

MICHIGAN FARMER

AND LIVE STOCK JOURNAL.
PUBLISHED WEEKLY. ESTABLISHED 1843.

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

VOL. CXLV, No. 13
Whole Number 3855

DETROIT, MICH., SATURDAY, SEPTEMBER 25, 1915.

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

Solving the Farm Storage Problem

THE farm storage has passed beyond its experimental stage. For a number of years the house type of cellar has rendered efficient service. During the last eight years the writer has been dealing more or less with three such structures intended especially for storing apples. It is difficult indeed, to have a house cellar answer this purpose on a commercial scale. It is wanted for other things; it is too dry for fruit when fires burn continually in the rooms above and the house cellar as ordinarily constructed is too variable in temperature to meet the requirements of the case. In cases where a furnace is in the basement the problem becomes doubly hard. There is no doubt but that house cellars can be so constructed that they will meet the demands of a storage cellar, but such cases are rarely met.

Unless a considerable amount of pains is taken to insulate walls, a storage is more satisfactory and easier regulated if the basement is as much below ground as possible. A low temperature in the warm days of late fall and a temperature above the danger point during cold periods in winter are features that must be reckoned with.

The accompanying cuts represent a storage that we built on the farm last fall. It is located at a point in the orchard where the ground slopes to the north. The basement of this building is 40 feet square and eight feet high, built entirely below the ground on three sides. It is possible with the slope of the land to have a driveway into the basement on the north and also a driveway into the storage room above from the south. With this arrangement produce can be hauled directly into the cellar from the north and can be sorted, packed and loaded at convenience on either floor for market during the winter. Retaining walls on either side of the driveway into the basement make it possible to bank earth on the north side, thus protecting a large part of even this wall against warm and cold weather. Heavy doors, well packed, and double windows, as well as a ceiling overhead, make this structure quite independent of the outside weather. Last winter

with several thousand bushels of apples in this storage the temperature was held without difficulty at a point ranging from 32 to 34 degrees F. Apples were stored in barrels, baskets, crates and in large piles in bulk, with good results. A pile of Spies some 15 feet square and three or six feet deep kept all winter with little waste, and no sorting until they went to market.

As will be seen from the cuts this building is constructed very largely of cement. Not only are the walls and basement floor built of this material but the ceiling, upper walls and roof are also made of the same stuff. Wire, paper and cement have entirely taken the place of boards for sid-

ing, so the frame, roof boards and upper floor are all the parts that are not made of concrete and wire. This is not only a cheap form of construction but it is easy to keep up and presents a tidy appearance without much paint. The basement walls are made of solid concrete eight inches thick. The siding above is composed of two thicknesses of wire, one of tarred felting and two coats of cement. An ordinary stock fence was first stretched on the frame sufficiently tight to stay firm. Then a layer of tarred felting was put on for a backing for the cement. Af-

ter this the house was again covered with a fine woven stock and poultry fence and the cement was spread on this foundation for a surface. A type of stucco that anyone can put on and which makes a massive boulder aspect, is easily applied according to the operator's fancy, with a large round sponge and cement and water. If the sponge is given a rotary motion as it hits the wall there is produced a round boulder aspect that is pleasing. The cement roof is something of an experiment and we would rather report on the success of this a year or two later. It is attractive in appearance and it is needless to add that the writer had some faith in this kind

the mixture would have run away badly. We have reason to think that a mixture of sawdust and hot tar or asphaltum would answer the purpose better. With this one point satisfactorily solved, namely a binding between the blocks of cement that will be sufficiently pliable not to crack in winter, and firm enough to hold its place in summer, we have in cement not only an inexpensive and attractive roof, but one that for permanence and fire protection is in a class with cement shingle, tiling and slate.

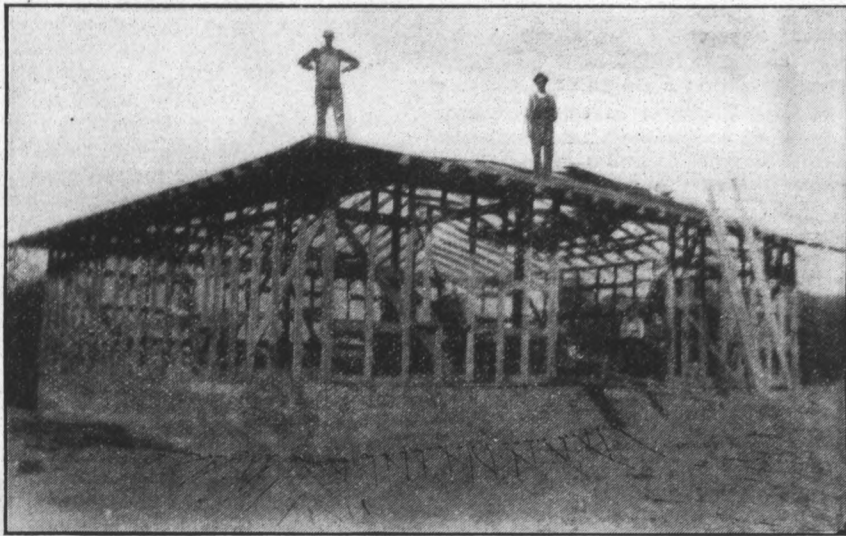
The roof to the storage in question was covered with a wash made of two parts of cement to one of hydrated lime and mixed with water. This gives to the general appearance of the roof a metallic lustre that is very attractive and permanent.

The cost of such a structure becomes an interesting factor to contemplate. With the method of construction usually in vogue it would be an easy matter to get a considerable sum of money tied up before even the insulating portions of the building were complete.

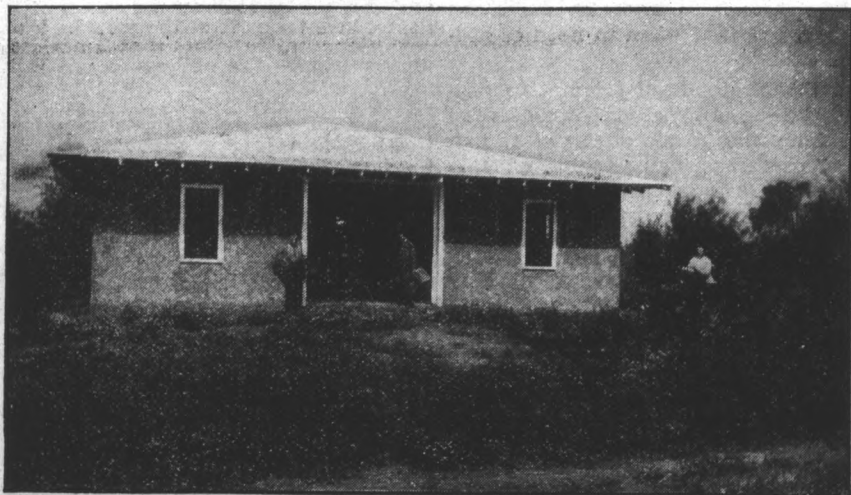
The heaviest item of expense to charge against the structure was the time of the owner, who spent a month with three handy boys on the farm. Except for a few days on cornice, windows, doors, etc., no expert assistance was employed.

With a power sprayer that shows in one of the illustrations, we made a continuous mixer to run with the engine and bolt on the rear of the spray wagon. It took less than a half day for two men to make this mixer, which was built with less than one dollar's expense for material. This mixer would deliver cement ready for walls as fast as one man could shovel sand and cement.

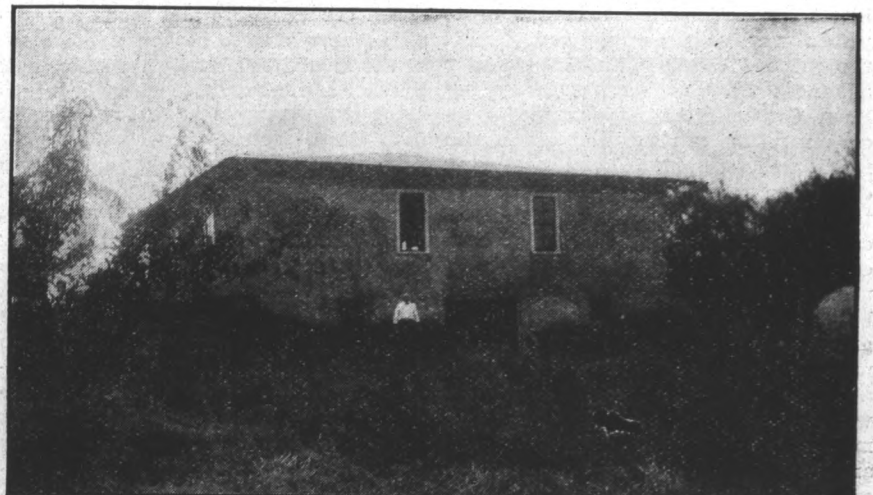
With two men the writer built the ground wall, in total length, 160 feet, eight feet high and eight inches thick, and built the forms as we went along in five days. The excavation took two men and two teams about as many days more. The super-structure consumed about three weeks more time, with a force running from two (Continued on page 260).



Storage Building in Process of Erection.



Front View of Storage House, Showing Second Story, Used for Storing of Tools, Barrels, Crates, Etc., and a Cider Mill.



Rear View of Storage House Showing Grade Entrance to the Basement, the Doorway Being Eight Feet High and Ten Feet wide.

The Michigan Farmer

Established 1843. Copyright 1915.

The Lawrence Publishing Co.

Editors and Proprietors.

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

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

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

L. R. WATERBURY.....Associate
BURT WERMUTH.....Editors
FRANK A. WILKEN.....
ALTA LAWSON LITTELL.....

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

TERMS OF SUBSCRIPTION:

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

RATES OF ADVERTISING:

40 cents per line agate type measurement, or \$5.60 per inch (14 agate lines per inch) per insertion. No advt. in set for less than \$1.20 each insertion. No objectionable advertisements inserted at any price.

Mem Standard Farm Papers Association and Audit Bureau of Circulation.

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

DETROIT, SEPT. 25, 1915

CURRENT COMMENT.

