

MICHIGAN FARMER

AND LIVE STOCK JOURNAL.
PUBLISHED WEEKLY. ESTABLISHED 1843.

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

VOL. CXLVIII, No. 13
Whole Number 3934

DETROIT, MICH., SATURDAY, MARCH 31, 1917

75 CENTS A YEAR
\$2.25 FOR 5 YEARS

Essentials to Successful Bean Culture

By J. F. COX

WITH beans bringing unprecedented prices the acreage seeded the coming season will undoubtedly be expanded far beyond the area planted to beans in normal years. States other than Michigan, California and New York, the chief bean producing states, are turning their attention to bean production.

Michigan, according to the last census, plants each year a greater acreage of beans than all other states combined. The section of highest production is located south of Saginaw Bay, extends several counties to the west and south and includes the Thumb district in the east, but beans are grown to some extent in practically every county in the southern peninsula and in many of the upper peninsula, indicating that the area of production is capable of considerable expansion. It is safe to conclude that the present high price is sufficient incentive to cause the great majority of bean growers to plant a larger acreage to beans than usual next year. In addition, many who have not before raised beans will try their hand at bean growing. Beginners before attempting such an exacting crop as beans, should thoroughly inform themselves in regard to the proper methods of cultivating and handling the crop. Under present conditions, with meats and other protein feeds bringing extremely high prices there is a great demand for a cheaper substitute, the place which the navy bean has hitherto occupied. It would seem that the bean acreage could be very largely expanded with little danger of over-production.

Commercial Bean Varieties.

The types of commercial beans most widely grown in Michigan are the pea bean, medium bean and red and white kidney beans. Of these the white pea bean is in the greatest demand on the market, and is considered the most dependable to grow, since it will do best under the widest range of conditions. The medium bean is similar to the pea bean, though somewhat larger and more oval in shape. The white and red kidney beans are considered to require more fertile soils than the pea or medium beans. Owing to the more limited market demand, kidney beans fluctuate considerably in price as compared with the pea and medium.

Good Seed Should be Planted.

Good seed is of the highest importance in bean growing. The loss caused

by bean diseases is very largely due to the planting of infected seed. That "clean seed tends to yield clean beans" is a saying current among the bean growers.

Good seed beans should be clean, free from diseased or otherwise discolored beans, immature beans and foreign material. They should be of high germinability and of uniform type. Careful hand-picking of beans to be used for seed is strongly recommended. Hand-picking, however, even if carefully done, will not make good seed of a badly diseased lot, since apparently clean beans may come from diseased pods. Beans of high pick should not be used for seed purposes no matter how carefully picked over. No dips, sprays or seed treatments are known which are effective in making a diseased sample fit for seed.

yielding plants in the field is strongly advised. Home-grown seed, from fields seeded with clean beans from the north is depended on in many localities as a source of good seed.

Fertile, Well-prepared Soils Required for High Yields.

Beans are best adapted to well-drained, fairly open fertile loams. Good yields of beans are not secured on poor soils. Acid or sour soils are not suited to bean growing, for like most legumes, the bean plant does best on soils carrying limestone, or on soils which have been well supplied with lime. Muck soils and soils very rich in organic matter tend to produce a rank growth of vine and a late maturing crop. Heavy clay soils are inclined to be somewhat late and wet for beans though when well drained and well supplied with organic matter high

crop of beans. When acid phosphate is applied, either in connection with manure or alone, the bean crop tends to ripen more evenly and at a noticeably earlier date. On soils which have been cropped hard complete fertilizers carrying nitrogen and phosphorous and potassium may prove profitable. Complete fertilizers of 2-8-3 or 2-10-4 formula are usually used, when they can be secured at reasonable prices. At present prices, acid phosphate alone should return the greatest profit. It is best to apply commercial fertilizers broadcast before seeding. When beans are planted with a grain drill the fertilizer attachment may be used. In this case the fertilizer should not be fed in the same row with the beans unless a small amount is used, since the bean seedlings are very liable to injury. Acid soils should be limed previous to seeding with beans. On such soils the lime should be applied in preparation for a clover crop rather than just before planting beans.

Should be Grown in Rotation.

For continued success in production, the bean crop must be included in a good rotation. Beans cannot follow beans successfully year after year owing to the rapid decrease in organic matter and the increased injury due to bean diseases and insects. A good clover sod is considered the best preparation for the bean crop. Such a rotation as the following is well adapted to beans:

First year, beans; second year, wheat, rye, barley or oats, seeded with clover; third year, clover.

Corn or potatoes can be included in the rotation either before or after beans. If the clover sod is very weedy or plowed late, or if strawy manure has been applied late in

the spring, corn being a gross feeder will do better under such conditions than the bean crop.

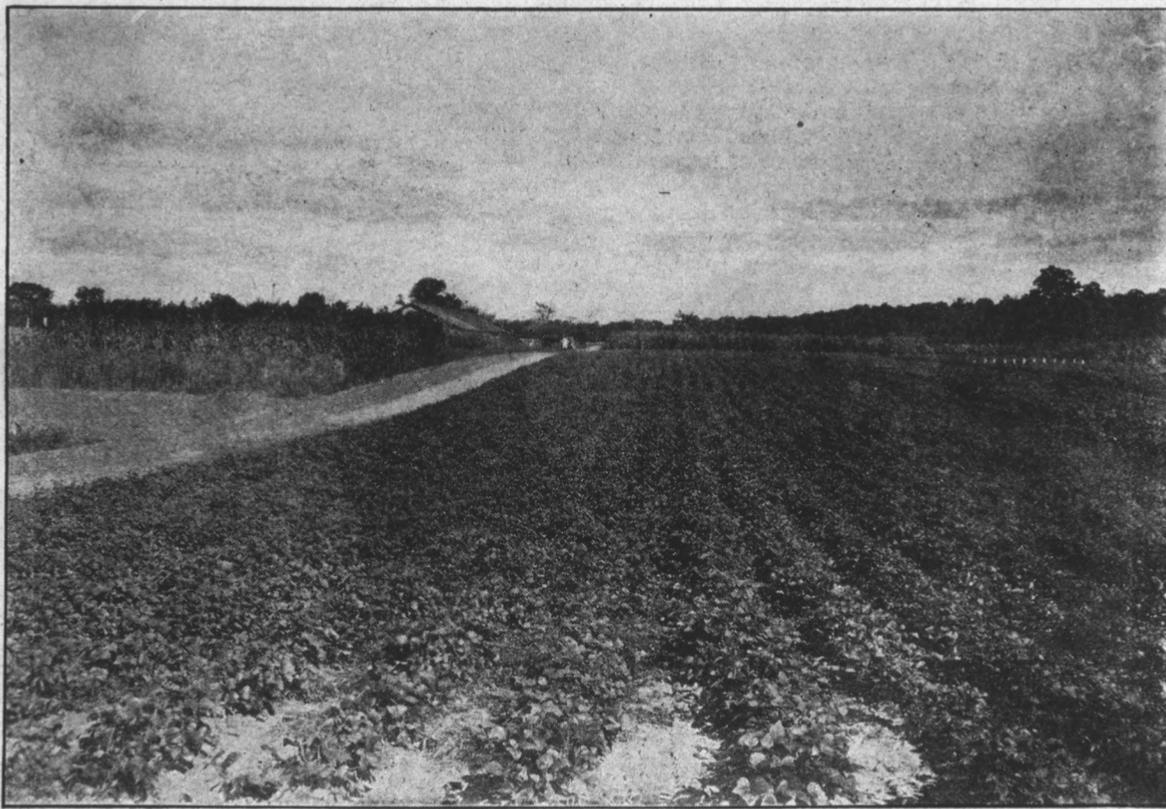
A longer rotation can be secured by seeding timothy or alsike, or both, with the clover and using two or more years for hay and pasture.

The following is suggested as a strong rotation: 1, corn; 2, oats; 3, clover; 4, beans; 5, wheat; 6, clover.

Plowing and Fitting Land for Beans.

It takes at least four to six weeks after plowing to get a seed bed in the best condition for planting beans. Plowing should be done in the fall or as early in the spring as possible. Early plowing gives opportunity for the

(Continued on page 420).



A Typical Michigan Bean Field, with a Good Stand and Healthy Growth of Vines.

Sending north for seed does not always result in securing clean beans, for the bean diseases have of late spread widely over the northern bean districts. Northern grown seed is only superior when the beans come from clean fields. All samples from the north should be carefully inspected before buying, and information in regard to conditions under which they were produced secured. Where possible, a sample of unpicked beans should be secured for inspection.

As a general rule, it is wisest to use beans for seed purposes grown in the home locality, carefully hand-picking the home-grown beans of lightest pick. The selection of disease-free, high-

yields are obtained. On muck and clay soils bean diseases do most damage, while on well drained loams or sandy loams the bean diseases do comparatively less injury. Light soils are likely to be too droughty but may be improved for bean growing by applying manure or turning under green manure crops.

Under usual conditions manure is an effective fertilizer for beans. It should be applied, where possible, to the previous crop. Soils in Michigan are, as a rule, deficient in phosphorous. Six to eight tons of manure to the acre, supplemented with two hundred to three hundred pounds of acid phosphate should pave the way for a big

The Michigan Farmer

Established 1913.

Copyright 1917.

The Lawrence Publishing Co.

Editors and Proprietors

39 to 45 Congress St. West, Detroit, Michigan
TELEPHONE MAIN 4525.NEW YORK OFFICE—381 Fourth Ave.
CHICAGO OFFICE—111 W. Washington Street.
CLEVELAND OFFICE—1011-1015 Oregon Ave., N. E.
PHILADELPHIA OFFICE—261-263 South Third St.M. J. LAWRENCE.....President
M. L. LAWRENCE.....Vice-President
E. H. HOUGHTON.....Sec.-Treas.I. B. WATERBURY.....Associate
HURT WERMUTH.....Editors
FRANK A. WILKEN.....
ALTA LAWSON LITTELL.....

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

TERMS OF SUBSCRIPTION:

One year, 52 issues.....75 cents
Two years, 104 issues.....\$1.25
Three years, 156 issues.....\$1.75
Five years, 260 issues.....\$2.25

All sent postpaid.

Canadian subscriptions \$6 a year extra for postage.

RATES OF ADVERTISING:

40 cents per line against type measurement, or \$5.60 per
inch (14 square lines per inch) per insertion. No adv't
inserted for less than \$1.20 each insertion. No objec-
tionable advertisements inserted at any price.Member Standard Farm Papers Association and
Audit Bureau of Circulation.Entered as second class matter at the Detroit, Mich-
igan, post office.

DETROIT, MARCH 31, 1917

CURRENT COMMENT.

Farm Loan Interest Rates.

The Federal Farm Loan Board recently fixed the interest rate on the farm loan bonds and the interest rate on loans extended to farmers. The bonds issued under the federal farm loan act will bear four and a half per cent interest, and from the advices in the hands of the farm loan board, it is expected that these bonds will sell at a premium. The interest rate on loans extended to farmers under the Federal Farm Loan Act has been fixed at five per cent per annum. The law permits the farm loan board to add to the interest rate on the bonds a maximum of one per cent to pay the cost of operating the system, but in consideration of the large volume of business assured the federal land banks at the start, the board determined that the business could be successfully operated by fixing the rate to farmers only one-half of one per cent above the interest rate on the investment bonds, which will be issued against the five per cent farm mortgages. The full subscription to the capital stock of the twelve farm loan banks, amounting to \$750,000 for each bank, has been placed at the disposal of the several institutions and, as soon as the appraisers who will pass upon the land values have been named, these banks which are already organized will give immediate consideration to the thousands of applications for loans filed by farm loan associations under the law.

While the federal farm loan banks will be able to absorb only a small portion of the total farm mortgage indebtedness of the country at the start, the low interest rate offered, coupled with the amortization plan of repayment, will make this source of loans so attractive as to have a sure effect upon farm mortgage interest rates in general. It is probable that this effect will be most quickly noticed in states where comparatively high interest rates now prevail, including a large part of the southern and western states. The farmers in a number of the eastern states now enjoy an interest rate well below six per cent, and here the effect will not be as pronounced. Michigan farmers pay an average of 6.6 per cent on a total of \$118,950,000 of farm mortgage loans.

Farm loan associations have been formed in some of our northern communities where interest rates are above normal and where the opportunity for and need of this federal rural credit aid is most in evidence. Apparently the federal rural credit plan is starting off auspiciously, and its progress and success, particularly in Michigan, will be watched with interest by every Michigan Farmer reader.

Notwithstanding the repeated explanations of the law which have appeared in our columns, inquiries are still coming in for information as to the method of procedure by which farmers seeking loans may avail themselves of this source of capital. Briefly recapitulated the conditions are as follows: Ten or more farmers desiring to make loans aggregating \$20,000 or more organize a national farm loan association through which loans are made by the federal land banks, in compliance with the provisions of the act.

For detailed information regarding the necessary procedure in organizing such an association and securing loans to its members through same, interested readers should write the Federal Farm Loan Board, Treasury Department, Washington, D. C.

The Sugar Beet Controversy.

In another column of this issue appears a statement from an active member of the executive committee of the organized beet growers of the state. This communication advises growers that there is apparently no prospect of an adjustment of the differences between the organized beet growers and the sugar manufacturers, and appeals to the loyalty of the beet growers in refusing to grow beets on any contract not approved by the executive committee.

While it is a matter for sincere regret that some equitable adjustment of these differences cannot be brought about at this time, since a normal domestic production of sugar is likely to be more important to the country this year than ever before since the establishment of our sugar industry, yet from the grower's standpoint it is the best possible time to hold out for a compensatory price. Other staple farm products are abnormally high in price and are almost certain to so continue during the ensuing year, and there is every prospect that these crops, of which Michigan produces so great a variety, will afford growers greater profit than would the beet crop on the proffered contracts.

To the end that the integrity of their organization may be maintained and an equitable settlement of this controversy hastened, every beet grower who has identified himself with this movement should remain loyal to the organization by following the advice of the committee as set forth in the communication above mentioned.

Financing the Crop.

One of the great eastern financial institutions recently issued a bulletin touching on the importance of stimulating farm production this year, which is worthy of more than passing notice.

After reviewing the situation by pointing out that crop reserves will be practically exhausted before new crops are grown, the need of ample production in this country was plainly shown. Reference was made to the near failure of the Argentine wheat crop and the shortage of nearly fifty million bushels in Australia, while the French winter wheat crop is estimated at sixty-five per cent, the crop in Holland unpromising and that of England backward.

Unfavorable weather conditions over a considerable area of our own country has caused crop damage which makes the situation still more unusual. The higher cost of labor and materials of all kinds entering into the production of crops was pointed out as a possible reason why higher crop values might not stimulate production to any great extent this year.

The particularly valuable point of this bulletin is the recommendation contained that bankers and business men's organizations in all parts of the country take an interest in financing the growing of this year's farm crops. Usually the interest of the financial institutions of the country in its agriculture has been confined to the extent of

the crop and the amount of capital which would be required to move it marketward. This year these interests realize that domestic production is as essential to preparedness for any eventualities which may come as is the mobilization of the nation's industries for the manufacture of needed equipment in case of war. Such an appeal addressed to the banks and business men of the country will be a powerful influence for liberality in the furnishing of funds for crop production wherever such may be needed.

Every farmer who needs funds for the purchase of seeds or new equipment as an aid toward maximum production should at once make his needs known to his local banker and the local distributors of farm equipment, whose pleasure as well as duty it will be in most cases to extend liberal credit for these purposes.

Constitutional Amendments.

In addition to proposed constitutional amendments to be voted upon at the April election which were noted in our Editorial Comment of last week, the Secretary of State has given official notice of two more amendments which are to be submitted at the same time. One of these is a proposed amendment to Section 21 of Article 6 of the constitution, the effect of which if adopted would be to provide for an increase in the annual salaries of the Secretary of States, State Treasurer and Auditor General from \$2,500 to \$4,000.

Another proposed amendment is to Section 26 of Article VIII of the constitution to read as follows:

Section 26. The legislature may by general law provide for the laying out, construction, improvement and maintenance of highways, bridges and culverts by the state and by the counties and townships thereof and by road districts; and may authorize counties or districts to take charge and control of any highway within their limits for such purposes. The legislature may also by general law prescribe the powers and duties of boards of supervisors in relation to highways, bridges and culverts; may provide for county and district road commissioners to be appointed or elected, with such powers and duties as may be prescribed by law; and may change and abolish the powers and duties of township commissioners and overseers of highways. The legislature may provide by law for submitting the question of adopting the county road system to the electors of the counties, and such road system shall not go into operation in any county until approved by a majority of the electors thereof voting thereon. The tax raised for road purposes by counties shall not exceed in any one year five dollars upon each thousand dollars of assessed valuation for the preceding year.

The effect of this proposed amendment if adopted will be to extend to the state the right to lay out, construct, improve and maintain highways, bridges and culverts. This amendment is considered necessary to enable the state to originate plans for and build roads as required by the federal aid road bill under which Michigan will receive \$2,186,756 of federal aid for road building during the next five years. In addition, this amendment provides for the submission in counties of the county road system and places the limit of the amount that may be raised in any one year at \$5 upon each \$1,000 of assessed valuation for the preceding year.

Attention has been called to one of the amendments referred to in our comment last week by the secretary of the Michigan association of county drain commissioners. Among the arguments presented by the adoption of this proposed amendment pertaining to bonding for drains, is that it will affect only those in need of drainage projects, and that it will place such districts on a par with cities which are empowered to bond for sewers and similar public improvements. Aside from a saving on the first cost of drains because of the ability to pay for the construction work when done, attention is called to the fact that it will be possi-

ble for a farmer to make his drained land earn the cost of draining before the drainage bonds become due.

It is the clear duty of every voter to give full consideration to the import of proposed constitutional amendments and vote either for or against their adoption, to the end that amendments to our fundamental law may be advisedly adopted or rejected rather than be permitted to stand or fall by default.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—French and British troops continue to force the Germans back on the western front although the retreat has been slowing up as the Kaiser's forces approach what is known as the "Hindenburg Line," running through the towns of St. Quentin, La Fere and Laon, in northern France. The German retreat has given to her enemies the salient from which it has been expected from time to time that a drive would be made upon Paris.—While operations on the eastern front have been of minor importance, Russians report that a large number of Germans are being concentrated along the northern part of the front, presumably for an offensive against St. Petersburg as soon as weather conditions permit. Spring thaws are holding the armies on the Roumanian front in check.—In Macedonia, near Monastir, and on the Italian front, much artillery activity prevails.—The Turks in Asia Minor have reorganized their forces and are now offering some resistance to the advancing Russians and Britishers who are gradually eliminating the Turk from the valley of the Euphrates.

Germany's offer to pay for the loss of members of crews of Holland ships recently torpedoed off Falmouth, and to help the owners to purchase German ships after the war, has been refused by Holland.

Several hundred men are reported to have perished in a munition plant explosion at Cologne, Germany.

While the Chinese cabinet has severed diplomatic relations with Germany, the president of the republic takes the attitude that it would not be wise for that country to join with the entente allies against Germany at the present time.

The new provisional government of Russia is slowly working out its destiny under trying circumstances. The country is over-run with spies and Germany is moving large bodies of troops toward the Riga district presumably to weaken the confidence of the Russian people in the new government through a bold stroke toward the Russian capitol. This danger, however, is offset in part by the friendly respects of the allied governments of the entente.

Domestic.

President Wilson has called a special session of congress for April 2. The international crisis which the country is now confronting made necessary the convening of our national legislative body. The recent sinking of American ships by German submarines has amounted to the overt act which, according to previous diplomatic declarations by this country actually establishes war relations between the two nations, although official declaration to that effect has not been made. The president has called out guard troops in ten eastern states for the protection of munition plants, railroads and other public property from violence, the enlisted strength of the navy has been advanced to the limit of 87,000 men, and factories throughout the country are preparing for the manufacture of the necessary war materials needed in case of active hostilities.

An advance of ten per cent in wages, and a Saturday half-holiday have been granted to 40,000 shoe workers at Brockton, Mass.

A survey of conditions in Colorado shows that savings banks have gained 7,000 accounts and an increase of \$6,314,426 in one year under the dry regime.

Last week another tornado swept across Indiana, causing a considerable loss of life and property. At New Albany, where great havoc was wrought by the writhing winds, thirty-four persons were killed.

Mrs. Helen Frances Ferris, wife of former Governor Ferris, died at her home in Big Rapids last Friday night, at the age of sixty-four, following a surgical operation.

Railroads of the country are joining in a plea to the interstate commerce commission for an increase in rates for all commodities except coal, coke and ore. They also ask that the new tariffs become effective in thirty days.

The epidemic of scarlet fever now raging in Detroit has necessitated the closing of fifty play parks.

The Best Kind of Oats

By N. A. CLAPP

SINCE the importance of the oat crop has come to be understood, the question is often asked, "Which is the best kind of oats to raise? Some fairly well posted individuals have gone so far as to say that "there is no best kind." I think such have not given the matter a reasonable amount of consideration.

It is a matter pretty well understood that some varieties or breeds of oats are better adapted to the prevailing conditions in some particular places than others. Some varieties meet and endure prevailing conditions in some particular place better than others. It is claimed that there are nearly 150 varieties of oats, which would give, if one had access to them, great opportunities for selecting and utilizing the varieties that come nearest to meeting their particular needs. But in most localities there are but a few varieties to select from. A thorough knowledge of what will meet our needs best will help some in making a choice from among what is within their reach.

Among the desirable characteristics which a variety of oats should possess, is that of hardiness and freedom from rust. A rust resisting variety is a desirable feature and an indication of great vitality and should command attention in that direction. Another desirable characteristic is that of time of ripening. Earliness or requiring but a short time in which to grow and mature the grain, enables the crop to escape many diseases and unfavorable conditions which may confront and injure a late maturing variety. The third characteristic to be sought is strength of straw. A very common trouble with oats raised on fertile soils in a rainy season which promotes a rank growth, is lodging, or falling down. It is well to keep this weakness in mind when selecting a variety to raise or in improving the one that one has been raising on the farm for some time. The fourth characteristic is that of a heavy-yielding variety. This is the one feature that farmers are looking for in a new variety. Productiveness is a characteristic that can be bred into a variety by patient selection of seed, furnishing favorable conditions of soil, moisture and fertility.

Improved Varieties.

There are those who will accept the fact that animals can be greatly improved by careful selections and surrounding the best with favorable conditions, but at the same time will not admit that great changes have been brought about by careful selections and breeding our oats. One might as well expect to get as good results by keeping the old style fine woolled sheep that had bare legs and bare bellies as with the improved American Merino. All the desired results can not be obtained at once by surrounding the common varieties with favorable conditions.

The Old Brindle cow that carried the bell in a new country to indicate where the herd was at, could never be made by liberal feeding and tender care to equal in milk production some of the Holstein cows of today. The fact should be kept in mind that it has taken long periods of years to bring about the possibilities of milk production in the improved Holstein cows. Ancestral influences have played an important part developing the modern Holstein cow. There are long lines of ancestors back of the Holsteins that have been selected, bred and fed with the one idea of productiveness in view, while with the Brindle cow no attention was paid to developing the immediate or remote ancestors along the same lines. We may properly say that the Old Brindle cow is an indifferently bred animal and an indifferent producer.

The same may be said in regard to different varieties of oats. The so-called common oats have been indifferently bred, but little or no attention has been paid in regard to selection of best stalks, heads or stools, for they have been kept along in a haphazard manner, and the results are that they are indifferent producers. While on the other hand, some of the pure-bred, well-bred and carefully bred varieties are descended from stock that has, for many years, been carefully selected with desirable characteristics in view, and are heavy producers. The seed from the best varieties of oats have within them characteristics of hardiness and great vitality, enabling the plants to send out a strong root system capable of gathering a large amount of plant foods, making a more vigorous growth than the common oats and with the inherent capabilities of productiveness, can and will yield abundantly of a large and heavy kernel of oats. The hardy, rust-resisting, early maturing kind with stiff straw that can stand up well and produce heavily, is the best kind of oats to raise.

Wayne Co. N. A. CLAPP.

THE SPRING GRASS SEEDING.

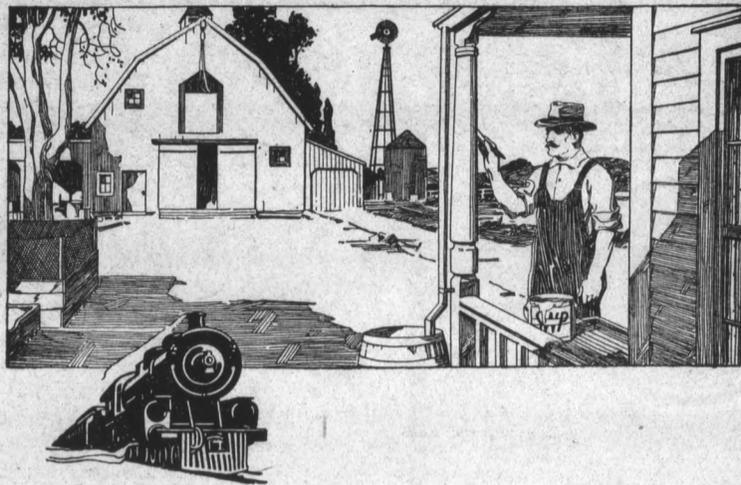
We are not careful enough, as a rule about our grass seeding, we leave it altogether too much to chance, and good luck. In fact, while we are willing to concede in a general way the importance of providing for good meadows, pasture, and incidentally keeping up the soil fertility, through this seeding we do not give it the thorough treatment we give to other seedings.

Where spring seeding is done on winter wheat, the seed should be sown early, in fact I have never lost a seeding by sowing too early, I have had very poor, and uneven catches where I have sown too late, at that I have sown right in the snow in February.

Where the seeding is done with spring crops, such as oats, or barley, the seed should not be harrowed in too deeply. The practice of sowing ahead of the drill is a poor one, as a rule. It gets in the little seeds too deep, and to reach the surface they have to grow a long spindling stem altogether lacking in vitality, which becomes nearly smothered before reaching the surface. By far the best way is to seed after the drill then harrow lightly with a spike-tooth harrow, after which ground should be rolled with a heavy roller, especially so if the ground happens to be spring plowed. In fact, soil in this latter condition as a rule, makes a poor prospective seeding for grass. However, if handled right, worked enough to get a solid seed bed it sometimes gives good results.

Taken as a whole, we have been sowing altogether too much timothy for the good of our farms, and our own pocket-books. There is a temptation in the face of the very high prices for clover seed, that have prevailed for a number of years, to sow a mixture with the timothy predominating, because of its consequences, and we shut our eyes to the consequences. Timothy is a soil robber, and it is rapidly losing the little advantage it ever had through a certain demand for it as horse feed by the rapid supplanting of the horse by the auto.

It is well to look after getting the clover seed in good season, and where possible, get it from some farm you know, a farm that is not thoroughly infested with noxious weeds. We usually have enough varieties of weeds locally, without importing new ones. No matter how well the seed has been cleaned, it will do no hurt to reclean it. This may seem like an extreme statement, but it is a rule that, adop-



How much wear must a house paint stand?

As much as a railroad train? Well hardly. A house doesn't go tearing around the country hunting wear, freezing one day, broiling the next and trailing along in a cloud of smoke and soot. Yet the Sherwin-Williams Company that makes the car paint that stands this wear and supplies it to the greatest railway systems in the country puts into

SWP

(Sherwin-Williams Paint Prepared)

the same enduring quality. For fifty years this house paint has been protecting and beautifying houses all over the country, saving its cost in the wear it gives. Get it from the Sherwin-Williams dealer nearest you.

Barn Red

for your barns, corn cribs, silo, fences, etc., its a durable, weather-resisting paint for rough lumber. It sinks in, sticks tight and saves repairs.

Send for Book—The ABC of Home Painting—written by a practical painter and telling how to paint or varnish every surface around the farm.



Sherwin-Williams Insecticides and Fungicides

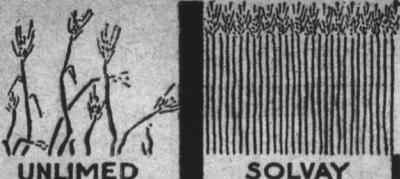
Lime Sulfur, Arsenate of Lead
Tuber-Tonic, Fungi-Bordo

All in dry powdered form

BRIGHTEN-UP WITH SHERWIN-WILLIAMS PAINTS & VARNISHES

Main Office 669 Canal Road, N. W., Cleveland, O.

Sales Offices and Warehouses in principal cities. Best dealers everywhere. Address inquiries to our main office above or to our branch office: Chicago, Pullman Station.



**SOLVAY
PULVERIZED
LIMESTONE**

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

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

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

Apple Profits

Grow better fruit. It pays. Get your own price. Control Apple Aphids, Red Bug and similar pests, the new dangers to orchards, with Black Leaf 40.

Valuable Booklets FREE

Tell you what to do and how to use Black Leaf 40. Can be used with other sprays or separately. Endorsed by experiment stations and colleges. Write today for free booklets and valuable chart "When to Spray," FREE.
The Kentucky Tobacco Product Co., Incorporated
Louisville, Kentucky.

Black Leaf 40
40% Nicotine

**Kills
Aphis**

**Year of Years to Plant Potatoes
Let the Aspinwall Do the Work**

The only correct drop. A one-man, automatic Potato Planter. Saves expense of extra man. Does all the work—all the time. Plants more acres per day—opens the furrow, drops the seed, any size, any distance, marks the next row—all in one operation. 65,000 now in use. Plant the Aspinwall way.

Aspinwall No. 3 Potato Planter

Corn, pea, bean and fertilizer attachments furnished when wanted. Send today for FREE BOOK giving facts how to plant for profit. Cutters, Planters, Sprayers, Diggers, Sorters.

Aspinwall Manufacturing Company
567 Sabin St., Jackson, Mich.
World's Oldest and Largest Makers of Potato Machinery



**Choice Northern Grown
SEED POTATOES**

DORR D. BUELL,
The Seed Potato Man of the North
ELMIRA, OTSEGO CO., MICHIGAN

ted permanently, will be profitable. There have been more noxious weeds introduced into our lands through the grass seeding than in any other way.

Then sow enough seed. There are so many immature and infertile seeds in clover, especially the June variety, that provision should be made for this. It is mighty seldom that a field gets over seeded, and it does not pay to have a foot of land in every three or four lying idle through lack of seed, losing at both ends, in crop, and lack of fertilizing value to the land.

I do not know what crop gives as good results from the amount of expense incurred as the clover crop. Also I have found that on higher lands, where a few quarts to the bushel of alfalfa is sown, it makes a better quality of hay, stays longer in the ground and gets the ground gradually inoculated to the growing of this very valuable member of the clover family.

Isabella Co. W. J. COOPER.

**ESSENTIALS TO SUCCESSFUL
BEAN CULTURE.**

(Continued from first page).

seed bed to settle and gives time in which to secure a seed bed comparatively free of weeds by proper use of the harrow and disc. On cloddy soils the roller is often useful in packing and pulverizing. Beans planted on late plowed fields, particularly if shallow plowed, are likely to be affected more by diseases and are more difficult to keep free of weeds during cultivation. Early plowing and proper fitting will greatly lessen the labor of later cultivation.

Planting and Cultivating.

The period during which beans are planted in Michigan ranges from June 1 to June 20. About June 10 is the usual date over most of the bean district. It is best to wait until the seed bed is well warmed and in good condition, rather than to plant when cold or wet, for even germination and a uniform start is secured only under proper conditions.

The amount of seed used in planting an acre varies with the variety. About three pecks of ordinary pea beans (less if they run small), four pecks of medium beans and five or six pecks of kidney beans is the usual rate. An ordinary eleven-hoe grain drill is usually used in planting. Every fourth cup is left open and the drill wheel allowed to follow its own track on the return, thus planting three rows with each passage, twenty-eight inches apart. A two-horse corn planter equipped with special bean plates and narrowed up to plant twenty-eight-inch rows may also be used in drilling the beans.

The first cultivation should be given early or as soon as the plants are high enough so that the rows can be easily followed. This cultivation should go close to the plants and fairly deep. The next cultivation, coming after a week or ten days should be further from the plants and not so deep. The following cultivations should be shallow, not more than two inches deep, since the feeding roots of the bean plant come close to the surface. Cultivators carrying numerous small or medium sized shovels or blades are more desirable than broad shovel types, particularly for the later cultivations. The number of cultivations will depend largely on the degree of thoroughness used in fitting the seed bed. Four to five cultivations are, as a rule, necessary. Beans should not be cultivated when wet with dew or rain since at that time the bean diseases are carried most easily from plant to plant.

