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

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pplying the Season's Lessons

are high. By furnishing these ideal staple crops grown upon the farm. conditions Nature largely compensates wider spread in crop yields, which range from failures or near failures on inefficiently managed farms to better than average yields even in good crop years on well managed farms, barring always the total destruction of the crop by some freakish trick of the elements.

When conditions are especially favorable for crop growth and average yields are secured, there is a tendency toward complacent satisfaction on the part of the average farmer which is in itself no small handicap in the attainment of maximum success. But when unfavorable conditions prevail and partial crop failures occur, our attention is directed more forcibly to the effect, and we are inclined to study more diligently to locate the cause. Such study would be nearly if not quite as profitable in a normal year, since the variations in crop yields in any year are sufficient to afford a most interesting and profitable field of study for the farmer who aspires to more than ordiin the future conduct of our farms.

from a photograph taken by W. P. is practiced. Hartman, agricultural agent of the G.

farm is the ordinary loose, open sandy soil characteristic of considerable areas of Michigan's cut-over land. It will be noted from a study of this illustration that on the dark area in the center of the picture the clover has made a much more vigorous growth than on either side. Mr. Hartman exence in the appearance of the clover is the result of a large stump having been pulled across the field after the land was plowed, thus firming the ground and improving the character of the seed bed before the clover was sown. This same difference is just as readily observable on adjoining

HEN Dame Nature smiles upon plots of alfalfa and sweet clover across insure a maximum of protection together on a common axle and demonthe land, distributing her boun- which the stump was also drawn just against untimely drouth. It is related strated the value of sub-surface packty of warmth and moisture in after plowing. Nothing could illustrate that the pioneer in the adoption of the ing in preparing a seed bed for small a manner to permit a normal plant more forcibly the absolute importance so-called dry farming methods, which grains for the conservation of moisgrowth and a maximum yield of fruit, of preparing a good seed bed not only have gained so much favor in the ture in semi-arid regions. This idea, grain or forage, average crop yields for these legumes, but as well for the semi-arid regions of the middle west, together with that of maintaining a discovered the principle involved in dust mulch on the surface, is the foun-Any farmer who will take the trou- the conservation of the scanty supply dation of the so-called dry farming the crop for the shortcomings of the ble to study this problem with the aid of moisture in that section for the use which has enabled the farmers of this farmer, but when conditions are unfav- of observations which may be made in of growing crops by an observation semi-arid region to secure far better orable as they always are in some sec- his own community, if not upon his quite similar to that illustrated in this average yields and avoid many of the

Sweet Clover, Cut in June, Yielded Two and a Half Tons of Hay Per Acre.

nary efficiency in his calling. If our that it is always profitable to fit the wheat a wagon was driven across it as faculties for observation are persist-land thoroughly before planting a crop. a matter of convenience rather than of ently developed, we will note many The preparation of a good seed bed design. The following season was not facts which, by analysis, could be trac- not only encourages the quick germina- a favorable one for wheat, and the crop beneficial soil bacteria which modern ed to definite causes, thereby teaching tion of the seed and the rapid growth was consequently poor, but the farmer valuable lessons capable of application of the young plants, but also destroys noted that where the wheels of the portant role in the matter of soil fer-This point is well illustrated by the quent tending of the crop much more this field there were narrow streaks for maximum results upon many soils. accompanying cut, (Fig. 2), which is easily accomplished where intertillage of good wheat. Reasoning that a sim- but without question the great bulk of

countless weeds and makes the subse- wagon had packed the soil in crossing tility. Artificial drainage is necessary ilar packing of the soil would have the soils of this state can be made por-A further study of the question will produced similar results on the entire ous and friable as well as more fer-R. & I. R., on this company's dem- also convince any farmer that a thor- field, this farmer constructed a roller tile by the plowing down of green maonstration farm at Cadillac, Mich. This ough preparation of the seed bed will made of small wheels mounted close nure crops to add to their content of

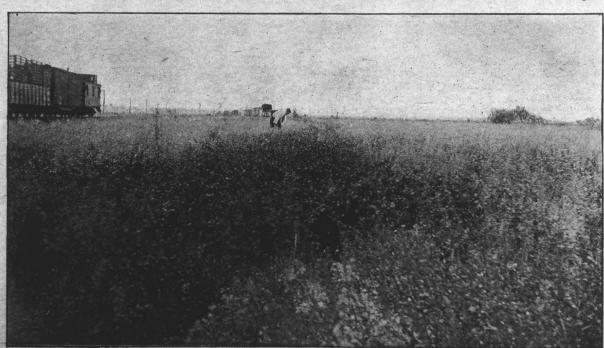
tions for some crops, there is a much own farm, will certainly be convinced cut. After a field had been seeded to disastrous crop failures which they experienced before the adoption of these methods.

> Perhaps no season in recent years has afforded so good an opportunity for study and comparison of essential factors in good farm management as the present summer. The cold, wet spring which prevailed over a large section of the state delayed the preparation of the soil and the planting of the spring crops and the drouth and extreme heat which followed was unfavorable for their normal development. Yet illustrations can be found in almost any neighborhood, even where the most unfavorable conditions prevail, of the efficiency of correct methods in producing a fair crop, even under these unfavorable weather conditions

> Probably the natural condition of greatest importance in this desirable crop insurance is the presence of sufficient vegetable matter or humus in the soil to promote at once better drainage and increased water-holding capacity in the soil, as well as a larger reserve of available plant food and a desirable medium for the activities of science has found to play such an im-

> > vegetable matter. Supplementary fertilization can also be practiced with profit upon most of our soils, yet the supplying of plenty of humus is essential to best results from supplementary fertilization, and will at the same time materially reduce the cost of needed fertilizers, particularly if leguminous crops are used for green manure purposes.

Many crops which are comparatively new to Michigan agriculture are now being successfully used in different sections of the state for this purpose. Perhaps the earliest development along this line has been the use of vetch (Continued on p. 195).



The Rank Growth of Clover in Center is the Result of Hauling a Stump Across the Plowed Field.

The Michigan Farmer

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Mem Standard Farm Papers Association and Audit Bureau of Circulation.

Enterd as second class matter at the Detroit, Michigan, DETROIT, SEPTEMBER 2, 1916

each trial subscriber who takes advan- while the third tells in simple language tage of this unusual opportunity read how interested farmers in any locality the paper carefully each week and may organize a national farm loan asthen ask himself fairly if it will not sociation. be a profitable investment to renew the subscription for one or more years. ization are comparatively simple; all Send your order at once and get the that is necessary is for ten or more

CURRENT COMMENT.

igan Farmer, Detroit, Mich.

As this issue goes The Railroad Labor to press the wage Controversy. tween the rail-

roads of the country and the four great brotherhoods of their employes is apparently approaching the final crisis. By the time this issue reaches the reader the controversy will doubtless be well on the road toward final settlement, or negotiations will have been railway lines of the country.

hour day was demanded, not as a princi- amount equal to five per cent of his failure of direct negotiations and the the amount subscribed is repaid. The inability of the United States Board of funds thus derived are used for the Mediation and Conciliation to get the purchase of stock in the Federal Land two sides together on common ground, Banks by the National Farm Loan As-President Wilson has been using his sociation. If for any reason the loan ment of the controversy. The plan of- granted, this subscription for stock in fered and to which the men agreed the National Farm Loan Association is provided for the granting of an eight- returned. hour day with pro-rata pay for over- Briefly stated, the limitations of time and the appointment of a commisthese national farm loan associations sion to investigate the entire wage sit- as described by the federal farm loan uation with a view to the passage of board are as follows: legislation which would prevent the re- 1. No loan may be made except upcurrence of the present trouble.

To this plan the railroad heads have 2. The amount of the mortgage can not acceeded, insisting upon the main- not exceed one-half the appraised valtenance of the principle of arbitration ue of the land and 20 per cent of the

ter-proposal was for the arbitration of the eight-hour day by a commission to be appointed by the President, the railroads to set aside a fund which would care for the increased pay due the men on this basis in case the arbitrators decided in favor of the eight-hour of the increased pay due the men on this basis in case the arbitrators decided in favor of the eight-hour of the extinguishment of presults on any of the fronts. The probabilities are, however, that Italian soldiers will ultimately be sent into France to aid the French in a campaign against Alsace. It is also inferred that by reament and improvements (see section or section 12, farm loan act).

National Farm Loan cent comment on Associations. the rural credit

law which recently passed Congress and received the approval of the President, the only

associations provided for in the act, Farmer readers, a very large percent-

The requirements for such an organmost from this special offer. The Mich- farmers who desire to borrow money in aggregate amounts of not less than \$20,000 to meet and organize themselves into such an association, preferably following the usual form which will be provided by the Federal Farm Loan Bureau upon request, although this may be varied to suit the individual needs or desires of the farmers who are organizing the association.

All the requirements for the organization of a farm loan association are comparatively simple and can be easily met by the farmers of any community, so long as the initial members numbering ten or more seek to borrow a discontinued preparatory to the calling sum aggregating \$20,000 or more. Of of a general strike of operative em-this sum no individual loan can be ployes on practically all of the great made for less than \$100 or for more than \$10,000, which limits are fixed by To the end that public judgment may the provisions of the act. There is no be intelligently arrived at an analysis limit to the size of the membership. of the issues involved in this contro- The value of the shares of the farm versy will not be out of place. The loan associations are fixed at \$5 each. original demand of the workmen was Every farmer who becomes a member for an eight-hour day and extra com- must become a borrower and a sharepensation for over-time. The railroad holder at the same time, the law promanagers have insisted that the eight-viding that he must subscribe an ple but merely as a means of securing desired loan. This stock is held by an increase in wages, while the broth- the association as part security for the erhoods have protested their sincerity loan, although the association is rein asking for an eight-hour day as the quired if prosperous to pay dividends basis for negotiations. Following the on the stock, which is cancelled after good offices to bring about a settle- for which application is made is not

on the security of first mortgages.

tenance of the principle of arbitration ue of the land and 20 per cent of the as essential to the equitable settle-permanent improvements thereon, war on Germany, to take effect August development of practically all lines of ment of such a dispute. Their coun-which must be insured.

The European War.—Italy declared spite the railroad situation the natural war on Germany, to take effect August development of practically all lines of 28. This act will probably have little business has been steadily upward.

pay off the whole or any portion at his option at any installment period.

method for the farmers of any section the farmers of the country, and it is to desiring to take advantage of the progreatly to be hoped that the farmers Alps.—The German Emperor has post-visions of this act in making loans during the farmers of the country, particution of all sections of the country, particution of all sections of the country, particution of all sections of the country.

For several years the commodious and lowing the removal of that event to another section of the state, the West Michigan Fair Association kept right ness concerns. on holding big successful fairs, the character of which warranted them in adding the word "State" to the title of their show, which was made representative of the agriculture of the entire

tainment features, this fair has always maintained a high standard which entitles it to the liberal patronage of the farmers of not only western Michigan, but of the entire state. With an increased premium list and many special prizes offered, the entries at this of figure 1 and 1 and 1 and 1 and 1 and 2 and 1 and 2 and farmers of not only western Michigan, cial prizes offered, the entries at this year's show promise to exceed those of any other fair held under the auspices the country.
of this association. A notable innovaof this association. A notable innovation in this year's program is the new method which will be introduced in the method which will be introduced in the ing an aviation corps and a military judging of dairy cattle, in which utility aviation school on the island. as well as breed points will count in the scoring, a seven-day milk and but-

department of the show promises to be more interesting and complete than at any previous year. A long list of special entertainment features is announced by the management is claim.

Weather conditions an attacking fleet has an excellent chance of landing men within twenty miles of the city. The annual encampment of the G. A.

R. is being held at Kansas City, Mo., this week. nounced by the management, including automobile races, aeroplane races, discount rates on commodity paper has s. "Made in Amer- aided in the mov Arabian cha riot rac be of a character which no farmer in the state who can possibly arrange to attend can well afford to miss. Every Michigan Farmer reader should plan to attend this fair, which will be held from September 18 to 22 inclusive.

HAPPENINGS OF THE WEEK.

Foreign.

ors decided in favor of the eight-hour day. The men in turn have rejected this proposal, and at the present time the situation waits impending developments, including action by Congress, which is being urged by the President as the only available means of averting the impending strike.

It is greatly to be hoped that an amicable adjustment of these differences may be brought about, and that

It is greatly to the eight-hour day. The men in turn have rejected 4. Every mortgage must contain an agreement to pay off the debt (principal and interest) in fixed annual or apparently being worsted in their fight with the Bulgarians who are aided by the central powers. Early this week the Greek port of Kavala was taken, and the Bulgars are now closing in on Orfano. They are also advancing in the valley of the Struma river, and on the western wing where they confront the remnant of the Serbian army the Bulgarians have marched into Albania. amicable adjustment of these differences may be brought about, and that steps will be taken for the gathering of information which will enable Corgress to pass just and efficient laws which will prevent a recurrence of this unfortunate situation in future years.

The borrower can not exceed six per cent borrower can not be called upon to pay the debt except by the installments he originally fixes, unless he defaults, but after five years he may be brought about, and that 6. The rate of interest charged any Bulgarians have marched into Albania.

The borrower can not be called upon to pay the debt except by the installments he originally fixes, unless he defaults, but after five years he may Carpathian mountains is again in progress toward the Hungarian border. The Russians have also opened an at-The success of this plan of extending rural credit will be largely determined by the interest taken in same by the formers of the country and it is the countr TEN CENTS TO JANUARY 1.

The Michigan Farmer will be sent to new subscribers beginning with the issue of the week the order is received, to January 1, 1917 for only 10 cents. This trial offer is made with the view of getting as many as possible of farmers who are not now reading the paper to read the Michigan Farmer for this period, in order that they may judge fairly its value as compared to its cost to them. To this end we ask that sent to insue of this act in making loans during the first year of its operation is to organize themselves into a national anational six per cent, will take early steps for the organization of associations of this interest rates are above organize themselves into a national farm loan association, within the meaning the first year of its operation is to organize themselves into a national six per cent, will take early steps for the organization of associations of this operation is to organize themselves into a national farm loan association, within the meaning of the law.

The Federal Farm Loan Bureau of the Treasury Department has recently after the federal land banks are in opication.

The West Michigan State Fair needs in the country, particularly where interest rates are above organized the service, will take early steps for the organization of associations of this organization of associations of the secution.

The Federal Farm Loan Bureau of the organization of associations of the six per cent, will take early steps for the organization of associations of the organization of associations of the organization of associations of the six per cent, will take early steps for the organization of associations of the organization of associations of the secution.

The Federal Farm Loan Bureau of the organization of associations of the organization of associations of the organization of associations of the organ

The State Department at Washingage of whom have in years past attend-ed this second of Michigan's big fairs. Britain against seizures of American fishing vessels off the coast of Iceland, well arranged grounds at Comstock officials in Pacific ports to provide Am-Park housed the State Fair, and folerican fishermen with supplies. The government is also urging an early reply on the subjects of mail censorship and the blacklisting of American busi-

National.

The 640 chairmen of the railway brotherhoods who met in Washington upon the call of President Wilson to consider matters pertaining to the proposed country-wide railway strike have returned home without arriving at any In the matter of live stock entries, satisfactory arrangement with the rail-horticultural exhibits, the poultry show, the machinery exhibit and entermost unavoidable, as the railway exhibit and entermost unavoidable, as the railway exhibits and entermost unavoidable. ecutives have presented their ultimat-um in which they refused to settle the differences upon the terms proposed by the men and the administration.

of five cent loaves of bread to six cents is being made by bakers throughout

sentative to the United States to study aeronautics with the idea of establish-

The State Department at Washington has received information from Rusthat that government will co-operter test being a feature of the work ate in measures to make possible the

with some of the dairy breeds. This new departure will be watched with interest by both exhibitors and patrons.

In the matter of educational exhibits tary students, that under favorable this fair has always excelled and this has an excellent chance of landing men.

ica," daylight fireworks, etc. Altogether the West Michigan State Fair will duced the interest on loans for this purpose from 10 to 15 per cent to six per cent.

Because the street railway companies of New York City have thus far failed to reinstate men who were discharged for disorderly conduct the unions are now threatening another strike. Mayor Mitchell is preparing to take a hand in the fight.

The gain in bank reserves of \$24,500,000 and the reduction of loans by \$13,351,000 indicates the strong position of business in this country. De-

Select the Seed Corn Early to his son in the form the seed Corn Early tility of the old farm.

By H. W. HULBERT

each year by the farmers of Michigan, in an average season. Then, rather through the lack of proper attention to than select just enough ears for your the selection and preservation of their next season's planting, select two or seed corn. The average yield of corn three times as many as you need, so in Michigan for the last ten years has that you may go over them later and been 33.5 bushels per acre, yet many select for a uniform type of ear. farmers in the state are getting much larger yields than that and on land of which should be kept in mind in field only average productiveness. In 1915 selection of seed corn: there were 1,750,000 acres of corn grown in Michigan yielding 56,000,000 riety capable of maturing before killbushels, yet by the proper selection ing frosts. and care of seed corn the yield could have been increased from five to ten at a medium height on the stalk. bushels more per acre, which would have meant 7,000,000 to 15,000,000 more vigorous stalks, with good brace root bushels of corn for the whole state. development and a good growth of This would have meant that each farm- leaves. er would have made from three to six dollars more per acre from the crop, based upon the average price of the last ten years.

There is an abundance of evidence which shows that the average farmer



Top and Root Growth of Alfalfa 11

does not secure more than a 75 per cent stand of stalks in the field, while of these legumes, and this fact will init would be easily possible for him to sure abundant yields of staple crops secure a 90 to 95 per cent stand, and under effcient management. there is no reasonable excuse for havnecessary for maximum production.

the ear shows. This comparison of ear them. and stalk is impossible to make if the than from stalks that have had more lish saying that "Lime makes the fathfood due to a poor stand. Practically ceivable that such might have been the row or cultivator should be used at the way. any stalk will produce a good ear un- case prior to the comparatively recent proper time and should be of a type der very favorable conditions, but it scientific discoveries and their practi- which will destroy rather than trans- bile tax money that is immediately takes a vigorous, thrifty stalk to pro- cal application to agriculture, but with plant the weeds. If conditions have available for road building and will duce a good ear under more crowded the use of a soil amendment which been such as to make it impossible to start work at once on two miles in Hasor slightly unfavorable conditions.

at the time of maturity. Take a sack thus placing him in a position to rapid- or used a little later will accomplish. The "Cloverland Trail," a piece of and go through the best portions of ly increase the humus content of, as very good results. And so with every gravel road 16 feet wide and 100 miles your field and select good looking, well as the nitrogen in, his soil, it is farming operation; the successful long, has been completed. There are well matured ears that are borne on obvious that if intelligent soil manage- farmer must use his head as well as 65 miles in Gogebic and 35 miles in medium-sized shanks, at a slight angle ment is practiced, especially if supple- his hands, and in applying the basic Iron county and the cost of constructo prevent water from entering the mentary fertilization is given, the fath- principles of scientific agriculture he tion was about half a million dollars.

N enormous loss, which will prob- thrifty, vigorous looking stalks, that ably amount to several thou- stand up well, have a good leaf develsands of dollars, is sustained opment and of a size that will mature

In general, there are three things

1. Select well matured ears of a va-

2. Select ears borne at an angle and

3. Select ears from strong, healthy,

APPLYING THE SEASON'S LES-SONS.

(Continued from first page). or as an orchard cover crop. This has many sections of the state, though apand localities. Soy beans and cowpeas for this use in other sections, particued as a weed, as a soil renovator.

this state. These illustrations show that with the use of proper methods it plowing. can be made to yield abundant crops

Recognizing the growing of legumes, ing less than a 90 per cent stand. Be- particularly clovers, as necessary for sides, we should remember that it the maintenance of soil fertility at its takes just as much labor to plow and optimum, consideration should here be fit the land or cultivate a crop of corn given to the necessity of supplying the naving a 75 per cent stand as it does proper soil amendment where an acid for one having a 90 per cent stand. condition of the soil prevails, to sweets There is no doubt that a well prepared en it and make it a suitable home for seed bed, a plentiful supply of plant the bacteria peculiar to and essential food and the proper tillage are all very for the successful growth of these leimportant in successful corn produc- gumes. On a large percentage of our tion, but good seed is also absolutely soils a liberal application of lime is required to neutralize the acidity of the In order to secure good seed corn we soil resulting from improper manageshould not only see the characteristics ment and the washing out of the lime that each individual ear possesses, but content of the more open soils by the also those which the stalk that bears rapid percolation of water through

The liming of soils is not new; it seed corn is selected at husking time has been practiced for many generaor from the crib the following spring. tions in the older agricultural coun-It is the aim of field selection to get tries. Referring to that fact and the fair-sized ears from stalks that have experience gained therefrom, a promproduced these ears under average or inent. agricultural authority recently slightly crowded conditions, rather reminded the writer of the old Engthan their share of sunlight and plant er rich but the son poor." It is con- rain. For the killing of weeds the har- the last link in the Detroit-Toledo highwill enable the farmer to grow clovers cultivate an intertilled crop at just the tings township, a link in the Battle The best time to select seed corn is or other legumes more successfully, proper time, a wide-shovelled cultivat- Creek-Grand Rapids trunk line.

to his son in the form of increased fer- peculiar conditions surrounding his

Another illustration which cannot gather and properly care for a supply best solution. of seed which will be more than adequate for his next season's needs while the crops are being harvested and stored this year.

ferent farming operations. Where crops roads built under government specififitted seed bed and their early cultiva- a mile, State Highway Commissioner sown with rye as a catch crop in corn, plant food of the soil in competition \$10,000,000 to build and maintain roads proven a valuable green manure crop in connection is another factor of eco- serves, some of which are in Michigan. nomic farming which should engage The state must appropriate equally parently not well adapted to all soils the attention of every man who would with the federal government. get a maximum of results from his have also been grown to good purpose next season's campaign, that is the tract for road construction under the profit to be derived from the use of Covert act and will build five and a larly some of the southern counties. farm equipment which is adapted to half miles running north of North The latest development along this line the work in hand. The result noted Branch village. The cost is estimated is the use of sweet clover, long regard- from drawing the stump across the at \$4,000 a mile. field as shown in the accompanying The first of the first page illus- cut, suggests the value of implements worth of good roads bonds and plans to trations shows a stand of sweet clover which will pack, firm and fine the soil build about 50 miles of road this year. on the demonstration farm above men- where these operations are essential tioned which was seeded July 22, 1915, to the forming of an ideal seed bed. building of over 11 miles of road this and cut for hay June 22, 1916, giving a Some type of roller which will pack year. yield of two and a half tons per acre. the soil and still leave the surface The last of the three cuts accompany- rough will prove especially valuable to roads with enameled iron signs, giving ing this article shows a development this end. Such implements are not exof alfalfa plants and their roots pensive, but if they cannot be afforded which was made in the same period of any farmer can at least make a packer handicaps, Oakland county under its time above noted. This demonstration and pulverizer by nailing some plank two-mill tax and the county bond issue plot, which the writer had the privi- on three fence posts to make what is has over 53 miles of road under conlege of inspecting in the early spring, commonly called a floater or planker struction, with six miles completed. is typical of large areas of cut-over which will give a measure of the good. The contract for building four miles of sandy land in the northern counties of results accomplished by the stump in gravel road on the Saginaw turnpike

Good harrows and cultivators are al-

particular problem.

The lessons which have been here fail to point its lesson this year is the pointed out are only a few of the many use of good seed as compared with important lessons which the season's poor seed. An unusual amount of poor experiences and observations will seed was planted this year, owing to teach us if we will but devote our facthe scarcity and high price of a good ulties of perception and analysis to the article, and the results are plainly evi- problem, which each of us must do if dent in the crops growing upon many we would become efficient farmers, farms. This is the time of year to apsince every man's problem is in some ply the lesson taught by this experi-respects different from his neighbor's ence. Every farmer in Michigan should and individual study is essential to its

BETTER ROADS IN MICHIGAN.

If Michigan carries out its part of Another lesson which will force it- the program the state will receive self upon the mind of every observing federal funds of \$2,259,750 for building farmer this year is the importance of roads during the five years, under the the timely accomplishment of the dif- new federal aid law. Assuming that were planted last spring upon a poorly cations will cost an average of \$10,000 tion was neglected beyond the period Rogers says that Michigan should get when it should have been done, weeds at least 450 miles of federal aid roads have encroached seriously upon the during this period. Of the total apcrops and have either entailed a large propriation of \$85,000,000, the sum of expense in hand labor in removing \$75,000,000 will be expended to aid the them, or drawn upon the moisture and states in building rural post roads and with the growing crop. Right in this and trails in the national forest re-

Lapeer county has let its first con-

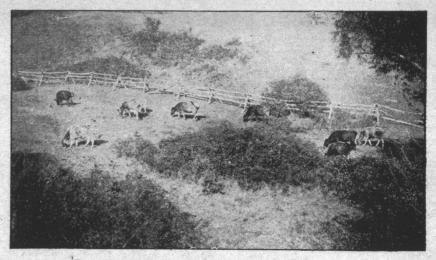
Shiawassee county has sold \$170,000

Washtenaw county has plans for the

Osceola county will mark all its distances and directions.