On another page of this issue will be found a detailed report of the meeting of the Michigan Bean Growers' Association which was held at Flint last week. This meeting was fairly representative of the bean growers of the state, and its action will have an important significance to every bean grower if this report is carefully studied and kept in mind during the coming months.

A careful study of crop conditions would make it appear that the estimate placed upon the season's crop and the market values which ought to be maintained under the circumstances are conservative. If conditions do not improve before the crop is harvested—and there is every likelihood that they will be worse instead of better with the coming of frost—there would seem to be every reason why prices should hold at around the figures fixed by the bean growers' association as a fair minimum value for the crop. If, by adhering to the price schedule fixed by the association, which was \$3.00 per bushel for October, with an advance of 10 cents per bushel each month to and including January, and five cents each remaining month for the balance of the marketing season, and withholding their beans from the market when these prices are not approximated, the growers can discourage any speculative trend of the market designed to enrich speculative operators at the expense of either growers or legitimate dealers, this attempt at controlled marketing will go down into history as a success and the end sought by its promoters will have then been obtained; and this result would seem comparatively easy of accomplishment.

Even with a small crop, if every bean grower attempted to cash in his beans at the opening of the season, prices would be demoralized, but if the price schedule with the monthly advances fixed as reasonable by the Bean Growers' Association at its recent meeting can be maintained, the result will be a more even marketing of the product and more money for the growers without in any way increasing the cost of the product to consumers. That is to say, the speculative feature of the market will have been eliminated to a desirable degree. An unreasonable price maintenance would not be possible through a loose organization of this kind, but with the making of a reasonable minimum price based on the season's yield and the prospective demand for the crop, it becomes an easy matter. Regardless of the attitude of the bean jobbers, the bean growers of the state

should practice conservative marketing methods under the plan advanced at the association meeting and refuse to sell beans on any other basis unless this may be deemed expedient after thorough discussion at some future meeting of the association.

The bean growers of the state have an opportunity which is enjoyed by the producers of no other agricultural commodity, owing to the fact that the greater percentage of the country's crop is produced in Michigan. It lies with them to take advantage of the opportunity presented through the initiative of this organization, to eliminate the speculative fluctuations in market values of their product, and thus stabilize the trade in this food-stuff in a manner which will prove beneficial to consumers as well as to growers.

The Farm Storage Problem.

Our leading article for this issue is one of the special articles announced for the current year on the important subject of solving the farm storage problem. This article tells how it was solved on a central Michigan fruit farm. It is a problem which needs a similar solution over a large section of the state where perishable fruits and vegetables are produced in quantity and must often be marketed to a disadvantage, unless there is at hand a suitable place for storing them until market conditions become improved. The method adopted by the author of this article may not be the one best suited to the reader, but it will give him some valuable ideas on construction methods which can be worked out along lines which are suited to his individual needs.

The cost of such storage will often be repaid within a single year, as was practically the case in this instance. The loss of perishable products due to unsuitable storage and the losses in income due to the necessity of placing such crops on the market at an unfavorable time are items of considerable magnitude in this state. The solution of the farm storage problem in a manner which will reduce these losses to the minimum with the least outlay in the way of permanent investment is the one which should be sought upon every farm. A little careful planning along this line will be an item in farm management which will stand greatly to the credit of the progressive farm owner. This is a point where economy of production and economical marketing overlap.

The Rural Cemetery.

In a day's drive through the open country one will be impressed with the unkempt, dilapidated condition of the average rural cemetery. In few cases is there any attempt made toward keeping the grass and weeds mown and an attractive greensward covering the ground. In very many cases the ancient markers are broken down and fences in a state of dilapidation, and even volunteer brush may cover considerable portions of the enclosure. In a few communities interested people have taken the initiative and made a desirable improvement in the appearance of the local rural cemetery. In a small number of communities where improvement organizations have been formed with this object in view commendable work has been accomplished in the improvement of the cemetery and its surroundings.

Since the inception of the Memory Day movement, of which mention is made in another column of this issue, this work has been given an impetus which is most gratifying. With the prospect that the observance of September 30 as Memory Day may become general, not only in Michigan but in other sections of the country as well, the outlook for the improvement of rural cemeteries is more encouraging. While this movement had its inception in one of the farmers'

organizations of the state, yet every farmer in the state should be interested in it, whether or not he may be affiliated with that organization. If the rural cemetery has been neglected, why not take the initiative now, get the neighbors interested and utilize the day especially set apart for that purpose for the improvement of conditions so that there will be no necessity for apology to the stranger for the appearance of a spot which should, like memory, be kept forever green.

The Stock Yards Quarantine.

As noted in an announcement on the market page of this issue, the Detroit Stock Yards are in process of a final disinfection and clean-up preparatory to the lifting of the quarantine due to the outbreak of foot-and-mouth disease. With the re-opening of the yards feeder stock and milch cows will again be received at the yards, thus greatly facilitating the movement of these classes of cattle in Michigan. During the many months during which stock has been received for immediate slaughter only, under the quarantine, farmers having feeders or cows for sale were obliged to find local customers for them. The only alternative was to sell the feeders at a sacrifice for slaughtering purposes and keep the cows. The re-opening of the Detroit yards to these grades of stock will relieve this situation and will also facilitate the buying of feeder cattle by farmers and feeders on a competitive market where they can be sorted into even grades. This will remove a handicap which has been a serious problem for farmers and feeders since the outbreak of foot-and-mouth disease last fall.

The Fight Against Tuberculosis.

The last Legislature made an appropriation of \$100,000 for the purpose of fighting tuberculosis in Michigan. The fight for which this appropriation provides the sinews of war is to be waged by the State Board of Health, which body has formulated definite plans for the campaign which started recently with free examinations for all who were suspicious that they might have the disease, in accordance with Governor Ferris' proclamation to that effect. The plan under which this law will be administered contemplates the appointment of a nurse and two assistants in each of the districts into which the state has been divided for the purpose. Under the direction of the supervising nurse the assistants will cover the whole district. They will administer to cases of tuberculosis already located, see that the patients are receiving the proper care and living under proper sanitary conditions and cite any unusual features of each case to the physician and state board. One of the ends accomplished by this means will be to secure a more accurate tuberculosis survey of the state than has ever before been attempted. In the end it is contemplated to encourage the counties, either singly or co-operatively, to build sanatoriums to which the cases may be removed when in need of hospital care.

In this first official attempt to subdue the scourge of tuberculosis in Michigan, the people of the state can be of great assistance to the officials charged with the administration of the law. This can be accomplished in various ways, but most important of these is the observance of proper sanitary precautions in all cases where a patient suffering with tuberculosis lives or is treated outside of a sanatorium or hospital. Such precautions are most essential to the safety of other members of the family and the public and should never be neglected. There are many other ways in which the public can co-operate with the health officers in the fight against tuberculosis, which will appear after the

work is organized, but the most important thing at the present time is the development of a strong public sentiment in favor of the work of eradicating the disease. Every public spirited citizen in the state should interest himself to this end.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The Germans have taken Vilna during the past week. This point has been the objective of the Germans for several weeks past and the present position of both Russian and German forces, according to the reports of the two governments, is such as to make almost inevitable a decisive battle near Vilna of greater import to the two contestants than any since the fighting before Warsaw. The Germans have exposed their forces in their attempt to flank the Russian armies operating in that vicinity which movement, while it threatens the latter troops with capture, also imperils the German soldiers with the same fate. For this reason a big battle seems the only alternative for both sides. In Galicia the Russians are on the offensive and have achieved some minor successes. The announcement has been made that the Teutonic allies will make a drive through Serbia beginning in October, to get aid to Turkey and to gain the allegiance of Bulgaria and Roumania if possible. The attitude of the two Balkan states toward the contesting nations is still in doubt, the rulers having arranged a meeting to discuss the situation and agree on some future policy. The French and English allies are pushing their campaign of the Dardanelles with all vigor, as they feel that with the announcement of the Teutonic campaign through the Balkan states that the situation is now one of a race to reach Constantinople before Turkey's allies arrive and give assistance. Minor advantages are reported to have been gained by the French and English forces in this district, but they appear to have cost heavily in men. From Italy no news of important changes in battle front has reached us. Along the western battle line vigorous artillery fire has been participated in during the week, including the bombardment of German positions on the Belgian coast by English battleships. No general adjustment of lines and few minor alterations have occurred.

During the past week the position of General Carranza in Mexico seems to have gained strength with the members of the Pan-American conference. The conferees are now proceeding to investigate the possibility of Carranza's being able to form a strong central government at Mexico City. An urgent appeal is being made in the interests of the inhabitants of Mexico for relief as funds in the hands of philanthropic societies are practically exhausted in the effort to keep alive large numbers of starving inhabitants in different places, but particularly in Mexico City.

The Anglo-French commission is arranging with American bankers for a mammoth credit loan amounting to probably \$800,000,000. It will take some time before the details can be fully arranged, but the interest rate has been agreed upon at five per cent. It is altogether likely that an agreement will be made that the money realized from this arrangement will not be available for the payment of contracts for munitions of war. It is hinted that another arrangement will be made to finance war contracts, and it is probable that Russia will participate in the latter loan.

National.

Documentary evidence is being brought forth to reveal the efforts of the British government to regulate and control trade between the United States and the rest of the world. The conditions are in effect that American manufacturers are obliged to use raw materials obtained in British possessions, are compelled to sign guarantees not to dispose of goods manufactured from this raw material to any foreign country without the consent of the British government. This restriction affects the rubber supply of the United States, of which 70 per cent comes from British possessions, one-half of the wool supply and practically all of the tin used here.

It is likely that President Wilson may call the United States Senate in extra session in October for the consideration of pending treaties with Columbia, Nicaragua and Hayti.

A serious landslide occurred north of Gold Hill on the Panama Canal on Sunday. It is estimated that 100,000 cubic yards of earth is in the canal, which will require a week before the dredges can clear the channel sufficient for the passage of vessels of light draft.