Harvesting and Threshing.

Harvesting should be done when the plants are mature but should not be delayed until the pods are too ripe, as considerable loss may be caused by shattering. After "pulling" with the bean harvester the beans are forked into piles, or if the field is free from stones and trash the side delivery rake may be used. The piles should be built high, and small at the bottom so as to allow a more rapid curing and lessen the damage from weathering. When sufficiently cured to avoid all danger of heating the cured plants should be hauled into the barn. It is considered a good indication that the beans may be safely stored in the mow when pressing with the thumb leaves but slight impression on the bean seed.

Threshing is done from the barn or stack. The bean thresher carries one cylinder which is operated at a low speed, and a second which is operated at a high speed. When the plants carrying the beans are fed through the cylinder going at low speed, the riper beans are threshed out with a minimum of splitting. The plants which come from this cylinder unthreshed, which are as a rule not so well ripened, then pass through a rapidly revolving cylinder which finishes the work of threshing.

The average yield per acre of beans for the state of Michigan for the past ten years is 12.66 bushels. Yields of eighteen to twenty bushels to the acre are considered good yields though very high yields of thirty-five bushels or more are not infrequently reported.

FARM NOTES.

Applying Hen Manure to Potatoes.

I have a piece of sand and gravel land which had a rather scattering stand of alfalfa on for the past three years that I wish to plant to early potatoes next spring. The land was covered with a small amount of manure last fall and plowed just before it froze up. I propose to fit the land as early as possible, furrow rows with a one-horse plow, three feet apart, scatter a small amount of poultry manure in the bottom of the furrows and then drop the seed about 18 inches apart in the furrows and cover with a drag. I have been told that the hen manure will cause too much growth of vine at the expense of the potatoes. I have also seen it advocated that the more growth of vine one gets the better the yield on account of increased starch gathering capacity through the leaves. Is my plan good or is it wrong?
Mecosta Co. W. H. W.

There would be little danger of promoting too great a growth of vines by the use of a small quantity of hen manure where potatoes were planted, as proposed in this inquiry, in fact, the amount of available nitrogen which would be applied in this manner would be much less than would be the case where a liberal application of stable manure were made to a clover or alfalfa sod before plowing.

The writer's experience in growing potatoes on alfalfa sod has been very favorable, and I believe that you would get very satisfactory results from

handling this soil as proposed. Of course, it is possible to have a large growth of vines and only a small crop of tubers, but this is the exception rather than the rule, and it is still more rare to produce a liberal crop of potatoes where but a small growth of vines is secured.

Sweet Clover as a Green Manure Crop.

I plowed down a clover, timothy, June grass, sod during the drouth last August. Kept it worked, and sowed rye late in September. The soil is sand. I wish to seed to clover, either mammoth or sweet, and plow it down after the rye comes off, for wheat. Will sweet clover make a sufficient growth to insure a supply of green manure, and how heavy should it be sown?

Gratiot Co. R. B. C.

None of the clovers will give maximum results when sown in the spring and plowed down for a green manure crop in time to seed the land to wheat. In order to prepare a good seed bed for the wheat the land should be plowed as soon as practical after the rye is harvested, and none of the clovers will under average conditions make a sufficiently heavy growth before late autumn to give a very substantial supply of vegetable matter for green manuring purposes.

Sweet clover is a more rank grower than the common varieties, and if a good stand is secured on land well adapted to the plant, it will make a heavier growth the first year than will ordinary red clover. The experiment of sowing it in the spring to be plowed down in the fall would be well worth while, although as above noted, nothing like the results could be expected which could be attained if it were allowed to stand until following spring and plowed down when it has attained a larger growth. The seed should be sown at the rate of about ten pounds per acre.

Inoculation and Fertilizer for Soy Beans.

I have some light sandy soil that has been run quite badly. I have not the manure to build it up. I was told to sow soy beans. Would I need fertilizer for the beans? Would the seed need inoculation? How much seed should I use per acre and where can I procure it? I saw in the Michigan Farmer how to test soil for acid with litmus paper; where can I get the paper? Also I want some fertilizer for oats on such soil, also for meadow. I don't know just what analysis to procure. Also if my soil is acid I want some lime for about ten acres.

Huron Co. L. T.

Soy beans would probably do as well on this kind of soil in present condition as any crop you could grow, but of course if you harvest the crop and remove it from the land the soil will be only slightly improved. To permanently improve the soil the crop should be plowed under. By fertilizing and growing such crops and seeding to clover the soil can be gradually improved without sacrificing a whole crop.

On soil that has never produced soy beans they should be inoculated with the proper bacteria. This can be done with dry earth from some field that has successfully grown soy beans, or you can purchase commercial culture and apply to the seed.

I would use nothing only acid phosphate as a fertilizer on this crop. The same for oats under present conditions of the fertilizer market.

You can purchase litmus paper from any drug store.

Ground limestone can be purchased for about \$1.25 per ton in carlots in bulk f. o. b. quarry. You will need to apply about two tons per acre for best results, one ton per acre will help.

In counties where agricultural bureaus have been organized and county agents are working any farmer who desires to make a more thorough study of costs of production will be greatly aided in this regard by securing through the county agent a simple form of accounting to determine such costs, which has been adopted in order to standardize such studies within the state.

There's a good way to keep growing boys and girls healthy and happy and that is to give them

Grape-Nuts
for breakfast.

This wonderfully nourishing food has a sweet, nutty flavor that makes it popular with children.

One of the few sweet foods that does not harm digestion, but builds them strong and bright.

At grocers everywhere.



HARDY NORTHERN GROWN TREES AND PLANTS

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

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

Protecting Orchards from Frost

IN the spring the frosts do a great deal of damage to fruits. Some sort of protection against these frosts is needed in most parts of this country and there are several methods by which protection can be afforded. The most common of these are the use of explosives, adding water-vapor to the air, making artificial clouds, and heating the atmosphere.

To determine just when the frost will be severe enough to damage the fruits is often a difficult problem. It depends upon the period of growth the plant is in at the time of the frost because if it is in a very active period and is full of water it is liable to be injured by the frost. The most advisable plan is to keep the atmosphere of the orchard above the freezing point at all times. If the orchard is near a body of water the temperature will seldom get below the freezing point as the water cools much slower than the land and will keep the air around it warm. Windbreaks also help to ward off frosts, but those orchards that are not protected by the heat from a body of water or by windbreaks need some other method of protection.

The Use of Moisture.

It is well known that frosts occur on clear, still nights and but seldom on cloudy nights, when the air has an abundance of water-vapor. This fact is taken advantage of by fruit growers when they attempt to add water-vapor to the air by spraying the trees and flooding the ground. They use the same sprayer that is used for the spraying of insects, or they may even go so far as to erect standpipes for the spraying. It is doubtful whether the latter practice is very profitable, as it costs too much for the real good that it does. In either case the trees and vines are sprayed until very wet. This makes the atmosphere about them moist and helps to prevent the frost.

In some places, especially in Europe where there are large vineyard districts, explosives are used to prevent frosts and hail storms. Guns are made of heavy sheet metal and loaded with large charges of gunpowder. When a storm threatens, these guns are fired repeatedly and seem to have the tendency to break up the layer of cold air that settles in the lowland.

Smudges for Frost Protection.

Another use that is made of the fact that frosts will not be so severe if the air is clouded, is the use of smudges in the orchard. The dense cloud of smoke formed by these smudges prevents the rapid radiation of heat from the earth and thus raises the temperature two or three degrees. To obtain the best results the smudge should be uniform and very dense, and the fires should burn slowly and be kept up as long as there is any danger. Usually an oil that contains a great amount of tar is used, but common materials, such as leaves, sawdust, trimmings, and grass may also be used. In some orchards the trimmings are piled in small piles, and if needed they are a very economical material for forming the smudge.

Crude petroleum mixed with sawdust will form a very dense cloud of smoke, and yet it is not so very expensive. In Europe the Lestout method is used, in which small boxes about eight inches square are placed thirty feet apart all around the orchard. Crude petroleum and sawdust are placed in them and when ignited a dense black cloud of smoke emits, which soon forms a blanket over the entire orchard. The cost of this when used on a large scale is about two or three cents per acre for one night, but for a small area the cost would probably be much higher.

By direct heating, which is the most common method used in the United States at the present time, it is possible to raise the temperature of the

atmosphere about the orchard as much as ten degrees. Any material that will burn, such as wood, trimmings, leaves, shavings, and even coal and oil, can be used for this heating. The refuse from the orchard and farm make a very economical material. The pile of refuse or wood should be gotten ready as soon as possible in the spring before the warm weather sets in so that when a frost threatens the fires can be started and kept going until all danger is past. The piles should be made throughout the orchard at the rate of about forty or fifty to the acre. They should not all be fired at the same time, but a few should be started and then others fired as they are needed. The temperature should be taken at all parts of the orchard, and care should be taken that the outer rows of the trees are well protected. If the temperature gets too low fires can be made outside the last row of trees.

The fires should not be made too large, as large fires are apt to scorch the blossoms and to cause current in the air which will bring in the cold air and thus defeat the purpose of the fires. Four or five piles of wood or their equivalent in refuse will make a large enough fire. The temperature should be kept at least to twenty-eight degrees, and if this is impossible with the heating system alone some material should be placed on the fires to form a smudge, thus keeping the heat nearer to the ground and raising the temperature.

Oil Heaters for Frost Prevention.

There are a number of oil heaters recommended for this purpose, but possibly the best is one which is merely a sheet-iron pot large enough to hold about five quarts. About one hundred of these are used to the acre, and in most cases, are kept going for four or five hours. The cost of these pots is about fifteen cents each, so the cost of equipping one acre can be figured at about fifteen dollars. Different oils are used in these heaters. The light oils are not as good as the heavier ones, because they have an asphaltum base, which leaves a large deposit of asphalt in the bottom of the pot, while the heavier oils have a paraffine base and do not leave a deposit. The quantity of oil to be used varies. Experiments show that it takes about twelve and one-half gallons every hour to raise the temperature of an orchard five degrees. At normal times the oil will not cost more than five cents a gallon, making a cost of about sixty cents an hour to heat one acre, but if any amount of wind is stirring this cost will increase as more oil is needed. This oil heating seems to be the best method now in use and should be used oftener. It can be depended on and is not so expensive as to make it a poor investment. E. F. ELDRIDGE.

TROUBLE DEPARTMENT.

Lime-sulphur Freezing.

Will lime and sulphur frozen in a barrel all winter be good to spray an orchard this spring?
Gratiot Co. G. W.

Lime-sulphur is not injured by freezing as it does not freeze except at very low temperature. Even if it does form a slushy ice it is not injured in any way unless the barrel is made so that it is not air tight, thus causing evaporation. This evaporation changes the strength of the mixture, thus making it difficult to know what dilution to make to get proper strength for spraying. To be sure that the mixture is strong enough for scale spraying make it stronger than under normal conditions. Instead of diluting it to one to eight, make it about one to six. This will make it effective and any increased strength of the solution for spraying will not injure the trees in the least if the spraying is done when the trees are dormant.

Ideal heat keeps out spring rawness!



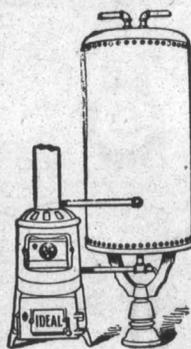
It is better for the family to keep a little heat going all through your home during these chill and damp spring days. Raw, wet weather is dangerous to health. **IDEAL heating keeps whole house warm and dry!** Only a small fire in the IDEAL Boiler is necessary to make every room as balmy as June.

AMERICAN & IDEAL RADIATORS & BOILERS

So don't delay finding out about IDEAL heating by writing to us or asking friends who have IDEAL AMERICAN radiator

heated homes. Thousands of farm families in every state say that IDEAL heating is the one best feature in their homes for economy, labor saving, cleanliness, durability, and complete comfort satisfaction. The comfort of the home makes the success of the farm!

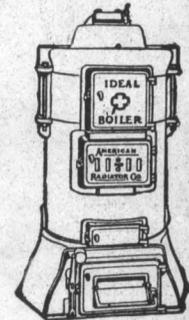
Basement or water pressure not necessary—don't wait!



IDEAL Boiler is set in cellar, side-room or "lean-to," and same water is used for years. Put an IDEAL Boiler and AMERICAN Radiators in your house this year. Call up the nearest heating contractor and ask him to give you an estimate. Don't put off any longer, suffering the chills and ills of old-fashioned heating methods during these raw springs and severe winters.



A No. 4-22-W IDEAL Boiler and 420 ft. of 38-in. AMERICAN Radiators, costing the owner \$280, were used to heat this farm house. At this price the goods can be bought of any reputable, competent fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.



IDEAL Boiler fuel pots mix the air and coal gases as in a modern gas mantle, extracting ALL the heat from the fuel.

Let us send you valuable book (free)

Write today for copy of "Ideal heating." Fully illustrated and gives valuable heating information which we want you to read carefully. Puts you under no obligation.

Sold by all dealers. No exclusive agents.

AMERICAN RADIATOR COMPANY

Write to Department F-3 Chicago

IRON AGE

GARDEN TOOLS
Answer the farmer's big questions: How can I have a good garden with least expense? How can the wife have plenty of fresh vegetables for the home table with least labor?
IRON AGE Combined Hill and Drill Seeder solves the garden labor problem. Takes the place of many tools—stored in small space. Sows, covers, cultivates, weeds, ridges, etc., better than old-time tools. A woman, boy or girl can push it and do a day's hand-work in 30 minutes. 38 combinations, \$3.25 to \$15.00. Write for booklet.
Bateman Mfg Co., Box 24C, Grenloch, N.J.

SHE KISSED HIM TWICE

In the same place when he ordered our Fine Trees and Shrubs to make their Home beautiful and Attractive. There's always kisses, happiness, beauty and fragrance where our plants are used "Because they Grow." Send list of your Home needs and get our New 50 Page Book that tells what to plant and what it costs.

The Progress Nursery Company, 807 Peters Ave., Troy, Ohio.

HURST SPRAYERS

Mean Bigger Crops
Farmers and Fruit Growers everywhere have found it pays to spray the Hurst way. The U. S. Government and State Experiment Stations use the Hurst because the quality and construction have proven the best.
32 Different Styles
Any one pays for itself, even on two acres. Write for Free Demonstration offer and Free Book "Why, How and When To Spray." Shows every fungus and insect pest, and remedy for each. We sell direct where we have no dealer. Send postal NOW.
The H. L. Hurst Mfg. Co., 241 North St., Canton, O.

GUARANTEED SEEDS
Golden Glow Corn. Early and a great yielder. Choice timothy, alfalfa red, alsike and moomoth clovers. Circular and samples on request. Henry Nichols, R. 7, Malone, W. Va.

PAGE PHILIPPS SEEDS

are bright, plump, clean and true-to-name—the result of 60 years' seed-growing experience. Get our suggestion—giving
WRITE TODAY 1917 Catalog FREE
Lists and illustrates high-yielding strains of seeds for farm and garden. Plan now for a good garden. Reduce living costs and enjoy better fare. Send a postal today.
The Page-Phillips Seed Co. Box 70 Toledo, Ohio

Seed Oats, Garton No. 5, "The Corn Belt Oat" also Worthy's. Not damaged by wet. Free from smut. Sample and prices on request.
E. S. CHRISTIANSEN, CORAL, MICH.
Member Michigan Experiment Association.

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

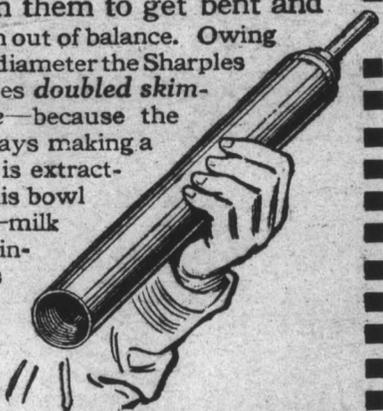
Seed Oats. Samples free. Worthy, Alexander timothy, alfalfa red, alsike and moomoth clovers. Cir-
lege exhibit. O. M. YORK, Millington, Michigan



Just One Piece in it!

The Sharples Bowl is easy to clean and hard to hurt. It has **no discs!** It's a plain strong tube—simply run a brush through it, and it's clean. Sharples bowls in use 12 or 15 years are still in perfect balance—for there is nothing in them to get bent and throw them out of balance. Owing to its small diameter the Sharples Bowl creates **doubled skimming force**—because the milk is always making a

sharp turn; thus the cream is extracted more thoroughly. This bowl is also remarkably long—milk travels further while the intense skimming force is working on it. But its greatest feature is that it will skim clean regardless of how fast or slow you turn it.



SHARPLES SUCTION-FEED CREAM SEPARATOR

is the **only** separator that:

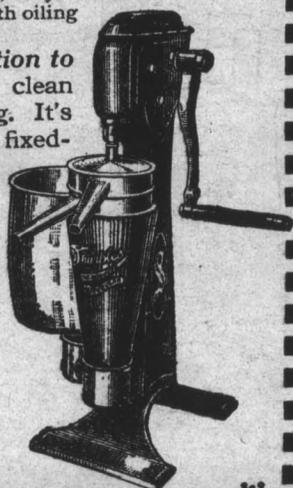
- skims clean at widely-varying speeds
- gives the same thickness cream regardless of speed changes
- skims your milk quicker when you turn faster
- has only **one** piece in the bowl—no discs, easy to clean
- has knee-low supply tank and once-a-month oiling

Sharples varies the feed in direct proportion to the separating force, and thus insures clean skimming at **all** speeds—needs no watching. It's **positive** protection against cream loss. All fixed-feed separators lose considerable cream when turned **below speed**—and 19 out of 20 people do turn too slow. A Sharples will average 5% more cream than any other separator just for this reason.

Write for catalog today; address Department 18.

The Sharples Separator Co.
West Chester Pa.

Sharples Milkers—used on over 300,000 cows daily
Branches: Chicago San Francisco Toronto



Making Improvement In Dairy Stock

DUE to the large investment required it is possible for but a small percentage of our farmers to own pure-bred stock. Consequently the greater part of the dairy products of the country must be derived from what is known as grade stock. Anything that will serve to increase the production of the cows, is of vital importance to the farmers.

Many farmers who own common dairy animals are desirous of entering the dairy business upon a larger scale. Their problem, therefore, is which method is best adapted to their particular situation, "Buying-in" or "Growing-in?" There is probably not a farmer who has this desire who is able to buy a good dairy herd; this is the dream that comes true to millionaires who are not farmers after all. We may buy a good dairy herd, but so many have found this method hazardous and expensive, that it is best not to recommend it. Others buy up several animals at the various auctions and farms before they come to know that proper feed and management must be given to these animals.

Start with Pure Sire.

The question of greatest importance and most frequently asked is, "Can such a herd be produced from a foundation of common cows where the initial expense is the price of a good pure-bred dairy sire?" It is possible that a good-paying dairy herd be built up from a foundation of common cows through proper methods of feeding and management and the use of a good pure-bred dairy sire.

That this is possible has been fully demonstrated in southwestern New York, where the good work of the Southwestern New York Holstein Breeders' Association is manifesting its work through the introduction continually of more and more foundation animals into the herds of grade stock. The increased production revealed each season, as a result of breeding upward proves that under judicious management, this is practical and profitable.

But we must not forget the gospel of "bred-and-fed cross on grade dairy cows." There can be no doubt but what common scrub cows will increase in production with better care and management, while their daughters by pure-bred dairy sires will be better dairy animals than their dams. This was not given a scientific basis for belief, although practically everyone did believe it, until the Iowa Experiment Station demonstrated it through what is known as the "Arkansas cow experiment." The work covered eight years of careful study of the influence of environment on a herd of the most commonplace scrub cows and of the environment and breeding of their daughters, also scrubs, and of their grade daughters by pure-bred sires. Although this work will continue for several years, the professors assure us that there is left no room for doubt, with present findings in hand, but that any breed of common cows can be built up into a profitable herd through better feeding and breeding methods.

A Cow Experiment.

The "Arkansas cow experiment" furnishes another important fact we have been wondering about for some time. The first satisfactory evidence is given regarding the relative values of feeding and breeding, making it very clear that the largest increase in production in a herd must come through the use of a good pure-bred sire.

Prof. Beckman declares that the original fourteen animals of this experiment, numbering seven cows, four yearling heifers, two heifer calves, and a young bull, were a scrubby lot when they were brought from a remote farming section of Arkansas to the Iowa station, by Prof. H. G. Van Pelt, for the

novel and useful experiment. This was in the summer of 1907.

These scrub cows were given the same care as the best cattle in the station barns, as regards care, shelter and feed. This treatment has been followed up to date. The herd numbers more than thirty head at present. Complete records have been kept of their feeds and feed costs as well as production.

Production is Increased.

Records show that only the younger animals responded with an increased production when given better care and feed, which throws light on the work of the dairy farmer, who should perform his upward task while his stock are young. Two of the scrubs, No. 6 and No. 31, four years old, showed an increase in production up to and including the fourth period, when their average yield was fifty-nine per cent more milk and fifty-four per cent more fat than in the first period. In the first period at the farm the two averaged 3,084.6 pounds of milk; in the fourth period, 4,907.1 pounds. After the fourth period came a decline and in the seventh period their average yield was 2,862.5 pounds of milk.

The professors report that "A part of the increase should be attributed to their normal development; however, the greater part of the increase was due to superior feeding and milking. The decline after the fourth period of lactation is what one would expect from advancing age."

In the records of the scrub cows all sired by scrub bulls, and which came to the college farm as yearlings or as calves, there is further evidence of the influence of improved care and feeding, for these seven animals had an average production of 3,841.2 pounds for each of the twenty-five lactation periods as against 3,397.1 pounds for twenty-nine lactation periods of the animals that were mature on arrival, an increase of thirteen per cent.

The Blood Tells.

Although environment has more or less influence on production, as the figures show, the introduction of good dairy blood brought marked results in increased production. The first generation of Holstein grades from these scrubs, four in number, showed an average milk production of 5,561.6 pounds for each of twelve lactation periods, as against an average of 3,397.1 pounds for the original scrubs in twenty-nine periods, an increase of sixty-four per cent. The increase in butter-fat amounted to forty-one per cent.

The first generation of Guernsey grades, four in number, showed an average increase of twelve per cent in the quantity of their milk and six per cent in butter-fat. The bull used on three of these animals was borrowed, and proved to be of poor transmitting quality, but the fourth was bred by a college bull, and as a two-year-old produced over 101 per cent more milk and 107 per cent more butter-fat than her scrub dam, developed under superior station care, produced in her best year.

The first generation of grade Jerseys showed an increase of seven per cent in quantity of milk, twenty-four per cent in pounds of fat and fifteen per cent in fat as compared with the group of original scrubs.

Although proper feeding and care will serve to increase results, it was fully demonstrated here, as elsewhere over the country, that the introduction of new and better blood will do much more to increase dairy efficiency. Therefore, this is the answer to the man who desired to know whether he should "Buy-in or Grow-in" the dairy business. The best results will follow where persistent, year-after-year upward breeding is followed, learning by slow but certain methods, the needs of the stock you are handling, and meeting this need.

E. W. GAGE.

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

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

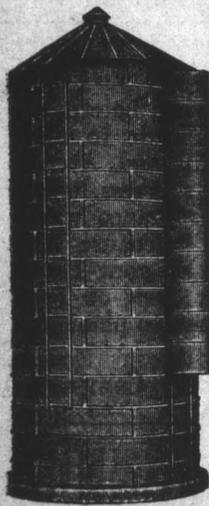
Can't Blow Down, Buckle, Twist or Collapse

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

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

Est. 1850-67 Years Experience

We also make Ross Wood Silos and Ross Silo Fillers



SAVES FEED - MORE MILK AND MEAT

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

"FARMER'S FAVORITE" Feed Cooker and Boiler

Take the chill off water in winter and feed cooked vegetables and grain. Use it to boil soap, render lard, sterilize milk cans, boil spraying mixtures, etc. Will boil four bushels of potatoes in ten minutes. Cooks quickly. Little fuel—coals to chunks. 25 to 100 gal. capacity—six sizes. Set up anywhere. Guaranteed everywhere. Interesting, convincing circulars free.

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



The Cow Waters Herself

With this wonderful new Libbey Automatic Water Bowl. Each bowl controls own water supply. Animal moves lever, opening water valve, when it starts to drink. Lever swings back closing valve when animal stops drinking. No float tank required. Bowls may be put at different heights or in any stall or pen. Cannot overflow; cannot get out of order; almost no water left in bowl. Most sanitary bowl ever sold. Prevents spread of contagious diseases. Increased milk yield quickly pays back cost. Saves labor; saves feed. Write today. Ask for Catalog No. 9 if interested in Stanchions, Stalls, Carriers, etc. \$ at 20c.

C. A. LIBBEY COMPANY 6 Jay St., Oshkosh, Wis.

DAIRY PROBLEMS.

Heavily-eared Silage Corn.

Should the grain ration be the same for dairy cows when fed silage made from corn that would husk 75 or 100 bushels per acre, as if the silage is made from corn that would husk 25 bushels per acre, and each acre have the same amount of stalks?

Tuscola Co. G. B. G.
As strange as it may seem to many, the grain ration should be practically the same. If the corn is heavily-eared and the ears are well matured, that is glazed when cut, the silage will be a little richer in protein than if cut green and when the ears have been removed. But the ratio or proportion of digestible ingredients is practically the same. Corn grown rather thick so there are few ears or only nubbins, analyses about the same as corn grown thin enough so it is well eared. In the case mentioned where you have the same number of stalks per acre you would have many more tons per acre of silage, but the analysis of the crop would vary but little if the corn is cut when just glazed, as it should be for silage.

We should aim to get the greatest number of tons per acre. I think this can be accomplished by planting ten or twelve quarts of seed per acre.

The Lath and Plastered Silo.

I intend building a cow barn and silo. Will a 10x30-ft. silo be large enough for eight cows and possibly two or three yearlings? Being a carpenter myself, I could do all the work, can buy the material for about \$80. Would you advise the lath and plaster silo, are they practical and does ensilage keep good? Would like to hear from someone that knows something about them. What kind of plaster should I use, provided I decide to build of lath and plaster?

Jackson Co. E. B. M.

I would build the silo 10x36 feet to make sure.

The lath and plastered silo is a very good one. It is serviceable and can be built at less expense than most any other kind, because the farmer can do, if he has time, most of the labor himself, but I don't think the silage close to the cement is of as good quality as that close to the wood of a good stone silo; it lacks flavor and aroma.

I have this kind of silo myself and never expect to have any other kind, for they will last indefinitely, but I have found out from experience the facts stated above.

You should use rich cement plaster made of two parts fine, sharp sand and one part cement, a little lime mixed in will do no harm and make the plaster spread better.

How to Determine Contents of Silo in Tons.

How can I determine the contents of a silo, in tons?

Allegan Co. W. G.

Carefully conducted experiments have determined that, on the average, silage weighs about forty pounds per cubic foot. Therefore ascertain the cubical contents of your silo to the height of the silage and multiply by forty. Then divide by 2000, and the result will be contents in tons.

COLON C. LILLIE.

COWS AND ALFALFA.

It is a fact that a combination of cows and alfalfa offer our farmers the greatest opportunity on the farm. It makes an ideal combination for returning to the soil those fertilizing elements, nitrogen, potassium and phosphorus, that are essential for all plant life; while by selling grains, hay and straw you are selling off large quantities of these elements. One ton of corn sold as grain removes as much fertility from your farm as the sale of thirteen tons of butter. The alfalfa returns large quantities of nitrogen to the soil and the other elements, potassium and phosphorus are returned in large quantities in the manure.

Alfalfa is the most valuable rough feed for cows that we have in the le-

gumes. It is the highest in protein content as it contains over twelve per cent, while wheat bran has eleven per cent, oats nine and a half per cent and corn a little less than eight per cent. This would indicate that it is a more valuable feed for cows than wheat bran and yet it only costs about one-fourth as much.

Alfalfa is also highest in digestible proteins of any of the legumes. It yields about 900 pounds of digestible protein per acre, while clover yields only about 500 pounds per acre. As protein is the most valuable element in feed stuffs, you can readily see that it is a much more valuable feed than oats, peas, beets and the like.

Ohio. G. H. CONN.

RAISING GOOD THRIFTY CALVES.

For a great many years I have raised live stock and have built up several good dairy herds during this time. It takes a great deal of care and knowledge to raise a calf properly and as it should be raised. I never had any time for a pot-bellied calf. In fact, I never raised one myself but it is not an uncommon thing to see them being raised right around us. Over-feeding is the cause of pot-bellied calves. Over-feeding with slops and sour milk will surely be the cause of pot-bellied calves and must be guarded against if we want to raise calves that will mature into strong healthy cows and that will be good producers and vigorous. I never feed our calves sour milk at any time and our calves grow nicely and are always free from bowel troubles. The young calves are left with the mothers until her milk is fit for use, which is usually covered by a period of about two weeks, in some cases a little longer. The cow's first milk contains elements necessary for the proper development of the calf. In teaching the calf to drink from a pail, we allow three quarts of milk, which is warm from the cow, twice a day for a week or until such time that the calf has had a nice start. The calves are fed at regular periods just the same as our other stock. This is very important and must be carried out if we want to be successful in feeding and raising calves. After the first week or so we reduce the amount of milk from three quarts down to two quarts of the new milk, and add to it a nice porridge made by cooking two heaping tablespoons of common white flour in one quart of sweet milk taken from the separator. The flour and milk is boiled until it becomes thickened.

We keep a kettle especially for cooking the cereals. Cereals add fattening qualities to make up for the cream removed from the ration.

When our calves are four weeks old the fresh milk is reduced to one quart and the separator milk increased so that it will make up a four-quart ration, which amount is maintained, adding a generous amount of corn meal and once a week a small amount of salt. The calves are now taught to eat dry corn meal, chop, etc. This is easily done. Just place a handful of the chop in the pail right after the calf is through drinking.

It is really surprising how soon a calf will begin to eat shelled corn and other grains. When the calves begin to eat chop and shelled corn freely, we then place some nice clover or alfalfa hay in a box handy, where it can learn to nibble and eat it. When a calf has been carefully fed and it has learned to eat hay and grain it soon becomes a great husky fellow. I have never found any ration any better than hay and corn for growing calves. This seems to be entirely satisfactory and keeps the calf in a healthy, thrifty condition all the time and when turned out on pasture in the spring they grow rapidly into strong healthy animals and are full of vigor.

Pennsylvania. H. W. SWOPE.



DE LAVAL

The First, the Best Known and the Greatest

CREAM SEPARATOR

BETTER NOW THAN EVER BEFORE

THE first practical continuous cream separator, the De Laval has easily maintained its original success and leadership for nearly forty years. Step by step, year after year, by one improvement after another, the De Laval has led in every single step of cream separator development and improvement.

The first belt driven, the first steam turbine driven, the first of every kind of hand turnable, the first disc bowl, the first blade bowl, the first bottom or suction feed, the first split-wing feed, the first feed-through-the-discs, the first self-centering bowl, the first automatically-oiled—all these and a hundred other features of separator development and improvement have been conceived by De Laval inventors and perfected by the De Laval Company, most of them to be cast aside for something still better in the ever onward advance of De Laval construction.

The New 1917 De Laval

And now, in the De Laval machines for 1917, a number of new and still further improvements have been made, which make the De Laval machines of today much better in many respects than they have ever been before.

Their capacities are greater per dollar of cost; they skim cleaner under the more difficult conditions of separator use; they are equipped with the most improved speed regulator, thus insuring the proper speed necessary for complete separation; they are even better lubricated, and the bowl construction is even more sanitary than ever.

In other words, superior as the De Laval machines have always been to all would-be competitors and utilizers of abandoned De Laval features, the De Laval machines of 1917 are improved and superior in every way to all previous types and models of De Laval construction.

All these improvements and new features are described and explained in the new 1917 De Laval catalog now ready for mailing, but some of them are difficult to describe and make fully understood by words.

Be Sure to See a New De Laval

The new De Laval machines themselves best explain their new and superior features, and their use does this more completely and convincingly than even an examination of them. Every local agent is glad to afford opportunity for examination, and better still, for home test of a new De Laval machine.

But the demand for the new machines is a month ahead of the possible supply under the present difficult conditions of manufacture and freight distribution. More De Laval machines by half have been made in 1917 than ever before, but the De Laval Works is now ten thousand machines behind actual orders, and the demand is ever increasing.