Despite scarcity of labor and other this instance, if used directly after was let to Walter Campbell of Port Huron for \$4,000 per mile.

Monroe county has let the contract so essential in the proper fitting of the for building a stone road from Monroe soil for any crop, and their timely use City to the Wayne county line, a disis just as important. For the conser- tance of 13.57 miles, to the Central vation of moisture the ground should States Construction Co., of Columbus be worked immediately after it is plow- Ohio, for \$199,000. One-half the road ed and after each succeeding heavy is to be completed this year. This is



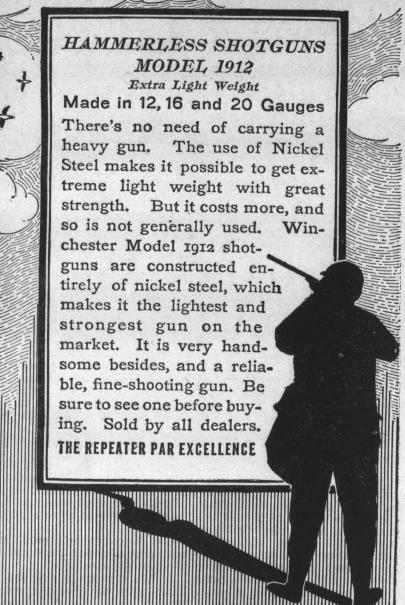
Rough Lands Are Best Utilized for Pasture.

tip. These ears should come from er will leave a large deposit of wealth must also take into consideration the Kent Co.

Barry county has \$6,589 of automo-

ALMOND GRIFFEN.







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Farm Notes

Applying Lime with Manure. I have a field of about seven acres that is very acid. This field was in wheat this year but the wheat was so wheat this year but the wheat was so poor and full of weeds that I did not even seed it to clover. I want to plant this field to corn next year. What would you think of the idea of plowing this fall and sowing about two tons of ground limestone per acre, and in the spring put on a good coat of manure, and plowing again, or would it be better to grow one crop with just lime, and no manure, as I have been told that lime and manure do not work well together. Also, what is the difference between the several kinds of lime. I see by the advertisements that they have rock phosphate and ground lime rock and hydrated lime. Which is the best? Any advice on the using of lime will be appreciated. Sanilac Co.

M. F. S.

The plan outlined in this inquiry is

been plowed down and the ground is favorable. being fitted for the corn crop. Lime is with the soil, as would be the case if applied as above advised.

stead of being mixed together before application.

Ground limestone would be the best kind where the application is to be made some months before the land will be again seeded to clover. On a very acid soil where the seeding is to closely follow the application of lime, hy- produce it as a good one. drated lime would be more effective, as it acts much more quickly in the correction of soil acidity.

Ground rock phosphate is simply what its name implies. It is the cheapest source of phosphorous, but the latter is in unavailable form, and for profitable results it should be mixed with manure when the same is applied to the soil, so that the resulting chemical action may make the phosphorous available for the use of plants.

LILLIE FARMSTEAD NOTES.

We have the most ermarkable growth of alfalfa started for a third crop that I ever saw. This is August 19 and the alfalfa is eight to 12 inches high and the rankest, most luxurious growth I ever remember seeing anywhere. The Grimm variety looks the which of course is something unusual. silage, however, will not be up to nor. the market will take care of at a reawe had to buy more than \$100 worth with it. It is only business judgment. of hay last spring.

not over by any means.

plow for wheat. It could not plow in prices. When prices once go down better. The heavy rains have soaked it is hard to get them back. the land clear down and our clay does

These rains and hot weather have boosted the rape in the hog pasture so there is more feed than twice as many hogs could eat, as it happens this year, however, we are short of hogs. We haven't as many as usual. If, however, the hogs do not eat it all it can be plowed down for humus. It will be remembered that this rape was sown with peas early in April. Some of it was 12 inches high when we harvested the peas and went into the silo with the pea vines. It makes excellent silage. It looks to me now after two years' experience in sowing this field to peas and rape that I have hit upon something quite practical. Early in the season we do not need pasture for the spring pigs. They are too young to eat much pasture. The peas come off in June and then the pigs are ready The plan outlined in this inquiry is for the pasture, and so far we have a good one, except that the ground had an abundance of it. This is a field limestone should not be applied with of about 10 acres and furnishes a large the manure, but after the same has amount of feed if the season is at all

I have a letter from a subscriber of much more effective in correcting soil the Michigan Farmer complimenting acidity where it is thoroughly mixed me on my idea, advocated a short time ago, of cutting down the acreage of crop land so the work could be done It is not a good plan to apply lime with less labor. Cutting down the directly with manure, since a chemical acreage considerably of our principal action results which releases some of crops would be no more or less than the nitrogen of the manure in the form controlling the market. That is the of ammonia gas, although this would way he figures it and that is the way I not occur to any great extent where figure it, and it must produce that efthe two were applied separately in- fect. The effect would be the same as a poor crop. Many times a poor crop brings nearly, or quite, as much as a good one, because a scarcity increases form of lime to use in a case of this the price, and better prices for a poor crop might bring the farmer as much money as a smaller price for a good crop. But no money is to be made on a poor crop. It has cost as much to

Why should not the farmer try to control his market as well as other business men? If the manufacturer of farm implements had produced more goods than the market needed and would buy he would not try to remedy this by producing more. He would cut down his output until the demand had reached the supply again. No one but the farmer tries to remedy such conditions by producing more. The market milk men are forming a combination to get better prices for their milk and they ought to have better prices, but I think that in the end they must look after production somewhat. It may be that there is none too much milk produced for the demand, but it is not produced uniformly throughout the year, and in the spring and early summer there is a surplus which enables best. We certainly have the promise the milk combination to depress prices of as large a crop as the first cutting, for the whole year. This could easily be overcome by a little organization. The heavy rains recently and this hot On all staple non-perishable crops the weather are responsible for this. An market can be absolutely controlled by ordinary year this would be more than proper planning of the area of the welcome. This year, however, we have crops and the farmer can get a price abundance of hay and this marvelous showing a profit above cost of producgrowth is not so important. Our corn tion if he will. Produce no more than mal, and we may need all the hay be sonable price. That will control the fore spring. I haven't forgotten that market and no one can find any fault Other people do it. It is said that the Corn is improving very fast; plenty National Fruit Company many times of rain and hot weather is boosting it throw overboard whole ship loads of rapidly. Had we got it properly culti- bananas on purpose to control the marvated in time the prospects would be ket. They find on nearing our coast excellent for our purpose, which is cities that owing to a change of weathsimply for green corn for the canning er not so many bananas have been confactory, but for ripe corn there must sumed as normal and instead of putbe no frost in September. The risk is ting more on an already glutted market they dump them overboard and go The land is in excellent condition to back for more. This prevents a drop

Now a lot of our land that we have not plow up as lumpy as usual. Unless been growing cash crops on could be we get too much rain from now on as rested, turned to pasture, etc., and a we did last year, conditions will be sufficient amount of these crops grown ideal for wheat seeding. Some of these on the balance to supply the demand good conditions help offset poor condi- at profitable prices and the farmer tions of last spring. Yet they can not would be ahead. With the present conwholly overcome the bad spring; we dition of the labor market it seems to have got to wait for another spring for me something of this sort must be COLON C. LILLIE. done.

72

pages

of good

Meeting of Jersey Breeders

sey Cattle Club. As the people arrived in that club. they were introduced to him and an instate.

Jersey booths at the county fair pany went (some by auto bus and some state clubs. in private cars), to Brookwater Farm, the summer home of Prof. H. W. Mum- Gow's was that the Jersey is everyford of the University of Illinois.

Inspect Jersey Herd.

to greet us were the Jersey cows, waiting on the lawn to be inspected before going to the barn to be milked. It was certainly a pleasure to see the herd in that 21 of these cows, several being heifers with first calves, made an average of 412 pounds of butter and over and the visitors gathered together in children. the background and a picture was taken. Then the yearling heifers grazing ally there was a desire to see the sire that evening. of such a handsome family, so the company next visited Benedictine King good size and showing much class and vigor. Of course, the babies could not be neglected and although Mr. M. O. Munn, president of the American Jer- REPORT OF GRAND RAPIDS COW sey Cattle Club, had by this time arrived, the calf herd was turned into the yard and the sight of these young Mumford's flock of about 400 hogs.

A Good Program.

Then just a peep into the dairy, then a drink from the well and the people were ready to settle down for the afternoon meeting. Prof. Mumford had prepared for the comfort of his guests in a unique manner. Bales of hay were placed on the lawn with planks laid from one to the other, thus seats were placed for the ladies, there being over 50 present from different parts of the ciation for fat production. state.

business of dairying is practical and of month. great importance and that the Jersey is doing her share of the work.

One of the things emphasized by Mr. Munn was the importance of testing the cows and the building up of the herd by the use of the pure blood sire. If by so doing the average production per cow can be raised it will mean some billions of pounds of butter and an increase of about six mil-Mr. Munn was the importance of test-

HE summer meeting of the Mich- lions of wealth for the dairymen of the igan Jersey Cattle Club was held world. As the average per cow is only at Ann Arbor, Mich., August 10, about 150 pounds of butter per year 1916. The first of the Jersey people this ought not to be a difficult task. arrived at the Whitney Hotel on Wed- The advantages to be derived by joinnesday night. Among the first to ar- ing the American Jersey Cattle Club rive Thursday morning was Mr. R. M. was pointed out, the result being that Gow, Secretary of the American Jer- five gentlemen applied for membership

Another thing urged by Mr. Munn formal reception was held. At about was the organization of county cattle eleven o'clock the meeting was called clubs. "These county clubs," said he, to order and the entire morning ses- "ought to send delegates to the state sion was devoted to business, the most meetings, the state club in turn ought important being the discussion of the to send delegates to the meetings of appointment of a field or publicity man the American Jersey Cattle Club and for Michigan. It was finally decided the expenses of the delegates ought to to leave the selection of four such men be paid by these clubs. In closing Mr. to the executive committee, as it was Munn recited one verse of Gray's Elethought that a man in each of the four gy and then gave a beautiful parasections of the state could do the work phrase of the same, which I am sure much more cheaply and effectively impressed everyone who heard. Inthan one could do, covering the whole deed, every word of his talk was appreciated by all.

Mr. Gow being introduced gave a were arranged for and also one at the talk filled with facts and figures so State Fair at Detroit. There followed clearly and concisely given that there much discussion relative to stock show- was not one superfluous word uttered. ing at the fair. Dinner being announc- He spoke words of encouragement and ed, the remaining business had to be commendation to the people and to the laid over. After dinner the whole com- Michigan Jersey Cattle Club, one of 57

One significant statement of Mr. body's cow the world over. Having visited herds in the north where the As we drove into the yard the first thermometer stands at zero for months and also herds in the south where the thermometer registers 100 or more above, he found the little Jersey quietly, persistently doing business every its everyday working form. I am told day, not only at the extremes, but all along the line between. After Mr. Gow finished his most interesting and instructive address, Mr. Probert, of 7,000 pounds of milk last year. Fifteen Jackson, made some very pleasing rehave made Register of Merit records. marks. The company were then treat-After the cows had passed inspection ed to ice cream and cake, served by they were grouped in the foreground the host and hostess, assisted by their

The close of the meeting was somewhat hurried, owing to the lateness of in a nearby lot were duly admired for the hour and the necessity for haste they were certainly beautiful. Natur- to enable some to make trains home

As our departure was so hurried, we wish now to publicly thank Prof. and 86100. Benedictine King is a beautiful Mrs. Mumford for their cordial hospifawn color, very finely proportioned, of tality, thus making our visit to Brookwater Farm such a delightful one.

P. H. WALKER.

TESTING ASSOCIATION.

Out of the 264 cows under test durthings repaid us well for the time tak- ing the month of May, 11 gave over 50 en. Then we went to see one of Prof. pounds of fat and three of these passed the 60 pound mark, while 63 passed the 40 pound mark.

Pet Johanna Hartog 3d, a registered Holstein owned by the Anderson Bros., led the county in milk. She produced 2,036.7 pounds of milk with an average test of 3.0 per cent, making a total of 61.1 pounds of fat.

Molly, a grade Jersey owned by J. W. Spangenberg produced 1,289.6 lbs. provided, although chairs had been of milk, 61.77 pounds of fat, which is the highest mark reached in the asso-

The total number of pounds of milk Although I took copious notes I shall produced in the association was 181. not attempt to reproduce the address- 451.6 and the total number pounds of es of Mr. Munn and Mr. Gow, but will fat was 9,841.34. Having but 264 cows that both gentlemen spoke under test this gives us an average of words of encouragement and inspira- 687.31 pounds of milk per cow per tion for us all, making us feel that month. Also an average of 37.27 lbs. they are in close sympathy with every of fat per head per month. The cost lover and breeder of Jerseys, that the of feed ranged from \$2 to \$5.61 for the H. J. HAND, Tester.

THE 1916 DAIRY CATTLE CON-GRESS.

If you keep cows you ought to write for this book,

THIS book was written for the man with only two cows just as much as for the man with twenty. In it has been gathered together a great fund of valuable information on subjects which are of vital interest to every cow owner. And while the

various phases of dairying are treated by the best and

highest authorities, it is not a technical treatise but is written in plain every-day language so that even the children can understand it. Here are just a few topics that will give you an idea of the practical nature of its contents:

"How a Dairyman Made Good"— a real story of a real farmer, who start-ing with almost nothing, built up a fine dairy herd and made a big success.

"Year Around Feeding of Dairy Cows"—by an authority whose advice is well worth heeding. The importance of proper feeding deserves more attention from every cow owner.

"How to Judge a Dairy Cow."shows by illustrations what points to look for in a dairy producer—explains the es-sential qualifications of a good dairy cow.

"Building Up a Dairy Herd"a practical breeder gives some sound advice on this important subject.

"The Farm that Won't Wear Out" -shows that the farm where cows are kept, and the fertility returned to the soil, improves instead of deteriorates.

"The Care of Cream on the Farm" -quality is as important as quantity. It costs little and brings big returns.

"Silos and Silage" - one of the best chapters in the book. Full of silage facts that every farmer ought to know.

Then there are splendid articles on "Alfalfa," "Ventilation of Dairy Barns," "Breeds of Dairy Cattle," "Improving the Herd with a Good Bull," "Care of Freshening Cows," "How to Test Cows," etc. Numerous dairy rations, suitable for various sections of the country, are given, and various milk and dairy tables as well as tables of weights and measures, silo capacities, etc. that every farmer has occasion, at some time or other, to refer to.

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How the Cherry Crop Is Handled

graphical location of that part of the sion houses also took a portion of the state, a study of the method of hand- The most favored way of disposing ling the cherry crop is interesting.

coming into bearing this year.

the crop picked.

The Varieties Grown.

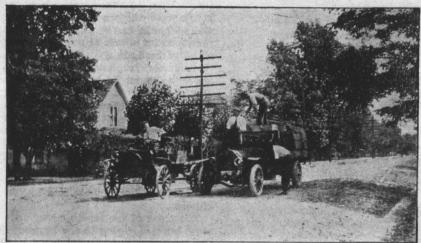
The most popular and extensively grown variety is the Montmorency,

B ECAUSE the Traverse region is was handled by the co-operative assothe cherry center of the state and ciation. As soon as the season for one is fast becoming one of the most variety was over the returns and eximportant cherry regions of the coun- penses for that variety were prorated. try, and because of the unique geo- A representative of Detroit commis-

of the crop, especially for the growers Last year about one hundred cars of in the northern part of the Old Mission cherries were shipped from Traverse peninsula, was to the canning factory. City, but this year it will be near two Every evening the cherries were taken hundred cars. This increase is due to to Old Mission and from there they both a good crop on the trees which were taken by boat to Northport for have been bearing for several years, canning. The growers received four and a goodly number of young trees and a half cents per pound at the Old Mission docks and got a check imme-The help problem has not been a diately upon delivery of the fruit. As serious one thus far as many pickers the canning factory furnishes the make annual excursions to this region crates, which held twenty-five pounds to pick cherries. This season, how- each, and as careful picking and gradever, this section has suffered with all ing was not as necessary, this means rural communities and this made nec- of disposal was the most profitable to essary the use of every available hand, the growers. The price paid by the although none of the orchards suffered canning concern is quite high, but it very serious injury from not getting is reported that this was necessary in order to get the cherries to fill war orders.

Cherries Bring Good Price.

The average net price to the growwhich is by far the best sour, market ers has been around \$1.15 per case for cherry grown. The Richmond and the sour cherries, while last year the price English Morello are also grown to a was around 75 cents. The cost of the great extent. These two varieties, with crates is 14 cents and hauling charges



Auto Truck Loaded with Cherries from Peninsula.

the Montmorency, make a fairly long from any part of the peninsula is five cherry season and growers having cents per case. these varieties can offer the pickers good producer after it comes to bearing. loading at six thirty in the morning.

ping the cherries except those which any shipper the car is run on a side are picked for canning factory purpos- track on the dock and is loaded directes. These are pulled off without the ly from the boat. If not, the auto stem as this eliminates the necessity trucks haul the fruit from the boats of stemming them at the factory and to their loading place. The cost of makes the picking easier, especially if shipping by boat is four cents, and one one wishes to pick the trees over sev- cent additional for auto cartage, makeral times. As the fruit is canned the ing a total of five cents, which is the next day, the poor keeping qualities of same as the auto haul direct from the pulled cherries is not a serious hind- peninsula. rance for this purpose. The pickers receive twenty-five cents for a sixteenquart, or twenty-five-pound case.

Marketing Methods.

This year there were four main sources of outlet for Traverse cherries.

Most of them were taken by an old-time cherry buyer whose most commorning the truck would take back carried from plant to plant by insects. dealer also took care of all cherries disease as others. sent on consignment, a small portion This trouble is worse during periods

Somewhat over a third of the crop been quite prevalent this year.

The fruit is hauled by several auto steady picking for some time. The trucks which make two and three trips Richmond serves as the early season a day, and also by boat from Old Mischerry, the Montmorency for the main sion and Bowers Harbor. The advancrop, and the Morello for rate. The tages of the auto hauling is that the Windsor is the most popular sweet fruit is picked up right at the roadvariety, although the Schmidt should side of the orchard. To ship by boat receive more attention by this section the fruit has to be hauled to the ports on account of its size, flavor and hardi- but the trip is made at night and ness. It is equal in quality and size to therefore the fruit arrives at Traverse any of the western cherries and is a City in good condition in time for un-All of the picking is done by clip- If there is enough for a carload for

BLOSSOM-END ROT.

mon way was to make an offer for blossom-end rot or point rot. As to them in the orchard. The growers whether this disease is a fungous one dealing with him would put their cher- or a bacterial one has not been defiries by the roadside and one of the nitely decided, but it seems that it is trucks would pick them up. The next an infectious disease, and is probably

empty cases and leave a check in the There is no known method of conmail box for the cherries picked up trol, but it has been found that tomathe night before. The arrangements toes grown on soils having plenty of were usually made by phone. This moisture are not as susceptible to the

of which was dispose of that way. of drouth, and for this reason it has

The Outlook for Pork Production By W. MILTON KELLY

years reflects confidence in the indus- duce growth and gains. try. A share of this confidence is un- Experiments in pig feeding covering

lar locality. In the southern states, and g where tobacco and cotton have for years been the principal crops, the better class of farmers are planting more corn, raising leguminous crops and feeding a few hogs for market. In the dairying regions the progress toward increased pork production is somewhat slower, but furnished adequate incentive dairy farmers will surely respond to the increased demand for pork products. The small feeders in these new localities, in the aggregate, are producing many tons of pork, so ceipts of hogs.

Problems to be Worked Out.

tion is very favorable at the present ter than either alone. time, there are several problems that must be worked out before one can one should make adequate plans to provide a cheap and efficient ration of to profitably and efficiently supplement corn with forage and grass crops; successful feeders figure the corn crop as in the wheat proteins. a basis, and look toward forage crops and grasses to supply the deficiencies in the corn. In localities where corn is not given so prominent a place in the farming the great problem is to make the small grains, by-products, forage and grass do their most efficient work and finish the pigs for market with a minimum quantity of grain feeds. The ideal system for both localities is a proper combination of grain, by-product feeds and forage and grass crops of merit.

Limitations of Staple Feedstuffs.

and grass crops may be grown successfully it is well to study the limitations tein they contain. One-half of the pro- strong, vigorous health. It is not the tein in some of these grain feeds is in- amount of food nutrients nor the capable of maintaining life, much less of preserving life in the growing foetus termines the returns from feed, but and insuring normal growth and the amount that is made into growth health. Some of these grain feeds are and gains. Forage and grasses, when deficient in minerals, the elements properly supplemented with the grain needed to build bones, stimulate the feeds, give just the right tone to the secretion and excretion. In some of to the limit. The use of succulent feed the grains calcium, (the metallic base to insure the more complete assimilaof lime), that make up nearly 40 per tion of grain and by-product feeds is cent of the dry ash of bones, is not nothing new. English feeders have for present in sufficient quantities to ena- years used root crops to do just what ble a young animal to grow normally. forage and grass crops are now doing The brood sow, carrying a litter of for progressive American feeders. pigs, would need all the calcium in nearly one-half bushel of corn in order to meet the requirements of her unborn pigs, but no sow can eat enough that swept through Texas, hitting some of the camps of the American forces stationed on Texas soil, are 13, while the property loss is placed at \$2,000,000.

HAT many farmers are becoming body in order to produce a litter of enthusiastic over pork growing normal pigs. Furthermore, some of in the face of tremendous losses these grain feeds are deficient in cerfrom disease during the past three tain vital substances necessary to pro-

doubtedly the result of changes in a period of eight years at the Wisconfeeding methods, including a wider use sin Experiment Station for the purof forage and grasses, and the more pose of showing how much of the progeneral use of the anti-cholera serum. teins of the different feeding materials Agricultural colleges and agencies ad- the pig can retain for the building of vocating larger production and demon- body proteins are illustrated by the strating better methods of feeding and following table. It illustrates not only handling disease have had a wide in- the vast differences in the quality of fluence in bringing about a revival of proteins furnished by the most cominterest in this money-making branch mon foods, but also the results obtained by making combinations of some of The disposition to increase pork pro- the other proteins that will increase duction is not confined to any particu- their efficiency in supporting growth

Ŋ	and gams.	
5	Per C	ent.
í	Oil meal proteins1	6-17
	Wheat proteins	20
	Corn proteins	24
	Oat proteins	25
	wheat germ	40
	Casein of milk	45
	Skim-milk proteins	63
	Corn proteins, 90 per cent; oil	00
	meal proteins, 10 per cent	31
	Corn proteins 75 per cent; oil	-
	meal proteins, 25 per cent	37
	Corn proteins, 60 per cent; oil	0.
	meal proteins, 40	32
	proteins, rossessions.	04

One very important point illustrated that the industry is sure to expand on in the table is the fact that the protein a scale not generally recognized. in the corn kernel and the proteins in These facts are supported by the sta- the oil meal are far more efficient in tistics of the Bureau of Animal Hus- the formation of body proteins when bandry in the counties where experts fed in combination. The proteins of are at work, and also by the market re- these two feeds are deficient in one or more element, but when fed in combination one makes the deficiencies in While the outlook for pork produc- the other good, so their mixture is bet

Experimental Data.

In one experiment a pig fed on conduct the business successfully on wheat proteins began to lose in weight. a commercial scale. In the first place The failure was due to the inferior quality of the proteins in the wheat and the toxic effect of the ration. In home-grown feeding materials. In the another feeding experiment it was corn belt states the great problem is demonstrated that when corn proteins were fed along with the wheat proteins they partly made good the deficiencies

At the Connecticut Experiment Station it was demonstrated that the addition of protein such as the albumen of milk or the proteins of meat helped out wonderfully in making the proteins in the cereals more easily digested. This undoubtedly explains the great value of a feed like skim-milk or digester tankage in supplying the deficiencies in grain feeds as well as promoting the health of breeding hogs and growing pigs.

Forage crops and grasses are not only rich in protein and most of the In working out a profitable system mineral nutrients, especially calcium, of pork production adapted to condi- in which corn and other grains are so tions where corn, small grain, forage markedly deficient, but they neutralize the acids in the cereals and produce gains far in excess of what their chemof corn, small grains and by-product ical composition would indicate. There feeds as well as the limitations of for- is nothing quite so good as water inage and grass crops. Corn and some closed in plant cells to give the grain of the other grains are deficient in the feeds the consistency most agreeable quantity and also the quality of pro- to the pig and best calculated to insure amount that is digested that wholly deorgans to activity, encourage digestion, pig's system to bring its efficiency up

(To be continued).