Making a New Farm

THERE are all kinds of land in this part of the state and all kinds of men selling it, as well as all kinds of people buying and trying to make farms of it, with the inevitable result that opinions, stories and recommendations are so many and varied, that the proposition has become so befogged that the prospective investor is afraid to touch it.

We are writing this article in the hope of clearing up this fog to some extent and being of real assistance to those who, possessing moderate means, wish to invest in 40 or 80 acres of land and make a home on it.

The prospective buyer will ask, first, what kind of land will I buy? second, how will I buy it, and third, how will I make a farm of it when I get it? We will try to answer these questions in the order mentioned.

The Kind of Farm to Buy.

In selecting the land is where so many make their great mistake, the poorest land is the most widely advertised, and as a rule sells for the highest price. Why? Because the real estate companies have bought this land for a song, and consequently own more of it than any other kind, and then most buyers judge the quality of the land by the price, hence as a real estate dealer—selling land that we would not pay the taxes on—once explained to us: "If I offered my land at a less price I could not sell an acre of it."

Thus a man makes up his mind to buy a farm, he answers a real estate advertisement, is taken in hand by the company, is shown some really good farms, and sold a piece of worthless land a short distance from it. He invests his capital and goes to work at the making of his home and in the course of two years or three he wakes up to the fact that he can not make a living on his land, and then goes back whence he came, cursing northern Michigan.

Here is a queer situation which should be kept constantly in mind by the buyer, the best and the poorest land often lay side by side, sometimes within a mile of each other, and then there are all grades of land between the best and the poorest. We will try and describe the different grades of land so that the layman will "recognize the child" when he sees it.

The best land invariably grows, or has grown, hard maple, beech, basswood and hemlock timber. Good land may grow other timber but these are always present. This land is good for general farming, it being largely up to the farmer to say what line he will pursue.

Then there are good swamp lands but that will be the subject of another article. The second grade land is where the large white pine timber once grew. This grade of land often produces a heavy growth of soft maple, white birch and what is locally called popple. This land is good for general farming but will not stand the abuse that the heavier land will stand. Where the soft maple and white birch grows is nearly always excellent hay land.

The land which once produced the Norway pine and large yellow jack pine, I would class as third grade. This is good grazing land, and most of it, by careful treatment, can be built up to a high state of efficiency. This, together with the second grade, is what is sometimes called the clover land.

And then comes the worthless jack pine plains. This land grows scrubby jack pine timber, with limbs from the ground up, turkey foot grass, and in the most hopeless cases the ground is covered with a green-brown moss which is about two inches deep and very brittle. This land is, during June, July and August, fair pasture land, but that is all that it is good for.

To take up the second question. If he wants to buy a small piece of land he will do well to steer clear of the real estate dealer and go out among the farmers, make a few inquiries and look over the land until he finds what he wants, having an eye to location, roads, etc., and then look up the owner and bargain for it. If he wishes to purchase a large tract he had best deal with real estate men, but be sure and insist on the type of land he is looking for. Real estate men will attempt to sell their undesirable land first, and will sell their best land only when they can't sell anything else.

Making the Farm.

Now we come to the question of making the farm, which is just as important as any of the previous steps. The matter of buildings we leave entirely to the buyer and his means. To get the land cleared and ready to farm is usually a hard task if the land is good. Having helped to clear over 800 acres we feel competent to advise the beginner. It is very important to clear the ground thoroughly. An acre of land properly cleared is worth five acres covered with stumps and boulders, not only in extra work and broken machinery, but in actual crop production. Not only do you lose the ground where the stump stands, but also a strip on each side of it that the plow doesn't get, which makes a harbor and seed bed for briars, June grass and weeds. Comparing the quantity and quality of the crop, together with the cost of getting it from two fields, one cleared thoroughly and the other covered with stumps, the difference in two years will clear away the stumps from the latter.

The quickest and most economic way of taking out stumps is with dynamite, the dynamite not only takes out the stump but splits it up and shakes the soil from its roots and leaves it ready to pile and burn, which is of even greater importance than the difference in cost of getting the stump out as compared with digging them out or the stump puller. Then, too, the dynamite loosens up the subsoil for some distance from every stump.

Having his land cleared it only remains for our man to apply good business management and not a little energy and "elbow grease" to make a successful farmer.

Otsego Co. G. F. DeLAMATER.

ARTIFICIAL PROTECTION FROM FROST.

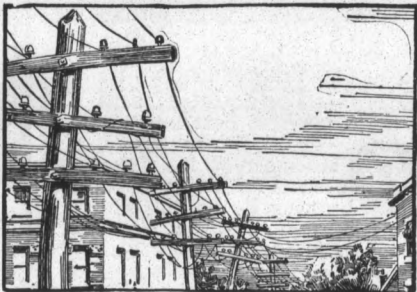
We lately have had two quite severe frosts in northern Michigan, and I see some newspapers speak of "smudges" being used to prevent damage from early or late frosts. Please give us a chapter about this smudge business. How is it made and of what material? How should it be used in a corn field, or to protect garden truck? How far apart are the fires? Does smoke apply better than open fires? Give us some detailed instructions via The Farmer.

Delta Co. W. H. O. Western orchardists in locations which are likely to be visited by frosts during the period when the fruit is setting commonly resort to smudges, so-called, as an artificial protection from frost. Special devices are used called "smudge pots" in which crude oil is burned to produce a dense smoke which has much the same effect as clouds in warding off impending frosts. These have to be placed at frequent intervals through the orchard or field, involving so much labor and expense that the plan has never been put into practical operation except for the protection of valuable crops like fruit during the critical season of its early development. If it is feasible to protect ripening farm or garden crops by this means in Michigan, that fact has not been demonstrated as yet, to our knowledge.

Hidden Factors of Service



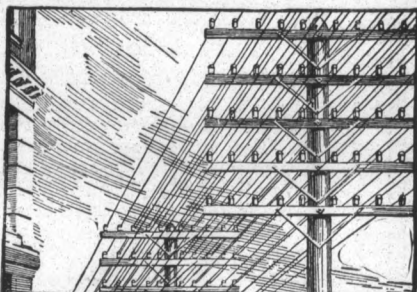
Records kept like this are practically useless for the management of a business. Efficiency is impossible and funds for improvement cannot be obtained.



Such methods result in a telephone line which can give only poor service.



Records, statistics and accounts kept like this are available for a complete knowledge of the cost and efficiency of each department of the business.



The result of such records is a telephone line like this, which gives good service.



The subscriber knows the difference! He demands a well-informed, intelligent business management.



AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES.

One Policy

One System

Universal Service

Bates All Steel Oil Tractor

The Bates All Steel Oil Tractor is of standard design. Free from freaks and untried construction. It is All Steel and the gears are warranted not to break for a period of five years. It burns cheap kerosene as well as gasoline.

used in the spring and the last to finish work in the fall. Many of our customers are using their tractors all winter to run corn huskers, hay balers, feed grinders, etc.

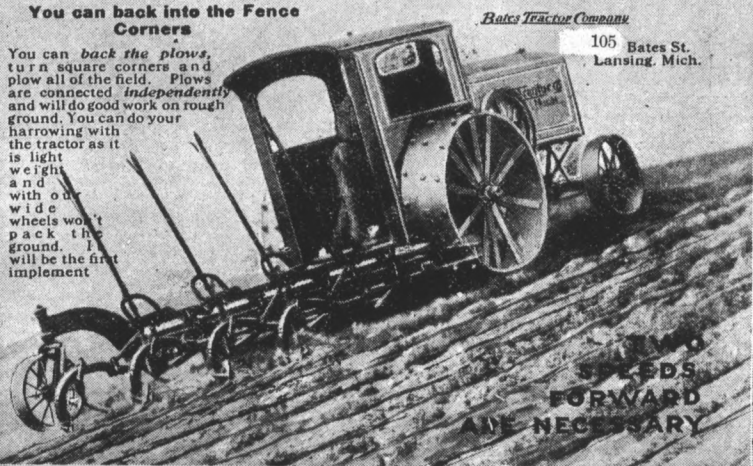
Two sizes: 15 H. P. and 30 H. P.

You can back into the Fence Corners

You can back the plows, turn square corners and plow all of the field. Plows are connected independently and will do good work on rough ground. You can do your harrowing with the tractor as it is light weight and with out wide wheels won't pack the ground. It will be the first implement

Bates Tractor Company

105 Bates St.
Lansing, Mich.



THE OLDEST TRACTOR ON THE MARKET

HARRIS Barn Equipment

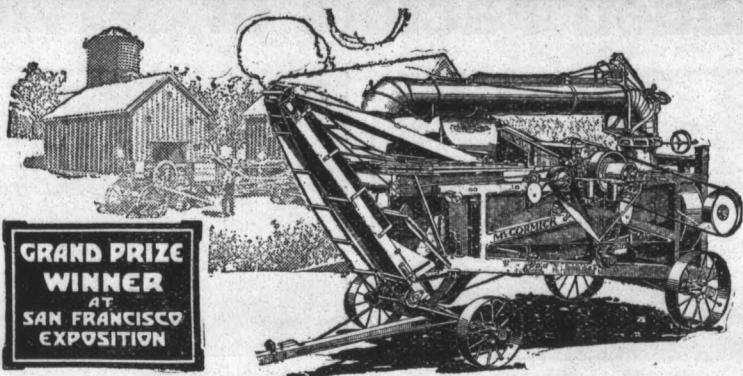
makes barn work easier. Our Feed and Litter Carriers easily do the most thorough work in the shortest time. If you take pride in a clean, orderly stable, investigate our

Patented Stalls and Stanchions

Write for our large, illustrated catalog. It fully describes everything, contains many valuable hints. Mailed Free! Please ask for it on a post card today.

The Harris Mfg. Co., Box 230 Salem, Ohio

When writing advertisers please mention The Michigan Farmer



**GRAND PRIZE
WINNER
AT
SAN FRANCISCO
EXPOSITION**

IHC Huskers and Shredders Deering — McCormick

THE corn crop — long abused and wastefully harvested — has come into its own. The whole crop is valuable and the corn farmer knows it.