Hence, the importance of securing a machine quickly if your local dealer happens to have one, and of ordering well ahead if he does not. And likewise, the importance of waiting patiently a little for a machine if need be.

A new De Laval catalog will be gladly sent on request, and if you don't know your nearest local agent please simply address 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

Cleaner Milk—More Milk

THERE'S a copy of this book for you if you will simply tell us when you expect to build, remodel or equip a barn, and for how many cows. It contains nearly thirty plank frame construction blue prints—also valuable advice on barn sites, drainage, ventilation, arrangement, lighting, etc. Written by W. D. James and his expert assistants in barn planning and equipment building.

"JAMES" Sanitary Barn Equipment

"James" is the sterling mark of barn equipment—and costs no more than ordinary kinds. Stalls, Stanchions, Pens, Carriers, Ventilators, Horse Stable Equipment, Bull-Staff, Trucks, Watering Buckets—all are completely described in the book. You can afford James equipment. Ask about our Step-by-Step plan of equipping. Start right toward bigger barn profits, less labor, bigger milk production. Write today.

JAMES MFG. CO.
DV31 Cause St., Ft. Atkinson, Wis. Elmira, N.Y.
JAMES "Safety-First" Bull-Staff at Your Dealer's
or \$3.25 f.o.b. Ft. Atkinson, \$3.30 f.o.b. Elmira

The Farm Horses

As but few farmers are fortunate enough to profitably employ the gas tractor to furnish the necessary power in the fields, the important question of getting the teams hardened and ready for the strenuous days of seeding should be given careful attention. Most of them don't need to be told how to do this; just a hint by way of emphasis ought to suffice. If, however, the work is to be accomplished with a satisfactory degree of dispatch there will be no economy in a shortage of horses.

Generally speaking, the horse market of late has been at a pretty low ebb, especially if one has an animal to sell—one that is not very bad. But go out and try to buy a really good one, and you will have your eyes opened wide. The ordinary market does not seem to have much effect there. On several occasions recently, I have seen draft teams of the desirable type pass hands at an average price of \$400. The best farmers are almost proverbial in respect to their admiration for good horses. Some will even go so far as to slow up the work all around, rather than be bothered with an inferior animal; and, there are not many who feel they can afford a long price for one that will only be regarded as an extra.

One of my neighbors, finding himself in that predicament last spring, found a solution that proved entirely satisfactory. Providing himself with the services of a reliable veterinarian he went on a little prospecting trip to the city. Operators of breweries, coal yards, etc., have many fine specimens of draft horses which they use for dray purposes. The trouble from the city viewpoint is, that the hauling of heavy loads over the paved streets soon produces a footsoreness that precludes them from further service of that kind. Right here is where the farmer's opportunity comes in. My friend saw the point, and with expert assistance was able to select a team, otherwise sound and young in years, for \$200. Work on the land soon restored the conditions of their feet to normal. Three months after making the purchase he was offered \$350 for the pair. Canada. J. H. McKENNEY.

SHEEP AS A FACTOR IN FARM BUILDING.

We have read with much interest in these columns some articles dealing with the profits to be had from the raising of sheep for wool and mutton. While we don't profess to be a sheep man, or to know much about the relative values of the different breeds of sheep, we have had a little experience on our own hook along these lines which may prove of interest and value to others in the same circumstances in which we were at the time.

We had a little over four hundred acres under cultivation, and what with threshing machine, saw mill, lumbering operations and other irons in the fire, we were not in any rush to get more land in shape. We had eighty acres of cut-over hardwood land which was growing up to briars and brush, and on this we decided to try our hand at sheep raising.

After fencing it with woven wire, we turned in one hundred sheep. At the end of the first season the briars were pretty sick and the June grass was showing up in spots all over the pasture.

The next spring we went over this ground with our axes and cut down all the green trees, and all the brush that was high as our head; as soon as there was feed enough in sight for the sheep we turned them in again, and the young sprouts shooting up from the green stumps made excellent picking. By the end of the season the brush was pretty badly whipped, except in places where tree-tops and brush piles protected it.

(Continued on page 439).

\$1150 F. o. b. Racine
Mitchell Junior—a 40 h. p. Six
120-inch Wheelbase



\$1460 F. o. b. Racine
7-Passenger—48 Horsepower
127-inch Wheelbase

Now an \$1150 Six Much Like the Larger Mitchell

John W. Bate believes that efficiency requires two sizes in Mitchells.

A seven-passenger car, to be roomy, must measure 127 inches from hub to hub. And 48 horsepower is the proper power.

But a 5-passenger car will be just as roomy with a 120-inch wheelbase. And a 40-horsepower motor gives it power enough.

So, to meet both conditions, we this year build a Mitchell and a Mitchell Junior. You don't need to pay for room or power not wanted.

Every Penny Counts

The Mitchell advantages lie in making every penny count. John W. Bate, the great efficiency expert, has spent years here to attain that.

He designed this whole 45-acre plant to build Mitchell cars economically. He equipped it with thousands of special machines. Every part is built here at the lowest factory cost. On this year's output his methods will save us at least \$4,000,000.

There is no other factory like this building high-grade cars.

Hundreds of Extras

You see the result in hundreds of extras—all paid for by factory savings.

There are 31 features—like a power tire pump—which are practically unique to the Mitchell.

We have doubled our margins of safety. This year every vital part has 100 per cent over-strength.

Over 440 parts are built of toughened steel. Many parts are oversize. Many are built of costly Chrome-Vanadium.

In luxury and beauty the Mitchell excels any other car in its

class. The finish coats are fixed by heat, to give a deep, enduring lustre. A rare-grade leather is employed. This year we have added 24 per cent to the cost of these items alone.

See What Men Miss

See what men miss who buy cars without these extra features. See the 31 attractions, most of which are found in Mitchells only. See what luxurious bodies we can give you at these prices, because of our own body plant.

Then consider the value of this double-strength. It means a lifetime car.

See what it means in the Bate cantilever springs. In two years of use, on thousands of cars, not one of these springs has broken.

Those are the reasons why men are choosing Mitchells in such an ever-increasing way. This year our output is increased 2½ times over. Men don't want to miss these extras.

If you don't know the nearest Mitchell dealer, ask us for his name.

MITCHELL MOTORS COMPANY, Inc.
 Racine, Wis., U. S. A.

TWO SIZES

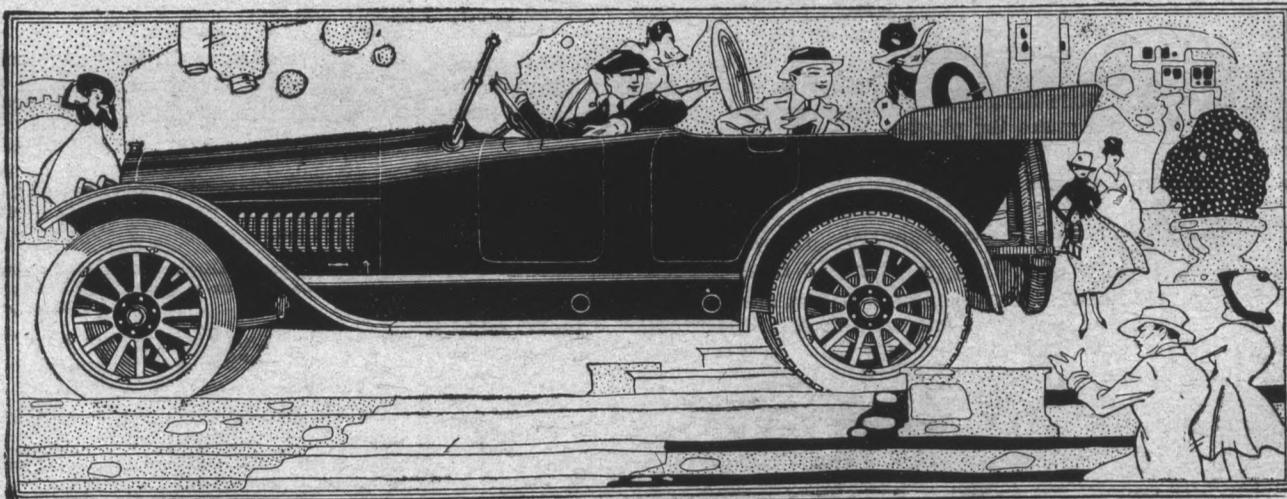
Mitchell—a roomy, 7-passenger Six, with 127-inch wheelbase. A high-speed, economical, 48-horsepower motor. Disappearing extra seats and 31 extra features included.

Price \$1460, f. o. b. Racine

Mitchell Junior—a 5-passenger Six on similar lines, with 120-inch wheelbase. A 40-horsepower motor—¾-inch smaller bore than larger Mitchell.

Price \$1150, f. o. b. Racine

Also all styles of enclosed and convertible bodies. Also demountable tops.



KALAMAZOO SILOS

Will Solve Your Silo Problems

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

Glazed Tile Silos

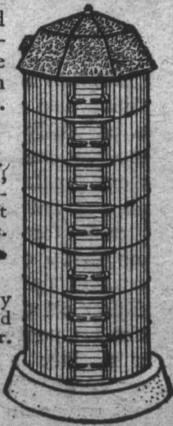
This construction is fire-proof, frost-proof, storm-proof, decay-proof, vermin-proof. Galvanized reinforcing. Requires no paint, no upkeep expense or repairs. First cost is the last cost—a written guarantee goes with every one.

Wood Stave Silos

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

All Kalamazoo Silos are made with Galvanized Steel Door Frames, continuous doors, forming safe ladder entire height of silo.

Write today for our free descriptive booklet, and early sales plan. KALAMAZOO TANK & SILO COMPANY, Dept. 100 Kalamazoo, Mich.



TIRES Made to Order

Guaranteed 6000 Miles at 3500 Mile Price

Every American Tire is sold direct to you. You save dealer's profits.

Tires **AMERICAN** Tubes
 YOUR NAME MOULDED IN EVERY TIRE

assuring new, made-to-order tires; protecting against theft. Made in all sizes. Write for free comparative price chart, showing per mile cost of all standard tires as compared with Americans, and also net prices.

AGENTS Territory open for live representatives. Big money. Write. AMERICAN RUBBER CORPORATION 1974 Broadway Dept. K New York City

LANDOLOGY

FREE

EDITOR, LANDOLOGY, Skidmore Land Co. 308 HALL AVE. MARINETTE, WIS.

A magazine giving the FACTS in regard to the land situation. 3 months' trial subscription.

If for a home or investment you are thinking of buying good farm land, simply write me a letter and say "Mail me Landology and all particulars free." Address

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

THIS is the story of the first boy we know of who attempted to fly, and how it ended. Before I commence the story, we must understand each other or we shall not get on at all. Myth stories are not hope-to-die true stories, but are those the people who lived away back hundreds of years ago believed to be true.

This story of Icarus is one that the fathers and mothers who lived in that very old country called Greece used to tell to their children, and, strange to say, they believed it. If you do not know where Greece is, look it up in your geographies, for it is one of the countries having trouble in the war and there are many bomb dropping

The Wings of Icarus

(A Myth Story)

By MARY L. DANN

Zeppelins now floating above it. Greece is not an oily, messy place, as its name might lead us to think, but one of the most beautiful in the world.

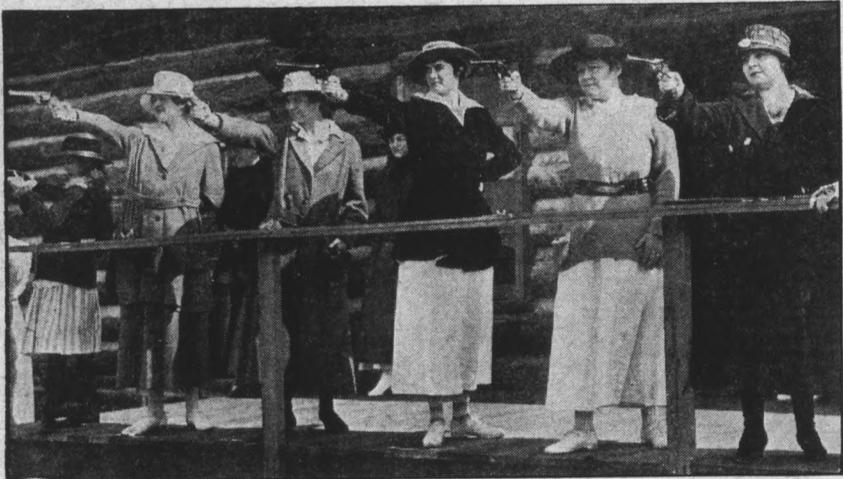
There was a fine city in Greece called Olympia, where the people met every five years, in midsummer, for five days of games and sports. These were called the Olympian Games, and were of five kinds, running, leaping, wrestling, hurling spears and boxing. There were also contests in music and poetry.

The winners were crowned with laurel leaves and their names were known in every home in the land. In this city there lived a carpenter by the name of Daedalus, who built a very strange castle for Minos, the king of Greece. This castle was called The Labyrinth, and it had passages winding and turning in and out and opening into each other, so that if one attempted to go into the building, just as likely as not it would take him a week to find his way out,

if, indeed, he was fortunate enough to get out at all. One man, it is said, starved to death within this castle and no one dared to go in search of him. As a result King Minos became very angry with Daedalus and shut him and his son Icarus up in a tower on an island. Daedalus managed to find a way out of the prison, but he could not escape from the island, as the king kept a close watch on all the vessels.

One day Daedalus said to his son, "Minos may control the sea, but he does not control the air, so we will try and escape that way." There were many large birds on the island and great quantities of feathers drifted about in the winds. These Daedalus

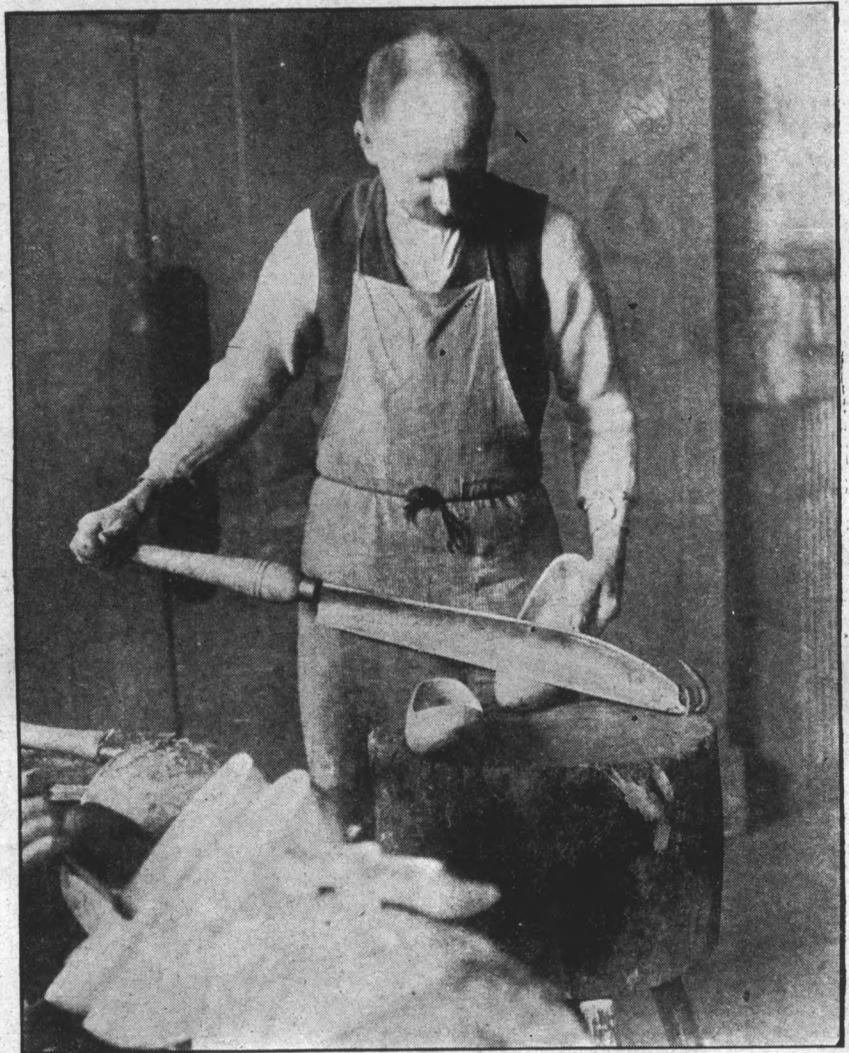
WORLD EVENTS IN PICTURES



Society Girls Imbued with Patriotic Spirit are Learning to Shoot.



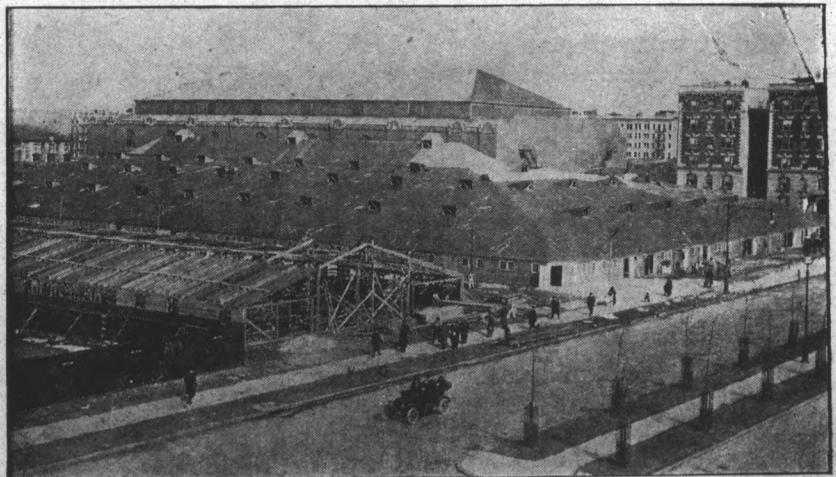
Some of the Results of the Tornado which Swept Ohio and Indiana Recently.



An Expert "Cobbler" Finishing a Pair of Wooden Shoes with a Peculiar Tool Designed to do this Work.



Rifle Permits Accurate Shooting without Exposing Soldiers Head.



Billy Sunday's Tabernacle in New York City Largest Yet Built.

FREE OUR NEW SPRING CATALOG

Send for this Wonderful Money Saving Fifth Avenue Style Book. Smart Styles Low Prices.



You cannot afford to be without it. It is filled with the latest New York styles, at prices so low that they seem to contradict the quality. Send for it today. It will show you how to dress well and save money.

4 E 127

Linene Middy

69c

Prepaid



We Guarantee or Refund Your Money

4 E 127—Linene midie with contrasting colored collar, Also trimmed with very well finished embroidered button lacings. Band at the bottom is of double fabric and the three-quarter sleeves also have a double band cuff. Handkerchief pocket. Colors: In white with trimming in Copenhagen, rose or all white. Sizes: 6 to 20 years. Prepaid..... 69c

4 E 126

VOILE BLOUSE

59c

Prepaid



4 E 126—Voile blouse with neat embroidery in old blue or rose. Has sailor collar and front stitched to match. White voile only. This waist is exceptional value. Prepaid..... 59c

Cost Reducing HOME SUPPLY CORPORATION 80 E Fifth Ave., New York

WANTED position as farm manager. Experienced, Agricultural College training, good references. Box M-331, Michigan Farmer, Detroit, Mich.

DOGS

Fox and Wolf Hounds



of the best English strains in America: 40 years experience in breeding these fine hounds for my own sport. Save your pigs, sheep and poultry. Send 4 cents for catalog.

T. B. Hudspeth, Sibley, Jackson County, Mo.

Fox Hounds of all ages, Skunk and Rabbit dogs. W. E. Lecky, Send 2c stamp, Holmesville, Ohio

SCOTCH Collie Puppies, natural heelers from trained stock, the only kennel that sells spayed females. A few trained dogs on hand. Bath City Kennels, Mt. Clemens, Mich.

When writing to advertisers please mention The Michigan Farmer.

gathered and, commencing with the smaller ones, he fastened them together with wax, until he had made for himself and Icarus each a pair of wings. The father and son practiced in the use of these wings until they could fly all over the island without fatigue.

One beautiful morning Daedalus fastened on his own wings and those of his son very securely, and together they started on their long flight back to their beloved home land. Daedalus kept close watch of his son to see how he was managing his wings and was delighted to see that he handled them with perfect grace. As they passed over land and sea, the fisherman looked up from his boat; the shepherd leaned on his staff to watch, and the plowman stopped still in his furrow, all believing them to be gods. Suddenly Icarus became so delighted with the fact that he could fly that he began

to sail higher and higher, cutting great circles in the air, leaving his father so far behind that he looked like a mere speck in the blue. In vain Daedalus begged of his son to return, he could not or would not hear him. Icarus went on up and up until suddenly he was face to face with the blazing sun, which scorched his white and pink cheeks to an ugly brown and melted the wax which held the feathers in his wings and they all came off. He flutted his arms, but no feathers remained to catch the air and hold him up. Screaming with fright and calling for his father, he dropped headlong into the sea. When Daedalus saw the feathers floating in the blue waters above Icarus, he plunged to the bottom of the sea and brought up the sun-scorched body, which he tenderly buried on a nearby island. This beautiful island he called Icaria, which name it keeps even to this day.

THE CHICK-A-DEES.

BY L. MYRTLE SOURS.

From a tall old stump came a flash of white
With a shadow of gray, then 'twas out of sight.
O, little spirit of the snow,
How quick your movements when you go!
Alas! that your kindred are so few,
This winter I have seen but two.
I saw him once in the box-wood tree
Half hidden from sight—a chick-a-dee.
Again 'neath the window, hopping round,
I saw him pecking on the ground;
A coat of drab, a figure neat,
A yellow bill, and red-brown feet,
A clear cut line across his breast,
And then a lovely whitened vest.
Again upon the garden-ground
Flashes of white were moving round;
O, yes; it was our chick-a-dee—
A pair of them, moving cheerily.
Two coats of drab whirled through the air,
Four dark, spread wings, lined white
were there,
Two yellow bills that kissed each other—

At least, the two bills met together—
Two long, dark tails, all white beneath,
Movements more quick than you can breathe,
Some tender, soft, yet clear cut notes
From out a pair of gray clad throats,
A whirl of drab—a flash of white!—
Our chick-a-dees are out of sight.

EASTER MORNING.

BY MISS Z. I. DAVIS.

The beautiful lilies are blooming,
So radiant, spotless and fair,
Their beauty is seen in the garden,
Their fragrance is filling the air.
The Eastertide comes in the glory,
Of music, of gladness and light,
With joy for the hearts that are broken,
To turn into morning, their night.
The chime of the bells is repeating,
The never-forgotten refrain,
That Christ, the Redeemer is risen,
That Jesus, the Lord, lives again.
The roses, the ferns and the lilies,
With love and true gladness we bring,
And scatter them all in His pathway,
To honor the Lord and the King.

"Mister 44" By E. J. RATH

Stoddard sat watching her, trying to obtain a glimpse of her face, which she kept steadily averted from him. Of a sudden the same magic thrill as that which had swept over him that instant when she was almost in his arms, back on their island, surged in his blood again.

He reached for her hands and seized them.

"Sadie!"

He spoke rapidly now with joyous confidence.

"I love you. I want you. I need you! I'm going to have you. Do you understand? I've found you and I'm going to keep you. That's why I followed you here. You know it. I would have followed you anywhere, and forever, until I found you."

"I love you. Do you hear? I love you!"

Her hands stirred in his grasp; she shrank from him.

"Don't!" she exclaimed.

"I will. You belong to me. You love me."

She drew away from his grip with a sudden motion and struggled to her feet. Stoddard leaped up, but she held him from her with a gesture.

"Don't! I can't bear it!"

"I tell you—"

"Stop!"

There was a ring of command in her voice.

"You mustn't say it. I mustn't listen. I thought it all out—after he asked me the question."

She hesitated; then went on desperately:

"Yes, it's the question he asked. I knew the answer. There couldn't only

be but one. He wanted to know—what the woman would do if she really loved the man! That was it! And what would she do? You know—I know. There ain't any other way!"

Stoddard's eyes glowed as he watched her. She was facing him bravely now, not flinching from his gaze.

"He said that love meant a sacrifice," she went on rapidly. "He's right. He knew it. It does mean that. A woman can't drag down a man she loves. If she isn't meant for him, she's got to give him up."

"There! I've said it because you made me. I've said I love you. It's true! And it'll always be true! I can't never stop that. But that's all it'll ever be, because—because I love you too much to hurt you!"

With a cry of triumph he brushed aside the arms that tried to ward him off and drew her against his breast in a mighty embrace.

"God bless you!" he murmured. "I knew you loved me."

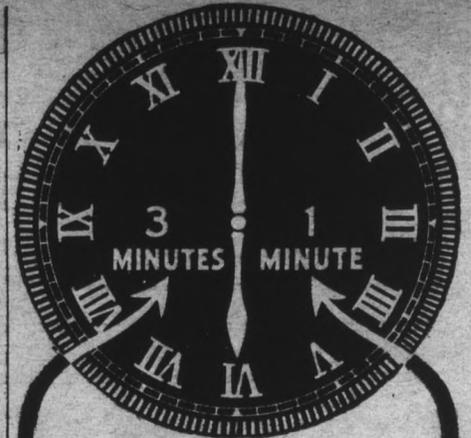
She struggled in his arms sobbing, but he held her fast.

"Don't!" she gasped. "You mustn't! I got to give you up. I ain't fit for you. We're different. Think—your mother, your sister! Ah, let me go!"

He was smiling down at the bronze hair that lay against his ragged flannel shirt. Gently he bent his lips to it. Then he began talking to her as if she were a child to be comforted.

"Cry, if you want to, dear. It doesn't make any difference. I've got you now. I'm not going to give you up, and you couldn't give me up if you wanted to."

"You haven't looked deeply enough



The Curtis Form-a-Tractor \$350.00

A Tractor and Power Plant Combined
Does everything that a heavy tractor will do—at the draw bar or belt pulley—adapted to all soil and weather conditions—the most sensational farm machinery development for years.

Has the Pulling Power of 12 Autos
Your automobile engine utilized to revolve the two tractor wheels—no strain on working parts of car—auto axle merely turns pinion gears develop twelve times the engine pulling power—and all the engine power for belt work.

Cost No More than your Auto to Run
No more gasoline to run the Curtis-Form-a-Tractor than required for your auto. Starts on high and runs on high. Powerful fan prevents heating under most extreme working conditions. Guaranteed to give satisfaction in every detail—and to outpull any similar device of like power.

Does All Belt Work
Belt pulley for belt work included. Run the separator, saw, fan, feed grinder, engine cutter, or any other heavy farm machinery. Get the full engine power at the belt pulley.

FREE Subscription to Chicago Tractor News

Get on the mailing list for the Chicago Tractor News—our free publication for those interested in power farming. Check full of interesting tractor facts for farmers, also tells all about the Curtis-Form-a-Tractor—the wonderful tractor for \$350.



AUTO TO 3 MIN. | MIN. TO AUTO
COUPON CUT THIS OFF

Rare opportunity—distributors, dealers—all or part time—exclusive territory—liberal profit. Territory assigned in order of application. Wire or write fully. Big farmer demand limits open territories.

Send this coupon with your name and address for FREE Subscription—Chicago Tractor News—FREE Curtis Form-a-Tractor Company, 301 Straus Building Chicago, Illinois

DEPUY'S SEEDS

ARE FIRST AID TO GOOD CROPS

They are Tested for Purity and Germination.

Our Free Seed Book describes hundreds of well-tried standard varieties and novelties FOR GARDEN and FIELD

It is different and well worth a careful perusal. Your name and address on a postcard will bring a copy. It tells what growers in all parts of the country say about "CRIMSON BEAUTY," The Best Tomato Crown. THE C. E. DEPUY CO., FONTIAC, MICH.

SEED OATS M. A. O. Worthy and New Victory varieties. Big yields, stiff straw, good seed, well cleaned. Price \$1.25 per bu., less than 10 bu. 25c extra for sacks. 10 bu. or more sacks free. JENNINGS FARMS, V. M. Shoemith, Gen'l Manager, Bailey, Mich.

WANTED—Working Farm Foreman for 150 acre, up-to-date dairy farm near Detroit, Mich; must be familiar with general farming. Having about 30 pure bred Holsteins. Ship milk. Monthly salary, board and room. If married wife must board men. No children. State age, experience and salary expected to start with. Box S 331, Michigan Farmer, Detroit, Mich.

Wanted Position as forman on farm. Perfectly capable to manage general farm. What have you to offer. Widower with boys. Clay R. Spratt, 411 1st Ave., Flint, Michigan

into your heart, Sadie. Do you think that I haven't thought of all the things you thought? Ah, but I have, dear! I went over it all. And I found it all false and shallow and unworthy of a sacrifice. And there cannot be any—and will not.

"We love each other. That is the beginning and the end of it."

She sobbed quietly in his arms without an effort to release herself.

"So you must put it all out of your dear, foolish head," he went on softly. "Do you think I care if you do not always talk as other women do? I love you."

"Does it matter to me that you worked in a factory? I love you."

"Does it make any difference because somebody sent me to school and forgot to send you. I love you."

"Nothing can stand against that. Nothing will. Look at me, Sadie!"

She stirred a little. He heard her whisper:

"You're—sure?"

"You know it!"

Suddenly she lifted her head and met his glance steadily. He saw a wonderful light in her gray eyes. They were timorous no longer, though her lips trembled and the tears were still on her cheeks. Then her arms were flung around his neck fiercely.

"I won't give you up!" she panted. "I can't! Maybe it's wrong; I don't care! You said I belonged to you—and I do! And you belong to me! I—I tried to give you up, and something won't let me. So now it's forever! Ah, Jack—Jack! Hold me close!"

For a little they stood thus, Sadie clinging to him in silence, while the little brook ran tinkling onward at their feet. The brook was very old and love was very old, so there was nothing to pause and wonder at.

An hour later they were laughing with the brook. Stoddard was finishing a narration of his detention by the immigration officials and of their tribute to the bona-fide evidence of Sadie's citizenship.

"I did talk pretty plain," she confessed. "Slangin' helps once in a while, even if it ain't proper."

When he reached the tale of the Shrimp and the spanking, Sadie became almost hysterical. She hugged her big man in delight and begged him to tell it all over again.

"I could 've done it myself," she said a little proudly, "only it wouldn't 've looked dignified."

"Alys thought it was great," he added.

"Alys?"

"No. 17."

Sadie bestowed upon him a look of swift scrutiny.

"Where'd you get that Alys stuff?" she demanded.

"Oh, we got to be good friends," said Stoddard with affected carelessness, although his eyes were twinkling.

"Oh, you did!" exclaimed Sadie disdainfully. "You mean that blonde with the frizzes."

"Yes; nice-looking girl. She offered to teach me to dance."

"Oh, I bet she did! And you thought she was good-lookin', did you?"

Sadie had bridled at the mention of the name and now she was trying to look offended.

"Just good-looking, I said," explained Stoddard. "Not beautiful."

His eyes were watching her as he spoke. Sadie became mollified.

"Am I really beautiful?" she asked.

"Haven't you ever thought so yourself?"

"I knew I was good-lookin', she admitted. "It ain't no harm for a girl to know that, I guess, providin' it's true. But I guess I wasn't ever stuck up over it. But beautiful—Well, that sounds like a lot more."

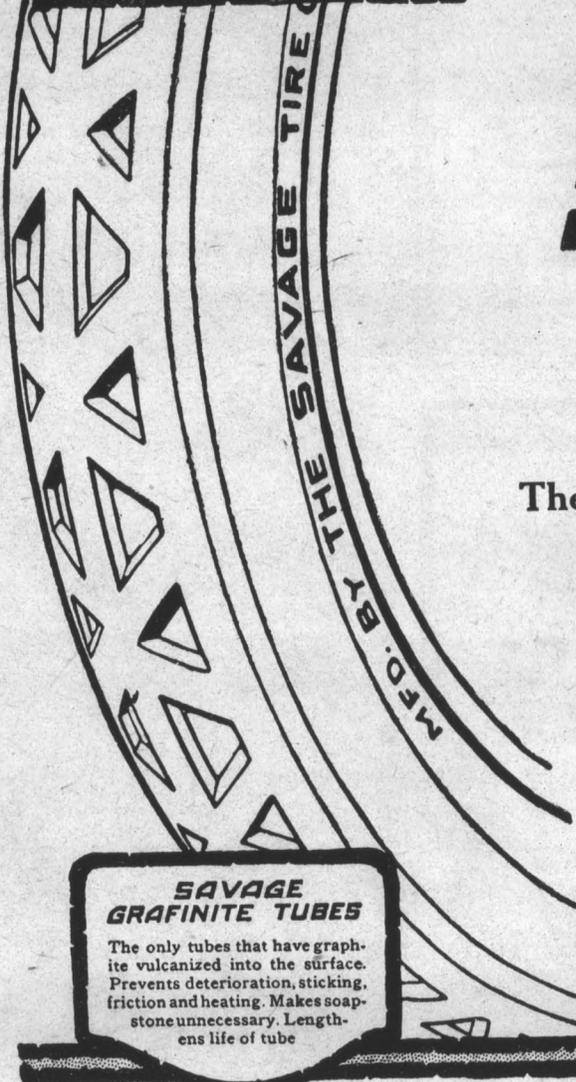
"It is."