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Diseases of Animals

N the examination of farm animals, usually a fair index to the condition of importance in the diagnosis of disease. branes assume a blueish color, on acis an aid in treating the animal.

water that an animal has been fed, if of bad quality will often assist in as- skin usually varies with the temperacertaining the nature of the sickness, ture of the body, and if there is fever and arriving at a correct diagnosis.

shows stiffness in back and lameness poor circulation and irregular distribuin one or both hind legs, without being tion of the blood, the body may be injured, it is well to inquire whether or warmer than normal, but the legs and not he has been rested a day or two ears may be cold. When the general and fed highly on grain, for this is surface of the body becomes cold, the one of the most common causes of azo- heart action weak, then the animal turia. If on investigation you learn may be on the verge of collapse. The that an animal has recently been ship-skin of a healthy horse should be moist ped or passed through a dealer's hands, but in some chronic diseased condior kept a short time in a public barn tions and in fever the skin generally and is feverish, you may safely suspect becomes dry. When, during a fever the sickness to be an infective ailment. sweating occurs, it is usually an indi-However, giving large doses of certain cation that the crisis is passed; howdrugs may cause an elevation of tem- ever, you must not forget that sweatperature of body. Also, ascertain how ing is also an indication of pain. Local many animals are sick—at the same sweating, or sweating of a restricted time, in the same stable.

animal appears stupid and disinclined chest or abdomen. to move. The horse is sometimes found may indicate disease and as you know the bone has punctured the lung. that very often the first symptom of feet and rest upon his knees in front, state of nutrition which may have re-sulted from long continued disease, or from lack of proper food and care. Re-member, the condition of the skin is

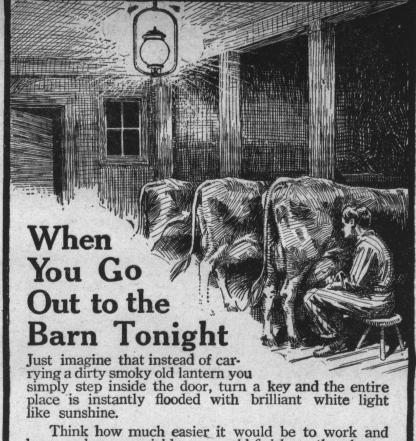
and remain a limital is inclined to he down and remain a limital is inclined to he down and remain a limital is inclined to he down perhaps fracture or considerable pain. When the hind foot is kept in advance of the other, it indicates lameness in (Continued on Page 211)

it is important to have a method, the animal. There is no part of the or system. If a definite plan is al- body that loses its elasticity and tone ways followed, you will seldom over- as a result of disease sooner than the look, or fail to observe any unnatural skin. It is also true that the condition symptom, or abnormal condition. True of an animal is shown to a certain exan experienced eye can see, a trained tent by the appearance of the mucous hand can feel, but the unskilled ob- membranes. For example, when an anserver may overlook many slight de- imal is anemic as a result of disease or fects, unless he has a certain rule and of inappropriate food, the mucus memfollows it. First of all he must have a branes are sure to become pale. The fairly good knowledge of the condition lining of the eyelids and the lining of that exists in health; because it is only the nostril is the most convenient locaby a knowledge of what is right that tion. Paleness means weak circulation one can detect a condition that is or poor blood and increased redness, wrong. It is well to remember that usually follow painful condition, exciteanimals of different races, or families, ment and following severe exertion; deport themselves differently when suf- however, this last condition may be fering from some ailment. Doubtless only transitory, but in fevers it lasts you have observed when the thorough- until the fever subsides. When the bred horse was sick with fever, he liver is deranged these membranes are showed much less cerebral depression usually a yellowish cast, but if the anthan a draft horse would when fever- imal is kept in a foul air for a suffiish. This and similar facts are of vast cient length of time, the mucus mem-Iit is important to inquire into the his- count of the blood being imperfectly tory of the case, this always helps in oxidized and containing an excess of ascertaining what is wrong, besides, it carbon dioxide. This condition is very likely to exist in any serious disease of The character of food and quality of the air passages and in heart failure.

Remember the temperature of the the temperature of the skin is likely to When a healthy horse suddenly be increased. However, in event of area of the body, denotes some kind of Sick or lame animals very often as- nerve interference. Swellings of the sume certain positions that are char-skin usually result from wounds, or acteristic of a certain disease. For in- other external causes; however, we stance a horse suffering from lock-jaw find a number of conditions in which always takes the standing position; the swelling of the skin is a symptom all four legs braced, the nose poked of a derangement of some other part out and the tail usually somewhat ele- of the body; such as we find in stockvated. The muscles of face, jaw, neck ing or swelling of the hind legs. Dropand shoulders, stiff and rigid. In sore sy of the skin is very often an indicathroat the nose is usually poked out. tion of heart insufficiency, or where In dummies the head is held low, the there is a collection of fluid in the

Sometimes gas is found underneath down in his stall and unable to rise, the skin the result of local inoculation which may be the result of paralysis, with an organism which produces a from azoturia, from lock-jaw, from for- fermentation beneath the skin, or air age poisoning or from painful condi- may have entered through a wound tions of the feet or of the bones-or it penetrating some air-containing organ, may be the result of an acute attack of as the lungs. We find this condition founder. Lying down at unusual times resulting from a fractured rib where

The owners of live stock are always colic exhibited by the horse is to lie more or less puzzled in locating lamedown at a time or place that he should ness, which is perhaps for want of not select if well. Sometimes disin-sufficient knowledge of the symptoms clination on the part of an animal to of lameness-or perhaps for lack of lie down is an indication of disease. familiarity with the normal gain and How many times you have noticed an peculiarity of action. Lameness, as animal with distressed breathing tak- you know, is usually a manifestation ing it, as horses usually do when suffering from lung ailments. Abnormal attitudes are usually assumed in painful diseases of the digestive organs. Very often a horse with colic sits upon its haunches, or may stand upon his ing the standing position and maintain- of pain, soreness or stiffness causing ers; if one fore leg be far in advance feet and rest upon his knees in front, of the other, it indicates tenderness or or may endeavor to balance himself soreness in the back part of the leg upon his back—with all four feet in and low down. Resting the toe on the or may endeavor to balance himself upon his back—with all four feet in and low down. Resting the toe on the the air. This is done to give himself relief. When the digestive organs of a horse are in good condition, the skin is usually pliable, soft, hair glossy and the abdomen well rounded out. If the skin is tight and inelastic, the coat dry and harsh—this is evidence of a low when an animal is inclined to lie down the second remains and remain so, it indicates weakness.



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Magazine Section

LITERATURE POETRY HISTORY and INFORMATION



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

HITE SISTER stood on a high bank, and shading her eyes with her hand, gazed eagerly across the waters that lay spread before her. It was very pleasant to be encamped here at Ginsagaigan, but she

White Sister of the Pioneer Path pointment, but she held the sick towards him. "Oweena gone. By CAROLINE CRAWFORD DAVIS

White Sister turned toward a pap- up easily, the girl carried him to the was impatient for the Indians to re- oose lying on the ground near her. A chief. sume their march to Detroit, whither troubled look came into her eyes. "Wabenito die on march," she said. ed. He directed one of the squaws to they were going to claim their allow- "Sick, so sick," she murmured. She "Give two blankets, give sagamite. leave her the required blankets and ance of government money. Even as brought a cup of broth and tried to White Sister stay here." ance of government money. Even as brought a cup of broth and tried to White Sister stay here."

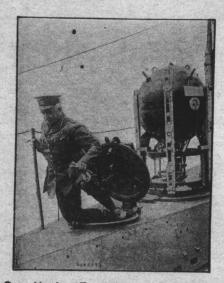
provisions, and saying shortly, "Back the strong eyes sought to distinguish get the little one to taste of it, but The chief may well have felt surhere full moon," started on the march. the trail, the camp fires were being with tightly closed lips, the young In- prise at the girl's request, but he only scattered, and a squaw came to her dian refused the food. In spite of asked, "No go Yon-do-te-ga to find the remain with the girl, as every Indian with the command, "Get papoose. Chief his three summers he weighed no more White Sister's father?"

pointment, but she held the sick child took care of White Sister-now White Sister will take care of Wabenito," she asserted bravely.

The red man grunted, and with Indian brevity considered the subject clos-

was obliged to appear in person, or the than a year-old babe, and taking him The girl's lips quivered with disap- bounty money was not forthcoming,

EVENTS IN PICTURES



Gen. Hughes Emerging from Captured Submarine.



Ruins of Verdun After Five Months of Shell Fire from the German Guns.



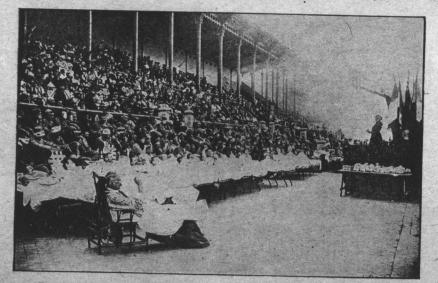
Russian Soldiers Meeting a Gas and Infantry Attack.



Street in Stanislau which was Recently Captured from Austria by Russians.



Russian Cavalry on the Line of Advance in the Great Drive in Galicia.



Wounded Canadian Soldiers Enjoy an Open-air Concert near Paris.



Little Paralysis Victims Being Treated in a New York Hospital. Copyright by Underwood, & Undrwood N. V.

that kind of sick."

drouth," and the squaw

fully, "but how can I get over there?" and wondered if by any chance there Indian's agent. was a canoe upon the lake. It was the child, who was not becoming fretlaby:

papoose.
Swing with the breath of the breeze.

Swing in thy hammock of birchen bark Under the greenwood trees."

When her charge slept, she cast herself down on the grassy bank and gazed through the tree-tops at the drifting in for going to Detroit.

The girl was sure that she had white blood in her veins, but she knew nothing at all of her own people. As long as she could remember she had lived with these Indians, and had been cared for when younger by a squaw called Oweena. Oweena spoke more English than others of her tribe, and had always used it when talking with White Sister. The Indian woman had died of an adder's bite some time ago, but before she passed away she had told the girl to go to Detroit as soon as she might, and appeal to the Indian's agent for help in finding her father. What reason she had for thinking him to be alive she did not say. Around White Sister's neck, in a tiny buckskin bag, was a small strip of linen with characters in blue upon its surface:

COMFORT HAMILTON.

The girl looked at it often, and long ed to know what it meant. She had seen scraps of paper with printing on -talking leaves, Oweena called them and in a vague way thought that the blue marks were similar to those on the paper.

Wabenito was now sleeping soundly, and folding a blanket several times, the girl cleverly made a bed for him in the top of a juniper bush out of the reach of possible snakes; then started around the lake to see if there was any way of reaching the island where grew the desired herb. Sometimes close by the water, and again driven back by the marshy character of the soil, she skirted the eastern shore. At last, having come out suddenly on a beautiful point of land, she discovered that she was now below the southern part of the island, and the sun, which she had not observed while in some rather deep woods, warned her that she must hasten back to Wabenito.

Suddenly her ears caught a sound instinctive alarm she sought the shelter of some thick underbrush, peeping were like. warily in the direction from which the sound came. Following the quick dip shouldered a flint-lock gun, and disaped them again towards the hills at the ly a hundred dollars. He had written seemed so much worse that I begged but Indians and a few grizzled trap- by the feeling that she had forgotten had planned to start on the following great drouth, and it seemed to make pers. He was of her kind! Again a her charge. A short distance away, morning. Small hope had he that a him nearly well. This morning he ate pang at thought of her misfortune; Wabenito lay on the ground, apparent- personal appeal would succeed where of pigeon's broth with meat and meal then-the boat!

She ran to the place he had left it. tion, she pushed it into the water and ask for help. With Wabenito in her

moment beside the inert papoose possible. It was high, and dry, and discovery. The canoe was gone. "Herb over there," she said pointing thickly wooded. She decided to get on it until the eight days had elapsed moment. Her native good sense re- the bottom of the canoe. 'What like?" asked the girl eagerly. when the Indians were to return. Here turned, and she hastened to that point and inviting in its wave-lapped setting, to trust no one until she could find the lake.

She found Wabenito still in a fitful most unlikely, she thought. She took sleep. Even to the girl's inexperienced eye he seemed worse than when she Thomas Fletcher had tramped across ful, in her arms and sung him a lul- had left him, and hastily placing her his newly cleared fields to the lake. belongings in the canoe, she rowed as Being an Englishman, he liked to be-"Swing high, swing low, my tawney rapidly as her strong young arms could gin his day with a cold plunge, and who is skilled in the giving of herbs, carry her toward the coveted medicine. Long Lake, for he did not adopt the After hiding the dug-out in the rushes, Indian name of Ginsagaigan, was his she chose a high spot of ground near only tub. He doffed his clothes, and the center of the island to be her tem- swam easily and leisurely towards the porary home. Well versed as she was island. A trouble was weighing on his clouds while she gave herself up to to find the rather scarce wood-betony, to observe that his canoe was not in its moody thoughts of her lost opportunity but when she had obtained the root, accustomed place. But when he had the part used, she was at a loss how reached the island, and seated himself to steep it. She did not dare to build for a few moments' rest upon the a fire until after dark for fear the shore, his keen eyes detected that it owner of the canoe would spy her out, was gone. and demand his boat.

brownish hue. She tasted it. It was over here." mildly like the remembered bitter

to drink some of the potion. At what my own shore." she thought to be proper intervals, she protect them from evil spirits.

In the morning she was awakened by a tug at her hand.

way of greeting.

White Sister.

brevity of his race. of detection, she made a fire, and cook- ox team as security. Now it looked as ed calmly. She scrutinized the child fast, they wandered to a high bank out it he could do nothing. whence they could look to the south which was not that of the forest. With reservation, and had little idea as to duce, there was, as yet, no market for Sister, "Take his clothing off, and

see here and there a log cabin with himself, and labor for one's neighbor of a paddle, there was the scrape of a smoke issuing from its chimney. It was usually repaid in kind. He had boat being drawn up on the sand; then gave her a lonesome, homeless feel- not been able to pay even the interest, took the trail," explained the girl. with a blithe whistle, a young man ing, and her eyes blurred as she turn- and the total sum owing now was near- "When we reached Ginsagaigan he peared among the trees. Such a man! south. There she would go some day, and begged his creditor for a further to stay here until the full of the moon, His mop of tawney, sunburned hair, and find her kind, if not her kindred. extension of time, but he had received when our people return. Yesterday I and blue eyes, were a revelation to For an hour or more she gazed, lost in a curt reply directing him to bring the gave him to drink of the herb which White Sister, who had seen no one her imaginings, then turned startled team without delay to Detroit. Tom the squaws used at the time of the ly dead.

It was a craft with which she was and placed her ear above the tiny dering on this slight chance that a cry as you see him. Do you think that I quite familiar—a dug-out canoe—with heart. It was still beating. Instantly from across the water brought him to have poisoned him—here is a bit of a good paddle leaning against a near- her mind was made up-she would his feet. by tree. Without a moment's hesita- seek the nearest settler's house and jumped in. Resisting the temptation arms, she ran quickly to the spot plied to his own question, "Fool, she her. "The herb was right," she decidto stop at the island, she headed for where she had left the canoe, deciding used your canoe, and now that you ed. She now lowered the unconscious the north end of the lake where she as she ran to make for a cabin at the have taken it, cannot return." Instant- child into the warm bath, rubbing and

CHAPTER II.

Just before sunrise that morning, wood-craft, it did not take her long mind, so being preoccupied, he failed

"Mayhap Elam Crane, or Jeshurum She cut the bitter root in small piec- Leach has borrowed it," he reflected, es, and putting them in a gourd of wa- "or more probably the wind has carter placed it where the sun was hot- ried it out from shore. It blew rather test. Then, by dint of much stirring briskly from the east last night; perof the whole, she was presently re- chance it might be well to look along warded by seeing the water assume a this side of the island now that I am

It took him but a few moments to find the craft in the rushes. "Strange," "Oweena gave the Indians a strong, he muttered, "I thought I left the paddark dose-papooses should not have dle leaning against a tree. If I were it so strong," she reasoned. "This will clothed, I would do a little searching do to begin," and she induced the child about here, but I can keep watch from

He stepped in the canoe, and padadministered it throughout the day, dled swiftly back to the point. Then, and toward night she thought that his having dressed, he took a book from sleep seemed more natural. At last, his pocket, and cast himself down in a tired from the day's anxiety she crawl- shady spot to enjoy an hour's leisure, recognized the strength of the womed between the blankets with the little for the day was the Sabbath. But in ter was not afraid. She had with her ing nor reading; he had given himself wing-bone of an eagle through up to moody thoughts about his trouwhich to whistle to drive away thun- bles. His problem was not an unusual der, and the tail of a rattlesnake to one; he was in debt. Two years and more ago he had come from England with enough money to "take up" a hundred and sixty acres of government "Bozho," said Wabenito gravely, by land. He was young and strong, and 'Wabenito hungry, yes?" asked clearing; but he had not enough capital to live on until he should have "Hungry," he replied with unsmiling something to sell. Then, too, there had been implements needed, and he The girl ran to the lake to wash her- had been obliged to borrow seventyself, and bring fresh water. Careless five dollars, giving a mortgage on his ed a pigeon, thickening the broth with though he must lose the team. It was some meal. After they had broken his most necessary possession; with-

When he borrowed the amount, he which had such a fascination for her; had not realized how scarce money for that way were many villages, and was in the new country. He had little then the great village of Detroit. The to sell from his untilled fields, but had Wabenito on one of the two beds that girl had spent most of her life on a he possessed large quantities of prowhat the dwellings of the white people such. He had hoped to obtain work as a farm laborer to earn the sum, but illness." In the meantime she began From her point of vantage she could alas; his neighbors were as poor as preparing a warm bath in a wooden his letter had failed, yet he had deter- in it; it was the first he had eaten in With a cry of fear, the girl knelt, mined to make one. It was while pon- days. Then in a short time he became

"An Indian maid!" he ejaculated. "How came she there?" and then re- the bit of root that the girl handed to had left the papoose. As she passed, east, which seemed to be the one near- ly he jumped in the craft, and paddled

but one of the oldest of them paused a she observed the island as closely as est her. Then she made an appalling swiftly toward the island. White Sister, upon seeing him start, ran to fetch White Sister wept as she had seen her blankets, and by the time Tom to an island towards the south, "cures Wabenito, and her belongings, and stay the Indian women weep, but only for a landed she had folded them to place in

Tom felt a great deal of surprise "Like Oweena made tea after the she would be safe from other Indians of the island which was nearest the when he saw that the slim, dark-haired was than her own band, who like them mainland. Placing the still uncon- maiden was not of Indian blood. And might be on their way to Detroit; and scious child on the ground, and run- though her dress was of buckskin, "I know," said White Sister thought- from possible settlers in the vicinity. ning down to the water's edge, she put much fringed and beaded, and her hair White Sister feared these far more her hands to her mouth, and sent a hung in two long braids, yet her eyes She gazed at the little island, so cool than the Indians-Oweena had told her long, shrill cry of appeal across the were blue, and her hair soft and wavy. But unmistakably of Indian birth was the small child which she tenderly deposited on the blankets, and Tom asked bluntly:

"Who are you, pray; and how may I serve you?"

"Take me at once to some person or my brother will die."

"That will be Mistress Atkin, an English woman greatly gifted in the use of draughts and medicaments. Her home is below these narrows," and he turned the rude canoe down the lake.

During the ride, neither of them spoke, for Tom was using all of his energy to propel the clumsy canoe, and White Sister, even had she not been accustomed to keeping silent in the presence of men, was far too worried to chatter. As soon as they landed, Tom took the child from the girl, and made his way through a wood until he came to a clearing. front of a log house, White Sister had her first glimpse of civilization. A woman of generous proportions stood reading aloud from an immense book. Nine children of various ages sat primly on a bench before her, while occupying a chair of honor was the father of the family. Having finished a chapter in the Bible, the woman put the book down reverently, and opened a smaller one—the prayers of Church of England. White Sister had no clue to the meaning of the scene. for the keeping of the Sabbath was wholly unknown to her, but she dimly an's personality. Capable, strong and fellow, and went to sleep. White Sis- a few moments he was neither watch- resourceful, she was the best type of pioneer woman-a veritable mother of the wilderness.

Before she began to read the prayers, Tom Fletcher spoke, and she turned at the sound of his voice. It spoke much for her discipline that none of her children had, by word or sign, indicated his presence, while the father was getting on rapidly in the work of also, had tacitly recognized his wife's authority in her little domain by waiting until Tom addressed her.

"Here is a sick lad, Mistress Atkin. Is your service nearly done?'

"Our Lord ever put the service of healing before any other," she answerfor a moment, and then led the way into the house. As she went she handed the prayer-book to her husband. "Read the prayers for the sick, James," she directed.

When she had deposited the small the room contained, she said to White while you are doing it tell me about his wash-tub.

"He was ill of a fever before we the herb."

Mistress Atkin smelled and tasted of (Continued on page 205).

Flags—and Flags

By F. J. YATES

AST summer the sight of an American flag was quite uncommon in the second city of Michigan. Of course, it could be seen on Decoration Day, and on Flag Day, and on the Fourth, but it was carefully taken in on the evenings of those particular days. This summer how different! Old Glory is in evidence practically everywhere—on private homes as well as public buildings-on auto fronts and on the bridles of the iceman's horses. Why? Because of the wave of "Preparedness" and the calling out of the militia on account of the trouble in Mexico. The people want to show their patriotism, and their love of country. The flag is a symbol of the national consciousness, and when people take the trouble to put the flag out daily it is a sign that they are thinking about their country. Symbols are not so much in themselves—what matters is the thought that lies behind.

The flag is not the only symbol of deeper things. Our words and our deeds are symbols—symbols of our attitude toward our relatives and fellow men in general. Many of us are chary of displaying our flags, of pleasant words, of kindly deeds of appreciation, except at rare intervals. We don't bring them out daily and hang them up in the light and air so that our friends may know how much we mean to them. We may think demonstration "silly" and a waste of time. Perhaps we think our friends should know without being told that they are dear to us.

Too much is said about the things we shouldn't do-too little about the things we should do. If one starts out to do the things they should do there will be very little time left for the "shouldn'ts." If one wants a field to be kept free of weeds in the easiest way, one doesn't have to everlastingly fallow it; simply prepare it once, put in clover, get a good "catch" and leave it to its own devices. The clover will take care of the weeds. There doesn't need to be any weeding; the weeds are simply crowded out.

So start in tomorrow-don't wait until next year-and hang out your flag. First hang out your national banner. It looks mighty nice on the front of the farm house or waving from a good cedar pole. Then don't forget to hang out those other flags, so your fellowbeings will know just how anxious you are to "do the right thing" by them. Then when you see the answering light in your friend's eyes, when you note the kindling of his appreciation and enthusiasm you'll know-that they've seen your flags and are hanging out their own in answer to your signal.

DEEP WELLS THAT FEEL THE SEA.

In their investigation of the underground water resources of the Coastal Plain of Virginia the geologists of the United States Geological Survey have collected data relating to the many hundreds of artesian wells that yield excellent waters in large areas of the coastal region. Particular note has been made of the quantity and quality of the supply afforded by wells that give flows at the surface. The water of most of these wells is admirably adapted to household uses, though that ins enough min eral salts in solution to make trouble in boilers used for steam production.

The variation in flow exhibited by these wells with the rise and fall of the tide is of peculiar interest, the flow being notably greater at the flood than at the ebb tide. It is the general opinion among well drillers that practically all flowing wells near tidal rivers or inlets from open bays do feel the distant sea, but some of them so slightly that the variation in flow is not noticeable.

The geologist in charge of the ground-water investigations in Virginia 26 Extra Features



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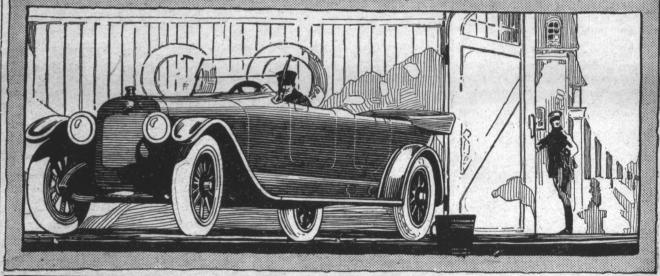
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7-Passenger Body \$35 Extra

High-speed economical Six; 48 horsepower: 127-inch wheelbase; complete equipment, including 26 extra features.