IHC huskers and shredders — Deering, and McCormick — have grown steadily more popular because they get the maximum out of the crop. They reduce stalks, leaves, and husks, into condition so that stock can eat it. They save all that 30 per cent value which authorities know to be in the stalks. They save slow, wasteful husking by hand. The shredder stover is compact and can be blown into the mow, clean, protected, convenient for feeding. It provides a good absorbent bedding for the stock.

Deering, and McCormick huskers and shredders have for years done their work most successfully from every standpoint — durability, simplicity, convenience, economy in operation, equipment of safety devices, etc.

Write us for a catalogue and information on the particular size **IHC** husker and shredder you can best use — capacities range from the largest down to the small machines for individual use. Let us send you also a copy of the booklet, "For Better Crops."

International Harvester Company of America

CHICAGO

(Incorporated)

USA

Champion Deering McCormick Milwaukee Osborne Plano



Guaranteed to do more and better work with less power than any husker of equal size.

Save the stalks! — they're half the crop in actual feed value. The Appleton cuts or shreds the stalks; the fodder saved paying whole operating cost. First successful machine husker made; built by Appleton Standards from 43 years experience in farm machinery making. Husks cleanest, shells least; equipped with most efficient corn saver. Sizes for 4 h. p. and up gasoline engine.

APPLETON
Husker & Shredder

Easiest and safest to operate. Gives years of service; yet one season's income from it pays its cost. Send now for free Appleton Husker Book. Appleton Mfg. Co., 520 Fargo St., Batavia, Ill.



Use NATCO Drain Tile — Last Forever

Farm drainage needs durable tile. Our drain tile are made of best Ohio clay, thoroughly hard burned. Don't have to dig 'em up to be replaced every few years. Write for prices. Sold in carload lots. Also manufacturers of the famous NATCO IMPERISHABLE SILO, Natco Building Tile and Natco Sewer Pipe.

NATIONAL FIRE PROOFING COMPANY, Fulton Building, PITTSBURGH, PA.

Clearing Stumpland Is Easy If You Do It Right

Zimmerman Mighty Monarch Steel Stump Puller makes land clearing simple, easy, quick. Cheaper than dynamite. Much better because it gets stump roots and all. Disturbs less soil.

Valuable Book FREE

Tells all about land clearing. Explains different methods, tells about various stump pullers, why the Zimmerman is best. All about its improvements so a boy can operate it, why it clears larger areas, why it's a quicker and pulls larger stumps and plenty of proof why it's the only practical, inexpensive, satisfactory stump puller on the market. Write today for book. Address Zimmerman Steel Co., Bettendorf, Iowa, Dept. 27



A.J. TOWER CO.

BOSTON

TOWER'S

FISH BRAND



Steel Wheels

will make your old farm wagon as good as new. Save money because they never need repairs. Write for our big free book telling all about them and how they pay. Empire Mfg. Co., Box 759 Quincy, Ill.

15c Worth of Added Fertility Produced 75c in Increased Crops

That is the record of eighteen years in the use of Rock Phosphate at the Ohio Agricultural College.

"25 bushels of wheat at a cost of \$2.40" "9 tons of silage for \$3.20" are other results from the use of **DAY-BREAK FINELY GROUND ROCK PHOSPHATE**.

Write us for prices and for the story of "Profitable Production with Permanent Fertility."

FEDERAL CHEMICAL CO.

Ground Rock Department
12 Clark St. COLUMBIA, TENN.

BOWSHER

FEED MILLS GIVE BEST RESULTS

Handy to operate, lightest running. Crush ear corn (with or without shucks) and grind all kinds of small grain. 10 sizes 2 to 25 H. P., capacity 6 to 200 bushels. Conical shaped grinders — different from all others. Investigate.

Write for Catalog

that tells all about them, with free folder about values of different feeds and manures.

O. N. P. BOWSHER CO.
South Bend, Ind.



LILLIE FARMSTEAD NOTES.

When all the public roads are good, prominent roads, that is, properly graded and surfaced with some good permanent material then will the business of farming be a much more pleasant one and withal a more profitable one. Between Lillie Farmstead and town, a distance of four and one-half miles, we now have a prominent county road of the state reward type of two miles. A township has built a fair gravel road of half a mile and our road district graveled half a mile last year, and if it stops raining long enough we will gravel another half mile this year. I doubt if any community in this state, unless it be parts of Lenawee county, can appreciate good roads better than this community. We have always had the travel through the mud, and clay mud at that, all our lives, both spring and fall of each year. Now we have some road that is not affected by rains. It is a good road after a rain. But we must go through mud to get to it. When rains come at intervals of a few days a dirt road can be kept in a fairly passable condition if you have the right kind of highway overseer. The modern road drag, if employed at the right time, will keep the road in fair condition, but when it rains every day nearly, as it has done this season, this system will not accomplish much. There must be some surface material, gravel, crushed stone, concrete, etc., that is not affected by water. At the present time, September 13, it is almost impossible to get to town with an automobile. One fairly risks his life on the slippery clay roads that have been lately graded. There has been a great change in sentiment about building good roads in the last few years. You no longer hear farmers complain of the cost. They simply want good roads at any cost, provided there is no grafting, and more, they are going to have them.

Many people ask the question, is the farm truck practical? The only question is roads. If you have good roads yes. If you have poor roads, no. When we first began harvesting peas this year, the last of June, the roads were dry and I could draw 2,500 lbs. with ease to the canning factory. After two or three rains it was almost impossible to haul at all. Build a permanent road before you buy a farm truck. Then you will be pleased with the truck. If you don't build the road you are liable to be disgusted with it. A pleasure car is a little different. You can stay at home or go with a horse until the roads dry off and settle, but a truck is for business and you want to use it when business demands.

I wish to thank Mr. McBride for his article on "The Farm Complete." It solves the whole problem. The farm and the system of farming is bound to reflect the individuality of the man, and it should. No two men are alike or have the same ideas exactly about farming, and consequently the farms will not be handled alike. Lectures on farming, or courses in agricultural colleges are not interpreted the same by different men. They are valuable for all, of course, but no two farmers can apply them the same, because of their individual differences. And what a glorious thing individuality is. Who would, for all the world, stifle it or even try to stifle it? There is absolutely no need in America today to try to stifle it. There is room and opportunity for all. Perhaps some time in the future it will be necessary to have some more uniform system of farming than we need now. I presume it would be better now. That is, from an economical point of view, but it would not be half so much fun. As you approach uniformity in farming you destroy or stifle individuality, and some one person or group of persons, must direct instead of each in-

dividual. This stifles thought and individual responsibility. It might make a community more prosperous from a financial standpoint but when any of us must let others do our thinking for us, then we cease to be genuine American citizens. For my part, I would prefer to be a free American citizen, if I don't make so much money and do my own thinking and planning, than to have the government or some delegated authority, either authorized by law or by common consent, do the thinking for me. Don't encourage a community to lean on one man or on a committee, or on a government for their methods and system of farming. Let each man think and try to solve his own problems. He will walk more erect, thing more of himself and be a better man. I am not attempting to knock at agricultural extension work, far from it. I believe in this work. It is the salvation of our farming and of our county. We must be opposed, stirred up, aroused by this method, but we must not accept theories without due consideration. We must be able to apply ideas to meet our own environments. I do not mean that we should not accept the advice of other people. That would be foolish. I want uniformity only when it is consistent with individuality. Neither do I ignore the importance of co-operation. I feel that a certain community should and will make a specialty of dairying, another of fruit growing, another of some other line, and they should act on business principles and co-operate. But I want the individual to put his own personality into his farm, into his dairying or fruit growing, as the case may be. I want him to lean on himself and act for himself.

COLON C. LILLIE.

SOLVING THE FARM STORAGE PROBLEM.

(Continued from first page).

to four men, as they could be spared from the regular farm work. This gives an idea of the labor required for construction.

The material required from town was hauled with the motor truck shown in the illustration, while the gravel was hauled from a pit near the farm with a farm team. It took about 50 yards of this material to complete the structure. The bill for cement, windows and walls ran about \$140. A ventilating shaft built of 16-inch clay tile cost \$18 more, while the lumber required was taken from the farm woodlot and sawed at a local mill near by. This lumber was mostly No. 2 elm and soft maple that was not saleable. It took of this material 2,200 feet for the roof boards, 3,200 feet for a double floor to the room above, besides the material used in the frame that in all figures about 3,000 ft. more.

It would thus be seen that while this structure covers considerable space and comes to the rescue of the farm in many ways as a housing structure for much material that it is hard to keep under cover, yet it does not stand the farm out any great expense.

The plastering work was easily done. With a boy on the farm that showed an aptness for spreading cement, for an assistant, we found the plastering coats could be readily and satisfactorily applied.

With a large crop of apples last fall moving at a low figure, this storage came to the rescue in a substantial way that would leave it owing the farm but little if a cyclone carried it away before another harvest.

In this storage the writer has attempted to demonstrate two things that need emphasis: The importance of farmers carrying such equipment that will make them able to hold a product when it must otherwise go at a loss; and, second, the practicability of cement as a permanent and attractive form for such construction.

Shiawassee Co. C. B. Cook.

OBSERVATIONS OF A VETERAN FARMER.

I am a rather close reader of the Michigan Farmer and have just read "A City Man's Vacation," and the editorial rejoinder, and as I finished the first article I think I had about the same soliloquy over it that I found expressed in the editorial.

I think the case taken for an "object lesson" is rather an isolated one, or rather, an exceptional case. Now I live in a very thickly populated farming and fruit growing country of Allegan county and I cannot call to mind a similar case. Not all the farms have the water piped into the house and barn, but many have and those that are not so equipped have the well with windmill or gasoline engine very close to the house so that there is not much "running" for water. As for good and wise farm management, to remedy that evil I think the farmer would have to be "made over" in the "upper story."

Here we have employed much hired help in the last twenty years, and the last five years' time two tenant men, married men, each season, one by the year and the other by the month for the season. The one man has been with us nearly eight years, and I do not know but he may remain for eight years more, and the others did not stay only the one year principally because we did not care to employ them another year.