"I hope so, anyhow," she added seriously. "'Cause I got to be something, Jack, just on your account. I ain't got

Heap big mileage! Value

PRICES			
F. O. B. Nearest Branch or Distributor Terms, C. O. D.			
SIZE	PLAIN TREAD	SAVAGE GRIP	GRAFINITE TUBES
30 x 3	\$11.50	\$13.80	\$2.95
30 x 3 1/2	14.60	17.55	3.60
32 x 3 1/2	16.70	20.00	3.85
33 x 4	22.55	25.90	4.90
34 x 4	23.15	26.60	4.95
36 x 4	25.90	29.80	5.15
35 x 4 1/2	34.20	39.20	6.30
36 x 4 1/2	34.70	39.95	6.50
37 x 4 1/2	35.80	42.10	6.60
37 x 5	40.70	46.30	7.65

Adjustments on basis of 4500 miles



**SAVAGE
GRAFINITE TUBES**

The only tubes that have graphite vulcanized into the surface. Prevents deterioration, sticking, friction and heating. Makes soapstone unnecessary. Lengthens life of tube

"Heap big mileage" at no greater cost than for ordinary, low-mileage tires—that's the Savage idea of value.

And there's no guesswork about the price—you always know that you will pay the same for Savages anywhere. Every Savage dealer has the same Standard Price List.

High mileage, low cost per mile—tire satisfaction. Sold from factory to you through our own distributors.

SAVAGE TIRES

Heap big mileage!

Distributors Everywhere
The Savage Tire Corporation,
325 East 33rd Street, Chicago, Illinois

Branch Store:
MICHIGAN SAVAGE TIRE SALES CO.,
Grand River Ave., Detroit, Michigan.



Farm Hands Wanted

Western Canada Farmers Require 50,000 American Farm Laborers AT ONCE!

Urgent demand sent out for farm help by the government of Canada. Good wages. Steady employment. Low railway fares. Pleasant surroundings. Comfortable homes. No Compulsory Military Service. Farm hands from the United States are absolutely guaranteed against Conscription. This advertisement is to secure farm help to replace Canadian farmers who have enlisted for the war. A splendid opportunity for the young man to investigate Western Canada's agricultural offerings, and to do so at no expense. Only those accustomed to farming need apply.

For particulars as to railway rates and districts where labor is required, or other information regarding Western Canada, apply to

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

Pull Out The Stumps *With The Hercules*

Triple-Power Portable Stump Puller

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

HERCULES MFG. CO., 937 25th St., Centerville, Ia.
HERCULES HAND POWER—Pulls 125,000 Lbs. Ask About It.

Seed Corn Reid's Yellow Dent, Early Learning and White Cap. Samples and catalog free. Theo. Burt & Sons, Melrose, Ohio.

For Sale Seed Corn. Pride of Michigan. Germination guaranteed better than 98%. Sudan grass Michigan grown. H. L. Cole, Palmyra, Mich.

Make More Money!

I want eager, ambitious men, the kind that like to clean up \$40 to \$50 a day. I'll make them winners. Men are getting rich, selling my wonderful 12 tools in one. Pulls posts, stretches wire, fixes wheels, etc. Write me immediately.

P. J. Harrah, Pres.
The Harrah Mfg. Co., 14 Spring St., Bloomfield, Ind.

CLOVER & TIMOTHY \$4.00 BU.

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

SCOTT'S FIELD SEEDS

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

CLOVER SEED

Write us and we will send free sample envelopes. Then send us a sample of your clover seed and let us make you an offer either machine run or after cleaning.

W. L. IRELAND & CO., Grand Ledge, Mich.

CLOVER AND TIMOTHY 4.00 BU.

45 LBS., BAGS EXTRA 25c EACH, 20 PER CENT CLOVER

YOUNG-RANDOLPH SEED CO., Owosso, Mich.

SEED BARLEY \$2.00 BU

RECLEANED. BAGS EXTRA 25c.

YOUNG-RANDOLPH SEED CO., Owosso, Mich.



**"Think of it!
The price hasn't
gone up for
these fine
Clothes!"**

Yes, think of it! It will pay you to look into this, see the fine clothes, try them on, and then be astonished that such fine style and sturdy wearing qualities can still be bought for \$17! A great demand centered on this suit of one nationally-known price has enabled the makers to effect great economies and keep the price \$17, as before. Get your suit today!

You know the price before you go into the store—\$17 always, everywhere. Watch your local newspapers for advertisements of the nearest Styleplus Store. Look for Styleplus in the Store Window. Look for the Styleplus Label in the coat collar. If there should not be a Styleplus Store in your town, ask your favorite dealer to order a Styleplus suit or overcoat for you.

Style plus all wool fabrics + perfect fit + expert workmanship + guaranteed wear
Write us (Dept. H) for free copy of "The Styleplus Book."

HENRY SONNEBORN & CO., INC. Founded 1849 Baltimore, Md.



Styleplus \$17
TRADE MARK REGISTERED

"The same price the nation over."
(In Cuba \$23)

FREE
Wonderful Money Saving
Fence Book. Over 150 Styles. 13¢ Per Rod Up
Gates-Steel Posts-Barb Wire
DIRECT FROM FACTORY-FREIGHT PAID
All heavy DOUBLE GALVANIZED WIRES. 12¢
per rod up. Get free Book and Sample to test.
THE BROWN FENCE & WIRE CO.,
Dept. 49 - Cleveland, Ohio

FOR SALE
Agricultural Limestone
running 98% pure. This lime is in ideal condition for
applying to the soil, either mechanically or by hand.
Write for prices in car lots or in small quantities.
E. I. du Pont de Nemours & Co.,
Bay City, Michigan.

LIME Pulverized limestone for "sour"
soils. Write for **LOW PRICES**
DIRECT TO YOU and we will
send sample and full particu-
lars. Write to office nearest you.
LAKE SHORE STONE COMPANY,
Muskegon, Mich., and South Haven, Mich.

AGRICULTURAL LIME Northern Hydrated
Limestone, also pulverized burned lime, all made from
high calcium limestone. Guaranteed to be the best on
the market. Your inquiries solicited. Samples fur-
nished on request. **Northern Lime Co.,** Petoskey, Mich.

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

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

CABBAGE Protect your early cabbage, and caulif-
MAGGOT flower from this pest. A. B. C. Plant
Protectors. Circular. Can't. Curri
felt pads slip on the plant directly
after setting and insure 90 to 100 per cent crops.
FREE SAMPLES. Price \$2.00 per thousand. Plant
Protector Co., 29 South Water St., Rochester, N. Y.

FOR SALE
Early Ohio Potatoes for Seed
Grown in the famous Red River Valley of Minnesota.
CHAS. W. RUDD & SON
518 West Jefferson Ave., Detroit, Mich.

SOY BEANS Early Wonder Variety. White
Pea Bean. Prolific yielders.
Mature from seven to fourteen days earlier than com-
mon navy beans. As fine seed as ever grown in Northern
Mich. **F. E. Arthur,** Bellaire, Michigan.

FREE! My Big New Farm Gate
BOOK Postpaid
I want every landowner to have my big Free Book
of Farm Gates. Tells how to make 5 year guar-
anteed **CANT-SAG** Gates at home in your
spare time and save dollars. Shows why these
easy swinging Gates never sag, drag, rot out or break
down - yet cost less than any other. Write today.
ALVIN V. ROWE, President

"Cant-Sag" Gates

Costs Less than All Wood—Lasts 3 Times as Long
Made with either 4 or 6 inch boards, double-bolted between 6
angle steel uprights—not screwed or nailed. No nails to gather
rust or pull out—no wood joints to collect water and rot. Can
be furnished with Elevating Attachment.

GUARANTEED 5 YEARS—30 DAYS FREE TRIAL
Catalog shows complete Gates ready to hang or just the Gate
Frame, hinges, bolts, etc. (everything but the boards.) Postal
brings Catalog—free—postpaid. Write. **ALVIN V. ROWE, Pres.**
OWE MFG. CO., 2912 Adams St., Galesburg, Ill.

**The Leader of
all Cushion Shoes**

Mayer

**HONORBILT
CUSHION SHOES**

For men and women

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

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

FREE

TO LANDOWNERS
Handy Pocket Size of Ropp's
New Calculator—saves figur-
ing, prevents mistakes. An-
swers almost any farm problem.
Sent free with catalog of

**Square Deal
Fence**

to any farmer who has
not already received a
copy. Catalog shows
why **SQUARE DEAL**
FENCE outlasts all
others; why it stays
tight and trim the year
around. Write for these
free books today.

KEYSTONE STEEL & WIRE CO.
2548 Industrial Street, Peoria, Illinois

**Answers
Almost Any
Question
That
Arises on
the Farm**

anything but my looks right now. But I'm going to have! And it's goin' to be an awful big job for you."

"What do you mean, Sadie?"

"I ain't goin' to be a wife that you'll be ashamed of. That's what I mean. You can hide me at first, but I won't always stay hid."

"You see, it's this way: Right now I ain't fit to be taken nowhere among your kind of people. I'd shame you. I'd shame myself, too. They'd laugh at me. I couldn't blame 'em either. And if they laughed at you on my account it'd nearly kill me."

"That's why I ran away. I never understood exactly the difference between some women and others till I seen your mother. Then it came to me right off what I really was. And then when Mr. Livingston talked to me I seen more of it. I seen it on your account, too. So I just had to go away."

"I didn't dare wait for you to come back. I knew what you was goin' to say to me; you'd almost said it. And once you'd ever told me I wouldn't've been able to go. I wasn't strong enough for that, Jack."

"But you tried to give me up only a little while ago," he reminded her.

"Did I? I'd almost forgotten. Seems now like I couldn't've meant it. Because if anybody told me I'd have to give you up now there'd—Well, there'd be fightin', I guess. But now we've got each other—"

She paused momentarily as if the phrase pleased her.

"Now we've got each other," she repeated, "I got to be raised up till I stand level with you. I got to be educated."

"I love you as you are," he declared vehemently.

"I know," she nodded. "That makes me think there's something to me. But I don't love myself as much as I used to; not since I met you—and wanted you. Always, years back, I'd been promisin' myself that some day I'd learn things, but the time never came round. It's come now."

"That's why you've got an awful big job, Jack. You got to help me. You got to teach me. I can't stay ignorant any more. You will, won't you, boy?"

"I'll do anything for you, Sadie," he said solemnly.

Sadie lifted her head proudly. There was the light of a great resolve in her calm, gray eyes.

"I'm goin' to be a credit to you some day, Jack," she said quietly. "Maybe it'll be years, but it'll come. I know it."

Darkness had come when Stoddard and Sadie climbed aboard a city-bound car at the trolley terminal. They talked but little on the journey back. His own mind was filled with reverent wonder at the strong, clean-souled woman who had come so strangely into his life, while in Sadie's there were deep peace and content—and a rainbow.

He had twenty-six cents in capital when they entered the telegraph-office to inquire if a reply to his message had been received, while Sadie was in but little better financial tsate. Stoddard breathed a sigh of satisfaction as the clerk counted a pile of bills and shoved them across the desk.

"We'll be civilized in an hour if there are any stores open," he said.

"I kind of like you the way you are," she said.

They were leaving when the clerk called Stoddard back.

"There's a message, too," he said, tossing an envelope upon the counter. Stoddard read it and frowned.

"Bad news?" asked Sadie.

He handed her the telegram. She read:

Money wired as per your telegram. Have just signed railroad-construction contract for Argentine. Can you be ready to take steamer sailing in three days?

"Where's Argentine, Jack?"

"South America."

"And how long 'll the job take?"

"I don't know. A year at least."

He stood with a blank look on his face re-reading the message.

"Well, why don't you answer it?" asked Sadie.

"But what am I going to say?"

"Say 'Yes.'"

"But for a year! I can't wait for you that long, Sadie!"

"You won't have to. I'm goin' with you."

"But—"

"It's the chance I need. A year's studyin'—where nobody can laugh at me."

"You mean you'll—"

"Marry you any time, Jack."

She put her hands on his shoulders and smiled up at him, but her eyes were grave.

"I ain't a doll-baby, dear," she said. "I'm a woman. Wherever you go I'm goin'. That's my idea of a wife."

CHAPTER XXI.

Reunion.

Another September had come in the Deepwater. It was glowing and golden wherever the lake stretched. But there was one green island upon which the sunlight seemed to rest like a benediction. It was an island quiet and sturdy, knowing its own strength and happiness and being content.

In a little brown glade among the trees stood a tent, the flap thrown wide. There was an orderly stone fireplace near by, from which wisps of blue-gray smoke ascended. A bench and a table had been built between convenient trees. There was a pile of cut wood at one side of the clearing.

A green-bottomed canoe lay on the shore a few yards distant. On everything the sun was shining, while a soft breeze came in from the lake, bearing freshness and the sweet scents of early fall.

A woman stepped out of the tent and stood for a moment watching the water. She was tall and straight and fair, even through the smooth, brown tan that lay upon her cheeks. Her deep bosom rose and fell softly under an olive-drab throat. There was a red scarf at her throat. A broad-brimmed sombrero of felt shaded her eyes. From beneath it strayed strands of flaming bronze. Her tan skirt fell a little below her knees, where it was met by high-laced boots. A leather belt girdled her waist.

In her simple costume she gave the impression of a woman richly dressed, a woman who fitted her environment, knew it, and was satisfied.

She stepped across the little camp, looked in each direction along the shore; then cupped her hands at her lips and called:

"O-o-oh, Jack!"

An answering hail came faintly from somewhere beyond a jutting point. She began following the shore in the direction of the sound. Presently she met a man. Save in one particular, he, too, was stoutly dressed for the woods. His shirt was old and worn and patched, and there were the marks of careful stitching where a rent had been closed in the shoulder.

"How do I look?" she asked.

"Magnificent."

"I put on my very best. How is it from the back?"

She turned slowly while he surveyed the costume.

"Couldn't be better. You're absolutely stunning!"

She smiled and nodded despairingly.

"You always say that," she said, "no matter how I look."

"But it's true, Sadie."

"I hope so. But I'm always afraid of your praising me, even when I don't deserve it. When will she be here?"

"Soon, I think."

"Don't you want to change that shirt of yours?"

She was eying the patches critically.

"Never! It's my lucky shirt. See what it brought me!"

"It won't stand much more mending," she said, smiling reminiscently. "But I can't make you give it up, it seems."

She spoke slowly and with an odd precision in her voice, as if each word and sentence that came to her lips passed rigid censorship before utterance was given it.

The big man slipped his arms about his wife. They strolled slowly in the direction of the camp.

"I'm a little frightened," she said with a nervous laugh.

"I'm not," he declared promptly. "It's going to be an instant and complete victory."

"I always think she'll never forgive me, Jack—for taking you. What do you suppose she thinks I'm like? She's never had even a picture."

"I told her what you were like every time I write. She knows that you are very wonderful."

Sadie patted his shoulder indulgently.

"You don't understand women yet," she said. "It doesn't count—what a man says about the woman he loves."

Your mother won't decide until she sees."

"But I know her decision." He nodded confidently.

"I mustn't forget to talk slowly," she went on. "I'm not very bad when I stop and think carefully. Am I, Jack?"

"I simply marvel at you dear. Oh, but that's true! I didn't believe any person could do it in a year."

"That's because we went away where I could have my schoolmaster all to myself. I liked it down in Argentine, Jack. I could get away from everything and study," was her explanatory reply.

"We may have to go again." "When?" She spoke quickly and anxiously.

"Not for a year, at least. Perhaps not then. But there's a likelihood."

"A year? Oh, that's all right." She smiled enigmatically and tightened her arm about his shoulders.

Their year in a far land had been a wondrous one for Sadie Stoddard. She had seen her big husband doing serious things, fighting and conquering and patiently hewing obstacles from his path.

(Concluded next week.)

Better Bird Protection

By L. H. COBB

RECENT years has seen a great awakening among the farmers in the line of bird protection, but there is still room for more earnest effort. If farmers would unite and ask their representatives in congress and the state legislatures for protective statutes, the measures would likely be granted. It is the failure to unite in asking that prevents favorable action. Especially is this so where there are no aggressive interests to object; and bird protection falls under this class. The people who will fight rigid laws to protect insect eating birds, and successful systems of enforcing these laws, are but a handful compared with the multitude who favor bird protection. It is only that we are lax about expressing our wishes and asking our representatives to act that we do not have good bird laws.

The great trouble is that farmers generally are not well informed as to what birds do for them, and the birds that are among the most valuable are sometimes killed at sight. Just the other day I heard one man lamenting that he didn't have his gun handy to shoot an owl he saw flying around over his chicken lot early one morning. It is doubtful if that owl ever caught a chicken, for owls hunt at night when chickens are on the roosts. He argued that the owl would catch the chickens roosting in the open; but he never heard any fuss among his chickens roosting outside; and the fact is an owl cannot see well enough to do much damage unless the object he seeks is moving. An owl flies silently and chickens sleep soundly, so it is not likely the owl would ever dream a chicken was near even if he flew ten feet above them. If one of them should move, though, he would probably seal his doom. Roosting birds would have no protection from owls were it not for this. Night prowling animals furnish the bulk of the owl's diet; the very animals that man finds it hardest to combat.

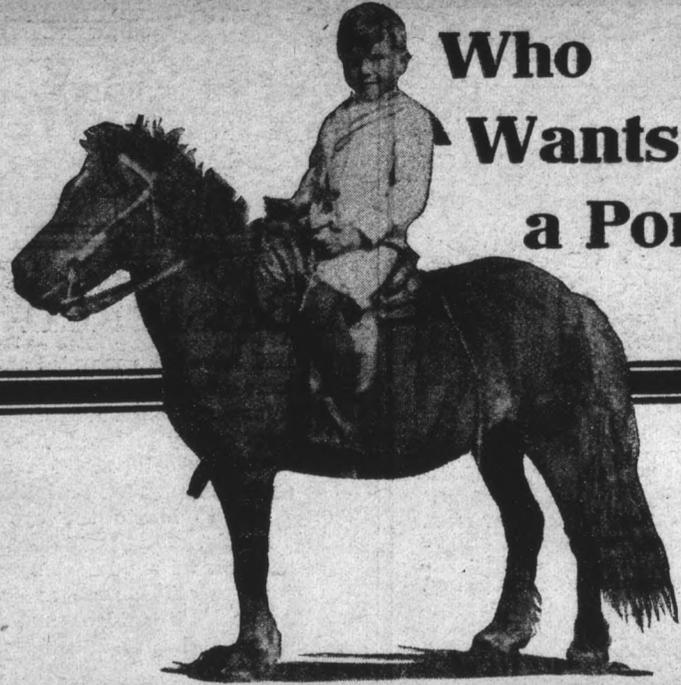
Nearly all our native birds are insect eaters, and even that foreign pest, the English sparrow, will eat some insects at times, though it is mainly a grain eater, and harvests immense quantities of kaffir corn and other grains without the owner's consent. One season I had some locust trees badly infested with a small green worm, and I saw dozens of sparrows searching through the trees for these worms. This is the only case I know of that I ever knew sparrows to do anything useful. The jaybird is an-

other rascal that is given little credit for doing good, but I saw one flying from my tomato patch bearing one of those disgusting big green tomato worms. I saw others searching through the tomato vines, so I am sure they eat worms, and like good large bites at that. I had several hundred vines, and in many places I found evidence of worms having been there, but we killed but few worms ourselves.

The corn ear worm is a pest that is hard to reach, and yet I saw a pair of yellow birds about as large as a robin working industriously in my sweetcorn patch one season. I sat and counted the worms they flew away with and was surprised at the frequency of their trips, for it didn't seem to take them long to find their worm. They caught over a dozen that evening while I was watching them. I watched them work, but I could never see how they did it. I would see them settle on an ear, and in a moment they would fly up with the worm, without any digging or tearing that I could see. They didn't get a worm from every ear by any means, though I have an idea the worms were there. Probably they could only get those conveniently located, though it was full-sized worms they were carrying away.

Last fall I was in the woods for an outing, and sat still for awhile and watched the birds. It was in October, and many of the birds were absent, but I saw five or six different kinds busy searching the trunks and limbs of the trees for insects. They belonged to two families, the woodpeckers and warblers, and they were rustling for worms that afternoon in a way that proved their usefulness. I have seen these same kind of birds in the orchards searching the fruit trees, and the codling moth larva is thinned out to a great extent by them. The little black and white spotted woodpecker and some of the warblers resemble each other so much you would hardly recognize the difference, and it does not matter. Hand out some suet for them when it is cold, and encourage their visits to the orchard and it will pay. Where wild haws and crabapples abound probably the birds do as much good for you in the woods as in the orchard, for these wild trees are regular incubating plants for orchard pests. The birds see to it that the pests do not flourish uninterruptedly on these hosts and thereby lessen to a great degree the constant danger to nearby orchards, due to the presence of these insects and diseases.

Who Wants a Pony?



Ponies Given Away

I am the Pony King of America. I give Ponies away to boys and girls. I have given away 445 Shetland Ponies to 445 boys and girls—all over the United States. Now, I am going to give away 5 more Ponies—beautiful, silky, long-haired, playful Shetland Ponies, five of the finest Shetland Ponies I could find. I picked them out myself. I am going to give them away to boys and girls and I want every family that reads this paper to stand an equal chance.

If you are a boy or girl send me your name right away. If you are the father or mother of a boy or girl send in your child's name. I will enter the name in my big Free-for-All Pony Club that starts right away. No matter where you live, no matter how young, every child will stand the same good chance to get a Pony, with Buggy, Harness, Saddle, Bridle and Blanket. Be sure to send your name right now.

THE PONY KING, 323 Webb Bldg., St. Paul, Minn.

Just Send Your Name

Send me the Pony King's list to get one of the Ponies you are giving away.

Name _____
P. O. _____
State _____
R.F.D. _____
Age _____

Children Write your name in the corner and send it right in. You will surely get the Pony pictures and maybe get one of the real live ponies.

Parents Your child stands the same good chance as any other child to get a Free Pony. Send in the child's name. Remember, five ponies are to be given away.

Plenty of Water for the Home

See that your family enjoys the same comfort afforded to your stock—an abundance of pure fresh water at all times. You can easily install a water system in your home and barns and have plenty of water with one of

GOULDS PUMPS
FOR EVERY SERVICE

Over 300 types—all rigidly tested and guaranteed to do the work for which recommended. Write today for our free book, "Pumps for Every Service." Address Dept. 19.

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

Send today for this book.

Goulds Fig. 1454 Deep Well Working Head for air pressure or elevated tank water systems

Canada Offers 160 Acres Land Free to Farm Hands

Bonus of Western Canada Land to Men Who Assist in Maintaining Needed Grain Production.

The Demand for Farm Labor in Canada is Great. As an inducement to secure the necessary help at once, Canada will give one hundred and sixty acres of land free as a homestead and allow the time of the farm laborer, who has filed on the land to apply as residence duties, the same as if he actually had lived on it. Another special concession is the reduction of one year in the time to complete duties. Two years instead of three as heretofore but only to men working on the farms for at least six months in 1917. This appeal for farm help is in no way connected with enlistment for military service but solely to increase agricultural output. A wonderful opportunity to secure a farm and draw good wages at the same time. Canadian Government will pay all fare over one cent per mile from St. Paul and Duluth to Canadian destinations. Information as to low railway rates may be had on application to

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

FOR SALE Kirstin one man stump puller. Large No. 12 machine. 10 months old. Used only a few days. Reason for selling moved to city. Outfit complete with cables, power pulleys, bar and machine, also group cable, all in good condition. Catalogue price \$81. Will sell for \$50. A. L. Leslie, 835 Asbury Ave., Evanston, Ill.

(Strawberry Plants)

of all kinds. A fine stock of Everbearing Strawberries at right prices. Red and black Raspberries, Blackberries, Gooseberries, Grapes, Red and Black Currants. All first class stock. Satisfaction Guaranteed. Catalogue free. Bridgman Nursery Company, Box 1, Bridgman, Mich.

STRAWBERRIES All Varieties Catalog Free
Rokely's famous Michigan plants. Only hardy well rooted stock. All varieties—Strawberry, Raspberry, Blackberry, Currant, etc., including the EVERBEARING STRAWBERRY. Write today sure for free catalogue. J. N. ROKELY, BOX 98, BRIDGMAN, MICH.

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

PEACH TREES 25,000 fine trees for sale. List free. Lindsleys Nurseries, Whitehouse, N. J.

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

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

SEED OATS. Larger and better crops by use of the Great Dane and Golden Fleece. Pedigreed seed. Write for sample and price to W. J. MERRIAM, Almont, Mich.

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

New Victory Seed Oats for sale. \$1.15 per bu., sacks included with 2 bu. or more. Knowles Bros., Asali, Mich.

Air Dried Michigan Yellow Dent seed corn, grown in Shiawassee County. \$5.00 per bushel. H. C. OVEN, Ovid, Michigan

Here's Hosiery for Everybody



Long-wearing hosiery for men. Good-looking, ravel-proof hosiery for women. And children's hosiery extra reinforced throughout.

Durable
DURHAM
Hosiery

FOR MEN, WOMEN AND CHILDREN
Made Strongest Where the
Wear is Hardest

is the greatest hosiery value at any price. Has strongly reinforced heels, soles and toes. The deep, stretchy, garter-pull proof tops with the anti-run stitch are knit on to stay. The quality is uniform throughout—the size are correctly marked. The famous Durham dye prevents color turning green. Toes are smooth and even. Sells for 15, 19, 25 and 35 cents.

Ask your dealer to show you our 35-cent Silk-Mercerized Hosiery with the patented anti-run stitch.



DURHAM HOSIERY MILLS, Durham, N. C.

Indoor Closet

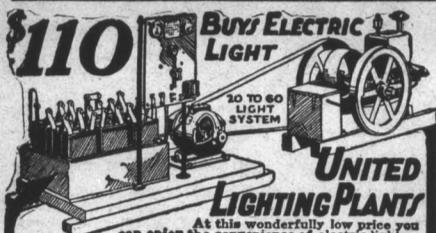


More Comfortable,
Healthful, Convenient

Eliminates the outdoor privy, open vault and cess-pool, which are breeding places for germs. Have a warm, sanitary, odorless toilet right in your house. No going out in cold weather. A boon to invalids. Endorsed by State Boards of Health.

ABSOLUTELY ODORLESS

Put It Anywhere In The House
The germs are killed by a chemical process in water in the container, which you empty once a month. Absolutely no odor. No more trouble to empty than ashes. Closet absolutely guaranteed. Write for full description and price.
ROWE SANITARY MFG CO. 336B ROWE BLDG., DETROIT, MICH.
Ask about the Ro-San Washbasin—Hot and Cold Running Water Without Plumbing



At this wonderfully low price you can enjoy the convenience of electric lights—by merely pushing a button.
USE YOUR OWN ENGINE. Saves the cost of extra power. Nothing automatic to cause trouble. Needs only one simple adjustment to the speed of your engine. A woman or child can operate it.
SELF-STARTING for their convenience. No knowledge of electricity required. Made in one size—a size to meet your needs. Comes complete. Ready to run. **GUARANTEED.** Write at once for complete description.
UNITED ENGINE COMPANY, Dept. E 42 LANSING, MICH.

AGENTS \$30 to \$50 Weekly

MEN AND WOMEN
Sell the New Improved Monitor Self-Heating Iron—the "World's Best"—Nickel plated throughout—Over 750,000 in use. Positively the easiest, fastest selling, lowest priced, best known iron made. Binding Guarantee. No experience needed. Big profits for all or part time. Evans, N. Car., sold two dozen on Sat., Mrs. Nixon, Vt., sold eight first half day. New low terms. Exclusive territory. Sample free to workers. Write today. The Monitor Self Heating Iron Co., 819 Wayne St., Big Prairie, O.

Rider AGENTS Wanted
in each town to ride and show a new 1917 model "RANGER" bicycle. Write for our special offer on a sample to introduce. **DELIVERED FREE** on approval and 30 days' trial. Send for big free catalog and particulars of most marvelous offer ever made on a bicycle. You will be astonished at our low prices and remarkable terms. 44 STYLES, sizes and colors in Ranger bicycles. Most complete line in America. Other guaranteed models \$14.75, \$15.75 and \$17.75. A few good second-hand bicycles taken in trade \$3 to \$8 to clear.
Tires, lamps, wheels, sundries, parts, and all bicycle supplies at half retail prices. Do not buy until you get our catalog and offer. Write Now.
MEAD CYCLE CO., DEPT. N-77, CHICAGO

Mention the Michigan Farmer when writing Advertisers

Woman and Her Needs

At Home and Elsewhere

A Mistaken Sense of Humor

I MIGHT have been married and had a home of my own if it had not been for a mistaken sense of humor on the part of my family." The spinster dressmaker snipped off a thread as she spoke and squinted a failing eye in an effort to locate the eye of a cambric needle.

"Instead, here I am knocking about from place to place, making dresses for other people's children and thinking how much better I could run a house than any of the women I sew for."

"What about your family?" prompted her employer. "Didn't they like the man?"

"Oh, it wasn't any one man," the dressmaker explained. "There never was any special man, for by the time I was old enough to think seriously of a man I always left the room when one came it. It was just the family's idea of a good time. They began to tease me about boys before I was fairly out of the cradle. If I played with a little boy he was my 'beau.' As I grew older it got worse. I grew up big-boned and awkward and the idea that I might have a beau in earnest seemed a perfect scream to them all, even my mother. Every boy or man who came to the house gave them a fresh chance to tease me. There was one bachelor, about forty, who used to come when I was only fifteen. They called him my beau so much I used to run and hide in the hay mow when I saw him coming and stay until long after he left. I've lost many a good dinner on that chap's account. But I've forgiven him. He never knew it.

"Of course, I grew self-conscious and more awkward. I flushed every time I saw a man who was not a relative, and if one spoke to me I choked and spluttered so I couldn't answer him. This was a source of constant delight to the family. It gave them fresh material for laughter. They could not see that the more they teased the worse I got. If they had only paid no attention to me I'd have been all right. It was not the men who bothered me but the thought of how I'd be ridiculed later.

"Poor mother! She never could guess what I suffered. It was just fun for her. But it was such agony for me that I left home when I was sixteen and never went back to live. And I was thirty-five before I could look a man in the face and talk to him without blushing and stammering until he thought I was a fool.

"Of course, the poor chaps thought I had designs on them, and they all steered clear of me. If they could only know even at this late day that I didn't want them, I'd feel better.

"I noticed this morning that your husband was teasing Mattie about that lad next door. Take warning by me and make him stop. They're nothing but children, probably without a thought of beaus or love-making. For goodness sake let them stay so. Don't you put the idea into their heads.

"And when Mattie does get a real beau, you put that young Jack in irons if he starts any joking. Just treat the affair as a matter of course, and you'll save a lot of trouble. Girls are bound to have beaus if they are attractive and the less open attention you pay to them, the better. Keep your eyes open and your mouth shut. That's the best way.

"I've forgiven my family for making

me an old maid. The only time I ever feel hard is when I have to start out to work before daylight with the mercury at fourteen degrees below. But I'd like to save some other girl. You be good to Mattie."

DEBORAH.

SANDWICH FILLINGS FOR THE SCHOOL DINNER PAUL.

BY LULU G. PARKER.

The call of the school bell demands suitable food for the children's dinner baskets, and sandwiches are almost "must-haves." Bread a day old is ideal, but a sharp knife to cut it into thin slices, and something to put between, are the absolute essentials. Oiled paper, such as comes around package crackers and cakes, or the regular paraffin paper which is sold for the purpose, should be wrapped around each sandwich to keep it moist. There are a number of sandwich fillings which may be prepared at leisure and stored in small glass cans or jelly tumblers on the cool cellar shelves. Some of these will keep for weeks in a cool dry place.