A Razor Snap

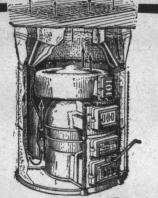
A new lot of fine quality Imported Razors at 40 cents while the supply lasts, is now offered by the Michigan Farmer.

The razors are made of the best cutlery steel, five-eighth-inch blade, and black handle. We will not say just what these razors ordinarily retail at, as prices on razors vary with each dealer, but we have seen razors no better sold at \$1.25 and \$1.50.

Every man who shaves ought to have at least three razors as it is a proven fact that giving a razor a rest is beneficial to it, and here is your opportunity to get a supply at very little cost.

So, only while our present supply lasts the price is 40 cents each, postpaid, or a half-dozen at \$2.00, postpaid. Address all orders to the Michigan Farmer, Detroit, Mich.

One Register Furnace Keeps Whole House Warm



Better than Stoves Uniform Heat at all Times 25% Saving in Fuel

DO NOT go through another winter with the discomforts of stoves. Your women and children, who spend most of their time indoors in winter, will keenly appreciate well ventilated, comfortably heated rooms. The Mueller Pipeless Furnace does away with the inconvenience and danger of poorly stove-heated houses. Put in the

Easily installed in any house—old or new, without tearing up floors or walls. Means pure air, clean house. Burns wood, coal or coke. Built of solid cast iron—lasts a lifetime. There are many reasons why you should consider only the Mueller.

Write for Free Booklet

Gives you all the facts about the Pipeless System of heating and the Mueller Pipeless Furnace. Gives full details of construction and shows pictures of installation. Tells how to apply it to your own home, old or new; how to tell the difference between good and poor furnaces—the things to look out for and the things to avoid. Booklet sent free on request.

L. J. MUELLER FURNACE CO., 5 Reed Street Milwaukee, Wis. 195 Reed Street

As we are makers of heating systems of all kinds since 1857—regular hot air pipe furnaces, steam or hot water boilers and vapor heating systems—we are in a position to give you honest advice on your heating requirements.

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Many automobiles have been stolen, a number burned up, and a number of accidents have happened resulting in some cases in death.

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MR. AUTOMOBILE OWNER Should you have an accident where by you ran into some person or in-to some property, damaging it, even though you are not to blame, the injured party is liable to capitalize his injury and possibly sue you for damages. If you are insured in this Company you will have the protection of 11,500 members and a surplus fund of \$23,000.

This Company has adjusted its claims promptly and will defend you against unreasonable demands.

Insure today, as tomorrow may be too late, against fire, theft and liability; we mean by liability damage cases brought against you.

Cost only \$1.00 policy fee, plus 25 ents per H. P. Write

W. E. ROBB, Secretary, Howell, Mich.



When Writing to Advertisers Please Mention The Michigan Farmer.

states that changes in water level in marls and clays. These beds, however, laws require that hygiene be taught in wells, due to fluctuations in the height though they do not transmit water, all secondary public schools, I think of the surface of some neighboring nevertheless contain it, and as water the course should be more definite and body of water, have been observed all is practically incompressible, any vari-thorough. It is easy to see if the over the world. It is customary to ex- ation of level on the river or bay is younger generation be brought to realplain these changes by supposing a di- transmitted to the well through the ize the value of sanitation, it will rerect connection between the river, lake water-filled gravels, sands, clays, and sult in common-law public hygiene for or bay; but in many places, as in east- marls. When a porous bed is tapped succeeding generations. Then, if the ern Virginia, such connection is clearly by a well the water rises to the point individual grows up to realize fully his impossible, owing to the depth of the of equilibrium and fluctuates as the duty to his neighbor in matters of wells and the nature of the interven- hand of the ocean varies its pressure health, is he not going to be a better ing beds, some of them dense, tough on the beds that confine artesian flow. citizen in other respects?

Sanitation In Rural Communities

By F. M. BIRD

HERE is a supposition that the lives. Dangerous diseases may not be devised great systems of disease pre- proval of the neighborhood, either.

country is the healthiest place reported; they dislike to hold the law stood that the surface drainage as well to live because it stretches over the heads of friends, and hesitate as the slope of the substrata should be through the open. It is subject to to place a quarantine on a family af- away from the well. This is very imimprovements, however. It fected with an unknown disease. This portant and I believe for the most part should be noted that our cities have does not meet with the absolute disappretty well followed out in actual prac-

vention and control. Of course, they It is far better to place many unnecrealize they have a problem, but nev-essary quarantines than to allow one diseases. Convenience for use is one ertheless they have just about surpass- case to result in a general epidemic. thing, but the right hygienic location ed the rural districts in general sani- This done, the case should be immedi- is a matter of supreme importance. tary conditions. In cases of epidemics, ately reported to the health officers of

11-9" Z'-0" manholes. Flatten 4 6 6 - 18" -9"

Plan for Septic Tank Construction.

Concrete to be one part cement, to two and one-half parts of gravel, to five parts of sand. Total concrete 137.5 cubic feet. All joints are to be tight five parts of sand. Total concrete 137.5 cubic feet. All joints are to be tight except those in the garden filtration bed, which are to be open. Pipe in the filtration bed should be three-inch tile laid with a fall of two inches in 100 feet so as to make an even distribution of the liquid. Fifty feet of tile is required per person. This tank is designed for five people. An increase should be made in the first chamber of approximately 13 cubic feet per additional person. The depth should not be changed and the length kept equal to about two times the width. The second chamber requires about one-half the capacity of the first. The presence of solids (not scums) in the second chamber gives warning of the necessity for cleaning. While comparatively freber gives warning of the necessity for cleaning. While comparatively frequent cleaning may be necessary for the first years or so, proper bacterial action will be more rapidly obtained if this operation is made as infrequent as possible. After the first year an annual cleaning should be sufficient.

farmer could be aroused to the actual necessary precautions can be taken. state of affairs.

piness.

the community. Too often they have school education of the children. been elected because of their popularcompetent men on health boards is fre- had a definite training along the line methods of sanitation in our homes quently responsible for a heavy toll of of "Rural Sanitation." While our school should be encouraged, the more funda-

the death rate in the country is actu- the county or state. Diagnosis should ally higher than it is in the cities. This be left to some responsible bacteriostatement is backed by statistics. This logical laboratory, or to some person is contrary to the law of expectancy who knows. After the real nature of

It is true that it would require the ita, in New York City due to tubercu- in the community to carry out an ideal City has a great system of preventing negligence, and should feel its respon- when further improvements are made. and fighting disease. It is pretty effi- sibility to its neighbor. No man has a

This means that instructors must be ity, or political influence. The lack of provided for school teaching who have hastening the introduction of modern

An improvement of conditions might be brought about more quickly by the outright adoption of certain principles applicable to the farm home.

Is it necessary to mention the hygienic effect of the location of the well? It should be generally under-An oversight of this rule will tice. very often result in cases of serious

The first principle of good health is frequent bathing. Nothing is so refreshing to a tired body as a good bath. There is usually plenty of water more or less available to the farmer, but the facilities for getting it are often inconvenient. As a result the farmer in direct contrast to his city cousin, who really needs it less, goes without the frequent exhilaration of a bath. Who can thoroughly enjoy getting out a clothes-tub and performing his ablutions where the air is only warmed on one side of him? Then the whole process is dangerous. By a little careful planning nearly every farmer could afford the luxury of running water and comfortable heating. The returns in the zest of being alive and feeling fit would more than repay for the outlay. The use of a large quantity of water by every member of the family should be forever encouraged.

Toilet facilities should be convenient and comfortable. One of the horrors of farm life, especially in winter, consists in the performance of personal duties. Nature and health demand regularity in these matters. Neglect often means serious derangement of the system. This should be overcome by the use of running water and a sewage disposal outfit terminating in a septic tank. An example of the latter is shown in the drawing. The returns from the garden plot will soon repay the cost of this utility. Uniformly good health is cheap at any price.

A windmill or gasoline engine with the aid of gravity will do most of the work toward securing running water. A septic tank furnishes a very satisfactory sewage disposal system. With. these two things provided it is possible to add many conveniences in the farm home that not only make for greater economy of energy in performing the duties of the household but also improve the sanitary conditions.

The best way to make improvement and could easily be remedied if the the disease has been determined, the along this line is to have the whole plan carefully studied out before the first installation so as to avoid later There are fewer lives lost, per cap- correct attitude of all the individuals changes. The water supply, primary sewage system, and other accessories losis than in the agricultural state of sanitary program. It is necessary that should be so arranged at the begin-Michigan. This is because New York every family realize the outcome of ning that they will meet future needs

In connection with conveniences and cient now, and is being improved upon right to live as he chooses, unless it is pleasant surroundings it might be menfor the good of his fellows. No person tioned that factory managers have for What rural communities need is an is unaccountable to his brother. When some time seen the value of clean and increased interest in disease preven- everybody feels his responsibility and agreeable surroundings for their emtion and control. The rural resident takes a generous attitude, the battle ployes. They have provided cheery, should see in this subject a chance for better health will be just about well-lighted buildings. They know that for greater health and increased hap- won. The problem becomes, then, a the men will do more and better work, matter of general public education and an important incidental is the fact In the first place, health officers while the ordinary news media of the that they have less trouble in hiring should be chosen because of their spe- country are doing good work along good help. This latter point is a hint cial training and skill in meeting the this line the most lasting and thorough to the farmer. He must use the same dangers that threaten the health of results can be obtained in the public relative methods if he is going to compete successfully for labor.

Although every reasonable means of

mental and thorough way of securing but she had been warned so often by for country districts greater sanitation Oweena to show it to no one until she is through the training of the children, reached Detroit that she refrained which can be most systematically done from doing so. in the public schools. An enthusiastic his fellow students.

PATH.

(Continued from page 202).

somewhat angry cry rewarded her ef- pealingly. forts, she removed him to the bed, administered a hot drink of pepper- us," replied this mother of nine. mint, and presently Wabenito fell asleep, his face moist and flushed, and ans go again?" his breath coming naturally.

"He seems all right now," said team has to go."

White Sister gratefully.

"That he does," replied her new friend. "It is like you gave him a rathgave way to her own curiosity. "Tell ments, her pretty leggings and mocas-

Under her tan, the girl colored painand taught me the white people's ton- make his cabin her home. gue. She had lived in Detroit. The trappers said also that I was white. Sometimes I have seen those who had a white father, and a squaw for mother; perhaps I am like that."

All this time Tom Fletcher had sat on the door-stone, where he had been ed to his feet and fairly shouted in protest: "It cannot be so. Surely she is of pure white blood, and gentle at that." His eyes sought Mistress Atgirl's mistaken idea, understood the feeling that prompted his words.

"Can you remember naught of your life before you dwelt with the Indians? Can you not recall a mother?"

"I knew no mother but Wabenito's-Oweena was her name. She told me that my own mother had died when I the "lean-to" were the spinning-wheel was very small-like he is now. I wish that I had asked her more, but ed. These latter were not unfamiliar she died very suddenly two harvests ago, and I had not thought so much about it then. I remember being very much frightened, always frightened, when I was little; and that someone cried-but it may have been when my mother died."

"Happen she was one of those taken prisoner at the massacre of Frenchtown," said quiet Mr. Atkin, speaking for the first time. "I have heard that women were taken and held for ransom-great shame to our country's soldiers for allowing it. If the mother died, that would account for the maid having remained with the Indians. It

is a wonder no brave has claimed her." Tom emphatically.

The girl gave him a startled look, but saw such honest admiration in his eyes that she did not shrink from him. And made their music sound as loud "Oweena made the old chief promise that no brave should have me for his that no brave should have me for his squaw. She could not get him to take Through days of rain or sunshine me to Detroit before she died, but at Persistently it grew.

last he wanted to be rid of me on ac
At last came buds and blossoms, count of the young braves quarreling, Snow white and filled with perfume so he was going to leave me with the

so he was going to leave me with the agent there."

"Were you called by any other name than 'White Sister?'" asked Mistress Atkin.

"It seems as though I was called 'Comfort,' but I asked Trapper John, who has been with us many winters, if that was a rightful name, and he said he thought it was not."

Snow white and filled with perfum To cheer us on our way. No dream of prefect purity Could ever fairer be; No dream of graceful loveliness More charming was to see. Oh, lily white, so beautiful! So fair on cloudy days! Where did you learn the lesson Of wisdom's happy ways? On darkest days your sunshine Smiles forth with fairest light, Tis then your eyes stay open he thought it was not."

"It is a name, though it has another meaning, too," explained the woman. White Sister wished to speak of the clue which she carried in her bosom,

"Trapper John taught me many instructor with a thorough training things," continued the girl. "He was could make every pupil see the advan- very wise, though he could not read tages of clean living to himself and to the talking leaves. He warned the old chief not to let a brave have me, for if I have kindred in Detroit, and they WHITE SISTER OF THE PIONEER should learn of it, they would bring down great wrath upon our people, and mayhap the bounty money would be withheld. Do you think I shall find chaffing his little limbs. As soon as a a father there?" she turned to each ap-

"The chances are not great; if your where, between the home-spun blank- father were alive he would have sought ets, she directed White Sister to con- you out ere this. But if you do not tinue the rubbing. The woman then find friends there you shall return to

"But how can I know until the Indi-

"I will take her in the morning; the

The Atkins nodded sympathetically they were familiar with his affairs. While they talked over the details of er strong draught, and then fed him the journey, the children crowded too heartily. He shall have naught around the stranger, and admired her but milk for a few days." Then she short buck-skin dress, her bead orname of yourself. You are not of his sins. Tom Fletcher, while he discussed the journey, admired her too, and he began to hope she would not find her fully. I know nothing of myself. Wab- kinfolk, but would return to the Atenito's mother called me White Sister, kin's until he might persuade her to

Presently Mistress Atkin, and her oldest daughter, began to prepare the noon-day meal, and White Sister looked about her curiously. The log-house was a large one (as she afterwards learned) for it had a living-room, a "lean-to," and a loft. There was a huge joined by Mr. Atkin. As the girl voic- fire-place in one end of the living-room, ed her last words, of which she only wide enough to burn a four-foot log, vaguely understood the import, he leap- and an iron dinner-pot was usually hanging from the crane. On each side of the door was a pane of real glass, a sign of undoubted prosperity. The The chairs and beds were of home conkin's, and she, also revolted at the struction, as was also the table, but a chest of drawers, brought from England, occupied a place of honor in the end of the room opposite the fire-place. In the winter the ceiling would be used for storing strings of onions, dried fruits, hams, bacon and herbs, for not an inch of room could be wasted. In and loom which kept the family clothto the visitor, for the squaws wove a crude fabcir on crude looms.

Towards night, Tom returned to his own cabin, taking two of the Atkin lads with him, that White Sister might have their cot. The girl would have preferred her blankets again under the open sky, but her pride bade her do as the white people did; so for the first time in her memory she slept on feathers, and between linen sheets.

(To be continued).

THE WHITE DAY LILY.

BY L. MYRTLE SOURS aving remained with the Indians. It a wonder no brave has claimed her."

"She shall never go back," cried om emphatically.

The girl gave him a startled look,

The girl gave him a startled look,

leaves That caught the drops of rain As the drops on the window pane.

Through spring and early summer

'Tis then your eyes stay open From morning until night.

Peculiarly fits the farmer's needs The peculiar needs of the farmer in motor cars are best met in a moderate priced car like the Allen. Cheap cars soon rattle to pieces on the country roads. Repair bills mount up. Expensive cars rarely give more service than moderate priced ones, their higher prices covering largely luxurious refinements that have nothing to do with practical service. You are able to pay the extra, but why should you? Moderate priced motor cars, like all moderate priced articles, usually strike the happy medium and give the most dollar for dollar value. The Allen admirably meets the farmer's practical needs. It is big, roomy, easy riding, strong and light. It holds five comfortably, and has ample leg room. It is economical on gasoline, oil and tires. It is fully equipped for your comfort and convenience. It is built to give enduring service of the practical sort. Yet it is withal, a strikingly handsome car with the latest boat-line body and crowned fenders. 37 H. P. 3¾"x5" 4 Cyl. Motor. Two Unit Electric Starter and Lights. 112-inch Wheelbase.
Gas Tank in the rear.
Large, easy acting Brakes.
Weight 2300 pounds. 55-inch Rear Springs. Full Floating Rear Axle. Write today for the Allen "Autolog" THE ALLEN MOTOR COMPANY 1109 Allen Bldg., FOSTORIA, OHIO



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Yes and pictures of the friends you meet at the fair, and the incidents in coming and going. There's a worth while album full of Kodak pictures on every such trip.

Ask your dealer to show you the new 2C Kodaks and 2C Brownies. e pictures are 2% x 4% and these cameras are right up to the minute The have all the worth while new features and make pictures of the size and shape you want at a low cost. They sell at \$9.00 to \$19.00.

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Wanted Man and Woman

To work on small farm near Detroit. Prefer man and wife; man for general farm work, woman for general housework, both must be industrious and temperate. Good house on farm. Liberal wages to right people. Address with full particulars as to wages, experience, etc., also references if possible.

Box H, Michigan Farmer, Detroit, Michigan.

Don't neglect this Opportunity. We want agents to represent us at every fair in Michigan. Write for agents' terms, stating fairs you can It will pay you. The attend. Michigan Farmer, Detroit, Mich.









Teaching Cooking in Our Schools

HE housewife that cannot prop- tice and take a sample of their work to one, and the public in general.

must be more and more forced home live. to the general understanding that a people that is not well fed and nour-lunch is prepared by the older girls. stand the devastations of war, should and serving dishes. Usually one hot

of the National Association of Dairy, from home. If the children know the Food & Drug officials, in his address at their annual convention held recent- school, the mothers can fill the lunch ly in Detroit. Doubtless we all agree ly, or those who, knowing how to do with the chance to teach table manthese things, have not taught their ners, general politeness and consideradaughters to do so and do not intend tion for others. to teach them.

It is easy to condemn the mother who will not teach her daughter, but the right thing. Her own life perhaps has been so full of the drudgery of housework and the struggle to make both ends meet that she does not want her daughter to go through the same experience, and thinks that if daughter does not know how to cook, she will never have to do it. But usually the home handicapped by ignorance and her family suffers because of the mother's mistaken idea of kindness. Then there is the mother with a musical daughter who must keep her fingers ilar duties.

And in both town and country there is a constantly increasing number of women who must go out from home to earn a living for their children, and when can these mothers find time to teach their girls? Surely some means of instructing all of these girls in housekeeping must be found. In many of the cities and larger towns regular courses in food preparation and servgreat majority of schools do not give ing have been introduced, but the this instruction.

A number of rural school teachers have been taking instruction in cooking and sewing the past summer, but, personally, I cannot see how one lone teacher can teach eight classes in "reading, writing and 'rithmetic," to say nothing of grammar, history, geography, music, agriculture, and probably a few other things I've forgotten to mention, between nine o'clock and four, and then add instructions in cookone in your district, double her salary corner with one slip stitch, 1 st * ch where mother can see or hear them. I and do everything else in your power 7, skip 4 and sc 1 in next stitch, ch 5, have nine little ones, the oldest only and is teaching solely for the love of * to end of row. Fasten with one slip of those particular housekeepers hapteaching.

In every community are women who orado some of the housekeepers have Join with 1 slip stitch at end of row been persuaded to do just teaching. A and fasten off. This little edge may class is sent to the home of the volun- be used to advantage on collar, jabot teer teacher, who gives a demonstra- and cuffs thus making a complete and ject; then the girls go home and prac- ton or linen thread.

erly prepare, cook and serve a the instructor. In this way the girls meal is not worthy of the name have a chance to study the arrangeof wife. The mother who does not see ment of kitchens in daily use and the to it that her daughter learns the fun- systems that different housekeepers damentals of cooking is neglecting an use in planning their work. These volimportant duty she owes the daughter, unteer instructors work without pay her daughter's husband, if she has other than the satisfaction that comes from the knowledge that they have We hear much these days about pre- done something to advance the welparedness and in this connection it fare of the community in which they

In some districts part of the school ished cannot to the fullest extent en- This requires some equipment in the joy the blessings of peace, nor with- way of cook stove, cooking utensils dish is prepared and this is supple-Thus spoke W. B. Barney, president mented by what the children bring day before what is to be cooked at box so that a well balanced luncheon with Mr. Barney, and doubtless, too, can be served. This gives the student we all know many housewives that the opportunity of cooking in large cannot cook and serve a meal proper- quantities; it also provides the teacher

The state is sending out extension workers who hold schools for housekeepers. These schools hold daily sesusually the mother things she is doing sions for a week and instruction is given in many subjects. They have been well attended and much interest has been shown. However, they are not intended for the school girl, but for her mother, and as yet there are not enough instructors to reach every community. The girls' clubs under trained leaders provide a valuable means of daughter marries and starts her own teaching girls to cook and sew, and the number of these clubs is increasing rapidly.

In educational matters Michigan is one of the leading states of the Union. Our people want their children to have soft and flexible and cannot soil her the best that can be obtained. Where hands with dishwater, dusting, or sim- courses in cooking and sewing have

A DAINTY HANDKERCHIEF WITH CROCHET EDGE.

To make the handkerchief take a square of material the desired size and turn a very narrow edge. Baste firmly and single crochet through the mate-



to keep her, for she is surely a wonder skip 4 and sc 1 in next. Repeat from twelve past, and can say that if some stitch.

Second Row .- * s c 2 over chain, * are notable housekeepers, who, though ch 5, sc 2 in same place, repeat from *

been introduced into the schools they have proved their value, but, as said before, they are not yet general.

Instruction in agriculture is required in all rural schools, and why not in household arts? Is not the farmer as well able to teach his son to farm as the mother is to teach the daughter to cook or sew? Methods in farming are changing, but so are methods in housekeeping, and instruction in one subject is as profitable as in the other.

If you are doing anything in your district to introduce the teaching of cooking and sewing into your school, can you not send in a brief report to the office of the Michigan Farmer, telling us about it? C. R. H.

TO DETECT FOOD ADULTERA-TIONS.

BY CHARLOTTE BIRD.

The detection of most adulterations of food products requires more or less complex chemical processes outside the reach of the ordinary home. But here are a few exceptions whose effective methods are within the reach of any housewife. This is especially true of the flavoring extracts.

The test for lemon extract is very simple. Merely combine equal parts of the extract with water and shake. If the mixture is cloudy, the extract is pure. If it is clear, little or no lemon

oil is present.

The adulterant of vanilla is the tonca bean. This is not harmful and some undiscriminating palates even prefer the tonca bean to the flavor which it masquerades as being. Yet it is not vanilla. To test the extract, to one part of vanilla add five of water and boil down to one-third of the original volume. If there is a heavy deposit of resin, the fluid is pure vanilla. If the deposit is slight, the liquid is adulterated.

With canned goods, like peas and beans, preservatives harmful to the health are often used. To detect these insert a steel knife into the unemptied contents of a newly opened can. Allow to remain for ten minutes and then withdraw. If the knife is red, copper salts are present and the food should be thrown away.

In buying canned goods one should carefully examine the can beforehand. If it bulges or if it has two drops of solder on it, indicating that the contents have been fermented and adulterated, it should be rejected.

A very simple test will reveal the difference between pure butter and oleomargarine. Just put a little into a frying pan and heat.—Pure butter will spatter and be more or less clouded, while oleomargarine will be clear and quiet.

LETTER BOX.

The Children's Play Corner.

I agree with Hilda Richmond on the idea of not having a separate room for ing and sewing. If you have such a rial around the entire edge. Fasten at the children to play in, away from pened in at times they might think the house never cleaned up. But when I go to a neighbor's where there are no not trained teachers, make valuable twice, sc 6 over next ch. Repeat from children and feel the lonesome, quiet instructors. In certain parts of Col- first * in second row to end of row. atmosphere, without a child's voice, I would not trade places for any price.

What woman has the heart to turn the children back with an angry word when they enter with aprons and caps tion of the cooking of meat, bread, dainty set suitable for a gift or for full of flowers and little curiosities that cake, or whatever is the chosen sub- personal use. Use No. 80 crochet cot- they have time to notice, and come and call our attention to? There is

not a day passes by but that they re- leaders are women of experience way of housekeeping to have the play- work. things and their little treasures in our cold and lifeless.

and don't stop looking until she is a lasting effect o ntheir characters. found. Such love in the word "Mamma" from them surrounds the home girls are taught to use commercial patif taken away would make the world with the aid of a yardstick. They learn a barren wilderness.

balls, strings or books to pick up. garment. There will be no more tasks or delay sound like music to have some child's hood. noise and the clatter of little feet on the stairs. Then let us not hush their lina Raven, of M. A. C., spent one week loud laugh or check their noisy inno- in St. Joseph county this spring, givcent frolic, so that when they are ing twelve canning demonstrations in grown and meeting the struggles of the that time. About 300 women attended outside world they may look back to these demonstrations, which promises a happy childhood spent with a kind well for the success of the work. loving mother.

she preaches there would be more hap- out the state. py homes. There are too many women who do not control their tempers. They forget that the husband has his trials to keep the home up, they meet him with worrisome complaints when he comes home fretful from his out-ofdoor conflicts. And on the other hand, embroidery designs, and articles which the husband should not forget his wife's fatiguing cares, ill health, and on receipt of ten cents. the thousand disheartening influences of domestic routine. And let the husbands not forget that we women like nothing so much as being made love to, as well after marriage as before. All of us meet with disappointments. Let us make the best of it so that the journey of life may be pleasant and happy .- Mrs. T. B.