We know of several of our largest farmers and fruit growers that have kept some of their men for several years, and others changing them every year because they are not satisfactory, and often the hired help would think that they could do better in wages, but as a general thing my observation has been that a desirable farm hand does not have to hunt for a job.

I have in mind a man that was a good worker and understood farm work well, but never seemed to stay more than a year at a place, and I am of the opinion that if our city "business man" should in the future take a few more "vacations" at different places he might come to see things differently, as we are all rather inclined to sometimes "jump at conclusions." As an illustration of this, a friend and I were discussing the merits of a certain book and I remarked that the incidents narrated seemed so simple to me, and my friend replied, "you do not like it because it is written up in the Scotch dialect," and I was constrained to reply that was the very thing about it that I did like. These are the observations of a Civil War veteran farmer.

Allegan Co. H. H. GOODRICH.

UNEVEN RIPENING OF BEANS.

Would like a little information and advice concerning my bean crop this year. They were planted about the first of June after potatoes on a clay loam soil of fair fertility. Have flourished nicely and promised to be a good crop but now when they ought to be harvested the field is spotted intermittently with green beans, probably two-thirds being ripe and the dry pods beginning to split open here and there. Which is the most economical way to handle the crop, to pull now, green beans and all, or wait for the green ones to get ripe and thus incur the loss by some of the ripe ones splitting?

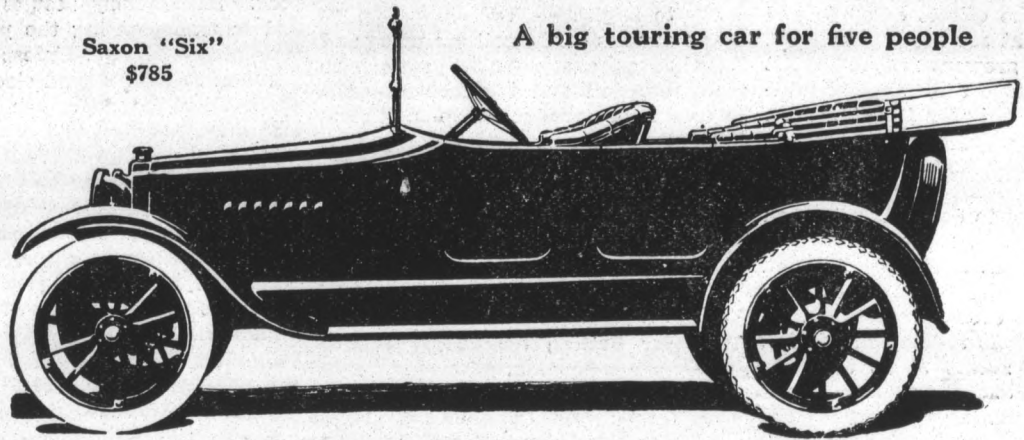
Livingston Co. T. B. F.

Where two-thirds of the bean pods are mature, it will not be profitable to wait for the immature pods to ripen, as the loss from the shelling of the ripe beans will be greater than the gain from the ripening of the backward pods. Where the beans in the late pods are quite well developed more of them will mature to merchantable quality after they are harvested than would be thought before they are pulled. Most of the immature beans which do not develop to merchantable quality will remain in the pods when threshed, and will make the same more valuable as roughage.

New Series Saxon Cars

Saxon "Six" \$785

A big touring car for five people



New Features of Saxon "Six"



New Features of Roadster

- Two unit electric starting and lighting
- Timken axles — Timken bearings throughout the chassis
- Silent helical bevel gears
- Linoleum covered running boards and floor boards
- Roomier rear seat
- Improved body finish
- Garnish strip around top of body
- and 17 other detail improvements

- Three speed transmission
- Timken axles
- New body — hand-somer, roomier
- Improved high speed motor
- Signal lamps at side
- Ventilating windshield
- Improved cantilever springs of vanadium steel
- Adjustable pedals
- and 15 further refinements

These and a number of other detail refinements feature the New Series Saxon Roadster and make it unquestionably the finest two-passenger car value on the market.

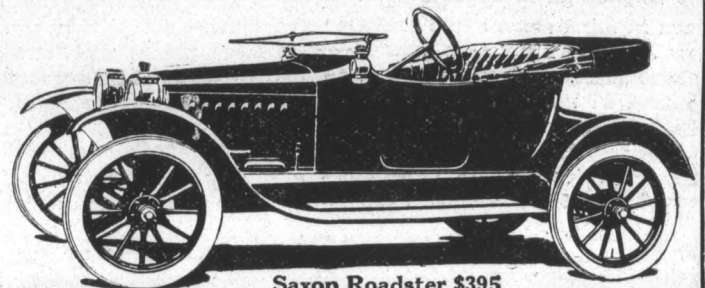
Three speed transmission gives you increased flexibility. Saxon is the only car in the world, selling under \$400, which has three speed transmission, high speed motor, graceful, roomy streamline body, cantilever springs, dry plate clutch, Timken axles, and honeycomb radiator. The extra set of side lamps, the ventilating windshield and the adjustable pedals are features you'll readily appreciate.

The New Series Saxon Roadster is the economy champion among automobiles. It makes 30 miles on a gallon of gasoline—100 to 150 miles on a pint of oil—3500 to 5000 miles on a \$7.95 tire. It costs only half-a-cent a mile to run.

Costs less to own than a horse and buggy

These are the added features that place the New Series Saxon "Six" even farther ahead as the biggest touring car value ever produced.

The New Series Saxon "Six" possesses the four big new ideas of motor car design; **high speed motor**, of wonderful power and flexibility; **light weight**, due to modern design and finest materials; **yacht line body**, the latest automobile fashion; **increased comfort** for all five passengers.



Saxon Roadster \$395

Saxon dealers are everywhere. See one nearest you and take a Saxon ride, or write us today for our interesting magazine, "Saxon Days", with information about the New Series Saxon Cars. Address Dept. 19

Saxon Motor Company, Detroit

(165)

When Your Dreams Come True

When you make a purchase, do you look ahead into the future making calculation upon the service you are to obtain measuring up to the price you are to pay?

It is a disappointment to find after a while that for some reason you could not foresee, your calculations are not to be realized.

Take no chances in buying footwear, but get shoes of known reputation for quality.

Rouge Rex Shoes

have that reputation, a reputation founded upon the satisfactory experience of thousands of wearers. A reputation that we, as manufacturers, are bound to maintain by putting every ounce of genuine service into the shoes that



Trade Mark
Mark of Quality on every Sole

modern methods of tanning and shoemaking make possible. Ideal shoes for this time of year are our No. 487, black and 489, tan blucher shoes. The leather is a combination tannage of close fibre and made as nearly waterproof as leather can be made. They have half double soles, double tips and full bellows tongue.

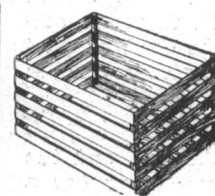
Write for descriptive book and dealer's name

HIRTH-KRAUSE COMPANY

Hide to Shoe Tanners and Shoe Manufacturers

GRAND RAPIDS

MICHIGAN



BUSHEL CRATES
Made from Elm timber.
Knocked down or nailed up

APPLE BARRELS
Standard Size—Well Made.
Struthers Cooperage Co.
Romeo, Michigan

LILLIE'S SPECIAL BRANDS BUFFALO FERTILIZER

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

LIME

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

LAKE SHORE STONE COMPANY,
Muskegon, Mich., and Benton Harbor, Mich

LIME

You should get the highest grade of limestone manufactured. Buy it upon the basis of analysis. We manufacture the highest grade pulverized limestone sold in Michigan. Let us prove it. Ask for sample and analysis.

CAMPBELL STONE CO., Indian River, Mich.

AN OPPORTUNITY

to represent a well established house (manufacturing Stock and Poultry Medicine) is open to first class men who have standing with farmers in their territory. No investment necessary. For further particulars address THE S.A.L.-B.VIM CO., Inc., Pennsburg, Pa

Orchard Observations

On Pear and Apple Blight

DURING the month of July and August the effects of apple and pear blight are most prominent. I believe most growers realize that it is often impossible to cut out the diseased wood of a badly infected tree. Still the wretched appearance and the loss of the trees makes the grower anxious to do something. If there was nothing else to do on a fruit farm but trimming trees most men would be sure to cut out the blight as soon as it appears. The rapid spread of the disease in some orchards makes it absolutely impossible to keep in control. The only way seems to be to let it run its course and if the tree is not too far gone, pruning it, or if injured too much cutting it out completely later.

Sterilizing Tools Important.

I think, from what I have observed, that most men sterilize the trimming tools after each operation, and also sterilize the wound made. In one orchard the grower, several years ago, did some pruning without sterilizing and the results of his experiment were evident to him later. Every wound he made seemed to be the center of a new outbreak.

This summer the writer had occasion to travel through Wisconsin, Illinois, Michigan, Ontario, Canada, New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, and portions of North Carolina. By keeping a note book it was possible to get some idea of the large number of trees, or rather the areas in which blight of apples and pears is prevalent. The orchards in which blight was not found are very scarce. I believe the fruit belt of Michigan to be less infected than any area I had the opportunity to look over.

The Blight Bad in Other States.

I have in mind some apple orchards in New Jersey which were well kept and about 15 or more years old. The entire tree in many cases was completely killed. In one orchard comprising perhaps 40 acres, 15 per cent of the apple trees were completely destroyed and 50 per cent were so badly ruined that if they recover it will be years before they can produce limbs to take the place of those lost. Pear orchards have suffered even worse. Of course, in many orchards only the smaller twigs were affected and no permanent harm may result.

The question arises immediately whether or not most of these orchards are not neglected. This is not the case, as most of the orchards in the fruit section of these states receive fairly good treatment. Not all of them, however, are in the fruit section, and, of course, are not as well cared for as where fruit growing is the principal industry.

The Influence of the Soil.