Peanut butter is the old standby for sandwiches. It has real food value and is a meat substitute aside from the fact that most children like it. It can be purchased in bulk from a reliable dealer. If it is somewhat dry, work a little fresh butter into it, or add a tablespoonful of olive oil to each glass of the peanut butter. Most meat grinders have a peanut butter attachment, the finest grinder plate. With this peanut butter may be easily and economically made at home. Or the nuts may even be pounded in a mortar, but this is more trouble. Shell and remove the thin brown skin from freshly roasted peanuts. Grind or pound them to a fine powder. Sprinkle lightly with salt and work in half as much fresh butter as there is peanut powder. Work into a smooth paste and store in glass or stone jars in a cool place.

Sweet Peanut Filling.—To one-half cup of finely ground peanuts add one cup of grated maple sugar, or light brown sugar, and work in sufficient fresh butter to make a stiff paste. When ready to spread on the bread moisten with a spoonful of sweet cream.

Pounded Cheese.—This will utilize the scraps of left-over cheese which have become too dry or unsightly to serve. Remove the rind and run the pieces through the meat grinder with the fine-toothed attachment, or pound to a paste in a mortar. To a half pound of the cheese add one teaspoonful each of made mustard, sugar, and one-half teaspoonful of pepper. Mix these together thoroughly and work in enough melted butter to make a stiff paste. Store in small jars covered with paraffin. This will keep for weeks. It is fine to spread between sandwiches which are to be toasted over a camp fire.

Fruit Filling.—Make a paste of chopped nuts, dates, and prunes or figs. This will keep for weeks in a cool place if stored in tightly covered jars. Any rich jam or marmalade is fine to spread between slices of brown bread.

Fig Filling.—One-half pound of finely chopped figs, one-third cup of sugar, one-half cup of boiling water and two tablespoonfuls of lemon juice. Mix and cook in a double boiler until thick enough to spread. Can and seal while

hot if it is desired to keep it for several weeks.

Nut-Ginger Paste.—Chop or roll English walnuts, mix with half as much chopped, preserved ginger. When ready to make the sandwiches moisten the mixture with sweet cream.

Fish Sandwiches.—It pays to keep a supply of sardines on the supply shelf. These may be minced and mixed with mayonnaise dressing at a moment's notice. Kippered herring, smoked herring, and anchovies make good sandwiches also.

The following fillings may be prepared the evening before the picnic and kept on the ice-box or in a cold cellar:

Chicken Salad Sandwiches.—Chop fine the left-over meat of a boiled or baked chicken, after removing all skin and fat. To each cupful of meat add one teaspoonful of lemon juice, sprinkling the latter over the meat. Set in the ice box. When ready to make the sandwiches chop enough white celery to make two-thirds cupful, season with salt and white pepper, and mix with the chicken. Moisten with salad dressing and spread on a lettuce leaf between slices of white bread.

Egg Paste.—Finely chop the whites and mash the yolks of three hard boiled eggs. Add two tablespoonfuls of salad dressing and pepper and salt to taste.

Salad Dressing.—Beat two eggs to a froth. Mix while dry one heaping tablespoonful of sugar, one-half teaspoonful of mustard, and a pinch each of salt and white pepper. Add to this the beaten eggs and one cup of vinegar. Pour into a double boiler and bring to a boil, stirring constantly. Boil until creamy but not too thick. Just before removing from the fire add one tablespoonful of olive oil, or one teaspoonful of butter. Beat until it is smooth and creamy. This will keep in a cold place for two or three days.

Sandwiches without Bread.—These are prime favorites with the children. We use them also when we receive a telephone call to jump into the auto and go to an impromptu picnic, if there is no fresh bread in the house. Make baking powder biscuits a little larger than usual. Chop fine any cold chicken, veal, or other cold meat, or canned sardines or salmon, season it highly with salt, pepper, and celery salt if it is liked. Add enough sweet cream to make a stiff paste. Cut the tops from the biscuits, take out some of the inside and replace the crumbs with the meat paste. These are extra good when impaled on a sharp stick and toasted in the school stove.

LETTER BOX.

Household Editor.—Not in a saucy way, but a friendly interchange of opinions: The article on "Manners" in a late number of The Farmer, is very good. On the soup question it might have added that it should always be taken from the side of the spoon, not the end, and the spoon dipped from, and not toward you, when taking it from the dish. There should be a reason for all things, and this sweep of the spoon is not only more graceful but the soup is less liable to drip. Also taking it from the tip prevents an awkward bend of the elbow.

The rule for going up and down stairs is old, if not well established. But I have always questioned the "why" of it, and who will explain? It seems to me going either direction the gentleman would be a better protector,

if on the step below the lady, in case of her slipping. And descending he is liable to step on her gown as well.

In the excellent article at the head of the Household Department, we agree with the writer that the Santa Claus and Stork myths are best explained by the mother, when the child comes to the understanding age of questioning. The old Eve curiosity is harder to "bury" than the "old Adam."
—E. R. C.

USING SURPLUS STORED VEGETABLES.

BY GRACIA SHULL.

In the early spring when such vegetables as beets, cabbage, onions, etc., begin to lose their crispness and deteriorate I cook and peel and chop the beets, chop the cabbage and onions and add to them several quarts of solid, canned tomatoes. I pour a boiling, spiced vinegar over the mixed vegetables and seal in pint fruit jars. It makes a delicious relish. Sometimes I add chopped celery and a dozen or so sour cucumber pickles, also chopped. As there is always so much more than we can make use of ourselves I have from fifty to seventy-five pints to sell every spring. Some of the cabbage, onions, carrots, turnips, celery, etc., I make into a condensed soup and seal airtight while scalding hot. This is fine combined with a rich soup stock and is quickly prepared in an emergency. I usually put a few sweet peppers in these condensed vegetables. A cupful of riced potato made fresh and added to the soup is a fine addition.

Before active work in vegetable and flower garden begins, and before the little chicks begin to come in such great numbers and require so much of our time and attention, is the time when we should do up all odd jobs indoors. Sort out and mend such clothing as is fit to wear another summer. From the men's old overalls make rompers for the children and garden gloves and aprons for ourselves. Make braided rugs from such clothing as is actually beyond mending.

This is a good time to do up the summer's sewing also, as time is not pressing so strenuously. Too, this is a good time to make up those jars and jars of fruit juices into delicious jellies as, in spring, sugar is usually reasonably priced. This is also the proper time to get out pencil and paper and lay out flower and vegetable gardens as you desire to have them planted the coming season. This will save time when the actual planting time comes and every minute is precious. Closets and the attic may be cleaned at this time and put in readiness to receive our heavy clothing when we discard them for summer garments.

Throughout the winter and early spring we should make it a point to do considerable reading, and also study. Good books, magazines, and a daily paper are essential in the farm home. However, we should not forget to study our gricultural and other farm bulletins. Also, we should study the different seed catalogs and try to get hold of the very best seed possible. Music should not be forgotten in the stress of farm life. Every home should be provided with some sort of musical instrument, and, in between whiles, or "odd jobs," mother should find time to practice the old chords and sing the old songs. I am reasonably sure that father and the rest of the family will enjoy it.

Household Editor.—Will someone please tell me how to fix silk rags for a rug, how wide to cut them? Can they be made into anything else? Is tallow just as good to make hard soap of as lard? Many thanks for past recipes.—Mrs. A. C. P.

Cut at least two inches wide. The silk rags may also be woven into rather pretty portieres.

Buy Quality Instead Of Price

and you will not lose.
For thirty-three years we have been making flour.
The best flour experience and a thorough knowledge of the business can produce.
During that time

Lily White

"The Flour The Best Cooks Use."

has developed a wonderful reputation.
This reputation will be maintained; our success depends on it.
Lily White Flour will give you splendid satisfaction for every requirement of home use—both bread and pastry baking.
In fact we believe you will like Lily White Flour better than any flour you ever used.
It pays to buy quality, and to bake your bread.

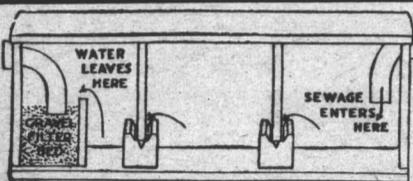
VALLEY CITY MILLING CO.,
Grand Rapids, Mich.

Madame Housewife
You as an efficient buyer will welcome
Fenton Cookie Co. Products

Gingersnaps, Jumbles, Crumb, Fruit,
Honey Cookies, etc.

10 lbs. Assorted Cookies sent PARCEL POST for \$1.30,
C. O. D. 10c extra. 1 lb. lots 15c.

Baker Direct to Consumer
FENTON COOKIE CO., Fenton, Mich.



out. Fully guaranteed. Write for folder and detailed explanation.
SEWAGE DISPOSAL, 315 Board of Trade, Indianapolis, Ind.

Sewage on the Farm

Get rid of it without sewers. Enjoy toilet and bath conveniences and kitchen sink drainage just as though you lived in a city. Install a Perfection Septic Tank and forget it. Requires absolutely no attention. Digests all solid matter without the use of chemicals. Sewage goes in; clear odorless water comes out. Nothing offensive. Works summer and winter; is buried out of sight; never requires cleaning

200 SATISFIED USERS IN ONE COUNTY

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

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

WRITE US TODAY.
Night Commander Lighting Co.
JACKSON, MICHIGAN.

WRITE FOR OUR PRICE LIST
We Buy WASTE PAPER
and all Kinds of Scrap Material.
THEODORE HOFELLER & CO.
Dept. M., Buffalo, N. Y.

WANTED: Maid to do cleaning and to help in kitchen. Good permanent position. State Psychopathic Hospital, Ann Arbor, Mich.

Buy **COFFEE WHOLESALE** in 5-LB LOTS. Get the BEST and SAVE 10 cts per pound. WE PAY POST, EXPRESS or FREIGHT. IF YOU LOVE GOOD COFFEE SEND FOR PRICE LIST. **JEVNE COFFEE CO.** (Est. 1881) Coffee Specialists. Dept. 7, 2855-57 W. Madison St., CHICAGO.

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

Farms and Farm Lands For Sale

800-Acre Farm, \$6.25 An Acre.

Here's a big ranch for hundreds of sheep or cattle. 250 acres machine-worked tillage; 275 acres spring-watered pasture; 275 acres wood and timber, estimated 5000 cords selling \$6 a cord in market; 350,000 ft. hemlock, spruce and hardwood timber; 6000 sugar maples, half of these earned \$500 in one season; 150 bearing apple trees; on good road, near neighbors, school and churches; mail delivered, telephone; only 3 1/4 miles to hustling town. Two excellent houses of 7 and 8 rooms, with running spring water; 2 big barns, 120-ton silo, carriage house, work shop, granary and sugar house, all in very good repair. Owner forced to sell immediately makes low price \$5,000, part down. Traveling instructions to go and see it on page 10, our big "Spring Catalogue" of live bargains in a dozen states, just out. Write to-day for your free copy. **STROUT FARM AGENCY,** Dept. 101, New York.

640 ACRE Montana Homesteads—New law. Circular free. Homesteaders Information Bureau 25, Boulder, Montana.

FOR SALE

Rainy Lake Ranch, 3000 acres, watered by lakes and trout streams, \$30,000—10% cash, balance in 3-5-9 and 12 years at 6%. 85% clay loam to sandy loam. The best Alsike and Alfalfa lands in the state, and guaranteed fertile. Lumbered 20 years ago and cleared very easily. 100 acres rich soil ready for the plow. Rich woodland pasture outside of clearings for 1000 breeding ewes. Alsike Clover seed can be made to pay for the Ranch as Rainy Lake Settlers are securing yields from 7 to 10 bushels per acre. Alfalfa grows like a weed on the highlands. I earned this ranch with wool and lambs when lambs were not worth the present price of a sheep's fleeces. John G. Krauth, P. O. Millersburg, Mich.

FLORIDA TRUCK FARMS AT DUPONT FLORIDA

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

Gentlemen's Stock Farm, 140 A.—S. E. Michigan Adjoining village limits Manchester, Mich. 20 miles from Jackson; 50 from Toledo or Detroit, sidewalk to village; N. Y. C. R. R. station 10 minutes walk, twelve passenger trains daily. Land in good condition, gently rolling, running water in several fields, buildings old but usable, 9 acres oak timber. Ideal building site, fine trees. Price \$14,000. **WM. G. FARGO,** JACKSON, MICH.

Free Government Lands

Our official 112 page book "Vacant Government Lands" lists and describes every acre in every county in U. S. Tells location, place to apply, how secured FREE. 1917 Diagrams and Tables, new laws, lists, etc. Price 25 cents, postpaid. **W. E. B. PUBLISHERING CO.,** (Dept. 138), St. Paul, Minn.

Gladwin County Farm Bargains

Why be without a farm? 40 acres with small house and barn, driven well, 5 acres cleared, \$900. 80 acres with buildings, 25 acres cleared, \$1800. 40 acres unimproved, fenced with woven wire, extra well located, \$1100. Fifty other farm bargains, send for list at once. **U. G. REYNOLDS,** Gladwin, Michigan

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

25 Acre market garden farm, on Plymouth Road, good buildings, including large green house, cold frames, 50,000 cabbage plants, etc. Sick-ness reason for selling. Immediate possession. Also 220 acre stock farm near Howell, good buildings and fences, best of soil. \$16,000. Brooks & Newton, 412 Hammond Bldg., Detroit, Mich.

A Bargain, 160 A., 2 mi. from town, surface most level, soil black sand loam and clay. 100 acres improved, balance timber and pasture. Fruit for home use, 8 room house, barn 34x48, other buildings, windmill, woven wire fence. Price \$5,700, \$2,000 down. **David Maney,** Big Rapids, Michigan

100 Acre Farm Productive sandy loam, good two story modern house with furnace, good out buildings. 7 miles from Flint on Electric Ry. A bargain if sold soon, terms if desired. Box 23, Mt. Morris, Michigan, R. F. D. 2.

FOR SALE or would trade for a larger farm or 2 smaller ones. Farm of 120 acres, fair buildings, good water, best of land. Address A. J. Paff, Meadow Brook Farm, Gladwin, Mich.

80 Acres 40 acres clay, 40 black sand, for sale or exchange for city property, located in TUSCOLA County, Watrousville, Mich. Write Wesley Loze, 434 Ferry Ave., E., Detroit, Mich.

For Sale. 120 acre farm near Alpena. 90 acres cleared. Stock and machinery. Owner dead. Lock box 232, Onaway, Michigan.

Direct Factory Prices 10-Day Trial



Gives One Man the Power of a Giant

Kirstin Stump Puller

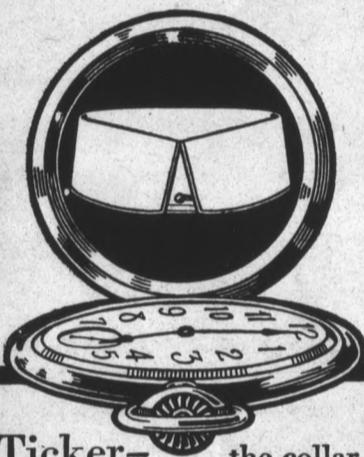
This powerful all steel One Man Stump Puller yanks out any stump easily and quickly—no horses necessary. Clears an acre from one anchor. Patented cable take up does away with winding up slack cable. Three speeds—when stump loosens increase the speed and save time. Tremendous power gained by leverage principle. Works in any position. Easily moved on its big broad wheels. Can be reversed under strain.

Sold on 15 year guarantee, flaw or no flaw. Used by the KIRSTIN METHOD we guarantee a saving of 10% to 50% over any other way of clearing land for the plow. Ten-day trial on your stump land. You can make

Big Money for Yourself under our Profit Sharing Plan. Write today for that plan and our big, Free, illustrated book, "The Gold in Your Stump Land."

A. J. KIRSTIN COMPANY
5960 Ludington Street, Escanaba, Michigan
Largest makers in the world of Stump Pullers—both one man and horse power.

1715



Ticker—the collar for busy men—on in a second—perfect fitting, easy adjusting.

SLIDEWELL COLLARS

are all made with Patented Tie-Protecting Shield and Graduated Tie-Space. 15c each. \$1.75 per doz.
Hall, Hartwell & Co., Makers, Troy, N.Y.

High-grade Fertilizers Are Best Values

The average cost of Nitrogen in 600 samples of "complete" fertilizers was 66% higher than the cost of Nitrogen in

Nitrate of Soda

Are you paying high prices for low-grade goods?

Send Post Card for Attractive, Money-saving Books

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

HIGH COST OF LIVING REDUCED

All necessities, Groceries, Paints, Oils and Stock Foods at wholesale prices. Salesmen go into a good sound legitimate money-making business of your own. No capital required. Build home and bank accounts as hundreds of our men are now doing. Our goods and house **NATIONALLY KNOWN**. Ask your banker. Establish a regular trade in your home territory. No collections or losses. Experience not necessary with our simple but effective selling plan which earns for you \$100 to \$450 monthly easy. Exclusive protected territory. Write today for more information. John Sexton & Co., Wholesale Grocers, Dept. 239, Lake & Franklin Sts., Chicago, Ill.

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

Cranberries and Co-operation

How One Industry Has Satisfactorily Overcome the Usual Obstacles to Successful Marketing.

By RALPH W. PETERSON

THOROUGHLY disgusted with marketing conditions, a handful of the pioneer cranberry growers of Wisconsin got together in 1905 and organized the Wisconsin Cranberry Sales Company. Out of this humble beginning has grown the American Cranberry Exchange, a growers' co-operative organization that handles two-thirds of all the cranberries raised in the United States.

The organization met with success from the start and might well serve as a working plan for the co-operative marketing of other farm products. The increased production of cranberries that resulted from better cultural conditions and the substitution of cultivated scientifically managed bogs for the wild grassy marshes, had brought home to the Wisconsin growers the marketing question with additional force. A few of them undertook to find a market themselves and were able to dispose of a few barrels, but only on the customary thirty to ninety days' time. Not only was the retail store found to be notoriously slow pay but it would use only a few barrels at a time. Most of the cranberries had to be marketed through commission men. The growers were continually complaining about the commission merchants who were accused of fixing prices or quoting high prices with a deliberate attempt to deceive the shipper who did not know what his berries were bringing until it was too late to help matters. Much could be said on the side of the commission man for too often the grower knew very little about grading or packing. Barrels were sometimes used that lacked several quarts of being the 100-quart standard capacity but were shaped to give that impression. The poor berries and rubbish at the center were forced off with the best berries. Some markets demand dark-colored berries, some the long bugle-shaped varieties, some only the very largest but the grower would barrel them altogether regardless of color, shape, size or soundness.

The marketing situation grew worse each year until in February, 1905, the growers in a joint meeting invited the commission men to send one person as a representative to buy for them collectively. The commission men accordingly sent a man to do their buying. The Wisconsin growers then assembled, talked over the situation and finally agreed on a fixed price that they thought the market would sustain. In less than an hour, the contract for the whole crop was closed.

Cranberries immediately became a cash crop and so satisfactory was the whole scheme that the Wisconsin Cranberry Sales Company was formed and an Iowa company was secured as salesman. This company was placed under \$50,000 bonds to the Wisconsin Sales Company and agreed to sell the association's berries in the open market for the best obtainable price and not to enter into any outside combination. They were to do collecting, advertising, etc., and bear all expense incurred through selling the fruit. As compensation for their services, they received a five per cent commission on the price of the berries, F. O. B. shipping point. Although the Wisconsin crop was only 18,000 barrels, \$42,000 was thereby saved to the growers by this organization the first year. By their united efforts the following freight rate reductions were immediately secured on 200 barrel cars: Forty dollars on a car to California; \$72 to Winnipeg; \$12 to Minneapolis, and \$24 to Chicago.—Mixed carlots gave the jobber a variety in price and quality to suit his trade. The Sales Company

could determine the volume of business and therefore never suffered from a car shortage.

The Sales Company, by getting this monopoly on the western territory were able to avoid gluts in the market and bad debts. At the end of the season, not a single dollar was standing out on bad accounts. Cape Cod berries threatened at one time to spoil a local market but the Sales Company went in, bought them up, and diverted the shipment to a new territory thus saving the prices for all concerned.

Success in the marketing of the Wisconsin crop induced the plan for a national organization. It was felt that an advertising propaganda, and an equal distribution without friction, of the entire cranberry crop, were matters for consideration and action by a national organization. In August of the same year the matter was laid before the Cape Cod and New Jersey growers. So convincing were the arguments that the New England Cranberry Sales Company and the New Jersey Cranberry Sales Company were immediately formed. The following spring of 1907, the three sales companies organized a National Sales Company under the name of the National Fruit Exchange known today as the American Cranberry Exchange.

This organization has been a great success for it has given cheaper and better berries to the consumer and at the same time has secured better prices for the growers. The growers are the only stockholders and they agree to sell their entire cranberry crop through the organization.

The opening price of the berries is fixed by the board of directors elected from the Sales Companies. This opening price is made low enough in order to start the crop moving. The price is then gradually raised to cover the shrinkage and decay on the berries. The price set must not be too low or a brisk market will consume the crop before the season is over. If set too high, people will substitute other fruits and a large part of the crop may be forced to the dump for it is common knowledge that a weak market has a depressing effect on consumption. The work of the American Cranberry Exchange in analyzing conditions and arriving at an equitable price to the grower and consumer is therefore of the utmost importance. The spread in price to cover shrinkage and overhead cost of holding, etc., is about as follows: When September berries are started at \$5.00 per barrel, October berries of similar character should bring \$5.75, in November \$6.25, December \$6.50, January \$6.75, February \$7.00, March \$7.25, and in April \$8.00. Present methods of storage result in about a thirty per cent loss between September and the following May. Late-keeping cranberries will command an extra premium over the early varieties that must be moved early in season even at a sacrifice in price.

The retail price of cranberries has an exceedingly important effect on the consumption. Statistical tables for the past thirty-five years show that while the consumers will take a large crop at \$6.00 a barrel, a crop one-quarter that large could not be marketed at \$12 a barrel. Judge Gaynor, of Wisconsin, found that retail dealers consider the influence of price on consumption to be about as follows: When 100 quarts of cranberries can be marketed at eight cents a quart, only ninety-one quarts can be sold at ten cents, forty-five quarts at twelve and one-half cents, and only twenty-three quarts when the price is fifteen cents.

REDUCE FUEL COSTS ONE-HALF

FOR FORDS AND ALL OTHER CARS

Start Easy in Coldest Weather! More Power and One-half More Mileage! Air Friction Carburetors use cheapest grade gasoline or even half gasoline and half coal oil with excellent results. 250,000 enthusiastic users!

Start your car instantly and move off at once, while motor is cold (even zero weather) with no "spitting", "popping", or "missing". In other words, end your carburetor troubles.

AIR-FRICTION CARBURETORS

NEWLY PERFECTED MODEL for 1917

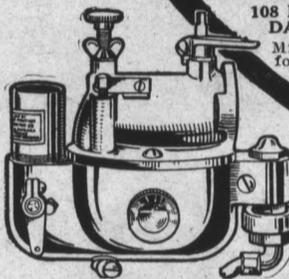
If your dealer cannot supply you, write or wire us at once, sending his name and the name and model of your car. 30% off List Price Where No Representative is already appointed.

Ask us about our 30 Day Trial Offer! Dealers, garages and repairshops make greater profits and give more satisfaction supplying AIR-FRICTION CARBURETORS and spark plugs, than any other accessory they can handle.

THE AIR FRICTION CARBURETOR CO.

108 MADISON ST. DAYTON, OHIO

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



Dealers: Write or Wire For Our Proposition.

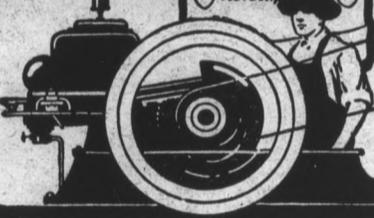
Columbia Batteries

The heavier the power-demand, the more you need Columbias. They were made right in the first place—and improved each year for 28 years.

No. 6 COLUMBIA IGNITOR DRY CELL



Manufactured by NATIONAL CARBON CO. CLEVELAND



BRAVE THE WIND AND STORM in the best wet weather togs ever invented

the FISH BRAND REFLEX SLICKER

(PATENTED) \$3.50

and **PROTECTOR HAT 85¢**

Dealers everywhere. Our 80th year.

A. J. TOWER CO. BOSTON



SEED BARLEY \$2.00 BU
RECLEANED. BAGS EXTRA 25c.
YOUNG-RANDOLPH SEED CO., Owosso, Mich.

These figures coincide so closely with the reports of total crops and prices for the last thirty-five years that the selling price can be very accurately predicted on the basis of the supply and quality of the crop at the end of the picking season. Many retailers, however, are careless in fixing the retail price on cranberries, and very often \$4.00 and \$8.00 berries of different seasons are retailed at the same price, ten cents per quart. A smaller margin of profit would make quicker sales and a more rapid turn-over of capital. Less fruit would decay and there would be a greater net profit for all concerned.

The question of quality should not be minimized for with the exception of high price, no other single factor will so discourage consumption as poor fruit. All the cranberries are classified and branded according to variety, color, size, and condition. The packer's number is stamped upon every barrel and affords a ready means of checking up any complaints.

Marketing Eggs

THE methods of selling eggs will depend upon conditions. Some farmers will find it most profitable to ship their eggs to the city market, others can get larger net returns by selling directly to selected customers. Those who have customers for other products will do well to add fancy eggs to the list. Even in the smaller cities there are many people who desire to get, and are willing to pay for, strictly fresh eggs. Persistent effort will locate customers of this sort. Often a small advertisement in the local paper will bring quick results.

To obtain the highest success the first essential is to have good eggs. It is not within the province of this article to tell how to produce eggs that will bring top-notch prices. We are trying to tell how to market them after they are produced. Eggs should be clean, of uniform size and color, and have good shells. They should be gathered once, and preferably twice a day. Nests should contain clean material which should be changed at least once a week to keep eggs from getting soiled. The badly soiled eggs can be used at home if not kept long. No attempt should be made to market them, even when washed. The best eggs are those that have never been dirty. Spots or discolorations may be wiped off with a damp cloth. This should be done when the eggs are gathered. Small pullet eggs and any that are below size should be used at home, as should also extra large eggs. Uniformity of size and coloring are the first essentials. The farmer who has a pure-bred flock will find his eggs more uniform and that they will bring him more money than if produced by mongrel stock.

Sell only eggs that are strictly fresh. This does not mean what the man testifying before the Pure Food Commission contended—that the egg is no longer strictly fresh when the animal heat leaves it. But eggs should be marketed from the farm not less frequent than once a week, and better twice or three times. It helps in the sale of eggs to pack in paper cartons on which the producer's name and farm name are printed. Formerly such cartons, holding one dozen each, did not cost more than one-half cent each, if purchased by the thousand; today however, they cost more on account of the advance in the price of paper. Even at present prices of cartons, it will pay to market eggs in this way on account of the convenience, safety and valuable advertising resulting. Sometimes a grocer will be found who is willing to handle the product of the farm, put up in this way. This is especially true where the producer will guarantee the eggs and stand back of

his guarantee. The grocer can then afford to sell on a smaller margin, which will allow him to give the producer a higher price.

Hotels demand the best eggs. If one can find a hotel or restaurant requiring a goodly number of eggs regularly, he may be able to contract to furnish the supply at a few cents above the market price. Hotels have a select patronage and are glad to pay extra for guaranteed eggs. We know a hotel in Massachusetts that advertises the quality of the eggs served and has increased its patronage thereby. It will take time to work up a demand for fancy eggs but every farmer and poultryman ought to consider the matter. Each situation and location may require a different method but without question many farmers realize too little money for their eggs.

New Hampshire. C. H. CHESLEY.

THE SUGAR BEET SITUATION.

As a member of the executive committee of the Michigan Beet Growers' Association, I should like to make a statement as to the sugar beet situation.

All chance of an adjustment between the growers and the manufacturers seems to be at an end; and if anyone grows beets in Michigan this year, it will be at a price and under conditions dictated absolutely by the manufacturer, which prices and conditions are regarded by the growers, and by every disinterested tribunal that the proposition has been placed before, as entirely unequitable. If the farmers are to have a square deal, they must now present a solid front and should proceed as follows:

First. Contract for no beets until the companies present a contract approved by the executive committee of the Beet Growers' Association of Michigan.

Second. If you or your neighboring farmer have contracted under the terms of the present contract, use every honorable means to secure the cancellation of the contract.

Third. If any farmer goes ahead and raised beets this year, never lose an opportunity to impress upon his mind that he is what, in labor circles, would be called "unfair," and that his action is an injustice to his family and profession.

A resolution was passed at the State Farmers' Round-up Institute, held at East Lansing, the first of March, asking the legislature for an investigation to determine the cost of growing beets and the cost of manufacturing the same into sugar, that a knowledge of what would constitute a fair division of the products of the enterprise could be made public. This and all similar investigations are welcomed by the farmers. On the other hand, the manufacturers are opposed to a thorough and disinterested investigation, a very prominent representative of the manufacturing end having made his brags that nothing short of a supreme court order would make him show the books of the companies which he represented. If we farmers are to continue to raise beets, we must have a square deal. The only way to get a square deal from the manufacturers is to fight for it. If the sugar companies secure a fairly satisfactory acreage this year, under the terms offered the cause of the beet grower will receive a shock from which it will be many years in recovering.

In conclusion, brother farmer, stand pat and see that your neighbor does the same.

Shiawassee Co. A. B. COOK.

The stocker and feeder market is showing animation much of the time, although many stockmen object to paying the high prices, which are not really out of line with prices paid for finished beef cattle.

The Genuine FAIRBANKS Scale - 1000 lb. Size

**Large Platform—
Wide Wheels**

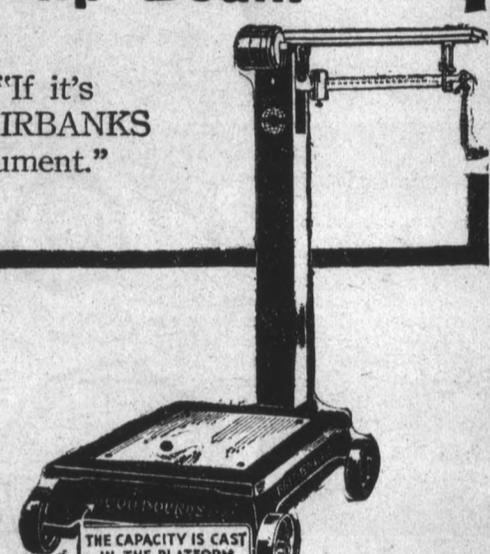
Your grandfather knew the name "FAIRBANKS" stood for all that was best in scales. No farm should be without this "watch dog of weights." Most scales are correct when new, but a FAIRBANKS stays correct because it has

\$14.85

500 lb. size \$12.50
Both Prices f. o. b. Chicago

Steel to Steel Bearings Arrow-tip Beam

That's why—"If it's weighed on a FAIRBANKS there's no argument."



Go to your Local Dealer

see the scale and you'll buy it. A reputable dealer selling a reputable scale certainly is a strong combination. If you don't know the local Fairbanks - Morse dealer, write us.

**Fairbanks, Morse & Co.
CHICAGO**

A Ventiplex Housing FREE for Two Labels

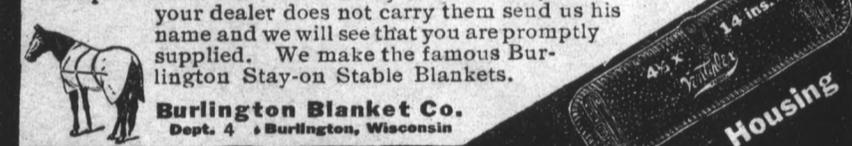
Read the Particulars

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

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

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

Burlington Blanket Co.
Dept. 4 • Burlington, Wisconsin



Gives You A Giant's Power

\$36.90 and up

Alone, you can pull any stump in your field with this powerful machine. A push of few pounds on lever gives a pull of tons on stump. This tremendous power is developed by double leverage. No lost motion, every stroke counts. New idea in speed control—use high power to loosen stump—fast speed to uproot it. Clears over one acre from anchor. Clears your land at low cost.

Write Today for Free Book, "The Gold in Your Stump Land" and Special Profit Sharing Offer. Learn of our Ten Days' Trial, money back offer—how every KIRSTIN is guaranteed against breakage for Fifteen Years.

A. J. KIRSTIN CO., 5958 Ludington Street, Escanaba, Michigan 1719



KIRSTIN One Man Stump Puller

Were You Ever Offered A Grocery Store?