GIRLS' CLUBS IN ST. JOSEPH COUNTY.

For several years Uncle Sam has had working for him in the south county agents who were to do all in their power to help the housekeeper, especially the housekeeper in the rural districts. A county agent is a remarkably well informed woman who can cook, sew, nurse, tell you how to remodel an inconveniently arranged kitchen, or install a water-system; she may go to individual houses, or gather the people of the community together and lecture; she may organize Mothers' Clubs, Girls' Clubs, Mothers' and Daughters' Clubs, or employ whatever means she sees fit to broaden the lives in the homes and better the community.

Last May Miss Ilena Bailey was apcointed the first county agent in Michigan. St. Joseph county was selected for this work because it is a typical rural county. It has a population of 25,000 people, but has no large cities.

Miss Bailey took her position about the middle of April and spent the first few weeks getting settled in her office and in making a general survey of the county. Since May 1 she has organized nine Girls Clubs, two Gardening and Canning Clubs and five Garment Making Clubs. Each Club is under the direct charge of a leader who is under Miss Bailey's general direction. These

call some incident of my own child- school teachers or housekeepers who hood. No doubt some think it a slack are willing to give their time to the

In the canning clubs the girls are living-rooms, but how dear one of taught to can fruits and vegetables and their little things would be to us if we to make jellies and preserves for home had the misfortune to see one of them use. It is much easier to maintain interest in these things if there is com-I feel well repaid for cleaning up the petition and sociability than it is cuttings of paper and the litter they where one girl walks alone in her own make, and picking up their things kitchen. The responsibility for the prowhen they enter from school and start duct is entirely the girls and a sense to look for "Mamma" the first thing of power is developed that must have

In the Garment Making Club the with an atmosphere of happiness that terms and to draught a few patterns. how to alter patterns to fit their own Yes, put up with a little disorder and figures. Having fitted the patterns, let them play. Only too soon they will they must cut their material with the be grown up. Life will claim them, least waste, and then make it up neatand when a beginning is made it will ly. They will be taught the use and be like the raveling of a stocking care of the sewing machine and its stitch by stitch, until all will be gone. various attachments and they will also There will be no more noise and rush, be taught to figure the cost of mateno dolls and doll clothes, no skates, rials and the time spent in making the

Girls from fourteen to eighteen years for sleepy folks, no more tucking up of of age are usually very much more inbed clothes, no more settling disputes, terested in their personal appearance no little ones to get off to school, no than they are in cooking and this tenrips to mend, no sore fingers to tie up, dency rightly directed and controlled no faces to wash. There will be such can easily be made of value in the deorder and peace in the house it will velopment of well-rounded woman-

At Miss Bailey's requrest, Miss Pau-

Miss Bailey is very enthusiastic I find great pleasure in reading Deb. about her work and it is to be hoped orah's letters, and think if there were that she will create a demand for more more "Deborah's" who practiced what agents to be appointed soon through-



-Ladies' Shirt Waist. No. 7794 Miss Bailey took her position about Long or short sleeves may be used

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If there's any work that makes a man's socks look "all-shot-to-pieces," it's farm work. You're on your feet most of the time, doing the jobs that are hard on shoes and even harder on socks. Don't put up with sore feet and quickly wornout hose. Buy socks that are built strongest where the wear is hardest.

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has heavily reinforced heels, soles and toes—securely knit-on tops. Buy Durable Durham Hosiery for the whole family. It gives everybody longer wear because it is made from the stretchiest, sturdiestyarn we can make. It sells for 10, 15 and 25 cents. If your dealer hasn't Durable Durham Hosiery, ask him to get it.

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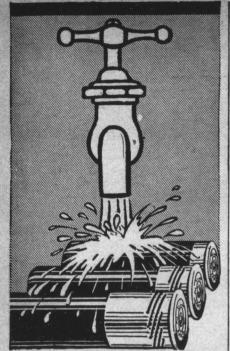
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Farm Commerce.

U. S. Warehouse Act

loans and, therefore, of definite assist- grades. ance in financing crops. This purpose the act aims to attain by licensing and them.

en general authority to investigate the are applied for or issued.

A Permissive Statute.

riods not exceeding one year, and are made upon application of the ware-The system is wholly permissive.

with the act and the rules and regulaa bond, with other than personal sure- tiable. ty, to secure the performance of his obligations as a warehouseman under ted States Warehouse Act.

tural products; to prescribe the duties pose of the warehouse act. for acid phosphate and of licensed warehousemen with respect to their care of, and responsibility for, agricultural products; and to examine ers of receipts, licensed warehousemen this state. It should not be grown on your own Nitrogen by raising agricultural products stored in licensed in the absence of some lawful excuse, soils which tend to produce dark skinlegumes, liberate the Potash in warehouses. Deposits of agricultural must deliver products stored without ned potatoes." products in such warehouses are made unnecessary delay. The demand for Mr. Waid is making an inspection of regulations under it.

Duties of Warehousemen.

same kind and grade, for which sep- be canceled. Mention the Michigan Farmer when writing Advertisers arate receipts are issued, must be so

HE central purpose of the fed- kept that they may be separately ideneral warehouse act which be- tified and re-delivered to the depositor. came a law on August 11, is to Warehousemen may mix grain and othestablish a form of warehouse receipt er fungible products, ordinarily mixed for cotton, grain, wool, tobacco and in storage, when they are of the same flaxseed, which will make these re- kind and grade and are delivered from ceipts easily and widely negotiable as the same mass, but may not mix such delivery orders or as collateral for products when they are of different

Warehouse Receipts.

Original receipts must be issued for bonding warehouses under conditions all agricultural products stored in which will insure the integrity of their licensed warehouses, but only when receipts and make these receipts reli- such products are actually stored at able evidence of the condition, quality, the time of issuance of the receipts. quantity, and ownership of the pro- Additional or further receipts for the ducts named which may be stored with same products may only be issued in place of lost or destroyed receipts, and The Secretary of Agriculture is giv- then only under specified conditions.

The act enumerates certain facts storage, warehousing, classification, which must be stated in all receipts weighing and certifying of cotton, wool, issued by licensed warehousemen. grains, tobacco and flaxseed, and to They must show (a) the location of classify warehouses for which licenses the warehouse, (b) the date of issuance; (c) the consecutive number; (d) whether the products will be decenses for the conduct of warehouses son, or to a specified person or his orin which such products may be stored der; (e) the rate of storage charges; for interstate or foreign commerce, (f) a description of the product storand also of warehouses located in plac- ed, including the quantity or weight; es under the exclusive jurisdiction of (g) the grade or other class, according the United States in which such pro- to the official standards of the United ducts may be stored. Persons who are States for such products, unless there not warehousemen may also be licens- be no such standard, in which event it ed, subject to the same requirements must be stated according to some recas licensed warehousemen, to accept ognized standard or according to rules such products for storage in warehous- and regulations prescribed by the Seces owned, operated or leased by any retary of Agriculture; (h) that they state. Licenses may be issued for pe- are issued subject to the United States warehouse act and the rules and regrenewable upon showing satisfactory ulations under it; (i) ownership, if to the Secretary of Agriculture. A fee any, of the products by the warehousenot exceeding \$2.00 may be charged man; (j) any lien claimed by the warefor each license or renewal, and, in ad-houseman for advance made or liabildition, a reasonable fee for each exam- ities incurred (k) any other facts reination or inspection of a warehouse quired by the Secretary of Agriculture, (1) the signature of the warehousehouseman. It is not, however, compul- man, which may be made by his ausory that any warehouseman be licens- thorized agent. Unless otherwise reed by the Secretary of Agriculture. quired by the law of the state in which the warehouse is located, the grade Every applicant for a license as a may be omitted at the request of dewarehouseman must agree to comply positors, except in case of fungible agricultural products, if the receipts tions prescribed under it. He must give clearly show that they are not nego-

Licensed Classifiers and Weighers.

The Secretary of Agriculture may lithe laws of the place in which the cense competent persons to classify warehouse is conducted, under his con- and weigh agricultureal products stortracts with his depositors, and under ed in licensed warehouses, and to certhe United States warehouse act. The tify the classification or weight of the right is given to any person injured products. Such licenses may be susthrough its breach to sue in his own pended or revoked at any time if the name on the bond for any damages licensee fails to perform his duties sustained by him. When such bond properly. All grain, flaxseed and othhas been given, the warehouse may be er fungible products stored for interdesignated as bonded under the Uni- state or foreign commerce in licensed warehouses must be inspected and Inspection of Licensed Warehouses. graded by persons licensed for the pur-The Secretary of Agriculture is au- pose. Authority is given to establish thorized to inspect warehouse's licensed official standards for the agricultural to determine whether they are suita- dards established under any other act the demand is somewhat restricted for ble for the proper storage of agricul- of congress are adopted for the pur- the dark skinned Russet Rural. How-

Delivery of Products.

subject to the act and the rules and delivery must be accompanied with an one-fourth acre plats for the purpose Licensed warehousemen are not per-tiable, properly endorsed, and, when show mixture. It is too early as yet mitted to discriminate between persons requested by the warehouseman, to to find late blight and the leading disdesiring to store agricultural products sign an acknowledgement of the re- eases found thus far have been curly in their warehouses. All agricultural ceipt of the products re-delivered. Up- dwarf and black scurf. There has products, except fungible products, on the re-delivery of the products for been great injury from bugs this year (such as grain and the like), of the which given, all receipts returned must and the prolonged drought during July

Licensed warehousemen are requir- sections.

ed to keep in safe places complete and correct records of all agricultural products stored and withdrawn, and of receipts issued, returned and conceled. They must also make detailed reports to the Secretary of Agriculture as often as required. Their books, records, papers and accounts are subject to examination by the Department of Agriculture.

Revocation of Licenses.

The Secretary of Agriculture is required to publish the names, locations, and addresses of all warehouses and persons licensed under the act, with lists of all licenses revoked and the causes of termination. He may publish his findings whenever he determines that licensed warehouseman is not performing fully his duties under the act. He may suspend or revoke any license if the license fails to comply with the act or the rules and regulations. He may also suspend or revoke any license issued to a warehouseman if unreasonable and exorbitant charges have been made for services rendered.

The act expressly provides that nothing contained in it shall be construed to interfere with state laws relating to warehouses, warehousemen, weighers, graders and classifiers, or with similar federal laws. On the contrary, the Secretary of Agriculture is authorized to co-operate with officials charged He may issue to warehousemen li- livered to the bearer, to a specified per- laws in order to carry out the proviswith the enforcement of such state ions of the United States warehouse

Penalties.

Punishment by fine or imprisonment or both may be imposed on any person who counterfeits, forges, or uses without proper authority any license issued under the act, or who issues or utters a false or fraudulent receipt or certificate, or who uses a name or description conveying the impression that a warehouse is designated as bonded under the act unless the bond has actually been filed and approved or the license issued remains unsuspended and unrevoked.

POTATO GROWING IN MICHIGAN.

C. W. Waid, of East Lansing, secretary of the Michigan Potato Association, is busy with inspection and college extension work throughout the state. Recently he has been at work in Mason and Kent counties and he is still emphasizing the need of standardization of varieties; in other words, many carloads of a uniform sort rather than many cars of many sorts, as the key to the problem of raising potatoes for a profit. Of early potatoes he favors Irish Cobbler and the Early Ohio and of late kinds he says: Green Mountain seems to gain in popularity and is next to the Rural as a commercial potato. Its quality is slightly better than the Rural and it is better adapted for sections where the rainfall is abundant.

"Of Rural types the Rural New Yorker No. 2, Sir Walter Raleigh and Carmen No. 3 are the leading varieties in Michigan. They have become so mixed, however, that it is often impossible to tell which is which. The white poor for which licenses are applied for; products named in the act, and stan- tato is popular in most markets, while ever, the Russet Rural has a high yield and other desirable qualities and Upon demand of depositors or hold- is a favorite with many growers in

> offer to satisfy the warehouseman's of seed selection and is removing dislien, to surrender the receipt, if nego- eased and weak hills, also hills that has cut the crop very short in many ALMOND GRIFFEN.

RAINAGE bonds, from the standpoint of security, are the most attractive of what are sometimes called divisional or special improvement bonds.

It is too well known to require com-

has been enriched by the decay of vegthe "wash" from the higher land. Many tracts of this kind have been allowed to go to waste year after year owing to the fact that the individual owners could do practically nothing toward to go to the fact that the individual owners could do practically nothing toward the individual owners thankful for a fine rain that fell Aug. 18, being the first since July 2. Whole milk \$1.80; cream 80c; cattle 4@9c; hogs 9@10c; chickens 18@20c; eggs 25c; white wheat \$1.40; red \$1.45 per bushel; oats, new, 42c; old 40c. could do practically nothing toward

considerable areas of land now unpro- of a market for hay just now. ductive from lack of drainage and in consequence thousands of acres heretofore practically useless are being added every year to the cultivated farm lands of the country.

Mecosta Co., Aug. 23.—All kinds of hay yielded well. Oat threshing is in progress and yields are fair. An average crop of wheat has been harvested. Corn is looking well, although recent drouth will probably make ears short. ductive from lack of drainage and in

ditches or canals.

be as small as possible until the land can be cleared, brought under cultivation and made to produce an income.

After this the bonds are made to manage of the small. Con, is below the average in condition. Possibles are legislated as a latter and the product of the small. Corn is below the average in condition. den will not be too heavy in any one

When a drainage district is located near a good market or with good shipping facilities afforded by nearby rail-done. roads, when it is surrounded by productive, well improved farms, when it is made up of small land holdings and is made up of small land holdings and Corn is looking fairly well but is late. particularly when it is largely owned New seeding is promising. There is by farmers owning adjacent land and very little fruit here. Butter-fat 28c; where the cost of the improvement is look \$10; corn 80c; wheat \$1.35; oats where the cost of the improvement is comparatively small, its bonds constitute one of the safest forms of investment.

Some of the reasons why drainage bonds are growing in favor are as

must be paid before the holder of a mortgage.

bond issue than farm land.

Land which has been overflowed for Land which has been overflowed for rain would lige us a good kaffir crop. many years is the most fertile land in Two good alfalfa crops have been put the world

No improvement adds so much to farm land as drainage.

Drained land increases in value from year to year as development proceeds. All farm land is constantly increasing in value owing to the increasing is

Finance and Investments on first-class security constantly increasing in value.

> J. R. MILLIGAN. Financial Editor.

Crop and Market Notes.

Michigan.

ment that the first requisite of cultivation is drainage and what the individual farmer does by ditching and tiling, the drainage district organization does in a larger way.

Monroe Co., Aug. 22.—Hay one to one and a half tons per acre; clover two to two and a half tons per acre; and of extra quality. Wheat, rye and oats were harvested and threshed or stored in mow in good condition. Oat Every farmer knows that the most crop light; wheat yield fair, some fields fertile land is that which for centuries damaged with rust and weevil. Prospects for corn and potatoes poor.

could do practically nothing toward draining them without the co-operation of their neighbors.

The steady advance in farm land values owing to the growing scarcity of new land for settlement, together with the growth of the cities and the consequent greater demand for all farm products has turned public attention to considerable areas of land now unpro-

A drainage district is a form of coperative farming. It is organized on petition of the owners of a considerable area of land so located that it can be drained by one ditch or a system of fruit is scarce. Butter 20c; eggs 20@ 21c per dozen. 21c per dozen.

A survey of the district is made by a competent engineer in order to establish the fact that drainage of the district is practicable.

Funds are provided by an issue of bonds payable from a special tax or assessment levied on the property to be drained, this tax or assessment being.

New Jersey.

Monmouth Co., Aug. 21.—We had a good yield of clover and alfalfa hay. Harvesting is done and wheat, rye and oats are yielding well. Corn and potatoes are both in good condition. Milk is selling at 4½c net; live stock high @90c; potatoes 70@80c. New Jersey.

drained, this tax or assessment being apportioned to the different farms or large and secured in good shape. The lots of land according to the benefits second cutting of alfalfa not as large to be derived from the improvement.

Ordinarily only the interest on the bond issue is paid for the first four or from drouth and heavy storms. Potabond issue is paid for the first four or toes will be a short crop. Butter-fat 31c; hogs 10c; wheat \$1.48.

Highland Co. Aug 21—Hay crop or

After this the bonds are made to mature a portion each year so that the payments are distributed over a term of years in such amounts that the burseless of years in years 152 years of years in years in years of years in years of years in years of years in years of years of years of years in years of tatoes \$1.20; wheat \$1.53.

Indiana.

Wayne Co., Aug. 21.—We are having exceedingly hot weather and the soil is very dry. Threshing is about all done. Oats are yielding about a half crop and wheat is running light, although the quality is excellent. Potatoes will be almost a complete failure. 38c per bushel. Illinois.

Warren Co., Aug. 18.—The yield of clover and alfalfa hay is good. Wheat and oats are all threshed. Wheat made 15 bushels; oats 35 bushels per acre; corn shows the effect of the hot, dry

follows:

Farm mortgages are among the safest investments in the world.

Drainage bonds constitute a lien prior to farm mortgages. They are payable from taxes and the tax collector must be paid before the holder of a corn shows the effect of the hot, dry weather but has been helped by recent rains. Early potatoes made good crop and late ones are fair. Beans are a short crop; sugar beets are a full crop. No peaches; apples will be about half acrop. Butter-fat 31c; hogs \$9; cattle \$9.50; eggs 20c.

Kansas.

Lincoln Co. Aug. 19—This section

tust be paid before the holder of a Lincoln Co., Aug. 19.—This section no taxes on improvements. Free schools and full religious liberty, good climate. Get your farm home from the Canadian Pacific Railway. cut for feed. Bottomland corn is green yet and will make a little corn. A good Two good alfalfa crops have been put up, but the third is very short. Pastures are good; cattle are in good condition; they sell at \$6.50@7; hogs are \$9; cream 28c; eggs 13c.

Vernon Co., Aug. 22.—Weather dry and hot; everything is about burned up; corn is almost a total failure. Fruit is drying up on trees; pastures are all

demand for farm products and the dederacing amount of land available for cultivation.

Drainage bonds therefore are based of control of the c

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Send coupon below and get our Bargain Prices on world's best roofing and paints. Never before such sensational offers as we are making on Hercules Guaranteed Roofing. Then consider the remarkable credit terms. Send no money. Order just as much as you want and we will ship it to you on approval. If satisfied, you make first payment in 30 or 60 days, as you choose.

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Prices. Positively lower than what others ask
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it is the most liberal credit offered by any concern. In ordering Paints and Roofing send no money. Simply state what you want and we'll ship it at once without references, red-tape or delay of any kind. If satisfied, make your first nayment-one-tenth—in 20 days and nay

payment-one-tenth-in 30 days and pay

ZWW.

Name

MR. AUTOMOBILE OWNER:-

Do your part in driving carefully and keeping your car under proper control when approaching pedestrians or another automobile, or the intersection of the streets, better stop your car than to cause a serious accident.

A large number of accidents have occurred and cars stolen during state and county fairs. When leaving your car in the City of Detroit or any large city, be sure you have it locked, or still better, put it in a garage. Detroit has passed an ordinance which provides that automobiles which are parked on the streets should have a proper lock.

Farms and Farm Lands For Sale

PROSPERITY IN CANADA—\$900,000,000 in new wealth added in 1915. Enormous crops and low taxation make farmers rich. Wheat average, 36.16 bushels per acre in Alberta, 28.75 bushels per care in Scaletakeran 28.76 bushels per aere in Saskatchewan, 28.50 bushels per acre in Manitoba. Taxes average \$24 and will not exceed \$35 per quarter section, includes all taxes: farm nome from the Cood land from \$11 to \$30 per 20 years to pay. Good land from \$35, and the government guarantees your land and water titles. Balance, after first payment, extended over nineteem years, with interest at 6%; privileges of paying in full any time. Before final payment becomes due your farm should have paid for itself. We will lend you up to \$2,000 in improvements in certain districts, with no security other than the land itself. Particulars on request. Readymade farms for sale. Special easy terms. Loans for livestock. In defined districts, after one year's occupation, under certain conditions, we advance cattle, sheep and hogs to farmers up to a value of \$1,000. We want you; we can afford to help you. We own the land; we want the land cultivated. Our interests are mutual. Buy direct and get your farm home from the CANADIAN PACIFIC RAILWAY. Send for free book. J. S. Dennis, Assistant to the President, Canadian Pacific Railway, 125 Ninth Ave., Calgary, Alberta, Canada.

238 Acres with Stock and Tools for \$5500

This farm is located on good road, within three miles of nice town. Land lays good, is in good state of cultivation producing large crops. Has an abundance of fine water, some fruit, ten room house in good condition, two barns, one large basement barn, one hay barn, all in good condition. Price \$5500 with \$2500 cash. Will include in this price 12 cows, I bull, I pair horses with hay enough to winter them, and all farm tools. Here is a fine bargain, no drouths severe enough to ruin crops. HIRAM MINTY, FARM AGENCY. 216 Phelps Building. Binghamton N. Y.

\$1000 Down Secures 178-Acre Farm 10 Cows, Pr. Good Horses

With full line up-to-date farm tools, machinery and the growing crops. Owner called away by other business makes tremendous sacrifice. Splendid 14-room, 2-story house, 2 fine barns with cement cellars. House and barns in good repair, both lately painted. Convenient to several large cities. \$5500 takes all, very easy terms. Details this and other money-making farms page 16, "Strout's Big Bunch of Bargains," in a dozen states, copy free. E. A. Strout Farm Agency, Dept. 101, 150 Nassau St., New York.

For Sale Iwo Farms: 191 acre dairy and fruit farm buildings, 2 barns, silo, large house with modern equipment. Large fruit orchard 120 peach, 350 apple trees, 10 acres Aifalfa, 875 per acre. 111 acre dairy and fruit farm one mile from Howell. 10 acre peach and apple orchard, 8 acres Alfalfa, Good water, good buildings and tences. Silo, Windmill, Acetylene lights, Furnace, Chemical Closet. 8110 per acre. Terms on either farm 4 down, balance on easy payments. No agents commission. No exchange considered.

A. R. EASTMAN.

McClure-Stevens Land CO.

Successors to A. J. Stevens & Co. Established 1863. Farm, Fruit and Stock Lands. We own 18000 acres of choice unimproved land in Gladwin and Clare counties. Sold on easy payments. Interest 6 per cent. Write for information.

Gladwin, Michigan

and

In Gladwin aud Midland Counties, Michigan. Well located, Low prices and easy terms. Staffeld Bros. (owners). 15 Merrill Bldg., Saginaw, (westside), Mich

FOR SALE 140-Acre Farm—2 miles from House and Carmi R. Smith, Niles, Mich.

257 ACRE STOCK FARM on main road, all improvements. \$30 per acre. 100 others. Send for list. Neville Fram Agency, Phelps Bldg. Binghamton, New York.

For Sale or exchange for small fruit or poultry farm, 280 acres clay loam cut over land, Cheboygan Co. 35 acres cleared. Buildings, no pine stumps. T. E. JOHNSON, Coldwater, Mich.

Iways mention the Michigan Farmer when writing to advertisers.

Markets.

Wheat.—The declaration of war by Roumania on Austria-Hungary caused an easier feeling but no change a most sensational decline in wheat values on Monday of this week. The predicted early opening of the Dardanelles because of this latest change in political affairs in the Balkan states and the consequent supplies of Russian wheat coming into western Europe appeared to traders to be a factor of fundamental import in the wheat market. It is important to note, however, that the market did not break in Liverpool and that foreigners bought American wheat in large quantities on the decline. The increased chances of a general railway strike also added to the excitement on Monday's sessions in the different wheat trading centers. Receipts of wheat at primary points on Monday were 2,696,000 bushels compared with 2,144,000. in the different wheat trading centers. Receipts of wheat at primary points on Monday were 2,696,000 bushels compared with 2,146,000 bushels a year ago. On this date 1915, No. 2 red wheat was quoted at \$1.08½ per bu. Detroit's last week's prices were:

No. 2 No. 1

Red. White. Sept.