The treatment of the soil, and the disposition of the cover crops has a great influence on the tree. We cannot unbalance the tree and expect it to go on normally in its processes. It is impossible to stop blight by soil management but surely there is no question as to its inhibitive effect. The writer has in mind an old and prominent fruit grower in Michigan whose success in growing pears is proverbial. I have noted some blighted branches in his orchard, but of course, they were immediately cut out. But the trees were not so subject to blight, although he had all varieties, and his neighbors had blight in their orchards. It seemed to be his masterful way of handling the soil, fertilizing, and cover cropping. Location of the orchard, as to drainage, etc., indicated good foresight at planting time. Another large young pear orchard in the same vicinity, now four years old, has been so carefully handled that

only a few trees have shown the tendency to blight.

The secrets of the soil are many and it behooves every fruit grower to study the soil and the tree intently. Reactions are produced which, if carefully observed may unlock many mysteries still unsolved, and enable us to cope with destructive agencies that at present threaten great losses.

Kent Co.

C. N. FREY.

TROUBLE DEPARTMENT.

Time for Setting Blackberry Plantation.

I wish to set out some blackberry bushes, also some red raspberry bush-

es. Could I set them this month or the first of September, or would it be best to wait till spring?

Isabella Co.

R. S.

It is not advisable to set out raspberries or blackberries at this time of year. Satisfactory results cannot be had in transplanting the plants when they are in foliage. Unless great care is taken to take a good sized clump of earth with the roots the plants will lose their foliage and will send out new leaves and growth after they are transplanted, if they live through the transplanting. This growth will not have time to mature before the winter sets in and winter injury is likely to result. Spring is the proper time for setting out these fruits and dormant plants will give the best results. Late fall, after the foliage has dropped, is the next best time. Firm earth well around roots at this time.

Vegetable Growers' Convention

THE eighth annual meeting of the Vegetable Growers' Association of America was held at Cleveland, Ohio, September 7-9. The attendance was fine. Cleveland is the place where the association was organized and the local growers turned the meeting into a most enjoyable affair. Addresses of welcome were delivered by Rev. H. R. Cooley, director of Public Welfare of the city, and by John F. Cunningham, on behalf of the Cleveland growers. On behalf of the visiting growers Mr. Howard W. Selby, of Philadelphia, responded. The report of the treasurer showed the organization to be sound financially.

The afternoons of Tuesday and Wednesday were devoted to sight-seeing trips among the famous garden section of the Sixth City. Tuesday the delegates went by street car to Rocky River, where they were met by 100 automobiles owned by members of the Cleveland Association. They were then taken to several commercial greenhouse establishments. These are all large plants with one and a half to two and a half acres under glass, each. One company has a basket factory in connection with its growing establishment where splint baskets are made, the splints being taken from the logs and the finished baskets prepared for use. The growers of this district bring manure from as far as the Chicago stock yards, in addition to what they can get locally.

Visits to Market Growers of Cleveland.

On Wednesday afternoon the trip took in the famous market gardens of the district known as South Brooklyn. The delegates went to the locality on cars and were met again by the car-

avan of automobiles. Some of the gardens were labeled to show the variety that was growing at the time, as well as to tell of the previous treatment and the use that was to be made of the ground later. These were all studied with care, because such information is working capital for the visitors.

In this district are some of the very finest garden views to be seen anywhere. The section is rich in producing power, and on account of a gently undulating surface afford a number of eminences from which beautiful views may be had.

The leading greenhouse crops of the Cleveland district are lettuce, cucumbers and tomatoes. Outdoor work on an extensive scale is done with celery, asparagus, spinach, rhubarb, root crops, etc. The gardens are in an advanced state of cultivation. They have been cultivated for a great many years without any show of diminution of fertility—in fact, from the liberality with which they have been fed most of these acres are richer than they ever were before. They are watered artificially by the Skinner system, and most of the greenhouses are ready for a fine shower of fine rain whenever the grower wills that such is necessary. Little time is lost. One crop rapidly replaces another. At the time of our visit several of the houses were yielding cucumbers for the trade. Others were starting lettuce for fall consumption; cucumbers were a few inches high in others. The bench system of culture is used scarcely at all. The ground is plowed and seldom changed. It is sterilized and fertilized instead.

On Wednesday morning, Mr. H. W.

Selby, of Philadelphia, led a very interesting discussion on "Marketing Problems." The keynote of the whole was the crying need of the standardization of products and co-operation in placing these on the market. Several delegates from the south discussed at some length their methods of preparing their vegetables for long shipments. The greater part are shipped in refrigerator cars so that the vegetables will arrive in sufficiently good condition to be in competition with the hot-house products of the northern grower. A Virginia delegate mentioned the fact that in their section many of the unmarketable sweet potatoes are canned and in this manner the growers do not flood the market at the height of the season.

The Advantages of the Motor Truck.

The use of the motor truck came in for a good share of the discussion and it was generally acknowledged that it was a most important factor for the "trucker" in marketing his produce. Several instances were sighted where the truck played an important part in timely marketing and as a result the grower was able to take advantage of a higher price than his neighbor who depended upon the horse drawn vehicle. The fact that cheaper land can be purchased a short distance from the city than in the city limits was brought out and with a motor truck the city market is as easily accessible.

Advertising also received considerable attention. Neat packages and attractive labels were approved as a means of making a certain product or brand distinctive. Paper and magazine advertising was advocated as a profitable means of marketing.

On Wednesday evening genial Dean Watts, of Pennsylvania State College, conducted an interesting discussion on "Greenhouse Problems." The principal question raised was that of means of enlarging the greenhouse so as to increase the capacity with a proportional increase in profits. It was agreed that this was a problem for each individual case and that generalities would not apply. Among other questions were those of crop substitution, greenhouse soil treatment, and combatting insects.

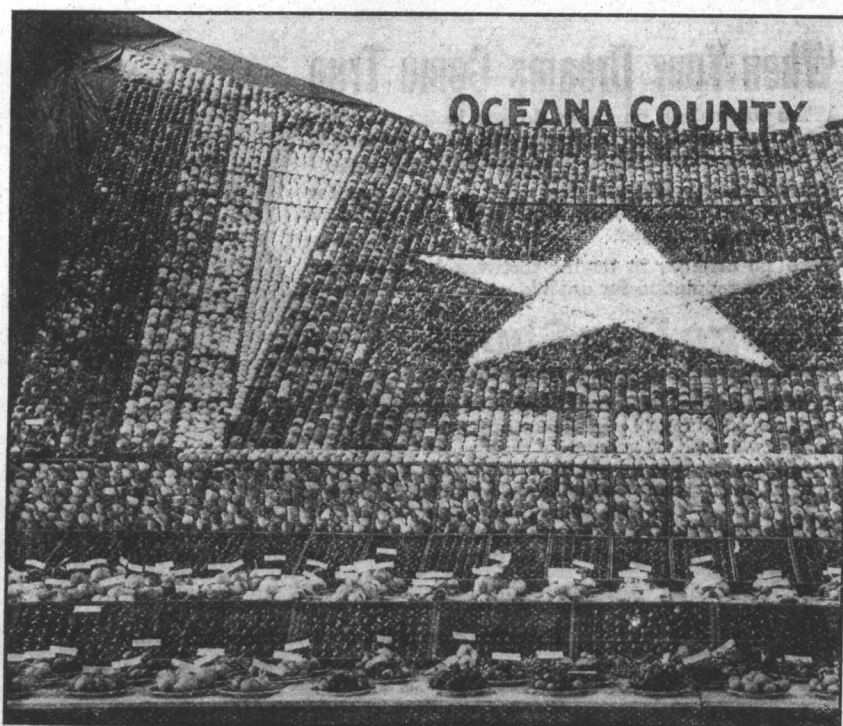
Soil Problems.

Perhaps one of the most interesting sessions of the convention was that conducted on Thursday by Prof. Paul Work, of Cornell University, on "Muck Land Problems." He gave a brief but interesting talk on the formation of muck soil in which he enumerated the succeeding steps, namely: 1, ponds, with their depositions of water plant life; 2, shaking bogs; 3, soil on which alders will grow; 4, soil on which coniferous trees will grow; 5, soil on which deciduous trees will grow. Soil taken from any of these forms disproves the oft made assertion that all muck soils are alike.

The discussion of drainage was productive of valuable information. It has often been claimed that muck soils cannot be drained by tiling due to the unstable soil beneath; that sufficient drop cannot be obtained so as to prevent the tile from becoming clogged. Numerous experiences were related which show that muck land has been tiled successfully where boards were placed beneath the tile so as to give a firm foundation. One delegate stated that such a system of tiling had been in successful operation on his place for over 50 years.

The Fertility of Muck.

While muck soil is not deficient in nitrogen it is unavailable, due to the absence of aerobic bacteria. Manure contains these bacteria and when added to muck soil will aid in making the nitrogen available. Most "muckers" add a complete fertilizer with every crop. Furrow and sub-irrigation is largely practiced throughout the country; overhead irrigation is used by a few but is too expensive to come into general practice at present on muck lands.



Oceana County's 1915 Premium Attraction at the State Fair.

Feeders Problems

Fattening Sheep on Standing Corn.

Will you please inform me through the columns of your paper whether or not it is profitable to turn sheep right into corn field? And which is best, lambs or wethers?

Ionia Co.

J. H.

Several of Michigan's prominent sheep feeders have used this method of fattening sheep and lambs, with very satisfactory results. Yearlings and lambs have been successfully fed in this way, but the larger operators and those with the longest experience seem to favor yearlings for this method of feeding. Of course, considerable care must be taken in getting lambs or yearlings on this kind of feed without any deleterious results, but the labor economy of the method and the results obtained have made it popular with some of Michigan's best sheep feeders.

Pasturing Lambs on Second Growth Clover.

We have ten acres of second growth clover and ten acres of new seeding after wheat, all of which will be ready to cut in about two weeks, but the excessive rainfall in this section has already made the ground so soft that should there be any more rain it will be impossible to cut this second crop. Would you consider it safe to purchase a carload of lambs and pasture these fields, by allowing them to feed about an hour only in the morning and the same in the afternoon. And would it be necessary to feed some stringent in grain at the same time?