Let us tell you how OUR PROPOSITION? you can handle IS BETTER—Flour, Canned Goods, Groceries, as well as Paints, Roofing, Stock Foods, Automobile and Machinery Oils and Greases. No rent to pay, no investment in stock. Large orders taken from samples. Goods of guaranteed and proven quality. Selling experience not necessary. Very profitable work for "workers." Address, R. S. Hill, President, Hitchcock Hill Co., Chicago. References: Any bank or express company

SAVE 30 PER CENT

by buying your ASSOCIATED gas engine from us. We offer our present stock at less than cost as our entire time and room is needed for our Automobile Business. Write for particulars. The Capac Garage, Capac, Mich.



THE TRAILER WAY MAKES AUTOS PAY.
Think it over, Mr. Farmer. Can you afford to spoil your car packing it full of farm produce, when a light trailer will save it? You have the power going to waste now. Why not use it? Write for catalog and special prices.
THE MILES CO., 320 E. Franklin St., Jackson, Mich.

Markets.

GRAINS AND SEEDS.

March 27, 1917.

Wheat.—Wheat prices established new high records last week. Not only is the cash market in a strong position but the outlook for the future is very encouraging to those who have this grain to sell. European countries are not securing the quantity of wheat needed to satisfy their wants, while the domestic consumption of the cereal is large, despite high prices. The impossibility of finding cheaper grains for substitution makes it necessary to use the different cereals in the accustomed quantities. The crop situation in this country is also rather discouraging. Throughout the southwest dry weather has already done considerable damage and numerous reports have it that perhaps forty to fifty per cent of the crop in some sections will be plowed up and the fields sown to spring grain. The central states are not suffering so extensively, although most reports give conditions much below normal. The cash wheat trade is somewhat animated because millers are convinced that there is not enough of the desirable grades of wheat to carry them through until another crop is available. One year ago No. 2 red wheat was selling at \$1.14 per bushel. Last week's Detroit quotations were:

	No. 2	No. 1	White.	May
Wednesday	2.00	1.97	2.02	
Thursday	2.00	1.97	2.02	
Friday	2.04	2.01	2.06	
Saturday	2.04	2.01	2.06	
Monday	2.04	2.01	2.06	
Tuesday	2.06	2.03	2.08	

Chicago.—May wheat \$1.94½; July \$1.67½; Sept. \$1.53½.

Corn.—Quotations in this department show a very substantial advance since a week ago. Dealers seem convinced of the shortage in supplies, which with improvement in wheat values and the normal consumption throughout this country, puts prices on a new high plane. The cash situation is very strong. One year ago No. 3 corn was quoted at 71½c. Last week's Detroit quotations were:

	No. 3	No. 3	Yellow.
Wednesday	1.15½	1.16½	1.16½
Thursday	1.17½	1.18½	1.18½
Friday	1.19	1.20	1.20
Saturday	1.20	1.21	1.21
Monday	1.21½	1.22½	1.22½
Tuesday	1.21½	1.22½	1.22½

Chicago.—May corn \$1.17½; July \$1.15½; Sept. \$1.43½.

Oats.—Oat supplies are decreasing rapidly and prices show an advance corresponding to those of wheat and corn. A year ago standard oats were quoted at 48c per bushel. Last week's Detroit quotations were:

	Standard.	No. 3	White.
Wednesday	65½	65	
Thursday	66	65½	
Friday	67½	67	
Saturday	68	67½	
Monday	69	68½	
Tuesday	69	68½	

Chicago.—May oats 61½c per bu; July 58½c; Sept. 52½c.

Rye.—Rye advanced nearly 20c last week with cash No. 2 now quoted at \$1.64 per bushel.

Beans.—High prices and limited supplies make this deal slow; however, values have advanced a half dollar during the past week on the local market. Cash and April beans are quoted at \$7.55 per bushel. On the Chicago market the trade is steady at higher quotations. The demand is almost entirely for hand-picked pea beans, which are now quoted at \$7.60@7.85 per bu; red kidneys \$6.75@7.

Peas.—Values are higher with the trade ruling quiet. Field peas are quoted in Chicago at \$2.75@3.75 per bushel, sacks included.

Seeds.—Prime red clover \$11; March \$10.60; timothy \$2.60.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$10; seconds \$9.70; straight \$9.40; spring patent \$10.60; rye flour \$9.00 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$40; standard middlings \$40; fine middlings \$45; cracked corn \$46; coarse corn meal \$47; corn and oat chop \$43 per ton.

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

Pitts.—No. 1 timothy \$16.50@17;

No. 2 timothy \$14.50@15.50; No. 1 light mixed \$15@15.50; No. 1 clover, mixed, \$16.25@16.75; No. 1 clover \$16.75@17.25.

DAIRY AND POULTRY PRODUCTS.

Butter.—Active demand has brought higher prices. Receipts are well cleaned up. Creamery extras 39c; do firsts 38c; packing stock 24½c.

Elgin.—Market is steady at 40 cents per pound which is the same as last week.

Chicago.—A firm feeling existed at unchanged prices. The demand is fairly good and receipts moderate. Extra creameries 40c; extra firsts 38@39c; packing stock 26@26½c.

Poultry.—Hens are higher but otherwise the market is unchanged. Receipts are light. No. 1 spring chickens 23@24c; No. 2 do 20@22c; No. 1 hens 25@26c; No. 2 do 23@24c; small do 20@22c; ducks 23@24c; geese 19@20c; turkeys 25@26c.

Chicago.—Fowls and spring chickens are higher but other kinds are unchanged. Fowls 22c; spring chickens 18@23c; ducks 17@23c; geese 13@15c. turkeys 12@20c.

Eggs.—Market steady with but a slight advance for current receipts. Firsts 28½c; current receipts 28c.

Chicago.—Active demand brought about higher prices. The increased receipts are not keeping up with demand. Fresh firsts 27¼@28c; ordinary firsts 26¼@27½c; miscellaneous lots, cases included 25@28c.

FRUITS AND VEGETABLES.

Apples.—Market firm with prices unchanged. Baldwin \$5@6; Spy \$5@7; Steele's Red \$5@7. At Chicago feeling is easy as stock does not hold up. Prices are slightly lower. No. 1 stock sells at \$3.50@6.50 per bbl; No. 2 at \$2.25@2.75; orchard run \$3.25@3.50.

Potatoes.—In carlots, at Detroit in sacks, Michigan long white \$2.50@2.65 per bushel; Wisconsin \$2.50@2.65. At Chicago no Michigan stock was reported. Market is quiet but firm at slightly lower prices. Prices range from \$2.25@2.60 per bushel.

WOOL.

There are no changes in the conditions of this market. Prices are holding firm with an upward tendency still in evidence. Whereas a year ago contracts for territory wools were made at 25@30c, the prevailing figures this year are from 40@45c per pound. This should indicate something of the advance that producers of fleeces may expect when the time arrives for disposal of this product. Dealers are awaiting orders for military supplies from the government and as a result wools required to fill these orders have advanced more than other grades. At Boston Michigan unwashed delaines are now quoted at 50c; do combing 45@52c; do clothing 42@44c.

GRAND RAPIDS.

The egg market opens firm this week at 25@26c, as compared with 18@19c at this time a year ago, and no start has been made as yet in the direction of buying for storage purposes. Live fowls have advanced to 20@21c. The bean market continues steady and firm, with quotations ranging from \$7.25@8. Potatoes outside are quoted at \$2 while sales here in a small way to the retail trade are being made at \$2.50@2.75. Some choice potatoes from Idaho are now on the local market. Lettuce has been advanced to 15c a pound by the Grand Rapids Growers' Association. Grain quotations by the mills are as follows: Wheat, No. 2 red, \$1.93; oats 65c; corn \$1.10; rye \$1.25; barley \$1.10; buckwheat \$1.

DETROIT EASTERN MARKET.

Prices are being well maintained on the market, and on Tuesday apples were selling largely from \$1@2 per bu; potatoes \$2.75; parsnips \$2.75; carrots \$1.75; eggs 35c; loose hay is moving slowly, with prices generally between \$17@19 per ton.

LIVE STOCK MARKETS.

Buffalo.

March 26, 1917.

Receipts here today as follows: Cattle 140 cars; hogs 60 d. d.; sheep 30 d. d.; calves 1800 head.

With 140 cars of cattle today the market was in a demoralized condition. There was only one of the big packers in the market for the shipping cattle and it was a case of take whatever they would give. The bulk of these cattle sold \$1 a hundred lower than a week ago, and in some cases they looked more. The cow stuff, stockers and bulls sold about steady. We look for a fair run of cattle next

Monday and a better trade on the shipping grades.

Receipts of hogs today footed up a total of sixty double decks, quality again poor with a good many pigs among the offerings. This class sold a strong quarter lower, and in some cases 50c off from Saturday's opening. A few selected hogs sold at \$15.60, one load of fancy at \$15.65, with the bulk from \$15.25@15.50; roughs \$13.50@14; stags \$10.50@11.50.

With a moderate run of lambs today our market opened slow, with prices 15c lower than the close of last week. All sold and we look for steady prices the balance of the week, depending chiefly on receipts.

We quote: Lambs \$15.25@15.65; heavy lambs \$14.50@14.75; cull to common \$13@15.25; yearlings \$13@14; wethers \$12.50@12.75; ewes \$11@11.75; bucks \$10@11; best calves \$14@14.50; common and light \$10@13; heavy \$8.50@11; grassers \$6@6.50.

Chicago.

March 26, 1917.

Cattle. Hogs. Sheep.
Receipts today... 18,000 48,000 19,000
Same day 1916... 15,480 37,090 8,484
Last week... 35,021 109,399 66,338
Same wk 1916... 38,378 152,087 61,511

The week opens today with a small Monday cattle supply, and prices are mostly steady, with fair buying. Hogs show little change, with sales at \$14@15.15. The packers received about 8,000 hogs consigned direct to them from other markets, as well as about 7,000 lambs, mostly from Denver. Hogs marketed last week show a further small gain in weight, the average weight having been 212 lbs. The lamb market is advancing again, and a sale was made today of two double-decks of prime Colorado lambs at \$15.40, still another high record.

Cattle prices soared higher than ever early last week under unusually small supplies, but weakened during the latter part of the week, with marked increase in the receipts. The late trade was slow, as demand was chiefly concerned with prime fat beefs, only a few of which were offered. Cows and heifers joined with steers in the late decline in prices, but the comparatively small supplies of stockers and feeders prevented them from weakening in any marked degree. There was a lack of prime yearling stockers, as well as of superior fleshy feeders requiring only a short finish. During the week the greater part of the beef steers found buyers at a range of \$10.25@12.35, with a new high record when \$12.85 was paid for a carload of 17 steers which averaged 1510 pounds. Cattle of that description have become scarce, and there is also a great lack of prime yearling steers and heifers. Choice steers have been selling at \$12.50 and over, with steers graded as good going at \$12 and upward, while a medium grade brought \$11 and over and fair light killers \$10 and upward, with limited sales of inferior little steers down to \$8 or even lower. Yearling steers of choice quality were taken readily at \$11.75@12.50, with sales of pretty good lots of these steers at \$11 and over and sales made down to \$9.50 for ordinary yearlings. An outlet for butcher stuff was afforded at \$7.10@10.75 for cows and \$6.65@11 for heifers, with few yearling heifers choice enough to bring more than \$10.35. Cutters were quick sellers at \$6.25@7, while canners were in lively demand at \$5@6.20, with bulls selling at \$6.30@9.75. Calves were higher than ever, especially for light weight vealers, which sold at \$14@15 per 100 pounds, while heavy calves went at \$6.25@9.50. The stocker and feeder trade was hampered by the small supply, the former going at \$7.25@9.50 and the latter at \$8.60@10.50.

Hogs maintained their reputation for advancing for still another week, the unusually meager receipts, especially early in the week, in connection with an active all around local and eastern shipping demand, placing prices at the highest level ever recorded. After the best weighty butcher hogs, such as shippers are in the habit of buying, had touched \$15.25 per 100 pounds there was a natural reaction, although it was easy to see that the buyers wanted all they could get hold of. It was observed that the top of the market was advanced several times, while many of the lower-priced light weight hogs remained unchanged. This explains the widening out of the spread in prices between the common and the good grades of hogs. At times the range of prices was as much as \$1.25 per 100 pounds. The bulk of the sales took place within a range of 25c and pigs sold at a big discount, demand being slow. The week's receipts of hogs show a great falling off in numbers, and the market closed strong on Saturday, with sales of light bacon hogs at \$13.90@14.80; selected light shippers at \$14@14.85; heavy packers at

\$14.50@15; heavy shippers at \$15@15.15, and pigs at \$10@13.60, according to weight and grading.

Lambs, yearlings and sheep kept on their upward course for another week, and new high record prices were witnessed, with a general demand which much exceeded the limited receipts. Colorado lambs comprised the principal share of the daily offerings, these selling high as a rule, and there are a few big flocks of shearing lambs of the better class. These were taken to ship to Michigan at the highest prices ever paid. On the high days tops sold at \$15.35 for lambs, \$14.25 for yearlings, \$12.90 for wethers and \$12.50 for ewes. The proportion of shorn stock was materially increased. Woolled flocks closed as follows: Lambs \$13.50@15.25; yearlings \$12@14.10; wethers \$11@12.75; ewes \$8@12.50; bucks \$10@11.25; feeding and shearing lambs \$13.50@14.80. Shorn lambs brought \$11@12.65.

Horses were in extremely small supply last week, and prices stood very firm, as there was an unabated demand especially for army horses, these selling at \$120 for riders and at \$150@160 for gunners. Eastern shippers wanted more good heavy horses than were offered, the better class of heavy drafters being worth \$250@285 and sales down to \$185 for lighter weights. Inferior to fair horses sold at \$60@120.

LIVE STOCK NEWS.

Weekly high records of prices for cattle, hogs, sheep and lambs are still chronicled, due to greatly inadequate receipts most of the time. Early last week the Chicago receipts of everything in the live stock line fell off to extremely meager numbers, with Monday arrivals reduced to 2,596 cattle, 6,729 hogs and 8,578 sheep and lambs, this being explained by the fact that a railway strike had been threatened the preceding Saturday, resulting in stock shippers generally postponing shipments temporarily. Of course, the inevitable result was a further boom in live stock prices all along the line, with much higher values than were ever paid in any former year.

Hogs soared a short time ago to much higher prices than were ever paid in the Chicago market before, with meager receipts and a lively local and eastern shipping demand, prime heavy butcher lots of barrows naturally going at the highest prices, as they comprised but a small proportion of the daily receipts. Chicago receipts have been averaging in weight 207 pounds, comparing with 204 pounds a week earlier, 215 pounds one year ago, 234 pounds two years ago and 232 pounds three years ago. Prime light hogs on the "singeing" order, weighing from 170 to 200 pounds have been much sought after by Canadian packers for meeting large foreign orders for hog meats, and these sold about ten cents below the daily top quotations. The Dominion remaining hog supply is very small, and the packers of that country are forced to turn to this country for large supplies.

Insure Your Automobile Before Driving Your Car

Ten children were killed by automobiles in sixteen days in the City of Detroit alone, which shows the danger of accidents.

Many pedestrians walk out into the streets without looking for the approaching cars. Automobile drivers, although careful, have accidents. The business man or farmer when driving away from home may be made the goat. The prudent man will not drive his automobile without carrying insurance so in case of accident in which claims are made against him he will have the advantage of an organization and experienced adjusters.

You will pay a stock company about \$50 per year to insure the average car. You can join the Big Mutual which has 18,000 policies issued, distributing the expense, and three hundred experienced agents, and experienced adjusters, and counsel to get you out of trouble.

The cost is only \$1.00 for policy; 25 cents per H. P.

Citizen's Mutual Automobile Insurance Company,
Howell, Mich.

WHITE SWEET \$3.60
CLOVER 3 Per Bu.
50 LBS. UNHULLED SEED, BAGS EXTRA 20 CENTS EACH
YOUNG-RANDOLPH SEED CO., Owasso, Mich.

Mueller

Pipeless Furnace

A real furnace. Heats whole house comfortably, dependably, cleanly and economically from one register. Exactly same construction as the old reliable Mueller line, but without pipes or flues. Ideal for old or new homes and buildings with small or partial cellars. Saves 35% in fuel. Burns hard or soft coal, coke or wood.

Made of solid cast iron, has triple jacket, substantial firepot and radiator, best type grate. Designed right, built right. 60 years of experience and the *Mueller Guarantee* behind it.

Tear out this ad, write your name and address on margin and mail to us for valuable free book on pipeless heating, and name of nearest Mueller dealer.

L. J. Mueller Furnace Co., 195 Reed Street, Milwaukee, Wis. Makers of Heating Systems of All Kinds Since 1857

Pull Big Stumps by hand

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



Hand Power Stump Puller
Write today for special offer and free booklet on Land Clearing.
Walter J. Fitzpatrick
Box 4
182 Fifth Street
San Francisco
California

See These Wonderful UNITED Farm Engines

They develop 20 percent more than rated power—the biggest engine value in America. **1917 MODELS.** Years ahead in design, features, improvements. Easy to operate, easy to start. Smooth running. **GUARANTEED FOR FIVE YEARS** Write for description, and FREE demonstration offer. **United Engine Co., Dept. 513, Lansing, Mich.**

LOW-COST POWER For pumping water

Model 12 STAR WINDMILL Equipped with NO-OIL-EM Bearings requires oil but once a year. **HAS NO EQUAL FOR PUMPING ECONOMICALLY.** Talk it over with your dealer, or write us for FREE catalogue giving complete information. **FLINT & WALLING MFG. CO. KENDALLVILLE, INDIANA.**

Eggs and Butter Wanted
We will pay you best prices net. No commissions charged. Send us a trial order. New York Prices.
H. WITTNER,
318 Greenwich St., New York City

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKET.

Thursday's Market.
March 29, 1917.
Cattle.

Receipts 2060. Receipts in all departments were considerably below those of a week ago at the local stock yards this week and in the cattle department the market was 25@50c lower on everything but bulls, which held steady. The canner and common cow trade was very dull, all speculators for this class being out of the market

and leaving them to the butchers at the decline. Good prime steers were scarce, as were milch cows, the bulk of the receipts being common, that the cow men do not relish. On Thursday receipts were light and on this account the general market held steady at the decline to the close, selling as follows: Best heavy steers \$10.50@11; best handy weight butcher steers \$9@9.50; mixed steers and heifers \$8.50@8.75; handy light butchers \$7@7.75; light butchers \$6.50@7; best cows \$7.50@8; butcher cows \$6.50@7; common cows \$6@6.50; canners \$5@5.60; best heavy bulls \$8.75@9; bologna bulls \$7.25@7.75; stock bulls \$6@6.50; feeders \$7.50@8; stockers \$6.50@7.50; milkers and springers \$5@8.00.

Bishop, B. & H. sold Resnick 10 butchers av 736 at \$6.50, 14 do av 862 at \$6.50, 8 cows av 917 at \$5.60; to Nagle P. Co. 4 heifers av 760 at \$7.75; to Goose 4 cows av 1012 at \$5.85, 5 do av 912 at \$5.85; to Sullivan P. Co. 6 do av 940 at \$6.75, 10 steers av 970 at \$9.75, 2 cows av 780 at \$7, 4 do av 962 at \$7.40, 5 do av 950 at \$7; to Hammond, S. & Co. 10 do av 931 at \$5, 1 bull wgh 1210 at \$7.75, 1 do wgh 1100 at \$7.50, 1 steer wgh 1200 at \$9.25, 17 do av 1062 at \$9.75, 1 cow wgh 1030 at \$8; to Applebaum 5 butchers av 674 at \$6.40; to Mindick Co. 2 steers av 1450 at \$9.25, 1 do wgh 1190 at \$9; to Allen 17 butchers av 994 at \$8.25 to Sullivan P. Co. 7 do av 714 at \$8, 2 do av 1075 at \$8, 7 steers av 1124 at \$10, 1 do wgh 800 at \$8, 5 do av 1052 at \$10, 4 cows av 1062 at \$7.35, 13 do av 1013 at \$7.50, 16 steers av 1021 at \$9.50, 5 do av 794 at \$8; to Nagle P. Co. 1 bull wgh 1970 at \$9.25; to Hammond, S. & Co. 26 butchers av 756 at \$7.75, 2 cows av 1160 at \$8.25; to Brighton D. M. Co. 3 steers av 1150 at \$9.50, 4 cows av 1000 at \$7.50; to Hammond, S. & Co. 18 butchers av 965 at \$8.60, 22 steers av 856 at \$9.50, 2 bulls av 1110 at \$7.50; to Newton B. Co. 17 steers av 1005 at \$9.50, 3 cows av 933 at \$8.

Veal Calves.
Receipts 1266. The veal calf trade was active and about 50c higher than last week, but grades selling at \$13@15; mediums \$10@12.50; heavy \$7@9; the demand was unusually good, the butchers wanting them for the Easter trade.

Sandel, S., B. & G. sold Sullivan P. Co. 3 av 165 at \$14.50, 3 av 130 at \$12, 1 wgh 200 at \$14.50, 7 av -135 at \$11, 14 av 170 at \$14, 10 av 121 at \$12.50; 26 av 155 at \$13.75; to Newton B. Co. 3 av 155 at \$12.50, 2 av 130 at \$13.75; to Nagle P. Co. 18 av 150 at \$13.85, 8 av 130 at \$13.60; to Burnstine 3 av 114 at \$10, 9 av 150 at \$14, 6 av 190 at \$8. McMullen, K. & J. sold Parker, W. & Co. 5 av 155 at \$13.50.

Sheep and Lambs.
Receipts 2145. The sheep and lamb trade opened up active with best lambs selling at \$15.50, but the close was hardly as good, being a trifle draggy. Prices for lambs are too high and the butcher has his trouble getting his money back, the consumer not relishing the price. Best lambs \$15.25@15.50; fair lambs \$14.50@15; light to common lambs \$13@14; fair to good sheep \$10@11; culls and common \$7@8.

McMullen, K. & J. sold Parker, W. & Co. 11 lambs av 85 at \$15.50. Erwin, S. & J. sold Nagle P. Co. 235 lambs av 75 at \$15.50; to Thompson 125 do av 72 at \$15.30, 44 do av 70 at \$15.25; to Mich. B. Co. 47 do av 80 at \$15, 17 sheep av 95 at \$10; to Barlage 69 lambs av 65 at \$15.30, 3 do av 60 at \$13; to Newton B. Co. 24 do av 55 at \$14.50, 3 sheep av 75 at \$8.

Hogs.
Receipts 6378. In the hog department the market early in the week for good mixed was \$14.50@14.85, which is last week's closing price. On Wednesday they were 10c lower, the bulk of the good bringing \$14.75; on Thursday they advanced 5c and brought \$14.50@14.80, with a few choice at \$14.85; pigs \$12@12.25.

DUNHAM

TRADE MARK REG.



Before Culti-Packing
The ground is full of cracks and air spaces in which the roots soon dry out and die—setting of soil breaks roots.

After Culti-Packing
The plants are settled back into the soil—the cracks are closed up and moist earth firmed about roots.

Prevents Winter Killing

The Nebraska College of Agriculture secured an average increase of 5 bushels per acre by using this tool on winter wheat fields in early spring. Culti-Packing breaks up the crusts, firms out all cracks and air spaces and stirs the surface to form a mellow mulch without damaging any of the plants. It makes them stool out better and gives a thick, strong stand. This is only one of a dozen farm jobs where the Culti-Packer is showing remarkable increases in yield. You will use it for preparing seed beds, cultivating growing crops, saving moisture in dry lands.

But see your dealer now and get your Culti-Packer to use on your winter wheat.

FOR SALE BY JOHN DEERE DEALERS

THE DUNHAM CO.
305-333 First St.
Berea, Ohio

FREE "Soil Sense"
48 Pages illustrated with 100 photos on Seed Beds, Soil Moisture, Crop Cultivation, etc. Ask your dealer for free copy or write us direct.

Let Old Ironsides

PROTECT YOUR BARN

THE PAINT that protects the world's greatest ocean liners is made by the Amalgamated Paint Co. makers of **OLD IRONSIDES**. The Paint that will best protect your barn and other buildings is **OLD IRONSIDES** made and guaranteed by this company. **OLD IRONSIDES** Guaranteed Paint—a paint for every purpose—is sold direct from factory to you and cannot be had in stores. The saving is yours and you get better paint. **OLD IRONSIDES** is sold under the iron-clad guarantee of better paint, lower price, and will be replaced, at our expense, if it does not live up to this guarantee.

Lower Price Better Paint
What is Your Paint Problem? Our Service Department will give you free advice. Write now for your copy of **OLD IRONSIDES** Paint Book No. 26. It's Free.

AMALGAMATED PAINT CO., Pier 11, North River, N. Y. City

Bee Keepers Supplies

Bee Hives, Sections, Comb Foundation, Smokers, etc. Everything for the bees including Beginners Outfits. Send for catalog. 3c per pound cash for average beeswax delivered here. General agents for Root's bee supplies in Michigan.

BERRY SUPPLIES

Send for prices on berry baskets and 16 qt. crates. Special 200 A grade berry baskets postpaid for \$1.35 or 200 B grade for \$1.25 within 150 miles of Lansing. No waxlined paper baskets this season.

M.H. Hunt & Son, Box 525, Lansing, Mich.

For Sale, Used and Rebuilt Machinery

25 H. Peerless steam traction engines, 22 H. Pitts, 22 H. Avery, 20 H. Case, 20 H. Rumley, 20 H. Pitts, 18 H. Pitts, 18 H. Nichols and Shepard, 18 H. Port Huron, 16 H. Pitts, 16 H. Gaar-Scott, 15 H. Case, 14 H. Pitts, 12 H. Case, 33" Pitts steel grain thrasher, 38" Case, 32" Case, 28" Case, 34" Pitts, 38" Port Huron, 30" Port Huron, 30" Pitts, 25 H. J. M. C. tractor, 16-32 Finchbaugh, 17x22 Whitman hay press, 14x18 Famous, 18x22 Ann Arbor, and many others. Write us for complete list.

The BANTING MACHINE COMPANY, 114-124 Superior St., TOLEDO, OHIO

SOME PAINT

Best Barn Paints 77c per gal. and up, delivered to you. Guaranteed to give satisfaction. Brush free. **Kay-Bee Prepared Roofing** (Freight Prepaid) as low as 1.10 per roll (10 year Guarantee). Easy to lay. Full instructions with each order. Send for your free copy of catalog today and begin saving money. Hundreds of things including full line of heating and pumping supplies illustrated. Everything sold money back if not as represented.

KOLLER BROTHERS
6910 Cedar Avenue
Cleveland, Ohio

I will condition a Horse or Cow in twelve days.

Put flesh on its bones. Give it life and vigor. Can add 50% to looks and value. Satisfaction guaranteed or no pay. Send postal for free offer.
P. M. FAUST, BRYN MAWR, PA.

Fairbanks Morse 15-horsepower gasoline engine, 15 kilowatts dynamo, each used less than 50 hours, first class for lighting and power use on farm or in machine shop. Price well under the market. Indian Village Garage, 1524 Jefferson Ave., East, Detroit, Mich.

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

We want new laid stock and can pay top prices for them. **AMERICAN BUTTER & CHEESE CO. Detroit, Mich.**

EGG'S HAY Ship To The Old Reliable House **Daniel McCaffrey's Sons,** 623-625 Wabash Bldg., Pittsburgh Pa.

Consign your Hay to us. If you prefer to sell, describe quality, quote prices your track. **The E. L. Richmond Co., Detroit.** Reference, your bank.

MINERAL HEAVE COMPOUND

CURES HEAVES
Booklet Free
NEGLECT Will Ruin Your Horse
Sold on its Merits
SEND TODAY AGENTS WANTED
\$3 Package guaranteed to give satisfaction or money refunded
\$1 Package sufficient for ordinary cases.
Postpaid on receipt of price
Write for descriptive booklet

MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburg, Pa.

Stop Your Hogs From Rooting

No ringing, no snout cutting, no disfiguring. 100,000 now in use. We guarantee to stop the hog from rooting, or money refunded. \$2.50 postpaid. Full directions sent with each Anti-Rooter.
The Hog Man, Box 11, Kankakee, Ill.

BLUE RIDGE SILO CORN
\$2.35 per bushel with sacks. Also Sweet Clover Seed. Everett Barton, Box 123, Falmouth, Pennington Co., Ky.



It's the Healthy Hens that Give You Strong Chicks

Now that mating time has arrived, it's up to you to see that your poultry get a tonic and internal antiseptics to make them vigorous and free from disease. Therefore, feed Pan-a-ce-a.

In that condition your hens will lay better, you will get more healthy, fertile eggs and the chicks will stand a better show of reaching maturity. Therefore, feed Pan-a-ce-a.

Dr. Hess Poultry PAN-A-CE-A

It's a Tonic—Not a Stimulant

And, before the hatches come, I want to warn against gapes, leg weakness and indigestion. For these ailments are responsible for half the baby-chick losses. Therefore, feed Pan-a-ce-a—it will save you these losses.

My Guarantee

So sure am I that Dr. Hess Poultry Pan-a-ce-a will help make your poultry healthy, help make your hens lay and your chicks grow, that I have told my dealer in your town to supply you on condition that if Pan-a-ce-a does not do as I claim, return the empty package and get your money back.

DR. HESS & CLARK, Ashland, Ohio

Dr. Hess Stock Tonic Expels Worms
Conditions all animals, gives health, good digestion, keeps them toned up. Prepares horses for spring work and cows for heavy milking. 25-lb. pail, \$2.00; 100-lb. drum, \$6.50. Smaller packages as low as 50c (except in Canada and the far West and the South).

Dr. Hess Instant Louse Killer
Kills lice on poultry and farm stock. Sprinkle in dust bath and about roosts, nests and houses. Dust into hair of animals. Destroys bugs on cucumber vines, cabbage worms, slugs on roses, etc. Comes in handy sifting-top cans. 1 lb., 25c; 3 lbs., 60c (except in Canada). Fully guaranteed.



I'll Save Your Veterinary Bill

When you have a sick or injured animal or ailing poultry, write me, telling symptoms. Enclose 2c stamp for reply, and I will send you prescription and letter of advice, free of charge.

1 1/2 lbs., 25c; 5 lbs., 60c; 12 lbs., \$1.25; 25-lb. pail, \$2.50 (except in Canada and the far West).

Suggestions from Poultry Experts

THE following points were gleaned from the addresses of Prof. C. H. Burgess, W. H. Card, and other practical poultrymen at the round-up institute.

A great artist has said that "mere trifles make perfection but perfection is not a mere trifle." This is very true in breeding fine poultry. Judge Card advises the poultryman to always carry a note book and jot down points that seem worth remembering. One year he found that cold water fed to his young chicks seemed to reduce their vitality. He remembered that it caused cramps in ducks by referring to his experience note book and so decided to slightly warm the chicks' water and they immediately became more vigorous.

To prove the relative values of a simple and complex ration two pens containing seventy pullets each were used. The complex ration consisted of 100 pounds of flour, 100 pounds of ground oats, 100 pounds of bran, 100 pounds of corn meal, 100 pounds of alfalfa, 125 pounds of meat scrap, 150 pounds of gluten, twenty pounds of oil meal. The simple ration contained fifty pounds ground oats, fifty pounds bran and fifteen pounds of meat scrap. All of the pullets were of the same age and they produced about as many eggs on the simple ration as on the complex ration. It cost three per cent more to produce the eggs with the complex mash. The average farmer can scarcely take time to make complex mashes and for this reason it is satisfying to learn that good results can be obtained with a simple ration.

Simple Feeding Methods Best.

A good method of feeding wheat and corn as scratch feed is to use twice as much corn as wheat in the winter and twice as much wheat as corn in the summer. The same amount of each can be used in the spring and fall.

The value of sour milk in the hen's ration should be appreciated on the farm. Even at a price of five cents per quart it is reported that sour milk is an economical feed for laying hens. Some experiments have proven that hens will do as well on sweet milk as on sour milk but it does not pay to switch from one to the other. As the milk will usually sour in the summer it is best to feed sour milk all of the time.

It pays to breed from hens that lay and lay in winter. A well-bred hen is ruined by poor feeding but good feeding may not make poor hens lay.

Cabbages and Mangels.

The excessive feeding of cabbage is believed to have caused chicken pox and one point which seems to prove that contention is the fact that there has been scarcely any chicken pox this year and also very few cabbages used for chicken feed. Mangels are a very good green feed and considered safer than cabbages by some poultrymen.

Sprouted oats can be fed to the best advantage when the sprouts are about one-quarter of an inch long as they are said to contain more sugar at that time. At that stage they are better for young chicks. Old hens are also observed to leave the long sprouts and eat the smaller ones first.

