. Reinforced with twisted steel; has continuous doorway, easy climbing ladder. Special shiplap block provides cement reinforcing that lasts for ages. First cost—only cost. Write for catalog 303.

J. M. PRESTON CO., Lansing, Mich.
Get our offer on Climax Silage Cutters and Bidwell Threshers.

Get All the money off Your sheep

It pays to shear the way you get the longest and best wool. You can get so much better price for it.

You can easily net from 15 to 20 per cent more on every sheep you shear with a Stewart No. 9 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

The Stewart No. 9 Ball Bearing Shearing Machine

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 the latest improved Stewart pattern. Price complete, including 4 combs and 4 cutters of the celebrated Stewart quality is only \$11.50.

Get one from your dealer or send \$2.00 and we will ship C. O. D. for balance. Money and shipping charges back if not more than satisfied.

CHICAGO FLEXIBLE SHAFT COMPANY
115 N. LaSalle St. Chicago, Illinois

Write for complete new catalog showing world's largest and most modern line of sheep shearing and horse clipping machines, mailed free.

PRICE \$11.50



Dunhams' Percherons


are today as for the past forty, eight years the breed's best

As a matter of fact you can also get more here for your money than elsewhere. If you are interested in

Percherons

and want to get in touch with the oldest concern in the business—the one that handles the best class of horses, and whose reliability is proven by the experience of thousands of satisfied customers. Come and see us.

New illustrated catalog on application
DUNHAMS', Wayne, DuPage County, Illinois.



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.

PERCHERON SALE.

Farmers and Breeders Attention. In order to insure quick sales we have decided to cut our prices. Your choice for \$1000. A lot of good ones at 400-\$500-\$600.

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

FOR SALE

The Registered Clydesdale Stallion, Lord Chauner, A. No. 1 Stock Horse & sure foal getter. Will work single or double. Will be priced very cheap so he can pay for himself in 30 days in any locality. Too many of his own stock in this neighborhood and must sell him. Address

Starkweather Stock Farm,
Northville, Michigan.

SOUTH ST. PAUL HORSE & MULE COMPANY.
Union Stock Yards, South St. Paul, Minn.
A large assortment of Good Horses and Mules always on hand. PRIVATE SALES DAILY.
HORSE AUCTION EVERY MONDAY.
GET IN TOUCH WITH US.

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. black from weanlings to 12 years old, and sound. **WM. McCRODAN,** 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 and right in every way. Weight about 1,600 lbs. **M. A. BRAY,** Oakemos, Ingham Co., Mich.

PERCHERONS—Bred for utility as well as show qualities. The stable includes prize winners at the West Michigan State Fair, 1 fine stallion coming 2 years old, active and heavy bone, 3 mares, 1 coming four, 2 coming three, bred 2 yearling fillies. Imported Sire and Dams. Come or write. **WM. J. BLAKE,** Dutton, Michigan.

Registered Clydesdale Stallions For Sale.
F. A. PETZ, CAPAC, MICHIGAN.

Black Percheron Stallion
Pilot 63258. 6 years old. An unusually good sire 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 Jacks and 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.



WANTED—Pair heavy black PERCHERON Mares, heavy boned and well mated. Address Box A-410, Michigan Farmer, Detroit, Mich.

Save Your Hogs



30 Days Free Trial

Prevent Sickness and Skin Diseases

Get this latest and best Hog Lubricator. Works on absolutely new principle. No Valves, Springs, Wheels or Gears. Lice, Nits, Mange and other Vermin-caused Skin Diseases can be cured and prevented with

Meyer's Hog Lubricator

Saves your Hogs by keeping them clean and healthy. Effective for Cholera, and Hoof and Mouth Disease. Prevents Worms by Hogs eating our specially prepared Antiseptic and Disinfectant Hog Oil. Saves Money—uses less oil than any other oiler. No upkeep expense—first cost lowest. Guaranteed by \$10,000 Bond.

Nothing to Wear or Get Out of Order
Write for 30 Day Free Trial Offer. Agents Wanted

THE MEYER CORPORATION
136 Main Street Morton, Ill.

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.,
1000 Cassin St. DETROIT, MICH.