 Red. Thursday
 Red. 1.54½
 White. Sept. 1.49½
 1.55½

 Thursday
 1.52¾
 1.47½
 1.55½

 Friday
 1.55¾
 1.50¾
 1.56¾

 Saturday
 1.54¾
 1.49¾
 1.55½

 Monday
 1.45¾
 1.40¾
 1.46½

 Tuesday
 1.47¾
 1.42¾
 1.48¼

 Chicago.—Sept. 1.43½;
 Dec. 1.47¼;

 May \$1.49¾.
 1.49¾
 1.40¾

 1.55 ¼ 1.53 ¾ 1.56 ¾ 1.55 ½ 1.46 ½ 1.48 ¼

Corn.—Heavy liquidation in wheat and the bearish feeling in that market were reflected in the corn deal. Although in some sections local rains have benefited the growing crop, there has been no general improvement in the outlook. A year ago No. 3 corn was quoted here at 80½ c per bushes. Last week's Detroit quotations were: Last week's Detroit quotations were:
No. 3 No. 3
Mixed. Yellow.

Yellow.
 Wednesday
 89½
 91

 Thursday
 89½
 91

 Friday
 89½
 91

 Saturday
 89½
 91

 Monday
 88½
 90

 Tuesday
 88½
 90

 Chicago
 Sept. 85%c;
 Dec. 73½c;

 May 76c per bushel
 May 76c per bushel.

Oats.—This cereal has suffered with corn and wheat. Threshers report a good many light oats. The visible supply shows an increase of 5,825,000 bu. Standard oats were quoted at 43c a year ago. Last week's Detroit prices

White. Standard. Wednesday 47½ 48½ 49½ 49½

Saturday ... 50 49½
Saturday ... 50 49½
Monday ... 49 48½
Tuesday ... 49 48½
Chicago.—Sept. 44¾c; Dec. 47¾c;
May 51¼c.
Rye.—This cereal has enjoyed a strong market recently, although on Monday the trade was a little easier due to the slump in other grains. Cash No. 2 is now puoted at \$1.22½ per bu.
Beans.—Apparently the bean crop is going to be very small. Vines look good but there are no pods to speak of. At Detroit dealers are quoting \$5 per bushel for October beans; immediate and prompt shipments \$5.70 per bushel. At Chicago transactions are small with pea beans quoted at \$5@6, and red kidneys at \$5@5.50.
Seeds.—Prime red clover \$9; prime alsike \$9.75; alfalfa \$10@11; prime timothy \$2.50.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$7.70; seconds \$7.50; straight \$7.30; spring patent \$6.10; rye flour \$6.50 per bbl.

with no change in prices. High prices ewes \$7@7.50; cull sheep \$3.50@5.50; have cut the demand. Storage stock wethers \$7.75@8; top yeals, \$12.75@ is being drawn on. Extra creamery 13; heavy \$9@11.50; common and 31c; extra firsts 30½c; firsts 28@29½c light \$10@12; grassers \$5.50@7.

Per lb; seconds 26@27c.

Eggs.—The demand is good at unchanged prices. Firsts 25¾c; current receipts 21½c per dozen.

Chicago.—Increase in supply has Receipts today. 11,000 36,000 25,000 caused an easier feeling but no change.

Apples.—At Detroit fancy apples are lower, being quoted at \$3.50@4 per bbl; No. 2, 50@75c per bu. At Chicago No. 1 barrel stock \$2.25@4.00; No. 2, \$1.50@3. In baskets the price is 75c@\$1 per bu. Basket stock is not wanted unless fancy

\$1 per bu. Basket stock is not wanted unless fancy.

Peaches.—Offerings are scarce and market firm for good fruit. Quotations are \$4@4.25 per bu. At Chicago Michigan white peaches are selling at 75c@\$1.50; yellow at \$1.75@2 per bu.

Other Fruits.—At Chicago plums, 16-qt. cases, Abundance \$5c@\$1; Bradshaws \$1.25; pears, all varieties \$1@1.25 per bushel.

WOOL AND HIDES.

Michigan three-eighths blood was held in Boston last week at 41@42c; quarter-blood at 41c. All conditions seem to indicate that wool will be a valuable commodity to hold. The statistical position of the market is very strong. strong.

strong.

Hides.—No. 1 cured 19c; No. 1 green 16c; No. 1 cured bulls 14c; No. 1 green bulls 12c; No. 1 cured veal kip 23c; No. 1 green veal kip 18c; No. 1 cured murrain 18c; No. 1 green murrain 16c; No. 1 cured calf 29c; No. 1 green calf 27c; No. 1 horsehides \$5.50; No. 2 horsehides \$4; No. 2 hides 1c and No. 2 kip and calf 1½c lower than the above; sheepskins, as to amount of wool, 50c@\$1.25. wool, 50c@\$1.25.

DETROIT EASTERN MARKET.

Tomatoes were offered freely on Tuesday with prices ranging from \$1 @1.75 per bushel; string beans \$2.25@3; onions \$1.50@1.75; potatoes \$1.40@1.65; corn \$1.25@1.75 per 10 dozen bag; pears \$1.50@2; apples \$1@2; hay, loose, \$16@20 per ton.

LIVE STOCK MARKETS.

Buffalo

Buffalo.
August 28, 1916.
(Special Report of Dunning & Stevens,
New York Central Stock Yards,
Buffalo, N. Y.)
Receipts here today as follows: Cattle 160 cars; hogs 75 d. d.; sheep 35 d. d.; calves 1000 head.
With 160 cars of cattle today, the demand was strong and the best classes of fat steers sold 10@25c higher, but the bulk of the medium steers sold steady to a shade stronger, also the best heifers and cows sold strong, but the medium grades and canners were slow and no more than steady. We look for a fair run of cattle here next look for a fair run of cattle here next Monday and the good corn-fed cattle to sell good, but the medium classes and cow stuff no more than steady.

and cow stuff no more than steady. We had a fair run of hogs today, about 75 double decks, good hogs rather scarce and sold full steady to strong, while common grades of all weights and classes were in liberal supply and sold considerably lower than the close of last week. The bulk of the sales was around \$11.15@11.25, with a few selected lots at \$11.30; nigs \$6.50 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$25; standard middlings \$26; fine middlings \$30; cracked corn \$30; corn and oat chop \$32 per ton.

Hay.—(New) No. 1 timothy \$14@15; standard timothy \$13.50@14; light mixed \$13@14; No. 2 timothy \$12@13; No. 1 clover \$9 @10 per ton.

Straw.—Rye straw \$7.50@8; wheat and oat straw \$6.50@7 per ton.

\$40. The bulk of the sales was around \$11.15@11.25, with a few selected lots at \$11.30; pigs and lights, weighing from 110 to 150 lbs., from \$9.50@10, as to weight and quality, some extra fancy 150-lb. average selling around \$11 and above, but the bulk of the throw-outs landed at \$9.50, with common and trashy pigs down to \$7. Roughs were a strong quarter lower and sold generally at \$9.50, and common sows from \$5@7. It looks like we should have a fair mixed \$13@14; No. 2 timothy \$12@13;
No. 1 mixed \$10@11; No. 1 clover \$9
@10 per ton.
Straw.—Rye straw \$7.50@8; wheat and oat straw \$6.50@7 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Is in active demand at prices 1c higher than last week. Extra creamery 30½c; do. firsts 29½c; dairy 23c; packing stock 21c.
Elgin.—With fancy butter scarce the price advanced ½c. Quotation based on sales is 31c.

Chicago.—The market is quiet and experimental and above, but the bulk of the throw-outs landed at the bulk of the throw-outs landed at rows. Top for hogs during the week was \$11.30, with hogs selling on Satur-down to \$7. Roughs were a strong quarter lower and sold generally at \$9.50, and common sows from \$5@7. It looks like we should have a fair trade for good grades of hogs, but would advise being very careful on all common and trashy kinds.

Sheep receipts were light again to day and prices were about steady with the close of last week. Prospects about steady last of the week.

We quote: Best spring lambs \$10.50 @10.75; cull to common lambs \$9.00 10.75; cull to common lambs \$9.00 10.7

sneep and lambs open the week with large supplies for these times, and at a late hour none had been sold, bids being about 25c lower. Shipments of sheep and lambs from here last week showed a marked increase, shipments amounting to 21,488 head, comparing with 16,620 a week earlier and 3,721 a

with 16,620 a week earlier and 3,721 a year ago.

Cattle were marketed in greatly increased numbers last week, supplies running largely to grassers and shorts fed lots, with a fair representation of pretty good cattle, although strictly prime corn-fed beeves carrying a good deal of weight were far from plentiful. For this reason the decline in prices was mostly felt in the less attractive steers and cows, although receipts of 5,500 cattle on Thursday, following a run of 21,805 on Wednesday brought about a smash-up in values for everything, the packers claiming that their forces were not sufficient to handle all the cattle offered. The better class of fat steers sold during the week at a range of \$10@11.10, but a few heavies went below \$10.50, the top for yearlings early in the week being \$10.75. Good steers were purchased on Thursday for \$9.50, with a medium grade going at \$9@9.45, ordinary to good grassers fetching \$6.25@7.25 and some little steers weighing between 500 and 600 pounds bringing \$5@6. Very fair killers were picked up around \$8@8.75, and butchering cows and heifers found an outlet at \$5.40@8 for cows and \$5@ killers were picked up around \$8@8.75, and butchering cows and heifers found an outlet at \$5.40@8 for cows and \$5@9.25 for heifers. Taking the week as a whole, the greater part of the steers sold at \$8.25@10.50, with a good showing of sales at \$10.60@11.10 on Monday, the high day. Cutters sold at \$4.70@5.35, canners at \$3.50@4.65 and bulls at \$5@8. Calves met with a good demand most of the time, selling at \$4.50@12.25 for coarse heavy to prime light mand most of the time, selling at \$4.50 @ 12.25 for coarse heavy to prime light vealers. There was fair animation in the stocker and feeder branch of the market, with sales ranging at \$5.25@ 7.75 usually and ordinary feeders averaging 900 to 995 lbs. selling as low as \$6.60, while some 531-lb. stockers brought \$7.50. Most of the western range steers sold at \$6.75@8.85, prices depending on quality and weight. Near the close of the week prices for cattle were fully 50c@\$1 lower than a week earlier for the general run, some lots showing a greater decline. Some late reports quoted good cattle at \$8.90.

Hogs underwent further sharp ad-

Hogs underwent further sharp advances last week, with a lively general demand from the local packers and smaller city butchers, while eastern shippers made fair purchases of the better class. With the highest prices paid since 1865, stock feeders cannot fail to realize the liberal profits to be derived from making their hogs prime in quality and at least reasonably heavy, although the premium paid for choice light hogs causes some owners to hurry up shipments. Receipts have been none too large, and trading was been none too large, and trading was usually brisk, at least as long as the better class of hogs lasted. Fair to fancy selected butcher hogs are prime fancy selected butcher hogs are prime favorites, going highest of all, while choice heavy weights have to go at a considerable discount as a general rule. Receipts include a good many heavy sows, which have to be disposed of at a large discount, although even these sell at prices that in former years would have been looked upon as extremely high for the choicest have years would have been looked upon as extremely high for the choicest barrows. Top for hogs during the week was \$11.30, with hogs selling on Saturday at \$10@11.12½, prime light shipping hogs selling at \$11.05@11.12½, heavy shipping lots at \$10.85@11, light bacon hogs at \$10.45@11, heavy packers at \$10@10.80 and pigs at \$8@9.75. Lambs, sheep and yearlings weakened in values last week under much larger offerings, and prices suffered

slaughterers took hold freely, with lambs mostly wanted, and range lambs changed ownership in big bunches frequently, feeders going as high as \$10.25 per 100 lbs. At the week's high time prime range lambs brought \$11.10. The closing prices were as follows: Lambs \$7@10.50; range feeding lambs \$9@10.15; yearlings \$6.50@8.50; wethers \$5.50@7.75; ewes \$3@7.40; breeding ewes \$7@10; bucks \$5@6.50.

Horses were as plentiful as usual last week and in the customary large demand for supplying wants of foreign a ramy buyers, riders going at \$115@165 and gunners at \$160@200. Rejected horses not coming up to army requirements went mostly at \$55@85 for riders and \$80@120 for gunners. Feeding geldings were wanted at \$170@200 to ship east, with few offered. The best chunks sold for \$215@225, and big horses were salable at \$240@280.

AN ENTHUSIASTIC MILK MEET-

Between 200 and 300 milk producers from four different counties attended the milk producers' meeting at New Hudson, in August. R. C. Reed, of Howell, Field Secretary of the Michigan Milk Producers' Association, was the principal speaker of the evening. Many local men and near-by visitors also took their full part in the discussions and plans which are hoped eventually to bring better conditions to the milk producers. With corn conditions as they are and the price of all kinds of grains still on the rise, it seems to be a serious question with many as to whether they will continue the production of milk. Mr. Fred Bunn acted as chairman of the meeting and seems to be fully alive to the interests concerned.



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Fancy Red Rock \$2.75, Grand Prize \$2.25, Red Wave \$2.00, any quantity. Bags extra 20c each. All seed thoroughly recleaned and graded. Will refund money prompt any seed returned unsatisfactory, any pay charges both ways. Fancy graded Winter Vetch 16c per lb. Grimm Alfalfa \$20. Northern Alfalfa \$14. White Blossom Sweet Clover \$13.50. Fancy Timothy \$3.20. Always buy Foster's Quality Brand Farm Seeds. Price list for asking.

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80,000 Peach Trees Fall shipments, 100 up 5c each, Less 100 7c each, no less than 50 trees sold, Varieties, Elberta, E. Crawford, L. Crawford, Dewey, G. Mine, N. Prolific, Engla Oceana, Cuthbert red raspberries 1000, \$6.00; 500, \$2.5; Eldorado and Snyder blackberries 1000, \$6.00; 500, \$3.25; No. 1 stock. Satisfaction guaranteed. Order from ad. Reference or information on request.

Mayors Plant Nursery. Merrill, Mich.

PROSEN RYE The new pedi-produced an average yield of 41.2 bushels per acre with-out fertilizer. Very hardy, stools abundantly and the heads are especially well filled. Farmers report it much better than common varieties. Write to Secretary Michigan Experiment Association, East Lansing, Mich.

ROSEN RYE 1 bu. \$1.50. Recleaned sacks free.
Polled Durham Bull Calves, Red. Well Bred.
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FOR SALE: Red Rock Wheat, Rosen Rye. Berkshire pigs out of son of Superbus. GEO. PARDEE, Gallen, Michigan.

Mammoth White Rye, Timothy, Alfalfa, Vetch etc. 5000 bushels Seed Wheat. Sample and catalog free. W. N. Scarff, Box E. New Carliele

WE WANT VETCH. SEND US YOUNG-RANDOLPH SEED CO., OWOSSO, MICH. Northern Grown Hairy Vetch Seed.

CIDER Canvas and rubber belting, hose, MILLS CATALONAL SUPPLY CO., OHIO

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Established concern wants hustling salesmen for Michigan. Salary or commission Men exper-ienced selling locally preferred. Address with full particulars, Box 999. Michigan Farmer, Detroit.

Strong Girl for Housework good wages. References not required if teachable. 2l Hanover Ave, Detroit, Mich.

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

DETROIT LIVE STOCK MARKET.

Thursday's Market. August 30, 1916.

Cattle.

Receipts 2468. Fear of a tie-up on the railroads had its effect on the markets this week and, although the supply of cattle was large the market was very active and fully 25c higher than last week on all grades. Several country haven were on hand after stockers. try buyers were on hand after stockers but as prices looked high few were re-turned to the country. Milch cows sold well and good ones are in active demand. Up to this writing no notice of a tie-up on live stock has been received mand. Up to this writing no notice of a tie-up on live stock has been received here and it looks as though anything that can reach here by Sunday night would be handled as usual. After that there is nothing certain at this writing. Shippers are advised to consult their railroad agents before getting in readiness to ship. Close was strong. At noon Thursday orders were received at the yards that nothing could be shipped out for points off the Michigan Central. That means nothing can be loaded from here for Chicago or points west, or Buffalo and points east, for fear that it would not reach destination before Monday morning.

We quote: Best heavy steers \$8.25@9; best handy weight butcher steers \$7.25@8; mixed steers and heiters \$6.50@7; handy light butchers \$5.75@6.25; light butchers \$5.25@5.75; best cows \$6@6.50; butcher cows \$5@5.75; common cows \$4.50@4.75; canners \$3@4.25; best heavy bulls \$6@6.50; bologna bulls \$5.50@5.75; stock bulls \$4.75@5.25; stockers \$5.50@6.50; feeders \$6.25@7.25; milkers and springers \$40@80.

Haley & M. sold Sullivan P. Co. 1

ers \$6.25@7.25; milkers and springers \$40@80.

Haley & M. sold Sullivan P. Co. 1 steer wgh 1030 at \$6.25, 5 cows av 950 at \$4.85, 1 do wgh 830 at \$4.50, 1 do wgh 1180 at \$5.50, 3 do av 1047 at \$5.80, 1 do wgh 1060 at \$6, 1 do wgh 1030 at \$5. 1 do wgh 950 at \$4.50; to Hammond, S. & Co. 5 canners av 760 at \$3.85; to Applebaum 1 cow wgh 880 at \$5.25, 21 butchers av 825 at \$6.15; to Nagle P. Co. 1 bull wgh 1180 at \$6, 4 steers av 817 at \$6.35; to Clark & Co. 17 stockers av 770 at \$6; to Mason B. Co. 17 do av 608 at \$6, 8 butchers av 570 at \$5.75; to Parker, W. & Co. 9 do av 682 at \$5.50.

Bishop, B. & H. sold Sullivan P. Co. 2 bulls av 1030 at \$6, 2 heifers av 755 at \$5.50, 3 cows av 870 at \$5; to Golden 15 butchers av 812 at \$6.85, 4 do av 650 at \$6; to Hammond, S. & Co. 22 steers av 1016 at \$8.25, 24 do av 800 at \$6.75, 9 butchers av 666 at \$6, 10 do av 626 at \$6, 1 steer wgh 1030 at \$7.25, 1 bull wgh 1870 at \$6.50, 10 steers av 839 at \$7; to Brown 11 stockers av 757 at \$6; to Hudson 14 do av 570 at \$5.50; to Rattkowsky 6 butchers av 900 at \$6.70; to Sullivan P. Co. 18 do av 752 at \$5.85; to Goose 10 cows av 903 at \$5.50.

Veal Calves.

Receipts 729. The veal calf trade was active at strong last week's opening prices, a few choice bringing \$13; bulk of good \$12@12.50; heavy dull at

Hogs.
Receipts 7164. The hog trade was 5@10c higher than on Wednesday on good grades. Yorkers and heavy \$10.75 @11; pigs \$9@9.25.

LIVE STOCK NEWS.

O. W. Culp, a member of the firm of Culb Brothers, of Albuquerque, New Mexico, says fewer good feeding lambs are going to be available this autumn than a year ago, after completing a trip of investigation covering most of New Mexico and Colorado. The firm of short 1000 agons in New Mexico and Colorado. The firm owns a farm of about 1,000 acres in owns a farm of about 1,000 acres in Kansas, where they carry on a large amount of sheep and lamb feeding. "In the plains country of New Mexico, where the drouth has been the worst," Mr. Culp says, "few feeding lambs will be found. Those who have any say they are small and will be too light in weight at feeding time to handle. The lambs on the government reserves in the mountains will be up to standard weight, which is from 55 to 60 pounds, when delivery comes. The lamb crop generally was cut short in the spring, and drouth has reduced it further." generally was cut short in the spring, and drouth has reduced it further." Mr. Culp says his firm will feed the coming winter season 30,000 lambs, which have been bought for October and November delivery. The greater part of these lambs will be fed in Colorado, in the Arkansas Valley. The remainder will be fed in Kansas.

A Chicago live stock commission fim which handles sheep and lambs exclusively says: "From information gathered throughout the west we understand the supply of lambs is bound to be light on the market throughout the season, and whether they are going to break very much or not is something it is hard to answer. After the thing it is hard to answer. After the first of September everybody will want lambs. The packers will have the strongest competition from the feedstrongest competition from the feeders ever known in the history of the trade. Even now the feeders are selling at \$9.85 per 100 lbs., with very dry conditions east of Chicago, the territory which brings lambs early. With normal conditions, we believe feeding lambs would now be bringing ten cents a pound. The corn crop is in excellent condition in most parts of the country, especially in Illinois, Iowa and Missouri."

Prime hogs have been selling at the highest prices of the present year, the late Chicago top being \$10.80 per 100 lbs., with a widening out of values between prime barrows and the increasing receipts of heavy sows which have weaned their litters. Frequently the ing receipts of heavy sows which have weaned their litters. Frequently the receipts of hogs have fallen short of the demand, causing lively upward movements in prices. Recent Chicago receipts averaged in weight 231 lbs., comparing with 244 lbs. a year ago. Eastern shippers are in the habit of buying the best barrows of medium and light weights at top prices.

Ouality of western range cattle now.

buying the best barrows of medium and light weights at top prices.

Quality of western range cattle now arriving on the Chicago market is no criterion of the quality of the cattle which will follow, according to D. B. Zimmerman, of Somerset, Penn., a prominent cattleman, who has large interests in South Dakota and Montana. He says: "Grass is in excellent condition all over the northwest now, but it is a late season. Much of the pasturage is still green, and this accounts for the soft condition of the cattle. A little later, when the big movement from the ranges is under way, fat, hard-fleshed steers will be the rule. Present prices are disappointing to western range cattle owners, and many of the will be in no hurry to cash their holdings, since from now on cattle will fatten nicely, and with no big supply to come forward, there is prospect of improved values in the market.

Large numbers of southwestern

\$5@8.50.

Erwin & S. sold Sullivan P. Co. 2 av 175 at \$12, 2 av 190 at \$12, 3 av 155 at \$12; to Nagle P. Co. 2 av 315 at \$8.50, 6 av 165 at \$12.50; to Burnstine 4 av 155 at \$12.50, 4 av 155 at \$12.50, 4 av 155 at \$12.50, 3 av 135 at \$12.50, 10 av 178 at \$11; to Hammond, S. & Co. 2 av 140 at \$13.

Sheep and Lambs.

Receipts 4867. The sheep and lamb trade was steady at last week's prices on both sheep and lambs. Prices as on both sheep and lambs. Prices as follows: Best lambs \$10.25; fair do. \$9.25@10; light to common lambs \$7.50 @8.50; yearlings \$8@8.50; fair to good sheep \$6@6.50; culls and common \$4.05.

sneep \$6@6.50; culls and common \$4@5.

Sandel, S., B. & G. sold Thompson 13 lambs av 65 at \$10; 5 sheep av 110 at \$6.50; to Parker, W. & Co. 2 do av 100 at \$6.50, 63 lambs av 65 at \$9.50; to Thompson 20 do av 70 at \$10.25 do av 75 at \$10.25; to Mich. B. Co. 18 sheep av 115 at \$6.50; to Thompson 86 lambs av 75 at \$10; to Young 81 do av 75 at \$10; to Mich. B. Co. 59 do av 70 at \$1.0, 25 do av 60 at \$8.75, 72 av 60 at \$8.75.

Erwin & S. sold Mich. B. Co. 19 sheep av 130 at \$6; to Hammond, S. & Co. 58 do av 70 at \$10.25.

Receipts 7164.

The decline has caused so many owners to hold back their cattle that last week saw a substantial rally in prices that placed values much higher than a week earlier or a year ago.

(Continued from Page 209)

the lower portion of the leg, but when the leg is dragged, the lameness is usually in the stifle, hip or back. A horse that walks lame, usually trots very lame. Lameness in both hind quarters is generally marked by the backward position of the fore feet, being well under the animal to take some weight off the hind quarters and they always back with difficulty. Lameness is not of itself a disease, but a manifest of it. It is lame. Lameness in both hind quarters is generally marked by the backward position of the fore feet, being well under the animal to take some weight off the hind quarters and they always back with difficulty. Lameness is not of itself a disease, but a manifestation of it. It is generally an expression of pain and we seldom have much lameness without pain. Remember, we seldom have lameness existing for any great length of time without some inflammation. W. C. FAIR, V. S.

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SAFE, SPEEDY AND POSITIVE.

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SPAVIN, QUARTER CRACKS, SCRATCHES, POLL EVIL, PARASITES.

REMOVES

BUNCHES or BLEMISHES, SPLINTS. CAPPED HOCK STRAINED TENDONS.

SAFE FOR ANYONE TO USE

CAUSTIC BALSAM IS THE BEST

Your Gombault's Caustic Balsam is the best liniment I know of. I have bought four bot-tles for my neighbors, and two for myself. I have cured a sweenied horse with the Balsam. —Louis Miller, Sharon, Wis.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any limiment or spayin mixture ever made Every bottle sold is warranted to give satisfaction Write for testimonials showing what the most prominent horsemensay of it. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

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October, 1916.