Lenawee Co.

F. P.

If sufficient care is taken in getting the lambs accustomed to the succulent pasture, there should be no serious danger in pasturing either western or native lambs on this feed, in fact, it will make the best kind of pasture and the lambs will make better gains on it than on any other pasture which could be used.

The writer has successfully pastured lambs and sheep on alfalfa and rape pasture for many years by using reasonable care in getting them accustomed to same, without the use of any other corrective in the ration. We have never met with any losses whatever, although we have known losses to be incurred where sufficient care was not taken in getting the lambs accustomed to the feed.

Rye and Vetch vs. Oats and Peas.

I have five or six acres of ground that is in ensilage corn which lays in a field that I will have to pasture next year. The soil is a sandy loam. Now, what would be the best to sow, rye and vetch this fall when the corn is off, or oats and peas in the spring? If the former how much of each and when would be the best time to plant?

Genesee Co.

J. W. T.

Where an area of land is to be added to a pasture field for next year's use, rye would be a much more satisfactory plant as the basis of the pasture, since it will get a good start this fall and would make early pasture next spring, whereas if oats and peas were sown they would not be available to pasture at the time it might be desired to turn onto the grass. A little vetch added to the rye, say ten pounds per acre, would help the pasture somewhat, provided it is a favorable fall and winter, but if on land that is devoted to a regular crop rotation, including wheat, it would be better to omit the vetch and seed the rye to clover in the spring, since the vetch is inclined to be an undesirable weed where grown on land which is devoted to wheat at some time in the crop rotation.

LIVE STOCK EXPERIMENTS.

The following interesting experiments were conducted at the Oregon Station:

Two lots of pigs fed a ration of crushed wheat, bran, and tankage, 5:4:1, lot one being self-fed on dry feed and lot two hand-fed on soaked feed, required per pound of gain 5.12 lbs. and 4.88 lbs. respectively. In a second trial lot one consumed 4.18 lbs. of feed and lot 2, 5.37 lbs. of feed per pound of gain. In this experiment the self-feeder lot ate more feed daily and

gained more rapidly at a small cost of nutrients than did the hand-fed lot.

Two Duroc Jersey sows with seven-day-old pigs consumed during the time of suckling the pigs 1,220 lbs. of a feed mixture composed of wheat, shorts, and tankage 5:4:1, while the 15 pigs consumed from April 1 to August 15, 3,436.3 lbs. of the feed, representing a total value of \$122.68, or 8.74 cents per pound of live weight of pigs, estimating the birth cost of the pigs to be \$3.

In an experiment to determine the practicability of utilizing cull ewes for the production of early market lambs, 20 such ewes were fed during the winter in an open yard with a shed, the lambs arriving at irregular intervals. Thirteen lambs averaging 40 lbs. live weight were sold the first part of April and the seven remaining 70-lb. lambs were sold the latter part of June. The ewes cost \$82.42 and the feed \$149.68. After the sale of ewes, lambs, and wool, a loss of \$40.59 had been realized.

FAT AND LEAN BROOD SOWS.

There is a wide diversity of opinion among farmers and breeders of swine as to how much flesh the brood sow should carry in order that she may produce the best results as a breeder. Farmers are quite apt to neglect their brood sows and allow them to become too run down in flesh to secure the best results and the breeders who are anxious to obtain the best results err in the other direction and over-feed their sows until they take on too much fat to produce the most vigorous pigs. A sow running down in flesh when, bred, the same as the one that is too fat, is likely to disappoint her owner in the size of her litter and the quality of the pigs. The fact that a vigorous sow in comparatively low flesh will produce large litters has no doubt led to the belief that the sow should be thin when doing this important work. On the other hand, the small weak pigs born to the sow in high flesh are no doubt parent to the belief that a sow should not be in high flesh while reproducing her kind.

These conclusions are correct if appearances at farrowing time only are considered, but if the observations extend over a period of a few weeks it will be found that the fat sow and her pigs have an advantage over the thin sow and her litter. The strong pigs from the lean sow start well on account of their strength but they soon sap the stored up strength of their mother and have her exhausted before they begin to eat from the trough, with the consequent result that they come to a standstill for a time. The smaller pigs from the fat sow grow right along from the start and by the time their dam is reduced in flesh condition they are ready to eat from the trough. The kind of flesh the sow carries has all to do with the quality of her litter. Too much fat produces fever and a lack of exercise makes her a dangerous mother. She is feverish and vicious and the pigs will suffer from this if they are fortunate enough to live. If her flesh is properly laid on by eating a variety of food, including pasture and forage crops, she will be in first class condition to give her pigs a good start in life.

It is very seldom that sows have an inclination to eat their pigs when they farrow in the pasture during the summer. A sow carrying a proper amount of flesh usually does well with her litter and she will remain quiet longer after farrowing while the lean sow will be up looking for something to eat.

Indiana.

D. L.

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

A Guaranteed Worm Expeller

GILBERT HESS, M.D., D.V.S.

Worms are responsible for nine-tenths of your hog troubles at all seasons of the year, but especially in the fall. Do not be misled, thinking your hogs have some other ailment. Nine times out of ten their trouble is worms. My Stock Tonic will positively expel these worms and keep your hogs in a healthy condition, thereby enabling them to resist disease and lay on fat. Feed my Stock Tonic to your hogs right now.

Dr. Hess Stock Tonic

Makes Stock Healthy—Expels Worms

25-lb. pail, \$1.60; 100-lb. sack, \$5.00

Why pay the peddler twice my price?

It isn't enough to rid your hogs of worms, mark you. You must also tone them up and put them in such a clean, vigorous condition as to make worm development impossible. That is why my Stock Tonic not only contains vermifuges to expel the worms, but it also has in it tonics, blood builders and laxatives to build up and regulate the animal's system.

My Tonic is highly concentrated, as the small dose quantity will prove, and as I have no horses, wagons and salesmen to pay for, I can sell you at rock-bottom prices through your local dealer.

My Stock Tonic also aids digestion and assimilation, makes your hogs and other stock thrive; it is the result of knowledge which I have acquired as a veterinarian, doctor of medicine and stock raiser. Formula on every package.

So sure am I that Dr. Hess Stock Tonic will keep your stock healthy and expel worms, that I have authorized my dealer in your town to supply you with enough Tonic for all your stock and, if it does not do all I claim, just return the empty packages and get your money back.

25-lb. pail, \$1.60; 100-lb. sack, \$5.00, smaller packages as low as 50c (except in Canada and the far West and the South). Send for my free book that tells all about Dr. Hess Stock Tonic.

DR. HESS & CLARK, Ashland, Ohio

Dr. Hess Poultry Pan-a-ce-a

A splendid tonic during the moulting period. It gives the moulting hen vitality to force out the old quills, grow new feathers and get back on the job laying eggs all winter. It tones up the dormant egg organs and makes hens lay. Also starts the pullets to laying. Economical to use—a penny's worth is enough for 30 fowl per day. 1 1/2 lbs. 25c; 5 lbs. 60c; 25-lb. pail, \$2.50 (except in Canada and the far West). Guaranteed.

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks and dust bath. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes, etc. Comes in handy sifting-top cans, 1 lb. 25c; 3 lbs. 60c (except in Canada and the far West). I guarantee it.



If you have a sick or injured animal, write me, giving symptoms, and I will send you prescription and letter of advice free of charge. Send 2c stamp for reply.

PREMIER QUALITY

Owl Brand Cotton Seed Meal

Fully 41% Protein Guaranteed. The Standard for Forty Years. We Take a Pride in It.

Good For

They All Need Protein—Feed a Balanced Ration—Our Booklet, "Science of Feeding" Free on Request.

F. W. BRODE & CO., Memphis, Tenn.

Established 1875. "The Owl on the Tag Means Quality in the Bag" DEMAND IT.

Twist Its Tail!

And Save An Extra \$2.22 Per Day

The Bales Steel Mule

30 H.P. \$750
30 H.P. \$865

Write Now And We Will Tell You About It

JOLIET OIL TRACTOR CO.

702 BENTON ST. JOLIET, ILL.

RELIABLE POWER

Nearly 100,000 Galloway engines in daily use. Long stroke, large bore, heavy weight. Built for hard, continuous engine-users' satisfaction. All sizes, prices, styles. Modern design, few parts, best material, skilled labor. Positively not over-rated. Sold direct. Engine book free. Investigate and compare before you buy.

W. E. GALLOWAY CO., Box 185, WATERLOO, IOWA

9875
7750
3950
3475
2675

\$39.00

For This 2 H. P. GASOLINE AND KEROSENE ENGINE

complete and ready to run. The Michigan Engine is built right and runs right, fully guaranteed for 5 years. Sizes 2 to 16 H. P. Stationary and Portable. Write today for catalog and prices. State size wanted.

Michigan Engine Co., Station C, Box 21, Grand Rapids, Michigan

Michigan Livestock Insurance Co.

Capital Stock—\$100,000. Surplus—\$100,000

Home Office—Saginaw, Michigan.

Only Home Co. in Michigan.

COLON C. LILLIE President.
H. J. WELLS, Secretary-Treasurer.

AGENTS WANTED

to represent a reliable concern canvassing among farmers in your own neighborhood or elsewhere. No experience necessary. Liberal pay, and supplies furnished free to right parties. Reference required. Address, ADVERTISER, CARE THE MICHIGAN FARMER, Detroit, Michigan

Why Clutter Your House With Pipes and Flues?

(Copyright 1915 by The Monitor Stove & Range Co.)
 Make your house comfortable. Many farm home owners are deterred from installing a furnace through unwillingness to mutilate the house in order to put in pipes. This trouble and expense are now unnecessary because we offer you
A Patented One Register Furnace
 Our wonderful invention makes this possible. You cut just one hole for a register immediately above our furnace and the warm air circulates through the house. No pipes or flues. Your house is cozy from top to bottom. Can be installed in any house, new or old, almost as easily as a stove. By digging a pit you can even put it in a house that has no cellar. The

Easy
To
Install

PIPELESS
CALORIC
FURNACE

Saves
You
Money

is guaranteed to use 35% less fuel. Special ribbed firepot gives 600 square inches greater heat radiation than the average firepot. There are no pipes running through the house and cellar to waste heat. The ribbing provides a free air circulation which permits thorough burning of coal without wasteful clinkers. No ashes clinging to firepot to retard circulation. The Caloric Pipeless Furnace burns coal, coke or wood equally well. It does away with the disagreeable task of carrying fuel upstairs and ashes down stairs. It keeps the upstairs rooms and halls uniformly heated at all times.