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

Live Salesmen Wanted
to sell our Paints and Roofing. Easy to sell. Good money to workers. **Blackstone Oil & Paint Co.,** Cleveland, O.

Grange.

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

STATE GRANGE OFFICERS.

Master—John C. Ketcham, Hastings.
Overseer—C. H. Bramble, Tecumseh.
Lecturer—Dora H. Stockman, Lansing.
Secretary—Jennie Buell, Ann Arbor.
Treasurer—Frank Coward, Bronson.
Executive Committee—C. S. Bartlett, Pontiac; Geo. B. Horton, Fruit Ridge; J. W. Hutchins, Hanover; W. F. Taylor, Shelby.

THE LECTURER'S OPPORTUNITY.

Perhaps the first really great day in the life of any human being, is that in which he discovers an object big enough to lift him out of himself. Paul said, "This one thing I do—forgetting the things that are behind, I press toward the mark."

Among the privileges and opportunities extended to those who lead in public service of various kinds, few, if any, are greater than those which may be shared by the lecturer of a subordinate Grange. The position of Grange lecturer should be big enough to command the best and the most that is in one. To apply the first expression in this article, it should lift her out of herself.

But just what do we mean by being lifted out of one's self? I listened to a great address recently upon the "Things that Count." There are a great many kingdoms in this world that are not named on the map. There is the kingdom of Society, the kingdom of Money, the kingdom of Power, and the kingdom of Learning, but one kingdom is greater than all of these, and that is the kingdom of Service.

Now, the good lecturer has entered this kingdom of service. She ought to start into her new field of labor with the great declaration quoted above, "Forgetting the things that are behind, I press toward the mark."

But what shall she forget? Forget her weakness. Forget the things she does not know, the things she can not do, wherever and whenever to remember would be to lessen her courage or her determination to do her best.

While it is important that the things that hinder should be forgotten, it is no less necessary that other things should be remembered. Primarily, the Grange lecturer should have a very clear vision of the entire Grange program. I do not now refer to the ordinary program in the lecturer's hour, but rather to the sum of all the things for which the Order is living and working.

It is not expected, neither is it required, that every lecturer should place equal emphasis upon all lines of Grange activity, but she should be acquainted with them all, and their influence should be exerted for and not against the things for which we stand. In order that she may rightly understand the wide and ever extending field of Grange endeavor, the lecturer should read carefully and think earnestly upon the great questions involved. This is not saying that she should spend an equal amount of time in the lecturer's hour, upon each line of activity, nor is it saying that she may not even ignore some things entirely, but she should be familiar with the whole program of the Grange, and should hesitate long before she says that any part of it is of "little or no value."

I have heard certain lecturers say, "There is nothing in our Grange contract system, I am tired of the tonnage tax and the Torrens system, all I can see in the Grange that is worth while is the educational part."

(Continued next week.)

Farmers' Clubs

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

CLUB DISCUSSIONS.

Organize Seed Improvement Association.—On March 24 the members and guests of Essex Farmers' Club, to the number of 60 or more, gathered at the pleasant home of Mr. and Mrs. Austin E. Cowles, where a cordial welcome awaited all comers. In the absence of the president, Vice-president A. C. Cowles presided. The exercises were opened by the Club singing, "There's Music in the Air," after which Rev. Millard offered prayer. Following the reading of the minutes, and under miscellaneous business, a vote of thanks was extended to Mrs. Sarah Matthews for the generous gift of new song books, presented to the Club. A paper, "Does a higher education tend to draw boys and girls away from the farm?" was read by J. T. Daniells, in which the view was expressed that such is not the result, because of the pleasant conditions surrounding present-day farm life. Adjournment for dinner and the usual social, happy hour-and-a-half, was next announced and, following the "feast," the company paid a visit of inspection to Mr. Cowles' large and well-arranged barns, where 60 steers and 800 sheep are being prepared for the spring market. The sheep have been shorn and the wool bought and sacked, at the barn, by a Detroit buyer. The afternoon exercises were opened with a song, "The Happy Farmer Boy," expressively rendered by Rev. and Mrs. Millard. Roll call was the next number and brought "Interesting Current Events," in response. "Will it pay farmers to set out apple orchards?" was the subject assigned to A. E. Cowles, who said, in part: "Don't cut down the old orchards but renovate and take good care of them. Michigan is advancing rapidly, as a fruit-growing state. The following varieties he deemed among the best of apples, viz., Northern Spy, Baldwin, Steele Red, Greening. Mr. A. R. Potts, of M. A. C., being present by invitation, was next introduced and gave an exhaustive presentation of the important subject of corn improvement. Following a short recess, Mrs. Frank Rice gave a reading, "The Drunkard's Daughter," after which Mr. Potts treated the subject of the proper selection of seed corn, advising that it be selected in the field from medium size stalks, the ears to be pendant and well filled to the ends. The ear should have a medium length of shank. Seed corn, if well air dried and not containing more than 12 per cent of moisture, is safe to plant. Seed corn, if purchased, should be obtained from a more northern latitude. A vote of thanks was given the speaker for his contribution to the value of the meeting, one of the immediate results of which was the organization of "The Essex Seed Improvement Association," of which Austin E. Cowles was elected secretary-treasurer.—J. T. Daniells, Cor. Sec.