In an effort to control lice do not dust birds and grease them at the same time. Judge Card advises dusting the birds with Persian insect powder, which is a very fine dust that will clog the breathing pores of the pests.

When chicks are brooded with hens it is frequently the custom to feed the birds on boards in front of the brood coops. Then the boards and cops are moved occasionally and it may expose mould which has been growing on the ground under the boards. If the chicks scratch in this mould or eat any of it the result will be sickness so it will pay to clean off the mouldy soil if any

of the fungous growth are noted around the brood coops.

Castor oil is a good remedy for the stunted chicks and it should be given in capsules. Pouring a spoonful of oil down the bird's throat may cause it to strangle.

The rose bugs are deadly poison to poultry and birds which have eaten them will act as if they had limber-neck. Castor oil may be used at once with good results. These rose bugs come about the first of June and leave about the tenth or twelfth and chicks may be fastened up during the danger period. Chickens in yards seem to have more trouble with the rose bugs than free range birds, and so yarded chicks must practically be confined to their houses if the pests become serious.

Preventing Colds.

Feeding sound whole corn in the fall seems to tone up the young birds and assist in preventing colds. When a bird has a cold equal parts of ginger, pepper and mustard rolled into dough pills may be used to advantage. The dose is one pill each night for three nights. Castor oil is also good for controlling colds in the flock.

When canker is chronic it goes through the system of a bird and the bird must be killed. Continual running at the nose may be a sign of canker and it does not pay to keep a bird that may contaminate others. Sparrows may carry chicken pox from one farm to another. Apoplexy comes from over-feeding and lack of exercise. Never doctor a chicken that is not sick and it is not necessary to use permanganate of potash in the drinking water if there are no colds in the flock.

The use of lice paint continually in the poultry houses is a good preventive measure. To reduce expenses one-half, kerosene can be mixed with the lice paint. The paint gets in the feathers when the birds are on the roosts and it assists in preventing feather eating.

Glycerine placed on a bird's comb before a freezing night will often prevent freezing of the comb. The open front poultry house gives the birds plenty of fresh air and this means they will have a good circulation to keep them warm and there will be less danger of freezing the combs.

"Going light" in fowls may be caused by worms due to the use of high powered feeds and conditionals. Chicken cholera occurs suddenly in the flock. Judge card says, "If they do die—it is it—if they don't die—it isn't it."

The "wet flannel method" of applying moisture to eggs is practical. Wet a piece of flannel large enough to cover the eggs and place it in the incubator on the night of the eighteenth day and leave it until the next morning. This seems to work very well in many kinds of incubators and it gives the eggs enough moisture to make the breaking of the shell an easy problem for the chick. The water should be as hot as the hands can bear when it is poured on the flannel.

Chicks can scarcely be over-fed on either bran or oats. Beef scrap does not exactly substitute for worms and bugs, as the scrap will decay while the bugs and worms will dry up if they are left dead for some time. Maybe that is one reason for the better egg records that are possible during the spring and summer when there are plenty of bugs on the range.

When you sell poultry you must sell satisfaction at the same time, according to D. E. Hale, a well-known poultry judge. Go on the theory that the customer is always right even if you "get stung" sometimes. Advertising should be considered part of the investment of the poultryman who is ready to sell his stock and eggs to other breeders. The world is unconsciously buying advertised goods. R. G. KIRBY.

64 BREEDS Valuable New Poultry Book Free—108 pages. Fine pure-bred chickens, ducks, geese and turkeys. Choice, hardy, Northern raised. Fowls, eggs and incubators at low prices. America's greatest poultry farm. 24th year in business. Write today for Free Book. **R. F. NEUBERT CO., Box 817, Mankato, Minn.**

POULTRY.

ANCONAS Rose and Single Comb. Good breeding stock. More eggs for less feed. Prices right. Eggs for hatching. W. E. West, R. 1, East Lansing, Mich.

DAY-OLD CHICKS

of quality guaranteed to 1,600 miles. Eggs for hatching at low prices. Bar Rocks, S. C. W. Leghorns, S. C. and R. C. Reds, W. Wyandottes, Buff and W. Orpingtons. Chicklet catalog free. **GOSHEN POULTRY FARMS, R-19 Goshen, Indiana**

Baby Chicks and Hatching Eggs

From Bred-to-Lay Barred Rocks, S. C. White Leghorns and B. C. Buff Orpingtons. All high class stock at very reasonable prices. Send for our Chick Folder at once. **RUSSELL POULTRY RANCH, Petersburg, Mich.**

BABY CHICKS AND EGGS

White, Brown, Black Leghorns, Barred Rocks, R. I. Reds. Bred for high egg production. Circular free. Book orders early. **Sunnybrook Poultry Farms, Hillsdale, Mich.**

Baby Chicks Cheaper than hatching eggs. We specialize in Leghorns, Rocks and Reds. Send for catalogue. **Twentieth Century Hatchery Company, Box 162, New Washington, Ohio.**

Baby Chicks: 50,000 S. C. White and Brown Leghorns at \$10.00 per 100. \$90.00 per 1,000. Safe arrival guaranteed. Also Hovers and Brooders. Catalogue free. **Wolverine Hatchery, Box 2221, Zeeland, Mich.**

JOHN'S big beautiful hen-hatched Barred Rocks, good layers. Breeding pens (5 birds) \$10 to \$20. Eggs 20, \$2.50; 100, \$7. Circulars, Photo, John Northon, Clare, Mich.

Barred Rocks: EGGS FROM STRAIN with records to 297 eggs a year, \$2 per 15. Delivered by parcel post, prepaid. Circular free. **Fred Astling, Constantine, Mich.**

FERRIS WHITE LEGHORNS
Great layers Pullets, hens, breeding males; eggs for hatching; day old chicks; from hens laying 200 to 264 eggs. Prices low, quality guaranteed. Free catalog and price list explains all. Write for it. **Geo. B. Ferris, 934 Union, Grand Rapids, Mich.**

Barred Plymouth Rock Eggs from full blood stock \$1.50 per 15. Prize winning strain. **J. A. Barnum, Union City, Mich.**

Ironclad WINS

In 2 Biggest HATCHING CONTESTS Ever Held

**150 Egg Incubator } BOTH \$11.00
Chick Brooder } FOR**

If ordered together, 30 days trial, 10-year Guarantee. Order direct from this advertisement—money back if not satisfied. **Ironclad Incubator Co., Box 117, Racine, Wis.**

RESULTS

THE SECRET OF PROGRESSIVE BIG HATCHING RECORDS

BUILT OF GENUINE CALIFORNIA REDWOOD. Egg chambers surrounded with special insulator having hundreds of air cells, guard against temperature change. Corrugated copper hot-water heater, automatic ventilation and regulation. No dry, hot blasts to kill chicks in shell. Machines complete. Money back guaranteed if not satisfied. **Progressive Incubator Co., Box 164 Racine, Wis. \$985 FOR BOTH**

See and Try 30 DAYS BEFORE YOU PAY

This 185-Egg Incubator and Brooder shipped anywhere on 30 days' trial. No money down—no deposit. **10 days Pay for BOTH if Satisfactory When Tested** No other such open liberal offer as this, because no other outfit equals the **UNITO** incubator hot water, Brooder hot air. Both galvanized iron. Satisfaction guaranteed. We take all the risk. Cash with order both \$9.95. **THE UNITED FACTORIES CO., Box 431 Cleveland, O.**

Anconas Good stock; fine layers. 30 eggs, \$2.50; \$3; 100, \$5. Order now. **T. Z. RICHEY, CANNELTON, INDIANA**

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.—Jas. Helme, Adrian; Geo. B. Horton, Fruit Ridge; J. W. Hutchins, Hanover; W. F. Taylor, Shelby; Wm. H. Welsh, Sault Ste Marie; N. P. Hull, Dimondale; Burr Lincoln, Harbor Beach.

AMONG THE LIVE GRANGES.

A Very Successful Meeting of the Ionia County Pomona Grange, No. 16, was held with Portland on March 16. In spite of the bad weather and rough roads, 175 enthusiastic members were in attendance. At noon a dinner, embracing all the substantial and delicacies for which the Grange spreads are noted, was served by the Portland ladies. Promptly at 1:30 p. m. the meeting was called to order by Worthy Master Fred Eddy. After the usual opening exercises, the meeting was in the hands of the Worthy Lecturer, Mrs. Myrtle Taylor. The program was fully carried out to the satisfaction of all present. The following program was rendered: Address of welcome, Master Grant Morse; response for Pomona by Flora, Mrs. Lena Youngs; success, Mrs. Ruth York; reading, Mrs. Frank Pryer; postalizing the wires; club work for boys, J. C. Butler; song by Grange, America; address by James Helme, of Adrian; "Our Trip Through the South and Cuba," Mr. and Mrs. P. C. Freeman; selection of seed beans and corn, also treatment to prevent smut in oats, M. A. C. Extension Worker; the most practical way of assisting a young person to success, Rev. E. E. Bauck; instrumental solo, Miss Ruth Laselle. 6:00 p. m., refreshments. 7:30, public session. Topics for discussion: Which is the greater factor in making a successful farmer, education or energy? Mr. Monroe; solving labor problems for the farmer, Rev. E. E. Bouck; what the legislature is doing regarding the prohibition amendment, Mr. Laselle; the need of a greater thrift in America, Mr. Toan. Address, Jas. Helme; life in the west, Jas. English.

Mecosta County Pomona Grange met at Fraternal Aid Hall, Big Rapids, on March 15. Meeting was called to order by Pomona Master John Kotke. Reports and miscellaneous business were taken care of. A woman's work committee was appointed, and also a committee to communicate with the different counties having county agricultural agents, to gain information of what benefit is to be derived from their work. A recess was taken for the St. Patrick social dinner hour. Neckties of various hues, green predominating, were sold at auction to the gentlemen. This caused a great deal of excitement among the brothers as they were told by the auctioneer that he had full control of the "food stuffs" and no man without a tie could partake of the dinner with a partner. It is needless to say that every tie was sold in a short time. At 1:30 the meeting was opened with music by the Ferris Institute Orchestra. This was a surprise feature as not one of the patrons knew it until the orchestra arrived, and it was greatly enjoyed by all. Recitation by Miss Ruth Zimmer. After a solo and encore by Fern Grange, the fifth degree was conferred on a class of 12 candidates, the work being given by the Rodney Team in a very creditable manner; the drill was very well done. Music by Pleasant View Grange was a comic duet, in which the strictly up-to-date city cousin, "Marie," went to visit her plain country cousin, "Mary," and was delightfully given much to the satisfaction of all present. The next meeting will be held with Austin Grange on April 5. State Master John C. Ketcham will be the chief speaker. An Easter sale of aprons, caps, towels and fancy work of all kinds will be held at this meeting. The Subordinate Granges are asked to give their hearty co-operation. All went to their homes feeling that it was good to be at such an enjoyable meeting where fraternal ties were made a little stronger. The next meeting, with Austin Grange, will be largely looked forward to, as these meetings bring renewed vigor and a desire to do better and more efficient work in the great cause of agricultural up-building.

Farmers' Clubs

CLUB DISCUSSIONS.

Preparedness on the Farm.—Social Glen, the home of Mr. and Mrs. Frank Brown, was the place of meeting of the Washington Center Farmers' Club on Thursday, March 8. A short time before dinner the meeting was called to order by President F. L. Cook. After miscellaneous business and reading of minutes the question of "Preparedness on the Farm," was discussed, led by Frank Heinlen, who thought one way of preparedness was in fitting the soil first by drainage then by deep and well-turned plowing. Plowing was about as far as the men could get and it took the ladies to remind them of some very necessary preparedness which is too often neglected, viz., getting all tools ready from last year's breaks, etc., before the day they are ready to be taken to the field. Dinner was announced and all knew what preparedness meant there. After this part of the program was dispensed with the house was again called to order and were entertained with piano and violin music by Mr. Gilman and Mr. Curren. Roll call was responded to by naming a dry state. "Are we Ready for National Prohibition?" was led by Frank Brown. The general trend of opinion seemed to be that it would not be wise to vote on national prohibition at present, but in a short time there will be enough dry states to enforce the law. Mrs. C. N. Curren read an interesting paper on Australia. "Why Should every County have an Experiment Farm?" was the next subject which was to be led by Jotham Allen, who was not present. The general opinion was that we should have an experiment farm and the county farm was the place to have it. The farmers do not have the time to try out the different experiments that could be done here. The question, "Is the Rural Credit Law of Great Benefit to the Farmer?" which was left unfinished from last meeting, was again taken up. After some short discussion it was again left over until next meeting when we expect to have some literature from headquarters about it. Next was the question box. Among the several questions was, "Does the average woman know enough about the business to manage affairs; should it be necessary for her to do so, and if not, why not?" The average woman, although capable, does not know enough about affairs for the reason the husband, who assumes the controlling interest, does not take time or does not care to let the wife know what she should about any business. She needs to be educated in that line. Co-operation in the home is as necessary as any place else. Adjourned to meet with Mr. and Mrs. Henry English the second Thursday in April.—Cor. Sec.

Annual Meeting and Banquet.—The annual banquet of the Howell Farmers' Club at the gymnasium of the Presbyterian church was an enjoyable affair. The dinner furnished by the ladies' aid was one of their best, and the place for holding the banquet is ideal. Plates were laid for 130, and three times as many could be accommodated if necessary. The dinner over the toastmaster, A. M. Wells, called the company to order in a few pleasant remarks, comparing the present conditions with those of pioneer days. Bruce Newcomb and his sister Esther furnished very acceptable music for the occasion. The election of officers before dinner resulted in the re-election of the same officers: A. M. Wells, president; Mrs. R. R. Smith, secretary. The first toast was assigned to George Barnes who spoke of the crisis in breaking off diplomatic relations with Germany, its causes and possible results. Mrs. B. Comiskey followed with an interesting reading and responded to an encore. Efficiency was very nicely handled by Mrs. Webster Childs. She advocated efficiency, not only in the matter of getting money but in developing true and noble lives. Miss Alice Heeg, with Miss Leah Peavy at the piano, delighted the audience with a vocal solo and responded to an encore. Miss Helen Norton responded to the toast, "The High Cost of Living." Miss Norton's idea was that it was the way people lived and worked, and not the high prices of farm products, except potatoes and beans; that farmers should raise their own vegetables. Rev. Brooke closed the afternoon feast of thoughts by giving a fine talk on "The German People." This closed one of the brightest and best annual banquets of the Howell Farmers' Club.



SPRAYING COMPOUNDS A Legitimate Investment For Farmers

A limited amount of stock of the Imperial Chemical Company of Grand Rapids, Michigan is offered for sale.

It is desired to place this stock in the hands of farmers in order that they may co-operate in the manufacture and sale of these goods and profit accordingly.

The Imperial Chemical Company manufacture all kinds of agricultural spraying material, their products are standard and are made from formulas endorsed by the U. S. Government and agricultural colleges.

The business has shown 100% increase in the last three months. This company is under the management of Grand Rapids business men of highest standing.

Refer to any bank in Grand Rapids.
Full particulars will be given upon request by writing to the home office at Grand Rapids, Michigan. Address
IMPERIAL CHEMICAL CO.,
Grand Rapids, Michigan

\$8.55 World's Champion Belle City Incubator

Buy 140 Egg Size Prize Winning Model—
Hot-water—Double-walled—Copper Tank—Thermometer Holder—Deep Nursery—Self-regulating. When ordered with \$4.85 Hot-water 140 chick Brooder, both cost only \$12.50.
Freight Prepaid East of Rockies
Satisfaction Guaranteed
Over 524,000 Satisfied Users
Save time—Order Now—Share in my \$1,000 Cash Prizes
Conditions easy to get big-gest Prize—Free Book "Hatching Facts" tells all—Gives short cuts to Poultry Success—Write for it today. Jim Rohan, Pres.
Belle City Incubator Co., Box 14 Racine, Wis.

Homestead Farms

Offers highly bred tested farm poultry: Stock that, with natural and convenient farmer care, will give eggs thru the Winter; stock that has given eggs thru the Winter just passed.
Utility-Strain
Red Blood! Our poultry stock is all free range, no yards (except breeding pens). In Winter our Hens are in Colony Houses holding 30, 50, 100, 140 and 150 fowls—housed as suits convenience, as the average farmer will house his fowls, they are bred to natural farm conditions and will lay with the care that the farmer can give.
During the past Winter eggs have been shipped regularly to Chicago families—farm products direct delivery. We offer:
Day-Old Chicks and Hatching Eggs
Single Comb White Leghorns
Single Comb Black Minorcas
Barred Plymouth Rocks
Buff Plymouth Rocks
White Plymouth Rocks
Rhode Island Reds
Homestead Farms is demonstrating the moral and economic value of federated interests; it is making poultry a profitable farm stock to the farmers of its own immediate vicinity.
If you want Red Blood Practical Poultry that will give eggs in Winter as well as in Summer, buy our stock which is bred to conditions under which you can yourself conveniently keep poultry.
We quote you prices and give our own experience in our descriptive circular which we will mail to you. Will you send for it?
HOMESTEAD FARMS, Bloomingdale, Mich.
Barred Rock Eggs and Baby Chicks. Four Pallets Layed 450 Eggs in one year. W. C. Coffman, R. S. Benton Harbor, Michigan.

"200-Egg" Pedigree White Leghorns

Baby Chicks, Eggs for Hatching
"Bred-to-lay" strain, vigorous, healthy stock, all sired by Missouri Experiment Station males with pedigrees of 200 to 274 eggs in one year. Chicks, \$25 for 100, \$100 for 500. Eggs for hatching, \$10 for 100. Thousands of satisfied customers. Book your order at once for eggs for hatching and baby chicks of quality. We sell Magic Brooders, best brooders made, \$16.50 each, capacity 300 to 500 chicks. Catalogue. Michigan Poultry Farm, Lansing, Mich. "Michigan's Largest Poultry Farm."

LAYBILT S. C. W. LEGHORNS

Large, Great Layers, Pure White

Proved egg type from like ancestry. Not the "Best in the World," but None Better for beauty and laying ability. Laybilt Leghorns mean either better quality at the same price or the same quality at a less price. Selected hatching eggs, \$1.50 per 15, Parcel Post paid; \$2 per 100; 9% fertility guaranteed. Strong Day-Old Chicks, \$12 per 100. Guaranteed delivery alive and lively. Everfresh Egg Farm, Ionia, Mich.

S. C. White Leghorns

We have about 40 S. C. White Leghorn cock birds for sale. These males are from 200 egg strain and are offering them for \$3 each. Also about 200 fine April hatched pullets at a great bargain. Eggs for hatching March and April \$5 per 100. We will gladly give references on all our sales.
KRENTEL BROS., Box 624, East Lansing, Mich.

CHICKS, are booking orders now for spring delivery, live, different varieties, free booklet. Freeport Hatchery, Box 12, Freeport, Michigan

Baby Chicks pure bred Youngs S. C. W. Leghorns and P. B. Rocks, 8 cents and up. Catalogue free. M. Knolls Hatchery, Holland, Mich., R. 2.

FOR SALE Pure bred White Plymouth Rock Eggs for hatching. **ORAS. KLETZLEN, BATH, MICH.**

Fowler's Buff Rocks. I am now booking orders for eggs at \$1.50 for 15, \$3 for 30, \$4 for 50, \$7 for 100. Pen No. 1, \$4 for 15. Also one 2 yr. old White Holland Tom. R. B. Fowler, Hartford, Mich.

HATCHING EGGS from my S. C. W. Leghorns utility 75c per 15. If you want to raise some prize winners send \$3 for 15. White Line Poultry Farm, Hillsdale, Mich.

BUFF LEGHORNS Pullets, Hens, Pens, Eggs. All very reasonable. **Dr. William A. Smith, Petersburg, Mich.**

EGGS for setting from R. C. Brown Leghorns, leading strains in America Also W. China Geese and M. Pekin ducks. **MRS. CLAUDIA BETTS, Hillsdale, Michigan**

Eggaday White Wyandottes, Eggs for hatching, \$1.00 per 15, \$5.00 per 100. **EGGADAY RANCH, Marshall, Mich.**

Improve Your Poultry. My Young's Strain S. C. White Leghorns are great money makers. Strong, vigorous, bred-to-lay stock. Baby chicks \$8 to \$11 per 100. Satisfaction guaranteed. Large orders filled. Free catalogue. W. Van Appledorn, Holland, Mich., R. 7, Box 141.

MORSE'S White Leghorns. State Cup winners. Bred for eggs for years. Now selling eggs, chicks and stock. Free catalog. Rufus Morse, Belding, Mich.

Pine Crest S. C. White Orpingtons cock-ore pullets, eggs \$5 and 3 per 15, utility \$3.00 per 100. **MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.**

Rock Cockerels Buff, Partridge, Columbian and Silver. Eggs for hatching. **Sheridan Poultry Yards, Sheridan, Mich.**

RHODE ISLAND REDS and PLYMOUTH ROCKS Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 6 to 10 lbs., eggs 15 for \$1.00; 100, \$5; 120, \$6. Mammoth Bronze Tom Turkeys, 8 to \$8.15, according to age \$6 to \$25, 10 eggs \$4. A. E. Cramton, Vassar, Mich.

R. I. Red Chicks and Eggs. Both Combs. Dark Red. Winter Layers. Bred by more Michigan farmers than any other strain Catalog. free. Interlakes Farm, Box 39, Lawrence, Mich.

Rose Comb Rhode Island Reds, Rose and Single Combs. Eggs, \$1.50 per 15 after Feb. 15. **Jennie Buell, Ann Arbor, R. 8, Mich.**

R. and S. C. Reds. Eggs and Chicks. Pure bred stock. Also good Scotch Collie Pups. **O. E. Hawley, Ludin, ton, Mich.**

RHODE I. Whites win in the egg laying contest. Best Regg and market fowl. Eggs \$2 per 15, \$5 per 45. Baby chicks. **H. H. Jump, Jackson, Michigan.**

Bred-to-Lay S. C. W. Leghorns and Barred Rocks. Eggs, \$1 for 15, \$1.50 for 30, \$2.50 for 50. Alpine Poultry Farm, R. 2, Grand Rapids, Mich.

BRED TO LAY. S. C. White Leghorns, from best pens in Mich. Eggs, \$1.50 per 15, \$8 per 100. Chicks \$20 per 100 delivered. **Leon C. Wheeler, Barryton, Mich.**

S. C. BUFF ORPINGTONS Bred for Heavy Laying 16 years—My Strain World's Greatest Egg Producers. Eggs and Chicks. Cir. Free. **Will Schadt, Box 1037, Gosheu, Indiana.**

S. C. W. Leghorn Eggs for Hatching, also breeding stock. If you want Leghorns that will lay and win write us. "Hill-Crest Poultry Farm," Ypsilanti, Mich.

S. C. White Leghorn All males 15 lbs. from trapnested stock. **J. L. Woodward, Cement City, Mich.**

ROSE Comb Rhode Island Red. Eggs for hatching. Special dark cherry red mating \$1.50 and exhibition mating \$2 per 15 eggs. **Ridgman Red Farm, Vassar, Mich. R. 4**

Single Comb Black Minorcas Great big cockerels sired by a 10 lb. cock bird. **R. W. Mills, Saline, Mich.**

S. C. White Legorns 200 egg strain. Good winter layers. Baby chicks 15c each. Hatching eggs 5c each. Order now. **C. W. Gordon, Fowlerville, Mich.**

Single Comb Brown Leghorn eggs for hatching. Also day-old chicks. Order now. **Frank Camburn, Saline, Mich., R. D. No. 4.**

SILVER. Golden, White Wyandottes. A few good Golden cockerels left. Eggs from farm flock. Whites \$1.50 per 15, others \$3 per 15, \$5 per 30. **C. W. Browning, R. 2 Portland, Mich.**

TRY some Silver Spangled Hamburg eggs for hatching. The Dutch everlasting layers White Holland Turkey eggs. Fine Belgian Hare Does bred to high class Bucks. Pedigreed. Stamp for circulars. **Riverview Farm, Vassar, Mich.**

Buff Wyandotte Cockerels \$3 each. Also Barred Rock and Wyandotte eggs for hatching, \$1.50 per 15. **Mrs. R. W. BLACK, Caro, Michigan.**

Silver Wyandottes. Quality cockerels for sale. Free mailing list. **H. J. Gettings, Hillsdale, Mich.**

WHITE Wyandottes. A. I. layers. Eggs for hatching, \$1, \$2, \$3 for 15, \$7 per 100. Special matings \$5 for 15. **DAVID RAY, 709 Norris St., Ypsilanti, Michigan.**

BREEDERS' DIRECTORY.

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

We Offer a Few Special Bargains In S. C. White Leghorn cockerels, Rambouillet rams, Hampshire pigs (either sex) and Holstein bulls. A good chance for a small investment to reap the benefit of a large expenditure of capital and years of expert breeding.

Flanders Farm, Orchard Lake, Mich.

CATTLE.

ABERDEEN-ANGUS

Bulls by BLACK QUALITY IFO, sire. First prize, Breeders and Calf Herds Mich. State Fair 1916. We also won first on Exhibitors Herd, Jr. Champion Bull, Jr. Champion Female and Grand Champion Cow. Also breeders of Percheron, Hackney and Saddle Horses.

Aberdeen Angus Eight bulls from eight to ten months old. One show bull, eight yearling heifers bred. Our motto: size with quality, best of breeding. Prices reasonable. Inquire of F. J. WILBUR, CLIO, MICHIGAN.

FOR SALE Good Angus bulls, bred cows, and heifers. Prices reasonable. Geo. Hathaway & Son, Ovid, Mich.

MIL0 D. CAMPBELL CHAS. J. ANGEVINE

BEACH FARM GUERNSEYS

Average yearly production 422.3 lbs of fat, three fourths of them making their records as two year olds. By the use of a pure bred sire, a big improvement can soon be attained. The breeding of the Beach Farm Herd is as good as can be found, and we guarantee them to be free from contagious diseases and to be satisfactory in every way or money refunded. Write and let us tell you about them.

CAMPBELL & ANGEVINE, Coldwater, Michigan.

Guernsey Bulls of service age and calves from choice. Adv. reg. breeding. T. V. HICKS, Route 1, Battle Creek, Mich.

GUERNSEYS-REGISTERED BULL CALVES Containing blood of world champions. HICKS' GUERNSEY FARM, Saginaw, W. S., Mich.

FOR SALE Registered Guernsey bulls and and bull calves and Berkshire swine, the best breeding. John Ebels, R. 10, Holland, Mich.

"Top Notch" Holstien Herd Sires

No. 1. King Oakdale Colantha, No. 182831, Born Sept. 18, 1915. His sire's three nearest dams average 30.87 lbs. His dam is a 22.64 lb. junior 4 year old. His dam's dam (30.59 lbs.) heads one of the eight only combinations of three direct generations of 30 lb. cows. His dam's sire carries 50% the same blood as Grace Fayne 2d's Homestead the first 35 lb. cow, granddam of Segis Fayne Johanna, the only 50 lb. cow. Handsomely marked—about 3/4 white—Price \$250.00.

No. 2. Segis Korndyke Axelina King, No. 182935, Born Jan. 15, 1916. His sire is brother to the \$50,000.00 bull. His sire is grandson to the great King Segis. His sire is grandson to the first 37 lb. cow. His sire's dam is a 25.51 lb. 3 1/2 yr. old daughter of King of the Pontiacs. His dam is a 22.09 lb. granddaughter of Pontiac Korndyke. His dam's sire is from a 28.99 lb. granddaughter of Hengerveld De Kol. He traces four times to Pontiac Korndyke and three times to Hengerveld De Kol. Handsomely marked—about 3/4 white—Price \$200.00.

McPherson Farms Co., Howell, Mich.



Purebred Registered HOLSTEIN CATTLE

Tilly Alcarra, a purebred Holstein-Friesian, is the most wonderful cow in the world. In 965 consecutive days she produced 30,451.4 pounds of milk or about 15 tons. In two years she produced 60,728 pounds of milk. She holds the world's milk record for one, two, three and four years. Holstein cows hold all world's records for milk and butterfat production, but the claim of the Holstein bred to the title of the "most profitable dairy breed" is not based on individual tests. It is the great uniformity of high productiveness of Holstein cows everywhere that makes them the greatest money makers for dairymen, the world over. There's big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets The Holstein-Friesian Association of America F. L. Houghton, Sec'y., Box 164, Brattleboro, Vt.

Do You Want A Bull? Ready For Service.

From a grand daughter of The King of the Pontiacs. Sired by a bull that is more than a half brother to the Champion Holstein Cow of the World, and whose dam is a 30 lb. 6 3/4 fat daughter of Pontiac Aggie Korndyke who has more 30 lb. daughters than any other living bull. If you do write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

HOLSTEINS

Herd No. 1, Five cows, one two year old bull. Herd No. 2, Five yearling heifers, one yearling bull. Herd No. 3, Five Heifer calves and one bull. Bulls ready for service and 6 to eight months old bulls. Prices will please you. If interested, write as soon as you read this. L. E. CONNELL, Fayette, Ohio.



\$81.86 PROFIT PER COW PER YEAR over a period of 7 YEARS is the average of A GRADE GUERNSEY HERD IN WISCONSIN

IT WAS THE GUERNSEY BULL THAT-DID IT

Write for our free booklets about GUERNSEYS THE AMERICAN GUERNSEY CATTLE CLUB BOX W.M. PETERBORO, N. H.

R. of M. JERSEY BULLS—THIS TIME! R. of M.

You keep cows for profit. Brookwater Farm breeds bulls that will increase value of every calf you raise. The following are sired by Benedictine King who will enter R. of M. this year on his record as a sire of R. of M. cows. Not one of his daughters ever failed to make the Register of Merit. Calved June 5, 1916. Solid color; dam, Brookwater Veda 258786, now on test, has made in 5 months and 21 days, 309.97 pounds of butter. Calved July 3, 1916. Solid color; dam, Brookwater Loretta 271985, now on test, has made in 4 months and 25 days, 380.72 pounds of butter. Also three other bull calves, one of which is of unusual promise by Majesty's Intense and out of a tested (will make 70 pounds fat during January) granddaughter of Loretta D., champion cow for production at the St. Louis World's Fair. One of these bulls we will sell at \$75. Others higher. Extended pedigrees and production records furnished on application. Let us know what kind of a bull you need. Visit the farm and see the calves, their dams and sires. BROOKWATER FARM, ANN ARBOR, MICHIGAN. H. W. Mumford, Owner, F. Foster, Manager.

10 HOLSTEIN BULLS at FARMERS' PRICES

Sired by Long Beach DeKol Korndyke. His sire Friend Hengerveld DeKol Butter Boy. Dam a daughter of Pontiac Aggie Korndyke. She has a 130 lb. record, 11-30 lb. sisters, 3-120 lb. sisters. Her dam a daughter of Friend Hengerveld DeKol Butter Boy has 1000 lb. year record. Has 4-30 lb. sisters, 3 sisters above 1200 in year. LONG BEACH FARM, AUGUSTA, (Kalamazoo, Co.,) MICH.

Bigelow's Holstein Farms, BREEDSVILLE, MICH. Have Some Fine Registered Stock For Sale

Reg. Holstein Bull. Dam first in Dairy test. Sire G. Champion Michigan State Fair. Price right. John A. Rinke, Warren, Mich.

Registered Holstein Friesian Heifers. 3 to 6 mos. old. Some from 30 lb. sires. Priced to sell. Fred J. Lange, Sebewaing, Mich.

Holstein Calves, 10 heifers, and 2 bulls 15-16ths pure. H5 weeks old, beautifully marked, \$20.00 each, crated for shipment anywhere. Edgewood Farm, Whitewater, Wis.

REG. HOLSTEINS: Herd headed by Albina Bonte Butter Boy No. 36124. Dam's record at 6 yrs. butter 23.53 lbs. milk 619.4. Yearly record at 2 1/2 yrs. butter 802 lbs. milk 1822 lbs. W. B. READER, Howell, Mich.

Cluny Stock Farm 100 REGISTERED HOLSTEINS 100 THE MILK AND BUTTER KIND

Five splendid bull calves sold since January 1st, 1917. Only three more ready for sale at this time. One from a sire whose dam holds sixth highest yearly butter record. One from a sire whose three nearest dams average 30.6 lbs. butter and 658 milk in 7 days. One from a son of Colantha Johanna Lad whose 7 nearest dams average 28 lbs. of butter and 587 lbs. milk. Write for pedigrees and prices.