October, Can

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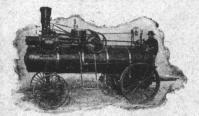
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Good Opportunity for a number of young mer ork on Drill-Presses, Drilling Machines and also to

Make \$10 Dairy, Food and Drug Officials Meet By FLOYD W. ROBISON

of dairy and food departments. At they really are. that time but a very few states had Clean dairies, clean stores, clean is now understood.

regulating interstate traffic in food ma-ness. terials. It took eighteen years of per-June 30, 1906, a food and drug act was August 7. finally made into law, the foundation of one of the most beneficial and far-tion of our readers for it portrays a reaching public service acts was firmly service in which Michigan has always laid. It is of interest to the farmers of been prominent and in which the farmthe state, and worthy of note that af- ers of the state have always shown a ter twenty years—years which have deep interest. In our state particularly been full of service for the bettering of have farmers been depended upon to life conditions—the association returns rally to the support of measures which to its birthplace. It is a different asso- bespeak public, welfare and it is no ciation. Its membership now comprises mistake to say that the cause of pure every state in the Union and the Bu- food in Michigan has had the ardent reau of Chemistry of the United States support of Michigan farmers. Department of Agriculture—all the active forces engaged in the consumers' battle for pure foods and drugs.

The Fight for Pure Food has been a Real Battle.

their particular business.

been unable to accomplish by direct chase at the seed stores. appeal to law has been put so plainly

lent illustration. The controversy ov- cording to the quantity and number of has not been adequate in all cases to can be saved every year and without nels of food trade. But while the offi- the flower and vegetable gardens can has taken a hand and decided with their seeds to advantage and in this tive shall not be used in food products. grown in the home garden. This is es-The investigations have not been be- pecially desirable with flower seed as hind closed doors and those "who run many flower seeds are rather expen-

Sanitation the War Cry.

It has taken the association of dairy, stores. food and drug officials nearly twenty the greatest advancement of the con- ed for inspection. sumer's interest lies along the lines of sanitation.

not only is it imperative from the pub- spring planting and then study reliable lic standpoint, but the real interest of seed catalogues to determine the variproducers as well demands a rigidity eties of flowers and vegetables which of official supervision in this regard, will be needed in addition to the home-We have been learning much in these raised seed. If these orders are placed latter days. As Dr. Vaughan said before spring there is no danger of the about the mosquito, none would have seed arriving late and causing a delay thought a few years ago of laying in the planting work. On the arrival crime to his door. We all thought him of the seed it should be examined to be a "pestiferous little cuss" but and carefully stored in the seed cabinothing more. We now know a few of net where they will be ready for the the crimes to be laid to his charge and spring work whenever the best weathas a consequence mosquitoes are fought er for the planting arrives. It will even with system and persistence.

Flies, Rats and Mice are Man's

laid to flies, fleas, etc., and therefore placed before the date of sowing the to tolerate these pests at the present garden. time is to acknowledge an indifference

food departments assembled in rats, mice and uncleanness will be Detroit and organized the association shunned as a plague which, in fact,

dairy and food laws and practically markets, clean bakeries, clean worknone had drug law enforcement as it men, clean homes, clean yards, clean barns, clean farms, clean streets are For eight to ten years previous to the avenues to health and long life this, Doctor Wiley and other promi- and our best defense against disease nent food specialists had been impor- and ill health. "Cleanliness is next to tuning congress to pass a national law Godliness"—yea, cleanliness is godli-

We have been much interested in sistent and constant work to arouse this twentieth meeting of the associacongress to the necessity for a nation- tion of dairy, food and drug officials, al law, but it finally came and when on held in Detroit during the week of

We are glad to bring it to the atten-

THE SEED FILING CABINET.

It certainly does not pay to save poor seed from any plant on the farm, During these twenty years some de- but I believe that many farmers who cisive battles have been fought that save little of their own seed are raishave meant much for the public wel- ing a much better article than they fare. There has been much contro- can buy on the market the next spring. versy over certain questions and vest- Saving vegetable and flower seed is a ed interests have tried here and there practical way of reducing the expense to spike the wheel in the interest of of the spring gardening and when the seed are saved from strong vigorous On the whole, without doubt the in- plants and then properly cleaned and terests of the people have been well dried before being stored for the winconserved. There has been abundant ter they are certainly as good as the publicity and what the officials have average quality seed which we pur-

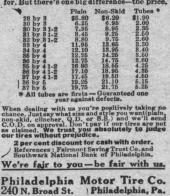
If a spool cabinet can be obtained at before the public that this has been one of the local stores it forms an ideal seed filing device and the sec-The use of preservatives is an excel- tions in the draws can be divided acer its legal status has been a prolong- the varieties which are to be stored. In ed and a bitter one and the law itself this way flower and vegetable seeds secure its elimination from the chan- expense except for labor and fertilizer cial and scientific investigations and be started with fresh vigorous seed. In controversy has proceeded the public many instances neighbors can trade some firmness that chemical preserva- way enlarge the variety of plants sive if purchased in the small brightly colored envelopes displayed in the

In case a larger cabinet is desired it years to realize that the interests of can be made on the same plan as an the consumers for pure food and health office filing system and large draws really lie most about the questions of can be included to hold bulbs. Such a sanitation. If one could judge by the storage system can be placed in the discussions and interest in the papers attic where it is dry but not too warm, presented at this convention, he would and there is no draught to blow the conclude that they now realize that seeds away when the draws are open-

In the fall and winter it is well to take an inventory of the seeds that Dairy products must be clean and have been raised on the farm for the be possible to conduct germination tests long before the time of planting Enemies. and in this way any seeds that do not We know a few of the crimes to be prove good may be discarded and re-

Ingham Co. R. G. KIRBY.

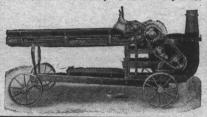




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Farmers' Clubs

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Directors—Alfred Allen, Mason; C. T. Hainline, Alma; W. K. Crafts, Grass Lake; Edward Burke, St. Johns; Mrs. C. J. Reed, Spring Arbor; Roy E. Moore, Bellevue.

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

THE FARMERS' CLUB RALLY.

rallied at the M. A. C., August 16, to year in a banquet that was most dethe number of 17 Clubs, 300 members lightful and inspiring as a suggestion representing six counties. Another 100 farmers and their families also enjoyed now. the picnic and everyone considered the Fellows' Hall in the thriving village of picnic a success from every standpoint. Onsted. Covers were laid for 400, and The date proved to be a busy one, as a five-course luncheon was served by oats were not secured in many locali- the young people of that Grange. There ties, and in others the threshing ma- were guests present from various placchines were busy.

on the north side of the campus, just audience with their music. A male west of the interurban station, in the quartette from Morenci gave selcetions woods that were planted in 1877 by that were exceedingly fine. Governor Dr. W. J. Beal. Six people were pres- Ferris, the chaplain of State Grange, ent who remembered well the forest in and other distinguished persons were its infancy. Superintendent of the present. Campus Gunson had the grounds in crowd.

of the occasion, called the meeting to was the first speaker on the program. order at 1:30 p. m. and asked R. B. Her subject, "Yesterday, Today and Robb, associational president, for a Tomorrow," held her large audience few words of greeting. Mr. Robb ex- spell-bound. She was interrupted by pressed himself pleased with the rally applause many times and when she and that the M. A. C. was the ideal concluded received an ovation. Goverspot for such a gathering and urged a permanent organization.

The vote was unanimous toward organizing. The following officers were political defeats were very amusing. elected: President, W. L. Cheney, county; vice-presidents, E. P. Sherman, don, Fowlerville, Livingston county; ty; Mrs. Clara L. French, Pompeii, Gratiot county.

meeting at the time of the associational Dora H. Stockman, State Lecturer. meeting next December. President Frank Kedzie, of M. A. C., is a member of this committee, ex-officio.

of greeting and in part she urged every such a rally, saying, "You people rep-Club to recommned some of their best resent this college. Your earlier pres-December and to notify her at once.

Ex-President Snyder, who said that es of the work being done at M. A. C., far more in the future than it ever has ment where \$240,000 went up in smoke in the past, and he wanted the Club last spring. It is now being rebuilt movement to increase in strength and and it is all right. he awaited the time when every farmer should belong to Club or Grange.

distribution of farm products. Elimi-state, which is a part of the M. A. C. nate the middleman. There is a new extension work. This work is called move on hand-and that is a board of the junior extension work and includes finance agriculture, the first meeting the boys and girls between 10 and 18 in Michigan of such a board was held years of age. in Lansing the week of August 21.

grains, and urged the growing of cer- bushels per acre; beans, 24 bushels, 23 mended Red Rock wheat, Worthy oats, proved of the Farmers' Club move-Rosen rye and pedigreed barley from ment every time. Wisconsin. He said ten acres of alfalfa, if properly cared for, would put a resenting the woman's party, gave an boy through college, and he made a address in behalf of woman's suffrage, strong plea for caring for Michigan's which was well received. Why not let best crop, which is the boys and girls. the women vote?

A. C., was then introduced in a very easily cared for, and a balance of \$3.65 happy manner by Chairman Cheney. was turned over to the treasurer.-

STATE GRANGE OFFICERS.

Master—John C. Ketcham, Hastings. Overseer—C. H. Bramble, Tecumseh. Lecturer—Dora H. Stockman, Lan-

sing.
Secretary—Jennie Buell, Ann Arbor.
Treasurer—Frank Coward, Bronson.
Executive Committee—C. S. Bartlett, Pontiac; Geo. B. Horton, Fruit
Ridge; J. W. Hutchins, Hanover; W.
F. Taylor, Shelby; Wm. H. Welsh,
Sault Ste. Marie; N. P. Hull, Dimondale; Burr Lincoln, Harbor Beach.

AMONG THE LIVE GRANGES.

After-Seed-Time Banquet.-Onsted Grange, in Lenawee county, celebrated Farmers' Clubs of Central Michigan the finishing of their seed time last to other Granges we give a report of it The function was held in Odd es in the county. A splendid orches-The picnic grounds are now located tra belonging to Onsted delighted the

The Master of Onsted Grange, Mr. readiness for the enjoyment of the W. G. Shepherd, acted as toastmaster and proved his ability as an after-din-W. L. Cheney, of Mason, chairman ner speaker. Mrs. O. J. C. Woodman nor Ferris spoke on "Practical Education," making many fine points as well as humorous ones. His allusion to his

This was certainly a great opportu-Mason, Ingham county; secretary, Mrs. nity for Onsted Grange and that the H. Huispeter, Owosso, Shiawassee Order will receive many additions to its membership as a result was gener-Owosso, Shiawassee county; Emmet ally predicted. It would be well for Clyse, Bath, Clinton county; Clay Gorour Order if more Granges would hold such celebrations. They tend to lead-N. B. Ward, Grass Lake, Jackson couning the thoughts of the members into the best channels and stimulate the young to prepare to take their part in These officers will hold an executive life's best and highest opportunities.—

Club Rally and offered his hearty co-Mrs. J. S. Brown, associational sec- operation for such a picnic in 1917. He retary, was called upon also for words thought the M. A. C. the only place for talent for the annual state meeting in idents, Bird, Watkins, Cook, are alumini and President Robb was a student The first speaker of the hour was here." He spoke of the different phas-'Farmers' Club organization will count and especially the engineering depart-

President Kedzie then introduced Prof. Lindemann, who is at the head The next move for the farmer is the of the boys' and girls' clubs in the

The highest yields resulting from Prof. Cox, from the Crop Depart- this work last year were: Corn, 67 4.9 ment, then talked upon pedigreed bushels per acre; potatoes, 267 2-10 tified grains of all kinds. He recom- pounds per acre. Prof. Lindemann ap-

Mrs. F. C. Aldinger, of Lansing, rep-

Dr. Kedzie, the new president of M. The financial part of the rally was Dr. Kedzie very heartily welcomed the Mrs. W. L. Cheney, Secretary of Rally.

mooth As Glass-and Only 1/3 As Many To Wash

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The discs are as easy to wash as a coffee cup. No holes or raised bosses—simply a smooth surface that grease doesn't stick to. And besides there are only one-third as many discs-so

few that it's quick work to wash them all thoroughly.

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Barred Rock Eggs, Cock birds, hens. Four pullets w. C. COFFMAN, BENTON HARBOR, MICH.

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JOHN'S Big Beautiful Barred Rocks are all hen-hatched, developed quick, good layers, each \$3; pair \$5; sold on approval. Circulars, photos. John Northon, Clare, Mich.

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Fowlers' Buff Rocks Prices reduced one on. Utility eggs \$.75 for 15, \$1.50 for 30, \$2 for 50, \$8.50 for 100. R. B. FOWLER, Hartford, Mich.

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White, Brown, Buff and Black Leghorn, Barred White, Brown, Buff and Black Leghorn, Barred Rocks, Rhode Island Reds. Prices Reasonable, Sunnybrook Poultry Farms, Hillsdale, Michigan.

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Rose and Single comb Reds, young and old, for sale.
Correspondence as to your Red needs invited.
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Rose Comb Brown Leghorns Kulp and Gale strains \$2.50 per 100 eggs. Cockerels 50c each. CLAUDIA BETIS, Hillsdale, Mich,

Ferris Leghorns —200 Egg Strain—Eggs, chicks, 8 pullets from hens with records up to 264 eggs. Prize winners at largest shows. Prompt shipment, prices low, quality guaranteed. White Leghorns are best for eggs. We raise thousands. Froe catalog and price list gives particulars. Write for it now. FERRIS LEGHORM FARM, 934 Union, Grand Rapids, Mich.

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Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens
weight 5 to 10 lbs., eggs 15 for \$1.00; 100, \$5; 120, \$6,
Mammoth Bronze Tom Turkeys, 8 to 83 lbs. according
to age \$6 to \$25, 10 eggs \$3. A. E. Cramton, Yassar, Mich.

S. S. Hamburg Eggs on. Free delivery, R.C. white Leghorn hens \$1.00, Belgian Hare Bucks \$5.00 with Pedigree. RIVERVIEW FARM, Vassar, Mich. SILVER GOLDEN AND WHITE WYANDOTTES. Eggs from all mattings, 1.50 per 15, \$2.50 per 30 until July Et. C. W. Browning, R. 2, Portland, Mich.

While Wyandotte Cock & Cockerels. Eggs \$1, \$2, \$3, per 15, \$1 per 50, \$7 per 100.

DAVID RAY, 202 Forest Ave., Ypsilanti, Michigan.

WHITE WYANDOTTES Eggs \$1.50 per 15. \$2.50 per 30. \$7.00 per 100. From choice stock.

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Guernsey (May Rose) Bull for sale, born Sept. 5, 1913, Splendid animal in every respect, Dam 529 lbs. fat class F. J. K. Blatchford, Auditorium Tower, Chicago, Ill.

Poultry.

SIMPLE POULTRY RATIONS.

There seems to be a tendency toward simplifying the rations fed to the farm flock and this is certainly a step in the right direction. At present all kinds of poultry feeds are rather high in proportion to the prices paid for eggs and the farmer must use the products of his own farm as largely as possible in forming the rations for the flock. Wheat, corn and oats are the most important grains in poultry feeding and while many other grains may be substituted I believe that none are so good as the three mentioned, and they are all produced in the average farming community as standard crops.

When it comes to meat food, scrap is strongly advised to keep up the supply of eggs. However, sour milk replaces the beef scrap and can be included to advantage in every ration. The farmer with a few dairy cattle can sell butter and devote all of the skimmilk to the production of eggs. Next food to keep his flock in excellent condition. Mangels and cabbages can be raised in large quantities on a small area and stored in the cellar they will be of great value during the winter. V Clover and alfalfa are valuable poultry feeds and these products can be shredded up in inexpensive grinders nature, or she may have had some acand used to advantage in the winter ration.

On the large commercial poultry farm where the birds are given little range and no crops are grown the feed bills are enormous and I have heard of such enterprises giving up their busifeed. The farmer has the advantage of obtaining the necessary products for poultry feeding without paying another man for his labor of producing and delivering them plus the profit of results if you give them proper care. the one or two middlemen concerned crops that can be produced on the neck. home farm and it will be found that without spending much money for very quickly. feed. Live stock men make money by "driving off their crops on four legs." CAUSE OF POOR RESULTS WITH Farmers with the knack of understanding the hen can profit by sending away much of their grain and green crops on two legs and in the egg crate. women who are not in the poultry bus-Ingham Co. R. G. KIRBY.

in digging up the soil, and if the yards course, the late hatching is blamed. considerable strip at the sides and ends cannot be reached with the plow.

Some years ago we read an item in

fence should be built in sections of the | MILO D. CAMPBELL desired length. This may be 14 or 16 feet, the usual length of the boards. The posts are six feet tall and three serve for a 16-foot section. A four-foot piece of joist is nailed to the bottom of each upright in the shape of a T. The posts are set upright with the top of the T on the ground and a board fitted by cutting spaces large enough to fit in the joists, so the fence will come close to the ground. This board is then nailed in position and a brace of some sort used on the other side of the T. Ordinary shelf braces serve admirably for this purpose. When the frame-work has been properly nailed together and braced it is ready to have the wire put on. By fastening the angle brackets or braces with screws, they may be readily removed, so the foot bases can be knocked off and the sections set away without taking up a lot of room. If long runs are desired the sections may be fastened together with hooks.

New Hamp.

C. H. CHESLEY.

A FREAK OF NATURE.

Is there a breed of hens that has no tail? Have often wondered if one of in line we consider the green food and tail? Have often wondered if one of here we find that the farmer has the possibility of producing sufficient green told that the single comb chickens are food to keep his flock in excellent each of the sufficient green told that the single comb chickens are better layers than the rose comb. I have Barred Plymouth Rocks and the Rhode Island Reds. What is your opinion of them as general purpose fowls? What is the cause of chickens having wry necks? ry necks? Delta Co.

Undoubtedly your hen is a freak of

cident which prevented the tail feathers from growing.

With reference to a good general purpose fowl, will say that the difference in the breed is not as important as the difference in strains of certain breeds. Both the Barred Rock and ness because they could not get Rhode Island Reds are good general enough eggs to pay the cost of the purpose breeds, and if you make cer-Rhode Island Reds are good general tain to get eggs of either of these breeds from a breeder who has developed the egg producing powers of the breeds, you will have very satisfactory

The usual cause of chickens having in the deal. Poultry feeding is not wry, or limber necks, is the eating of complicated and a brief study of the some poisonous matter, usually conbulletins describing rations, which are taminated food. Occasionally chickens published by state experiment stations will run in orchards, or have access to will be of interest. Then these rations other places where they get slight doscan be studied with reference to the es of poison which will cause limber

In feeding make sure that the food eggs can be produced at a good profit is all clean, and if moist mashes are and that poultry meat may be produced fed, be sure that there is none left to increase that profit and that both from one meal to another. During hot of these things can be accomplished weather these mashes become sour

LATE HATCHES.

It is generally thought by most farm iness that the late hatched chick is more of a nuisance than anything else. THE PORTABLE POULTRY FENCE. If an old hen should happen to be so foolish as to steal her nest and hatch It is something of a problem to yard out a brood of chickens along in July poultry on the same land year after or August, she is permitted to run at year and yet keep the soil sweet and large as the opinion is, "The chicks in fit condition. Where there are a won't be any good anyhow." Thus she number of yards the only method is to drags them through the wet grass and change the birds from one enclosure perhaps cannot find sufficient food and to another and plant the one not in water for them, until the brood diminuse. This necessitates a lot of work ishes, and finally vanishes, and of

BEE EXHIBIT AT STATE FAIR.

The State Fair authorized an inregard to a portable fence which creased amount of premiums offered solves the problem satisfactorily. This for bee and honey exhibits at the Michrequires a little extra work in the be- igan State Fair this year and which is ginning, but once built, the fence is a great deal over last year's amount. good for a number of years. Where A large space will be furnished under yards are located on level ground and the grand stand and bee-keepers unare of regular size and shape it will able to attend in person may send pay to build the portable fence. The their exhibits and have them installed material used is ordinary five-foot poul- free of charge. Premium list will be try wire, hemlock boards of uniform sent to anyone making inquiry. Write width and 2x3 hemlock joists. The to E. B. Tyrell, Supt. of Apiary.

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3 of them 1 year old in Nov." By 31 lb. sire. Dams above 21 lbs. as heifers. Price \$100. Younger bulls by son of Johanna McKinley Segis \$50. up. BLISSVELDT FARMS, Jenison, Michigan

FOR SALE

SOME VERY FINE YOUNG BULLS
Whose sires have as high as 31 ibs, of butter bahind them. As they are young, will make a low price on them. BIGELOW'S HOLSTEIN FARMS, BREEDSVILLE MICH.

HOLSTEINS, a nice straight deep bodied, blocky built buil calf, born Oct. 5th, 1915. His 7 nearest dams have A. R. O. records that average butter 7 days 23, 85 lbs., milk 533, 36 lbs. W. B. READER, Howell, Mich.

30 | h. bull for sale, 2 years old, by a son of King of the Pontiacs. Dam sold for \$1000 in Detroit sale. Ferd. J. Lange, Sebewaing, Mich.

I Have Holstein Bulls, Bull Calves and Cows I can show breeding, records, in dividuality and aurac tive prices. L. E. CONNELL, Fayette, Ohio.

"TOPNOTCH" Holsteins By careful retention, for many years, of largest producing females, and use of superior sires, a breeding herd of wonderful quality has been established. We are selling young bulls of this "TOP NOTCH" quality, of serviceable age, at moderate prices. Information pedigrees, etc., on application, McPHERSON FARMS CO., Howell, Michigan.

FOR SALE Two Holstein Bull Calves 6 months old from 20 lb. dams. FREEMAN J. FISHBECK. Howell, Michigan.

Grade up your herd with one of our Holstein bulls. Their six nearest dams on the sire's side average 24 lb butter in 7da. The semi-official yearly records of three of these dams, including two two-year old helfers, average 842 lb. of butter and 18,000 lb. of milk. Six to nine months of age and from A. R. O. dams. Peaceland Stock Farm, Three Rivers, Mich. Ohas. Peters, Herdsman. O. L. Brody, Owner, Port Huron, Mich.

Registered Holstein cow and her heifer calf, 1911. made 14.32 bs. of butter in 7 days at 28 months old. She is half sister to 3 cows with records of 30 lbs. to 39 85 bs., and 17 others from 20 lbs. to 26 lbs. Her dam mad 27.16 bs. of butter in 7 days. The sire of the calf has a 32 lb. dam and 32 A. R. O. daughters. 3 with ecords of 30 lbs. to 36 bs. 12 others from 20 lbs. to 28 lbs. and a days. \$350 for both delivered, safe arrival guaranteed. Write for pedigree.

HOBART W. FAY.

MASON, MICH.

CHOICE HOLSTEIN BULLS—all from A.R.O. dams Entire herd on Semi of, test for yearly work. Jr. 2-yr.-old just finished year's record of over 15,000 lbs. milk, over 1000 lbs. butter record in mature class. Chery Creek Stock Farm, M.E. Parmelle, Prop., Hilliards, Mich.

Reg. Holstein Bull Calf. 2 nearest dams average 90 h De Kol breeding. Prices right. John A. Rinke, Warren, Mich

Holstein Calves, 10 heifers, and 2 bulls 15-16ths pure 5 weeks old, beautifully marked, \$20.00 each, crate for shipment anywhere. Edgewood Farm, Whitewater, Wi

\$50 gets a 15-16 white 2 mo. Hazel-let grandson of Maplecrest DeKol Parthenea and Pontiac Maid 30.2 lb. Dam Triplet shown at State Fair 1913. Her dam A. B. O. sister to dam of Pontiac DeNijlander 35.43 lb. M. L. McLAULIN, REDFORD, MICH.

eterinary.

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

Atrophy.-I have noted about every answer in your department for years, but have never seen a case like mine. I have a large young mare that foaled a large colt and in the morning when I found her she appeared weak in her hind parts. I did nothing for her for I found her she appeared weak in her hind parts. I did nothing for her for ten days, thinking she would get strong again, but she did not, so I called a Vet. who said she was weak in one stifle. He blistered it, but since then she shows where the trouble is, by a sweenled condition of the muscles of hip. Our Vet, examined her carefully, says there is no bones broken, but some of the nerves were injured at foaling time. I would very much appreciate an answer through the veterinary column. L. A. H., Ludington, Mich.—Your mare injured herself at time of foaling; now her allment will be best treated by feeding her some oats as well as plenty of grass and stimulating the atrophied muscles with counter-irritating liniments. Perhaps your Vet. had better inject subcutaneously with a hypodermic syringe in several places, especially in the upper portion of the wasted muscles, five minims of rectified oil of turnentine; several places, especially in the upper portion of the wasted muscles, five minims of rectified oil of turpentine; but, of course, in high-strung animals this treatment will produce considerable irritation and pain for 10 or 12 hours; therefore, it may be good practice to wait until the colt is weaned, before this treatment is applied. This is a matter for your Vet. to consider, but I might say that this is considered the best treatment by many Vets. for muscular atrophy.