Will Skip the April Meeting.—The March meeting of the Columbia Farmers' Club was held at The Oaks, with Mr. and Mrs. C. Hewitt. The day was all that could be desired and about 60 gathered at the pleasant home. Mr. Willis Crego, the retiring president, thanked the Club for the success of the past year, but all felt much of it was due to his faithful efforts. Mr. Clarence Cook, the new president, said that the Club had been such a large factor for good in the township during the past that he hoped nothing they might do would reflect on the credit of the same. Each one must solve the problems that help to make for progress and success. "Spring work" was introduced by Mr. Loomis, who said "Look well after the tools, the harness, the wood supply, and the lawn before the rush of work begins." M. A. R. Palmer said the average farmer will imitate other farmers, so be on the lookout to do your best. Mrs. Marion Johnson gave two recitations and Mrs. Nanette Brooks two piano solos. Mrs. Crego gave a reading, "The Liberty Bell," and Mrs. Matie Lowry gave two readings. The new programs for the coming year were distributed. The Club decided to purchase a large coffee boiler for the benefit of the entertaining hostess. All enjoyed the half hour social chat before leaving for home. A bountiful dinner was served. No April meeting will be held as this is house cleaning month. May meeting will be with Mr. and Mrs. Frank Ball.—Maude Smith, Reporter.

My 5% Profit Offer on Split Hickory Buggies *Has Cut Prices Down to the Heart*



H. C. Phelps
Pres.

No matter whether or not you ever before had one of my big free catalogs, I want you to send for the book *this year*. After fifteen years of planning and building the largest business of its kind in the world, I am now ready to announce a policy that will challenge the instant attention of every man even slightly interested in a new buggy or harness. This is my challenge proposition — a proposition that I believe will revolutionize the business of making and selling fine vehicles.

Let Me Send You the Book and Tell You of My Sensational 5% Plan

Get Phelps' Big, New Story

Split Prices to Buyers

Because my new 5% policy that I want to tell you all about has enabled me to cut down cost of sales on all sides and give you bigger vehicle and harness values than you ever dreamed of getting—bigger and better than I ever hoped to offer.

Remember the big Phelps Book shows you more styles that you could find in 20 stores.

Split Hickory Wheels have made good in every state and almost every county in America. And his trial offer to you is even broader than ever.

Try This Buggy Over Your Own Roads at My Risk

Let me show you how my direct from factory plan and my new profit splitting 5% idea are going to give you a buggy you will be proud to own at a price lower than you ever dreamed of. 30 Days' Free Road Test. 2 years' guarantee. \$25 to \$55 saving—choice of 150 styles. And my big new 5% policy. All shown in the book.

Get This Big Book

No need to take my word for anything. No need even to write a letter.

Just send me a post card with your name and address, and you'll get the proposition and the big, new book at once.

The book is a regular encyclopedia of inside information about vehicle making and selling. Read it and you will know how fine vehicles are made and what they should cost. The book will make you a buying expert. Send for it before you spend money on any kind of vehicles.

Special Harness Catalog Also—I'll Send Both

Write today and address

H. C. Phelps, President

The Ohio Carriage Manufacturing Co.

Station 58, Columbus, Ohio

15 Years of Success



\$39²⁵