R. BRUCE McPHERSON, HOWELL, MICH.

Holstein Bulls

1 to 9 months old. Dam's A. R. O. Our herd sire is Johanna McKinley Segis 3d. 7 nearest Dams average 27.26 BLISSVELDT FARMS, Jenison, Mich.

OAK LEAF FARM Herd Sire Ypsiland Sir Pletertie De Kol

Service bulls all sold. Buy a calf and raise it. Fine individuals 4 and 5 months old. E. H. Gearhart & Son, Marcellus, Mich., R. No. 4.

Registered Holsteins. Young bull ready for service. Guaranteed. W. B. Jones and J. F. Lutz, Cohoctah, Mich.

REG. Holsteins. Place your order now for a bull calf. R. I have cows due to freshen soon, bred to the best bull in Mich. Elmer E. Smith, Redford, Michigan

REG. Holstein Bull, ready for service. Sired by a half-brother of World's Champion cow. Send card for pedigree & price. E. R. Cornell, Howell, Mich.

Parham's Pedigree Stock Farm Offers reg. A.R.O. Holstein Cows, Male Calves, Show Bull ready for service no akin to cows, priced \$125. R. B. PARHAM, Bronson, Mich.

842 Lbs. Butter

Is the average of the semi-official records of our herd bull's dam (at 2 yrs.), his grand-dam (at 3 yrs.), and his great grand-dam. Three choice young bulls from A. R. O. dams. Herd tuberculin tested annually.

PEACELAND STOCK FARM, Three Rivers, Mich. Chas. Peters, Herdsman, C. L. Brody, Owner, Port Huron, Mich.

WINNWOOD HERD

John H. Winn, Inc., Holton, Mich. Reference: Old State Bank, Fremont, Mich. Have for sale 6 Maplecrest Korndyke Hengerveld Holstein bulls. One 12 months; one 6 months; one 2 months, all out of A. R. O. dams. One made 19 lbs. butter in 7 days as a Jr. 2 year old. Another 21 lbs. in 7 days as a Jr. 3 year old. Also have five others, same bred from 2 to 6 months. Must sell at once, need the room. Our prices will surprise you. John H. Winn, Holton, Michigan.

1200-lb. Bred Young Bulls

Their sire, Maplecrest DeKol Hengerveld. We offer one born Feb. 12, 1916, out of a 21-lb. cow from sister to 32-lb. cow. His grandsire is sire of the famous Banostine Belle DeKol, 1322.93 lbs. butter, 1 yr. Write for pedigree and price.

HILLCREST FARM, F. B. Lay, Mgr. Kalamazoo, Mich.

Holstein Bull calf nearly white. Sire: Colantha Johanna Cremonello Lad. Dam: Segis Aggie Hengerveld De Kol. Write GEO. D. CLARKE, Vassar, Mich., for photo and price.

Holstein and Guernsey Heifer and Bull Calves Choice selected promising dairy calves, practically pure Holstein and pure Guernsey, but not registered, nice color. \$20.00 each, all express paid to any point. MEADOW GLEN, Whitewater, Wis.

FOR SALE Reg. Holstein cow, 10 yrs. old. due May 1st, has better than a 19lb. record at 4 yrs. old. Price \$200.00. Chas. I. Cook, Fowlerville, Box 498, Michigan.

HOLSTEIN COWS: bred yearlings and calves for sale. Every cow has produced a vigorous calf during year. C. L. Hulett & Son, Okemos, Mich.

\$175 Buy your choice of two Reg. cows bred to a 30 lb. grandson of "King of the Pontiacs." Calf contracted at \$100 if heifer. B. B. Reavey, Akron, Mich.

WANTED—to pay for eight registered Holstein cows with part each cream check. Have good stable, silage, alfalfa, experience, references. R. D. Baily, Gaylord, Mich.

20 Herefords BOTH SEXES ALL AGES EARL C. McCARTY, Bad Axe, Michigan

HEREFORDS

Both sexes and all ages for sale, our herd comprises about 100 head representing the blood of such sires as Prime Lad 9th, Perfection Fairfax, Bonnie Brae 3d and Dale. Write us your wants.

ALLEN BROS., PAW PAW, MICH.

Maple Lane R. of M. Jersey herd offers for sale tuberculin tested cows, bulls, bull calves and heifer calves, carrying the best R. of M. blood of the breed. IRVIN FOX, Allegan, Mich.

The All-Around Jersey is the farmer's cow. She's his friend and pride—the beautiful, gentle, ever-paying milk machine that lifts the mortgage, builds up the fertility of the farm, and puts the whole business on a sound, paying, permanent basis. She adapts herself to all climates and all feeds and does not need fancy care. She matures early and lives long. And she's so sleek, clean-cut and handsome, as to be the family pet and pride. She produces well and sells well. Learn about her in our fine, free book, "About Jersey Cattle." Write for it now. THE AMERICAN JERSEY CATTLE CLUB 346 West 23d St., N.Y. City

FOR SALE Twenty-five Jersey cows, two to eight years old. Eight registered, balance high grades. Excellent producers, guaranteed right. Also some bred yearling heifers, registered and high grades. Also some half heifer calves from above stock. Good reasons for selling. Bell Phone—Hadley, P. O. Metamora, Mich. R. 1, C. E. Hodgson, L. H. Riley.

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

Jersey Bulls for sale, ready for service. Out of good producing dams. Prices right. R. B. FOWLER, Hartford, Mich.

JERSEYS FOR SALE Young bulls two to eight years old, ready for service from R. of M. ancestors. Meadowland Farm, Waterman & Waterman, Packard Road, Ann Arbor, Mich.

FOR SALE REGISTERED JERSEY BULLS Ready for service. Write your wants. SMITH & PARKER, R. D. No. 4, Howell, Michigan

FOR SALE Yearling Jersey bull from register of merit stock. HILLSDALE FARM JERSEYS. Great producers. C. & O. DEAKE, Ypsilanti, Michigan

Maple Hill Farm Registered Jersey Cattle Stock under 2 1/2 years old. J. R. Worthington, R. No. 7, Lansing, Michigan

Lillie Farmstead Jersey Cattle. Bull calves from R of M. Cows, also heifer calves and several bred heifers for sale. Colon C. Lillie, Coopersville, Mich.

The Wildwood Farm Breeder of Line bred Majestystrain of Jersey Cattle. Herd on R. of M. test, Tuberculin tested. Bull calves for sale. Type & Production is our motto. Alvin Baldwin, Capac, Mich.

Jersey Calves, Both Sexes, Majesty Breeding. Walter Postiff, Plymouth, Mich.

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

Bidwell Shorthorns "For Beef and Milk" This heifer at 6 months has bone, size and quality—our own breeding. The blood of Scotch bulls, Imp. Shensone Albino and Imp. Villager Registered stock always for sale. BIDWELL STOCK FARM, Box B, Tecumseh, Michigan.

Francisco Farm Shorthorns Big Type Poland Chinas "They're rugged—they pay the rent." Nothing for sale at present. F. P. POPE, R. R. 3, Mt. Pleasant, Mich.

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

Shorthorns For Sale Young bulls \$100. Bred cows, and heifers \$150 for quick sale. Write W. J. BELL, ROSE CITY, MICHIGAN.

FOR Sale—Reg. Short Horn Bulls by Marwalton F. Monarch 2nd, a son of Avondale, from 11 to 13 mos. old. John Schmidt, Reed City, B. No. 5, Michigan.

Shorthorns For Sale Young bulls ready for service, also cows and heifers. W. B. McQuillan, Howell, Michigan.

Veterinary.

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

Weakness.—I have a calf about 11 months old that commenced to grow thin two months ago. I was then feeding alfalfa and corn silage, but he refused to eat this kind of feed any longer; since then I fed him five quarts of skim-milk a day with stock food, but he is now so weak that he can't get up. He appears bright enough, but has no appetite for food. M. W., Vanderbilt, Mich.—Give him 20 grs. of ground nux vomica, 5 grs. of nitrate of soda and 1 oz. of tincture gentian at a dose in a pint of water as a drench three times a day.

Frozen Teat.—We have a cow that has a sore and swollen teat. It was frozen during our recent cold weather. Is it anything to be alarmed about, and what would you advise me to do for same? I forgot to say that the cow is thin. H. L. B., Carleton, Mich. Apply one part oxide of zinc and four parts petrolatum once a day. If the parts were not badly frozen, then you may expect a fairly satisfactory recovery. Give her 1 oz. of cooking soda, 1 oz powdered charcoal and 1 oz. of ground gentian at a dose in feed two or three times a day.

Open Joint.—My ten-year-old horse was kicked in the hock joint by a sharp-shod horse; this accident happened ten miles from home and the pained ten miles from home and the horse was driven home the next day, then treated by our local Vet., who said the joint was open. This first Vet. advised us to call another Vet. which we did, and he thought the case curable; but later advised us to destroy the horse. We kept the horse for several days, then killed him. One surprising thing was the difference of opinion between the Vets., and I would like to know if you think the case one that could have been cured. J. I. B., Addison, Mich.—Open joint, especially in the hock, resulting from a kick and not treated promptly and efficiently, immediately after the accident, the horse kept perfectly quiet in a clean, sanitary place seldom recovers. And I should say in this kind of a case, they scarcely ever recover.

Uric Acid Calculi.—What can be done for a mare that occasionally passes bloody urine? Whatever it is that is causing this trouble does not seem to affect her health. S. B., Milan, Mich.—Give her 1 dr. Hexamethylene or 1 dr. Urotropin or 1 dr. of Uritone at a dose in feed or drinking water two or three times a day. I suggest that you change her feed, and give her plenty of good water to drink.

Thoroughpin.—I have a horse that has a puff extending through the hock joint which has been on him since he was a young colt. This bunch is soft, has never caused soreness or lameness, but it being there somewhat depreciate his value. What can I apply that will remove it? R. C. S., Richmond, Mich.—A bunch of this kind that has been on for years, is not by any means easily removed or reduced very much in size. By clipping hair off and applying one part powdered cantharides and four parts lard twice a month, you will obtain some results; however, if I owned him I should leave him alone and to the party who might buy him, just say that it has never caused lameness and is not likely to, and the sale will be made.

Thrush—Knuckling.—I have a mare 16 years old that is troubled with thrush; she is also lame in fetlock joint and when moving she knuckles considerable. This lameness came on gradually and seems to vary. C. H. B., Unionville, Mich.—Keep the foot clean and dry, also apply equal parts calomel and boric acid once a day. Apply to fetlock joints equal parts of turpentine, aqua ammonia and olive oil three times a week. Or if you are not using her, clip off hair and apply one part red iodide mercury, one part powdered cantharides and eight parts of lard every two weeks.

Diseased Frog.—I have a horse that has a diseased frog and the longer I doctor it, the worse it gets. In fact, none of the remedies I have applied seem to have helped effect a cure. S. K. McL., Highland Park, Mich.—Keep the foot clean and apply equal parts of calomel and powdered charcoal once a day. Remember that the foot should be kept clean and dry, as filth and too much moisture is usually the cause of this thrush-like condition of frog.

SHEEP AS A FACTOR IN FARM BUILDING.

(Continued from page 424).

Next we set fire to all the dry brush and secured a pretty good burn all over the pasture; then taking a mixture of timothy and clover we seeded these burned patches and every other place that looked as if the seed would grow. The result was that at the end of a couple more years we had eighty acres of sod which was covered with logs and stumps.

The soil being a clay loam we blasted out the stumps, which were pretty well rotted, and piled them up with the logs in good big piles; then a good burning in a dry time gave us a piece of the best land which needed no subduing. We believe that this method could be improved upon by cutting the land into two or more lots, and turn the sheep from one to the other as the picking gets short.

As to breeds of sheep: We had Merinos, Shropshires and ten full-blooded Oxfords. We felt that the Oxfords were best suited to our purpose; consequently, when we turned the flock off they were all Oxford.

Many farmers will be apt to find that it pays to "Kill two birds with one stone" in this manner.

Otsego Co. G. F. DE LA MATER.

AMERICAN BERKSHIRE ASSOCIATION SPECIAL PREMIUMS.

The American Berkshire Association has provided for special premiums amounting to \$1,200 at the National Swine Show, to be held at Omaha, Nebraska, which, together with \$800 offered by the National Swine Growers' Association, will make a classification of \$2,000 for Berkshires at that show. An appropriation of \$500 was made for Berkshire barrows in the single and pen classes at the International Live Stock Exposition. This, with the amount offered by the Live Stock Exposition, will furnish a classification of \$1,000 for barrows. The Association premiums at the International for Grand Champion dressed carcass, barrow, pen and Grand Champion carload, if won by Berkshires, remains the same. The total amount offered by Association for Berkshire barrows at the International totals \$800 in cash and trophies.

Special ribbons for all the classes and Association medals for the champion boar, champion sow and get of sire were provided for to be offered at the Texas State Fair, Dallas, Texas; The Southeastern Fair, Atlanta, Ga.; The Louisiana State Fair, Shreveport, La.; The Fort Worth, Texas, Show; the Western Live Stock Show, Denver, Colo.; American Royal, Kansas City, Mo.; Western American Berkshire Congress, Eastern American Berkshire Congress, National Swine Show, and International Live Stock Exposition.

A national campaign for advertising Berkshires through the agricultural press was decided upon. By this means it is the intention of the Association to bring to the attention of the farmer and breeder the excellent quality of the Berkshire hog and, among other things, the fact that the breed has won more Grand Championships in the barrow classes at the International Live Stock Exposition than all other breeds combined.

The business of the American Berkshire Association during March exceeded that of any month in the history of the Association. The increase in registration was forty-five per cent greater than in March, 1916.

HEREFORD BREEDERS ACTIVE.

At the annual meeting of Hereford breeders held at M. A. C., in January, T. B. F. Sotham, of Lansing, was elected "official booster" and sale manager for the association, with the idea of holding a combination sale sometime during the year. Reports from breeders from many sections of the state showed the Hereford breeding business to be in a prosperous condition. Many of the members thought a greater interest might be created in the breeding of pure-bred beef cattle if the Agricultural College would maintain high-class beef herds and push the work of beef cattle extension as it does the work of dairy extension. The officers of the association are: President, Louis Norton, Quimby; first vice-president, Ralph Emery, Kalamazoo; second vice-president, Jay Harwood, Ionia; third vice-president, Ed J. Taylor, Fremont; secretary and treasurer, Earl C. McCarty, Bad Axe.

Get This Barn Book. Before you place your order for stalls, stanchions, litter carrier or barn equipment of any kind send for the Drew Barr Equipment Book... Drew Barr Equipment Co. Dept. 119 Waterloo, Wis.

PROTECT YOUR STOCK. Increase your profits, comply with the sanitary demands of health authorities, milk companies, etc., and at a saving of time, cost and labor! CARBOLA. It disinfects and paints at the same time. Carbola Chemical Company 7 East 42nd St. Dept. X New York City

Half a Cow. Half a cow means half a profit—really a loss, because a poor producer costs as much to keep as a good milker. KOW-KURE is the one cow medicine that quickly tones up the digestive and genital organs and puts a backward cow on her feet. DAIRY ASSOCIATION CO., Lyndonville, Vt.

Sale of 22 Grade Cows and 10 Heifers. These cows are some that have been raised on the farm and have been breeding and raising the best heifers for 25 years. Sale to be Apr. 3 rd. commencing at 12 noon. KNOWLES BROS., Azalia, Mich.

Bates Shorthorns. The original milk strain. No stock for sale at present. J. B. Hummel, Mason, Michigan. SHORTHORNS Maple Ridge Herd, Established 1867. Young bulls for sale. J. E. Tanswell, Mason, Michigan.

HOGS. Durocs and Victorias. Heavy bone, lengthy Spring Boars and Gilts from prize winners sired by one of the best Sons of the Great Defender & other noted strains. M. T. STORY, Lowell, Mich.

Swigartdale Farm Berkshires. Home of the greatest show herd in the State. Stock of all ages and both sex for sale, including some of the winners at the State Fair. Write us for particulars and let us tell you about them and our HOLSTEIN BULLS

FIFTY THOUSAND DOLLAR BULL. out of a '27, 39-lb. dam, all stock guaranteed to be just as represented and a credit of six months will be given to responsible parties.

SWIGARTDALE FARM, Petersburg, Mich.

BERKSHIRES: Gilts and mature sows that will farrow in April and May. Mammoth Toulouse Geese, Pekin Ducks \$2 each. Chase Stock Farm, R. 1, Marlette, Mich.

Berkshires, Boars, serviceable age, best blood lines. Registered. ELMHURST STOCK FARM, Almont, Mich.

Fall Boars, best of breeding, one 35 summer and fall gilts open, or bred to Jo. Orion 14th and held until safe in pig. Visitors welcome and satisfaction guaranteed on all orders. Sold 30 bred sows during Feb. Newton Barnhart, St. Johns, Mich.

Duroc Jerseys 18 bred gilts for sale priced to sell. Carey U. Edmonds, Hastings, Mich.

Duroc Jersey Gilts We have a choice lot of good rugged heavy boned Gilts, registered. All bred to our Herd Boar, Jennings Pilot Wounder No. 7373. Bred for Apr and May farrow. Send for pedigree. Prices reasonable. THE JENNINGS FARMS, R. F. D. 1, Batley, Mich.

Durocs For Sale Big Heavy Boned. Fall boars and gilts, weight 125 lb. to 200 lb. each, not extra fat but in good breeding flesh. Also one yr. Reg. Percheron Stallion, color black and a good one. M. A. Bray, Estate, Okemos, (Ingham Co.) Mich.

Duroc Sows and gilts bred to Eureka Cherry King and Ormiston Critic son of Critic Model 1916 champion Iowa Fair. W. O. Taylor, Milan, Mich.

Durocs A few big smooth Sept. gilts to be bred for early fall farrow. Bell Phone. E. D. Heynenberk, Wayland, Mich.

PINEHURST DUROCS. Choice fall boars. One great yearling boar. Choice Yellow Dent Seed Corn for sale. Orio L. Dobson, Quincy, Michigan.

Duroc Jerseys Fall boars ready for service, sired by a son of Orion Cherry King and Volunteer also booking orders for spring pigs, pairs not akin. F. J. DROTT, Monroe, Mich., R. 1.

For Sale Duroc Jerseys. Six fall boars of big smooth kind. Prices right. JOHN McNICOLL, Route 4, Station A, Bay City, Mich.

Duroc Jersey Boars old enough for service sired by Brookwater Cherry King \$25 each. Reg. & Del. Choice goods J. B. Hicks, St. Johns, Mich.

Duroc Jerseys. Breeding Boars and Sept. Gilts J. H. Banghart, East Lansing, Mich.

Chesters. Bred gilts all sold. A few fall pigs left. Booking orders for spring pigs. F. W. ALEXANDER, Vassar, Mich.

Raise Chester Whites Like This the original big producers. I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

1/2 Ton O. I. C.'s & Chester Whites 1/2 Ton 10 Oct. and Nov. boars sired by our undefeated Grand Champion School Master. The boar that has size and quality combined. All sold any age. Write and get our Catalogue its free and describes our champions. We do not say our hogs are the best but we win the championships to prove it. We have 100 sows bred to our champion boars for Mar. and Apr. farrow. HARRY T. CRANDELL & SON, Cass City, Mich.

CHOICE BRED GILTS Bred to Big Price 56002, sired by Wildwood Prince 1110 lb. 3 yr. Grand Champion at Iowa, sold for \$750. Ship O. O. D. -J. Carl Jewett, Mason, Mich.

O. I. C. and Chester White Swine. Strictly Big Type with Quality. Gilts bred for Spring farrow, all sold. Five fine Sept. gilts bred for July farrow. Have a few good fall pigs left, either sex. We are also booking orders for early Spring pigs. Can furnish in pairs not akin. Newman's Stock Farm, Marlette, Mich. R. 1.

O. I. C. Year old boar 2nd prize winner at Grand Rapids fair also spring gilts and boars ready for service. A. J. Barker, Belmont, Mich. R. 1.

O. I. C. SWINE: Bred gilts are all sold. not akin to breed in the spring. Rush in your order before they are sold. Satisfaction guaranteed. A. J. GORDEN, R. No. 3, Dorr, Mich.

O. I. C.'s. All sold. Booking orders for the best of our winter and spring pigs. C. J. THOMPSON, Rockford, Michigan

O. I. C. Choice gilts all sold. Choice fall pigs out of prize winning stock. Write for low prices. A. V. HATT, Grass Lake, Mich.

O. I. C.'s. Buy the best and breed them better. Fall Gilts and Boars. CLOVER LEAF STOCK FARM, R. 1, Monroe, Mich.

O. I. C. bred sows and gilts all sold. A few long bodied heavy boned fall boars to offer. G. P. ANDREWS, Dansville, Michigan

Large Type P. C. for March and April farrow all sold. A few good ones to be bred for June farrow. Also some good fall pigs either sex. W. E. LIVINGSTON, PARMA, MICH.

Poland Chinas. As big, as good, as grow in Iowa. Herd headed by Goliath Farver. I can please you. Robert Martin, R. 7, Hastings, Michigan

Large Type Poland China Bred Sow Sale, Feb. 20, '17. Write for catalog. W. J. Hagelshaw, Augusta, Mich.

Large Stiled Poland China sow bred, fall pigs, either sex. Young Shorthorn cow and four month bull calf. Robert Neve, Pierson, Michigan

POLAND Chinas bred gilts all sold, still have some choice fall pigs of large and medium type, at farmers prices. P. D. LONG, R. 8, Grand Rapids, Mich.

Big Type Poland Chinas Sept. farrow, either sex, sired by Jumbo Wood, 300 lb. hog. A. A. WOOD & SON, Saline, Michigan.

HALLADAY'S HAMPSHIRE. All sold, except fall pigs. We are booking orders for spring pigs. O. H. Halladay & Son, Clinton, Mich.

Hampshire Swine. Nothing for sale but fall boars and gilts. Write for prices. FLOYD MYERS, R. No. 9, Decatur, Ind.

Big Type Poland China fall boars. Am booking orders for spring pigs, satisfaction guaranteed. G. W. Holton, R. 11, Kalamazoo, Mich.

LARGE Strain P. C. bred gilts all sold. A few long bodied heavy boned boars ready for service. 2 nice fall boars by Smooth Jumbo. H. O. Swartz, Schoolcraft, Mich.

HAMPSHIRE SWINE. My herd contains the blood lines of many of the most noted champions of the breed. My herd boar, Claytons Lad, 18233 is a brother of Look Out Herd, who was Grand Champion at the National Swine Show. I am booking orders for spring pigs to be shipped about May 1st. Write me for prices. George E. Starr, Grass Lake, Mich.

HAMPSHIRE HOGS all sold out. would sell one herd boar and book orders for spring boar pigs. John W. Snyder, St. Johns, Michigan, R. 4.

HORSES

Percheron Stallions 25 Must Be Sold. Also 2 Imported Clydesdale Stallions. Spring Sale. Prices are now on Palmer Bros., P. O. Belding, Ionia Co., Belding, Mich.

JACKS AND MULES. Raise mules and get rich. 120 fine large Jacks, Jennys and Mules, all ages for sale. A lot of big registered Jacks. No little cheap Jacks for sale. All guaranteed Jacks. Prices \$250 and up. Come on and see for yourself or write me today. KREKLER'S JACK FARM, West Elkton, Ohio

FOR SALE. Imported Suffolk Stallion Sudbourne Chinaman (3970) 802. Chestnut, six years old, sound, good sire, thoroughly kind and true to work 1700 pounds, splendid family and no better breed of farm and draft horses. Price \$600 and satisfactory guaranty. W. W. Collier, Pontiac, Mich.

AT HALF PRICE. Registered Percherons. Big black stud colt coming 3. sound and sure. Big boned rugged filly 2 past, bred by M. A. C. Also pair of mares 4 and 5 years old. Come and see them. JNO. C. BUTLER, Portland, Mich. Bell Phone.

KENTUCKY JACKS and SADDLERS. BIG BONE Kentucky JACKS and JENNETS. 85 head FIVE and CUBAN CAITED STALLIONS, geldings and mares. Fancy MULE TEAMS. WRITE US. ASK FOR OUR 1917 CATALOG. THE COOK FARMS, Box 436L, LEXINGTON, KY.

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

For Sale Two registered Percheron Stallions, one four and one seven. Colts to show. Write for particulars. W. E. WAFFLE, Burlington, Mich.

SHETLAND PONIES. Herd established 1881. 200 Head to select from. Write Dept. F for catalog. The Shadyside Farms, North Benton, O.

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

Registered Clydesdale Stallions For Sale. By Mr. F. A. PETZ, Capac, Mich.

Registered Percheron. Stallions, good individuals, priced for quick sale. R. C. Whitenight, Marcellus, Mich.

Percherons. Stud colt coming two, one coming one. Price right. Duroc brood sows, Fall pigs. E. J. Aldrich, Tekonsha, Mich., Bell Phone.

Registered Percherons. 1 stallion coming 1 year. Mares and Fillies. Priced to sell. Wm. J. Blake, Dutton, Mich.

For Sale Registered "Black" Percheron Mare, 5 yrs. old. Bred for fall colt. Geo. N. Wright, R. R. No. 1, Lawence, Michigan

SHEEP

Shropshire Swine. Mostly yearlings with lambs by side, extra good ones, come at once if you want them.

Kope Kon Farm, Kinderhook, Mich.

Oxford Down Sheep. No more for sale. M. F. GANSSLEY, Lennon, Michigan.

A GOOD PROFIT FROM FALL PIGS.

On December 1 I had twenty-four September pigs, but practically no grain. There was almost no local market for pigs of this age at that time, three dollars apiece being about the best I could get for them. Grain prices were so tempting that a great many farmers did not feel like turning a certain gold mine into a commodity for which the market was influenced by so many unusual conditions. But my pigs were in good condition, so I decided to buy the necessary feed, especially as I needed the additional manure on the farm.

The Ration Fed.

At that time I was feeding about a bushel of corn a day, and during the entire feeding period, gave them twice daily all the warm slop (chop and middlings) they would eat, made as thick as it could be poured.

I did not use a self-feeder for two reasons. The weather conditions were very severe from the first and I did not have a sheltered place for the feeder, so the pigs would not come out and eat as much as they needed. Second, unless one has a platform around the feeder, I have found that pigs of this age waste a good deal of ground feed by getting their feet in the feeder.

The pigs had before them constantly hardwood ashes and a mixture of salt, copperas and charcoal in the proportions of two pounds each of copperas and charcoal to fifty pounds of salt.

Twice during the winter I skipped one feed, and at the next, fed in the slop turpentine at the rate of two teaspoonfuls to a hundred-pound pig. About twelve hours later I gave the same amount of kerosene or epsom salts. This was an extra preventative against worms, as the pigs slept in a section of a basement barn which was rather dark and damp. They were not bothered with lice.

Results.

On January 10 I sold eight pigs which averaged about 84 pounds, for which I received nine cents a pound.

February 1 I sold four sows for breeding purposes, two of them being as large as any, and two smaller. I got eleven cents for these and they averaged ninety-two pounds.

On February 26 I sold the remainder, for which I received twelve cents. Two of these were undersized, not weighing more than fifty pounds each. That brought the average of the other ten to 123 pounds.

The twenty-four pigs had brought me altogether \$260.60, and their feed had cost \$105.88. I had paid \$39 a ton for chop, and the price of middlings had varied from \$36 to \$40 a ton. For the corn, I paid from \$1.00 to \$1.15 a bushel. This gave a gross profit of \$154.72. This amount, less the value of the pigs on December 1, estimated at \$3 each, leaves a net profit of \$82.72. I spent not over an hour a day, for which I received ninety-four cents for my labor. I did not pay any interest on the money spent for feed.

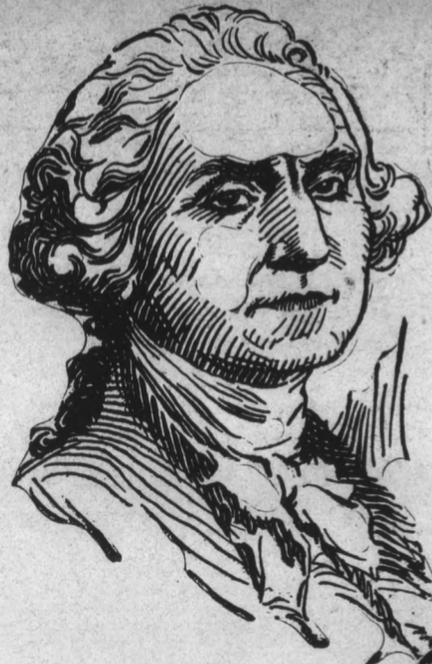
Had I kept all the pigs until the first of April, or later, I would undoubtedly have made a much greater profit. The averages would also have been proportionately better, as I sold the best pigs each time with the exception of two, and I disposed of them just at the time when they would have made the most economical gains.

Typical Conditions.

The feeding quarters were far from ideal, and sometimes on account of bad roads and weather, I was compelled to feed several days at a time on one kind of feed, and short rations at that. Yet I think these conditions are about typical of the average farm where no special business is made of feeding hogs, and these figures seem to show that a good profit can be made even under fair conditions.

St. Joseph Co.

C. M. D.



"The Will of the People and My Own Good Name"

G. Washington



In Washington's Inaugural Message he promised to sustain "The Will of the People and My Own Good Name."

And so it is in the world of business. Commercial honor can successfully be built only on the standard of quality and personal good faith. By the "will of the people" and by answering all their demands for Most Miles per Dollar, Mr. Firestone has built an organization which stands for leadership.

Firestone

Tires fulfill every demand of safety, easy riding and economy. And as assurance that this quality shall continue, you have the pledge of an efficient organization and the personal responsibility of the Firestone name.

Your dealer and the nearest Firestone Branch unite to give you prompt, economical service.

FIRESTONE TIRE AND RUBBER COMPANY
AKRON, OHIO
Branches and Dealers Everywhere

JUST OUT My Big New BUGGY BOOK

FREE!

Contains a wonderful showing of 150 newest styles in fine rigs offered at prices that save you \$20 to \$40. This big book is not an ordinary mail order catalog, but a real factory

book—showing more styles than you will find in 20 stores. Mailed direct from the maker to you. I want you to have a copy free and postpaid. Send for it today.



SPLIT HICKORY

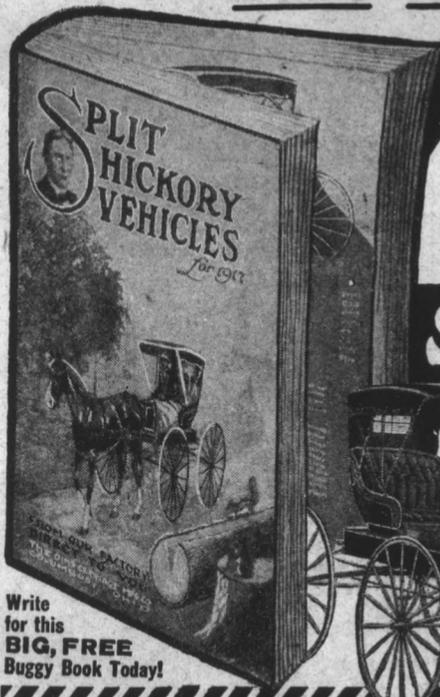
My famous SPLIT HICKORY rigs are used the world over and recognized everywhere as leaders in style, comfort and durability. More than a quarter of a million of them now in use. I give

Thirty Days Free Road Test and Two Years Guarantee

This year I am making a big special "drive" on my SPLIT HICKORY SPECIAL—shown here—the niftiest rig that ever rolled over the road—light, trim, strong. Note these features: molded steel auto seat; Never-leak top, extra deep cushions, padded wing dash, full ironed reach, genuine Split Hickory shafts, wheels and reach—16 coats guaranteed oil and lead painting. You get all these exclusive features at a direct-from-factory price that will surprise you. My free Catalog shows 150 other styles. Send for it today. Address

H. C. PHELPS, Pres.,
THE OHIO CARRIAGE MFG. CO.
Station 32, Columbus, Ohio

If you are interested in a new Harness or Farm Wagon, write for my SPECIAL CATALOG



Write for this **BIG, FREE Buggy Book Today!**

SELF-OILING WINDMILL

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

Write **AERMOTOR CO.**, 2500 12th St., Chicago

HELPER MIXERS

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

SUPERIOR MFG. CO., 925 Concrete Ave., Waterloo, Iowa

"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.

SEED CORN 7 varieties—90, 100 and 110 day corn, all northern grown; full line farm seeds—everything guaranteed. Cir. free. **C. H. & J. GRAVES**, Antwerp, O. (Paulding Co.)