Muscular atrophy.

Navel Infection.—Every week I read with interest your veterinary column and come to you for advice regarding mare colt three weeks old with bunch on navel and knee. The cord pulled off and our local Vet. treated her, but there is now a bunch on navel and another swelling on knee, but the colt is apparently in fine health. J. S., Marion, Mich.—Dissolve ½ oz. of permanganate of potash in one-half pint of clean boiled water and paint bunch on navel two or three times a day until a hard covering takes place, then apply this lotion occasionally. Wet the bunch on knee with spirits of camphor twice a day. twice a day.

Fetlock Joint Lameness.—Have a mare 12 years old that travels lame a part of the time and I believe the trouble is in fetlock joints. D. M., Utica, Mich.—Apply equal parts tincture of iodine and camphorated oil to fetlock joint three times a week. Are you sure that she does not strike fetlock joint with opposite foot?

Chronic Stifle Lameness — My more

with opposite foot?

Chronic Stifle Lameness.—My mare has been lame in hind leg for the past three months. Our local Vet. examined her and thought that her stifle was injured and accounted for the shrunken condition of the muscles as the result of her favoring this leg. She had a foal last May and has been bred again. She is a good work horse and I would like to have her cured. R. B., Acme, Mich.—Apply equal parts turpentine, aqua ammonia and olive oil to stifle and hip three times a week.

Sitfast.—I have a mare that has had

sitfast.—I have a mare that has had sore shoulder for quite a while; there is a hard bunch on the face of this bunch; it is raw. I have tried gall cures and also wool fat, but they failed to make an impression. R. G. P., Lake, Mich.—A bunch of this kind should be promptly cut out, then shoulder will get well, but it never will until it is done; especially if the horse is worked. Drugs usually fail to dissolve tissue of this kind.

Ilmbilical Hernia, I have a three

Umbilical Hernia.—I have a three-months-old colt that has navel rupture, but bunch is small and soft. F. T. S., Ida, Mich.—If I owned your colt I would leave it alone until November, then operate on it. Between now and then it may recover without treatment; however, it is doubtful.

Opening in Side of Teat.—Have a heiver that has had one calf, due to freshen again in September and she has an opening in side of one teat that I would like to have closed. B. H. C., Lennon, Mich.—Make the edges of opening ray, stitch them together and it will nerhans heel will perhaps heal.

will perhaps heal.

Dog has a Cough.—Our dog has had a cough ever since early last winter. He is only able to expectorate a frothy mucus and as his ailment has gone so long we are inclined to believe that unless he is helped soon, he will die. G. W. T., Grand Ledge, Mich.—Give him one grain of quinine, one-one hundred and twentieth of a grain of strychnine and five drops of tincture lobelia at a dose in a tablespoonful of water three times a day.

ONLY \$50 DELIVERED: Handsome Holstein white; sire 25 lb. butter bull; dam 16.39 lbs. A. B. O. Large and heavily boned. ROUGEMONT FARMS, Detroit.

Registered Holsteins, Young bull ready for service. Satisfaction guaranteed. W. B. Jones and J. F. Lutz, Cohoctah, Mich.

Lillie Farmstead Jersey Cattle. Bull calves from R of M. Cows, also heifer calves and several brecheifers for sale. Colon C. Lillie, Coopersville, Mich

Jersey Bulls for Sale from high-producing dams, with testing Asso. records, also on semi-official test. C. B. Wehner, B. 6, Allegan, Mich

THE WILDWOOD JERSEY FARM

offers for sale choice young Bulls by Majesty's Wonder and R. of M. cows, or cows on R. of M. tests. Will also offer a few cows for sale this fall. Write for pedigree and full particulars. Satisfaction guaranteed. ALVIN BALDEN. CAPAC, MICH.

Hillside Farm Jerseys A 10 mos. old. solid color bull now cow with record of 546 lbs. of butter as a 3 r. old. He is a fine individual. Price right. C. & O. Deake, Ypsilanti, Mich.

Maple Lane R. of M. JERSEY HERD offers for sale and bull calves backed by several generations of R. of M. breeding. IRVIN FOX, Allegan, Michigan.

Jerseys For Sale Bull calves ready for service and cows and heifers soon to treshen Meadowland Farm, Waterman Waterman, Ann Arbor, Mich.

REGISTERED JERSEY BULLS FOR SALE 1 yearling, and Bull calves from 8 to 10 months old. Also 3 cows. Write your wants. SMITH - PARKER, R. D. No. 4, Howell, Michigan.

For Sale Jersey Bull Calf. Choice breeding such as Golden Fern's Ladd, Golden Jelly male side Regis family mother's side. Calf is now 3 weeks old. \$75 takes him crated and delivered at station. D, Ogden, Mount Pleasant Farm, South Haven, Mich.

BIDWELL SHORTHORNS



For "Beef and Milk" Registered bulls, Scotch topped roans, reds and white for sale. Farm at N.Y.C. Depot; also D. T. & I. R'y. Address G.R. Schreder Mgr. BIDWELL STOCK FARM Box B. Tecumseh, Mich.

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

DAIRY BRED Shorthorns of best Bates strains, young J. B. HUMMELL, MASON, MICHIGAN

FOR Sale-Reg. Short Horn Bulls by Maxwalton FMonarch 2nd,a son of Avondale, from 8 to 10 mos.old John Schmidt, Reed City, R. No. 5., Michigan.

SHORTHORN COWS FOR SALE: No Bulls at present, R. R. Station, Elsie. H. B. PETERS, Carland, Mich.

Shorthern AND POLLED DURHAMS FOR SALE.
Have red roan and white. Have over 100 head in herd. C, Carlson, Leroy, Mich.

Shorthorns Dairy or beef bred. Breeding stock all gages for sale at farmers prices. C. W. Crum Secy. Cent. Mich. Shorthorn Breeders' Assn., McBride, Mich.

Registered Shorthorn Cattle, young bulls and heifers \$150.00. Write, W. J. BELL, ROSE CITY, MICHIGAN.

Miking Shorthorns, roan 3 year old, Bates bred herd bull \$250. Young bulls and heifers. DAVIDSON & HALL, TEGUMSEH, MICHIGAN.

SHORTHORNS FOR SALE 8 Bulls, also females. W. B. McQuillan, Howell, Mich.

Reg. Shorthorns Two bulls, 12 and 23 months old, both dark red, dual purpose type, cows and heifers, all ages.
Wm D. McMullen, R. No. 1, Adrian, Mich.

Two Registered Shorthorn Bulls 5 months old for Price \$60 each. ARTHUR SWEET, DECKERVILLE, MICH.

Red Polled Cattle. Have a fine young bull and John Berner and Son. C. pigs for sale.

John Berner and Son. Grand Ledge, Mich.

FOR SALE—I have about twenty-five cows and the property of the

cents per pound.
A. T. STARK, OTSEGO, MICHIGAN.

Hogs.

Berkshires of best breeding of various ages, either sex, all registered stock, no akin, special reduced price. Write your wants quick. Mitchell's Lakeside Farms, R.2, Bloomingdale, Mich.

SWIGARTDALE FARM

HOLSTEINS.

Several choice Bull Calves, from A. R. O. Dams, with the best of Long Distance backing at Farmers' prices. BERKSHIRES

onable; satisfaction guaranteed. Swigartdale Farm, Petersburg, Mich.

The Very Finest Berkshire Pigs Cheap C. S. BARTLETT, Propr. Pontiac, Michigan

Berkshires, I have 6 choice fall gilts bred for Sept. farrowing at \$25 each for immediate delivery.

A. A. PATTULLO, R. 4. Deckerville Mich.

BERKSHIRE SOW and yearling gilt bred to farrow bearly in September. Boars ready for service. Also open gilts. Chase Stock Farm, R. 1, Marlette, Mich.

OYALTON Bred Berkshires. Extraordinary offer. Bred sows, boars ready for service and pigs both sexes, selling out: all registered stock with papers. D. F. VALENTINE, Supt., Temperance, Mich.

Berkshires. Of various ages, either sex, open orbred, prolific strains, Registered, at moderate price. Elmhurst Stock Farm, Almont, Michigan.

DUROC JERSEYS

A choice lot of spring pigs, both sex, pairs and trios, not akin. Prices reasonable. Send for pedigrees. THE JENNING'S FARMS, R. F. D. I. Balley, Mich.

Jerseys and Duroc Jerseys

\$75 buys a fine broken colored Jan. bull calf whose dam has an authenticated butter record of 576 pounds. Also a choice two-year-old bull. Choice herd boars of all ages fit to head best herds.

See our Exhibit of Durocs at Detroit.

BROOKWATER FARM, Ann Arbor, Michigan.

Duroc Jersey Boars Two June 1915; 12 April 1916. Write for description. I guarantee satisfaction. J. H. Banghart, East Lansing, Mich.

Duroc Jerseys. Some yearling & Spring boars good king 67145. Ask about him. W. C. Taylor, Milan, Mich.

Duroc Jerseys Fall and spring pigs either sex, from others LAWN FARM, Shepherd, Michigan

Duroc Jersey Sows and gilts bred for pigs, either sex. E. D. Heydenberk, Wayland, Mich.

For Sale, Duroc Jerseys, choice breeding spring pigs either sex. Prices right.
John McNicoll, Station A, R. 4. Bay City, Mich.

DUROC Jerseys, Apr. pigs either sex, boars ready for service and a few bred sows for Sept. and Oct. Some Holstein cows breed for fall. E. H. Morris, Monroe, Mich.

DUROC JERSEYS :-- all sold out for the present. Wm. W. Kennedy, Grass Lake, Michigan.

Duroc Jerseys I have some good last September Boars and gilts. Gilts will be bred for September farrow. H. G. Keesler, R. No. 5, Cassopolis. Michigan

Dobson's Durocs Combined, size, quality, breeding Herd boars, spring boars, spring sows for sale. Orlo. L. Dobson, Quincy, Michigan.

DUROG Jerseys Gilts of the large heavy boned type boar of his breed. Bred for early Sept. farrow. F. J. DRODT. R. 1. Monroe, Michigan

Duroc Jerseys. Sows Bred for Aug. and Sept. litters, also early Spring Boar pigs. M. A. BRAY, OKEMOS, (Ingham Co.) Mich.

DUROC Jerseys, bred sows, spring boars and gilts, one two yr. old boar sired by Hoosler Grand Champ. Mich. State Fair 1915. J. Robert Hicks, St. Johns, Mich.

CHESTER WHITES Sows bred for Sept. farrow, spring pigs in pairs, not akin.

F. W. ALL KANDER. Vassas, Mich.



HAVE started thousands of breeders on the road to success. I can help you, I want to place one hog from great herd in every comunity where I am not already rep-tented by these fine early developers—ready for market at alx in the old. Write for my plan—"More Money from Hogs." G. S. BENJAMIN, R. P. D. 10 Portland, Michigan

Big Type Boars: ready for service Bred Gilts-Fall Pigs. Registered in buyers name, shipped C. O.D. Prices very reason-able. J. Carl Jewett, Mason, Mich. 0. I. C's



O. I C. Swine A nice lot of spring pigs. Write Your wants. Farm, Molland, Michigan. R. R. No. 5.

400 Big Type 0. I. C. and Chester White Pigs
From Feb. Mar. and Apr. farrow sired by the five best
boars in the state. School Master 52/07 who won more
champions. defeated more champions than any boar
show 1915. Abo 2nd, sire to our undefeated breeders
young herd at 7 state fairs. Allen junior champion at
Wis. State fair 1914, and Captain Jim 33161, under 6
months boar and Junior champion at every state fair
show 1915. Then we have Le Doux model 28015, first
in class at Sjoux City, Lowa, 1914. Get our catalogue,
its free. We Register Free; Guarantee satisfaction
in svery way. ROLLING VIEW STOCK FARM, Cass City, Mich,

O. I. C. October boars weighing 20 lbs. at \$25 c. J. THOMPSON, Rockford, Michigan.

0,1. C's. Send me your order for choice spring boars, shipped C. O. D. and registered in purchaser's name. G. P. ANDREWS, Dansville, Mich.

with size, breeding, and individuality that is hard to beat. See our exhibit at the State Fair. Prices reasonable; satisfaction guaranteed.

O. I. C. Swine. If you are in the market for a Spring boar, of April farrow write to Dansville, Mich.

O. I. C. Spring pigs either sex. large bone and good growth. Prices right. R. R. 1, Belmont, Michigan O. I. C.s Some extra good fall boars; also gilts. Satisfaction guaranteed.
A. R. GRAHAM, Flint, Michigan.

O. I. C. Stock all Sold JULIAN P. CLAXTON, SWARTZ Creek, Mich.

O. I. C. And Chester White Swine. Strictly Spring pigs, now ready to ship. Can furnish in pairs not akim. These pigs are sired by Lenghty Prince and Model 1st. Two as good big type boars as there is in the breed. I will ship C. O. D. NEWMAN'S STOCK FARM, MARLETTE, MICHIGAN. R. NO. I.

O. I. C. and Chester White Swine, Spring pigs of kin. E. B. MILETT, Fowlerville, Michigan.

O. I. C. SWINE: If you are interested in you with a choice pair or trio, not akin, or a gilt, due to farrow about September first.

A. J. GORDEN. R. No. 2, Dorr. Mich.

O. I. C.'s Pairs and Trios no akin. 2 Reg. Holstein bulls 6 and 8 months old. Cloverleaf Stock Farm, Monroe, Mich., R. No. 1.

0. I. C. Choice Gilts bred for fall Farrow and Spring Pigs. Prize Winning Stock. Write for low price. A. V. HATT, Grass Lake, Michigan.

O. I. C. Swine and Reg. Holsteins, few boar pigs of May farrow at a reasonable price, quality considered. ELMER E. SMITH, Redford, Michigan.

O. I.C's. 4 last fall sows to farrow in Sept. and Oct. spring pigs not akin. Good stock, order now. Farm 4 mile west of depot. Otto B. Schulze, Nashville, Mich.

O. I. C. HOGS
Fine April Gilts and Males. Pairs no relation. At a bargain if taken at once. J. R. Way, Three Rivers, Mich.

Boars at Half Price
We still have a few big boned, big type Poland China
boars ready for Service, weighing up to 250 lbs. not fat
at \$20 & \$25 each. Registered in buyer's name. Also
registered black Percheron Stallion 2 years old \$250,00,
J. C. BUTLER, Portland, Mich.. Bell Phone.

Big Type Poland Chinas—Boars of August farrow, booking orders for spring pigs. A. A. WOOD & SON, Saline, Michigan.

Poland China Spring Pigs

Our herd sire was Champion and Grand Champion at the State Fair last fall. Our sows are great big, stretchy, splendid individuals, with best breeding. Pigs from such matings will please you. Get our prices, HILLCREST FARM KALAMAZOO, MICH.

FOR SALE, P. C. Sows, "Big Type" bred for Sept, farrow. Extra good 7 months boar. March and April pigs. S.C.B. Minorcas. R.W. Mills, Saline, Mich.

Large Strain P. C.—Two nice fall boars left, a few dilts to farrow in Aug., Sept. and Oct., get one of these away with his hy side. Gilts to farrow in Aug., Sept. and conditions of these sows with pigs by side.

H. O. SWARTZ, Schoolcraft, Michigan.

Large Type P. C. Gilts and sows, Bred for Mar. and April farrow. Sired by Big Des Moines, Big Knox Jr., and Giant Defender. Bred to Big Knox Jr. Smooth W onder 3 and Big Jumbo, four gradest boars in state, Come or write. W.E. Livingsten, Farma, Mich.

P IG Type P. C.—100 pigs of Mar. and Apr. farrow, either sex, sired by Big Type King Tesemeyer A. Wonder Jr. and Mow's Big Bone. [We pay exp. charges and record free. W. Brewbaker & Sons, Elsie, Mich.

For Sale Poland Chinas either sex, all ages Some-thing good at a low price, P. D. Long, R. F. D. No. 8. Grand Rapids, Mich. Heavy boned Poland China Spring pigs from large Prolific sows, also young and older sows bred for Sept. farrow. ROBERT NEVE, Pierson, Michigan.

Large Type P.C. Sows & Gilts all sold. Have 3 extrs good spring boars. Sired by Big Defender. W. J. HAGELSHAW. Augusts, Michigan.

BIO TYPE POLAND CHINA Spring boars that will G. W. HOLTON, Route 11, Kalamazoo Michigan,

GROWTHY THE DISEASE PROLIFIC "MULEFOOT" RESIST DISEASE PROFITABLE HOG FOUNDATION STOCK FROM BEST BLOOD OF BREED

THE CAHILL FARMS MALAMAZOO - - - MICHIGAN

HAMPSHIRE SWINE Spring Pigs, registered. John W. Snyder, B. 4, St. Johns. Mich.

H. H. Halladay 0. H. Halladay & Son Breeders of Hampshire Swine. Write your wants. Clinton, Mich.

Hampshire Swine. Bred Sows and gilts for August and September farrows. Spring pigs both sex. FLOYD MYERS, R. No. 9, Decatur, Ind.

HAMPSHIRES

Boars, sows, gilts and pigs. Choice stock. A. E. BACON & SON, Sheridan, Michigan. BRED SOWS for Aug. and Sept. farrow \$25 to \$50 that weigh 350 lbs. to 600 lbs. NEWTON BARNHART, St. Johns, Mich.

SHEEP.

SHROPSHIRES

I will be at the State Fair with 20 field rams. All are for sale and are a better bunch than has been seen in Detroit in recent years. KOPE-KON Farms. S. L. WING, Prop'r. Kinderhook, Mich.

The ingleside farm will not make a show of Shrophires at the fairs this fall but
has a good supply of registered rams and breeding
ewes for sale. If you are in need of any
Shropshires, let us know.
H. E. POWELL, IONIA, MICH.

For Registered Shropshire Rams, Yearling or Lambs write or call on Armstrong Bros., R. No. 3, Fowlerville, Mich.

Oxford Down Sheep. Good year M. F. GANSSLEY, Lennon, Michigan.

Oxford Down Only a few rams and owes, prices right. If interested write.

E. W. VanFleet, R. 4, Evart, Michigan.

Rambouillets For Sale Cheap My flock of 35 ewes A. E. GREEN. ORCHARD LAKE, MICH.

Wanted to Buy 100 Breeding Ewes, % to % Delaine N. L. SMITH, P. O. Box 74, North Bradley, Michigan HORSES

Pereherons, Helsteins, Angus, Shrepshires, Duroes DORR D. BUELL. Elmira. Michigan.

FOR SALE—Registered Percheron Stallions, Mares and Fillies at reasonable prices. Inspection invited. F. L. KING & SON. Charlotte. Mich.

PERCHERONS Yearling and weanling stud colts.

Durce pigs, either sex.

E.J.ALDRICH, Tekonsha, Cal. Co., Mich., Bell Phone.

Bates All Steel Oil Tractor

In the selection of a Tractor there are three vital points all of which you will be glad to consider.

First--- The Tractor should operate perfectly on kerosene.

Second--- It should be durable and last a long time.

Third---It should do as good work plowing on your farm as can be done in any other way.

It is this type of Tractor I wish to dicuss with you.

Oil for Fuel

In the consideration of fuel, we find there is nearly as much kerosene as all other liquid fuels combined, therefore the price of kerosene is much lower and always will be and it is for this reason that you should buy a tractor that will operate on Kerosene Under All Conditions. Tests have also proven that kerosene contains as much heat and energy as gasoline, if properly utilized.

The Bates All Steel Oil Tractor is provided with an oil carburetor of our own design, made in our own factory and can be found on no other tractor. The Bates Oil Carburetor is the result of 25 years actual experience in the manufacture of engines and will operate on Clear Kerosene (Without Mixing With Gasoline). No extra carburetor is required for using gasoline when the engine is operating under light load as the Bates Oil Carburetor Will Operate The Engine Perfectly Under All Speeds And All Loads On Kerosene. Requiring no adjusting—No regulating—Or switching over to gasoline when the load changes. Therefore, in operating ensilage cutters, corn huskers, etc., where the work will change from empty to full load almost immediately, no trouble is experienced with the Bates All Steel Oil Tractor using Kerosene As Fuel.

THINK OF SLOWING THE ENGINE RIGHT DOWN TO A LOW SPEED TO SUIT YOUR CONDITIONS, ON KEROSENE OIL.

With the Bates Oil Carburetor the mixture is completely prepared and the heat and energy all used, therefore our engine Will Yield As Much Power on a Given Quantity of Kerosene as Gasoline. With this perfect mixture, the fuel is all burned and We Will Guarantee Our Tractor Not to Bother With Carbon or Tar.

THINK OF THE IMMENSE SAVING BURNING KEROSENE AS FUEL UNDER ALL CONDITIONS AND RECEIVING THE SAME AMOUNT OF POWER AS WITH THE HIGH-PRICED GASOLINE.

All Steel Gearing

Our Long Experience in the manufacture of tractors has proven that Steel Gearing is the Only Successful Method by which the Power of the Engine Can be Transmitted to the drive wheels. We have used Steel Gearing for a long time and so complete has been our success with this means of transmission that we will furnish a Guarantee to Replace All Gears That Break For a Period of Five Years Free of Charge. With a transmission of this kind you are not

bothered with troublesome chains that have proven a failure for the past 20 years on all self-propelled machines. Chains Will Stretch and Climb on the Sprockets and Break and Have to be Replaced every little while.

THINK OF OUR GUARANTEE TO REPLACE ALL GEARS THAT BREAK FOR A PERIOD OF FIVE YEARS, FREE OF CHARGE.

Two Speeds

The Bates All Steel Oil Tractor has two speeds forward and will plow Up Steep Hills That Can be Plowed With Horses. You Don't Have to Lift Part of the Plows out of the ground when you come to a steep hill or bad place with The Bates All Steel Oil Tractor. Just throw in the slow gear and the engine will do the rest.

Bates Plows---Guaranteed to do as good work as can be done in any other way

The Bates Plow Carriage is Directly Connected to the Tractor, the front end being supported by the tractor and the rear end by a caster wheel and the plows entirely supported by the plow carriage. By this arrangement the Plows can be Lifted From the Ground and the Entire Outh Backed Into the Corners of the Fence and the Field Plowed Complete Without the Aid of Horses.

Think of Plowing the Entire Field, Even the Last Furrow of the Land With a Tractor and Doing as Good Work as Can be Done in Any Other Way.

With the Bates Plowing System you are Able to Plow Your Fields as You Have Been in the Habit of Plowing Them and as You Want Them Plowed. You can Plow in Lands or Around the Field as you desire.

The Bates Plows Operate Independently and by this arrangement Any One of the Plows Can Be Raised Entirely Out of the Ground without interfering with others. The Bates Plows are connected to the carriage by means of a steel forging at the end of the beam which allows the front end of the beam to raise and lower according to the irregular surface of the ground. This provides a plowing outfit especially Adapted Your Farm as Can be Doin in Any Other Way Even in Rough and Stony Fields. We have sold a good many of our outfits under this guarantee and will make no exception in your case regardless of the conditions of your farm.

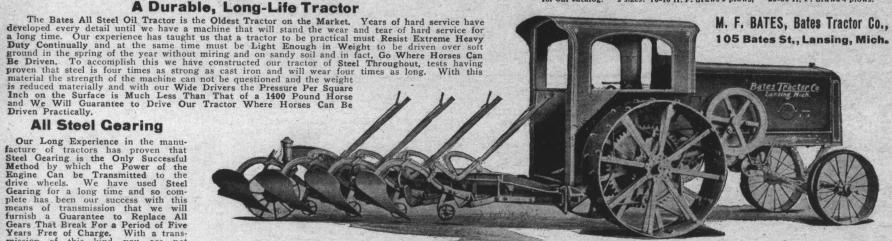
Belt Work

There will be lots of belt work for a tractor to do this fall and you should have a Bates All Steel Oil Tractor to do This Work.

I want to tell you more about my All Steel Oil Tractor and will ask you to send for our catalog.

2 sizes: 10-16 H. P. draws 2 plows,

20-30 H. P. draws 4 plows.





M. F. BATES Designer and Manufacturer

WOLVERIN

See this Sturdy, Time-and-Money-Saving Tractor at the State Fair.

Every farmer who attends the Fair should inspect it—go through it point by point and actually understand why it excels in construction, durability, low up-keep cost and performance.

The distinctive Wolverine features—no freak ideas, but up-to-date in engineering design-mean a Tractor absolutely dependable at all times and in all soil conditions. It's there with the pull—and you'll be surprised to see how cheaply it runs. Built to last, too-it will go right on

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