It is safe for children because there are no hot registers in upstairs rooms to burn them. This is the one furnace that will not spoil your produce in the basement. Takes less cellar room than an ordinary furnace and saves stove room through the house.

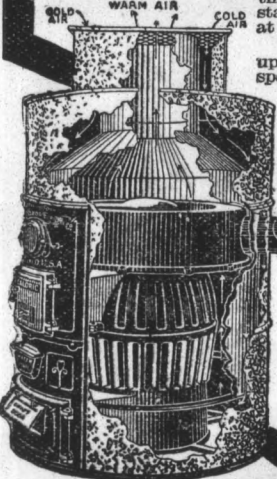
Our Liberal Guarantee

Put this furnace in your home and give it a thorough try-out. If it is not perfectly satisfactory we'll make it so any time within one year from date of purchase. You can't go wrong when you fit your house with the Caloric Pipeless Furnace because we absolutely guarantee it.

Ask Your Dealer or Write For Catalog
 If there is a Caloric dealer in your town he will gladly give you a copy of this book and show you the furnace. If there is no dealer write us direct.

Monitor Stove & Range Company

205 Gest St. Cincinnati, Ohio



THE COAST LINE TO MACKINAC

DETROIT, CLEVELAND, BUFFALO, NIAGARA FALLS, TOLEDO, PT. HURON, ALPENA, ST. IGNACE.

A LAKE TRIP FOR REST AND RECREATION

Have a real vacation on the Great Lakes, the most enjoyable outing in America. Daily service between Detroit and Cleveland and Detroit and Buffalo; four trips weekly from Toledo and Detroit to Mackinac Island and way ports; two trips weekly, special steamer Cleveland to Mackinac Island, no stops enroute except Detroit and Alpena; special day trips between Detroit and Cleveland during July and August; daily service between Toledo and Put-In-Bay.
 RAILROAD TICKETS AVAILABLE FOR TRANSPORTATION ON D. & C. Steamers between Detroit and Buffalo or Detroit and Cleveland either direction.
 Send two-cent stamp for illustrated pamphlet and Great Lakes map. Address L. G. Lewis, G. P. A., Detroit, Mich. Set of poster stamps mailed for five cents.

DETROIT & CLEVELAND NAVIGATION COMPANY

Philip H. McMillan, Pres.
 A. A. Schantz, Vice-Pres. & Genl. Mgr.



BIG FOUR SUCCESSFUL POULTRY JOURNAL the Practical Poultry Paper for Practical Poultry Raisers, devoted to the poultry interests of Michigan, Ill., Ind., and Wis. It should be your paper. Bright, Snappy and Alive. 50c 1 year, 3 years \$1.00. Send 12c in stamps for three months trial. Big 4 Successful Poultry Journal, 445 1/2 Plymouth Ct., Chicago, Ill.

BIG BAIN Hares fine pedigree, bucks 4 months \$2.50 each, utility bucks \$1.00 each, fine healthy stock. No Does for sale. Rose Comb White Leghorns Cockerels \$1.00 S. S. Hamburg Cockerels \$1. Riverview Farm, R. 5, Vassar, Mich.

POULTRY.

Barred Rock Cockerels—for Sept. and Oct. fairs, 500 yearling hens and pullets for shows and breeders. W. C. Coffman, R. 6, Benton Harbor, Mich.

BARRED ROCKS—Parks 200-egg strain stock and eggs in season. FRED ASTLING, Constantine, Michigan

BARRED AND WHITE ROCK COCKERELS Large heavy boned birds, farm raised from great laying strains. Prices \$3 and \$5. Send stamp for reply. Riverview Poultry Farm, Box 798, Union City, Mich.

BIG BANGAL SAL OF BARRED ROCKS. 200 yearling hens that have laid 140 eggs each since Jan. 1st, 1915 to Aug. 1st, 1915 an average of 20 eggs per hen per month. Prices 6 hens \$10, 12 hens \$18, 20 hens \$25, 50 hens for \$60. They are pure bred, large and closely related to our first winners at Chicago, Cincinnati and Indianapolis shows. Suitable males to go with them \$2 to \$5 each. 1500 young birds growing. G. EARL HOOVER, R. 7, Matthews, Indiana.

BIRD LAWN BUFF ROCKS, S. O. Buff Leghorns and Blue Orpingtons. Chicago, Madison and Minneapolis winners. Show birds after November 1. A few Black Orpington cockerels and pullets for sale at \$1.50 to \$4 each. Bird Lawn Farm, Lawrence, Mich.

FERRIS WHITE LEGHORNS FOR EGGS Trapped 15 years. 60 first prizes, 15 big shows. Large, vigorous, laying, breeding, exhibition stock \$1.50 up. Shipped C. O. D. or on approval. Satisfaction or money back. 36 page free catalog gives prices and particulars. Write for it and save money. FERRIS LEGHORN FARM, 934 Union, Grand Rapids, Michigan.

Pine Crest White Orpingtons—Splendid early hatched cockerels and pullets. Belgian hares and Oolite puppies. MRS. WILLIS HUGH, Pine Crest Farm, Royal Oak, Michigan.

Rose Comb Brown Leghorn Cockerels from Mad. Sq. winners \$1.00 each. CLAUDIA BETTS, Hillsdale, Michigan

RED COMB MEANS HEALTH More Eggs—Greater Profits

Every particle of Red Comb Poultry Feed has extraordinary egg producing elements. No matter the distance, the cost or trouble we see to it that every ingredient represents the best earth can produce. Average farm hen lays only 80 eggs a year. Properly fed hens lay from 200 to 300 eggs a year. Sell your grain—buy RED COMB. **Cheaper Than You Can Mix Materials—Better** Red Comb has but one object—MORE EGGS. C. Wilson, one of the big winners at the Chicago Poultry Show, says: "Red Comb Poultry Feed did it—nobody could induce me to feed anything else." Send for free book, "Feeding Poultry for Profit." Written by six great poultry experts. Write today. Edwards & Loomis Co., 3446 North Elizabeth St., Chicago, Ill.



RED COMB

RHODE ISLAND REDS and PLYMOUTH ROCKS. Males 5 to 12 lbs. according to age \$2 to \$5. P. R. hens weight 5 to 9 1/2 lbs., eggs 15 for \$1.00; P. R. eggs \$5 per 100. Mammoth Bronze Tom Turkeys, 8 to 28 lbs. according to age \$3 to \$25, 10 eggs \$3. A. E. Cramp ton, Vassar, Mich.

R. C. and S. C. RHODE ISLAND REDS from prize strains, fine layers with long bodies and rich red color. JENNIE BUELL, Ann Arbor, Michigan.

SILVER Laced Golden and White Wyandotte Eggs for hatching. Ten cents each or 30 for \$2.50. I pay parcel post charges. C. W. BROWNING, Portland, Michigan.

White Wyandotte Eggs—50c for 15, \$1.00 for 30, \$1.50 for 45, \$2.00 for 60, \$2.50 for 75, \$3.00 for 90. DAVID HAY, 292 Forest Ave., Ypsilanti, Mich.

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

Fall Hatched Chicks for Spring Trade

THERE is one branch of the poultry business that deserves more attention from the farmer than it gets. This is the hatching of fall chickens for the spring trade. Our attention was called to it by having some hens steal their nests an hatch out the latter part of October. Those chicks did nothing but eat and grow, and along in April we could get almost any price for the birds. Chicks hatched in the fall and fattened during the winter are known as soft roasters and in certain poultry sections it is a regular business to supply birds of this kind for the big markets. Smaller markets are neglected and it is catering to these cities that the farmer will find his golden opportunity.

October Chicks Bring Money.

Most professionals hatch their soft roaster chicks by the latter part of September as this gives them an opportunity to place broilers on the market during the winter. In our own case we prefer to hatch them later. The latter part of October is plenty early enough. To do this with success means that warm and well-protected quarters must be provided. The brooder house, which is usually idle during the early part of the winter, can just as well be used for late fall chicks as early spring chicks. There is one circumstance that makes raising fall chicks a special delight. We do not have to fight lice and mites. In our own case, also, the little birds seem less liable to disease. At any rate it is no harder to handle a November chick than a February one.

It is not always possible to get fertile eggs in the fall. One should be sure not to breed from the spring-hatched cockerels. In most cases the chicks from such matings will be lacking in vigor. If an old male is available turn him out on the open range with the hens and feed the birds well. We never fail to get a considerable number of eggs during September and October under such conditions. They are always fertile and hatch out a large proportion of healthy chickens.

The Best Breed for Hatching.

For fall hatching there is no breed that will excel the Rhode Island Red. We have also had excellent success with the White Wyandotte and the Barred Rock. Whatever breed we use, we would prefer it to be one of the larger ones. In general it may be said that the bird that dresses off with yellow skin and clean appearance, is best. We have also tried the Light Brahma, but the principal objection seems to be that it must be kept longer to reach maturity or a marketable size.

In feeding fall-hatched chicks we follow the methods advocated for spring, except that a moist mash is fed after the birds have reached the age of four or five weeks. This can safely be given once a day and helps to make the chicks put on fat. The object is not to make laying hens of the pullets, hence it is advisable to feed as much fattening food as they will take. Soft roasters should be "butter fat." This condition cannot be attained unless the birds are kept fat from the beginning. Pullets will mature faster than cockerels and it is well to separate the sexes. Some markets pay even more for the females than for the males.

The Proper Housing.

Fall-hatched chicks should be allowed plenty of air but should have quarters fully protected from cold winds. Chicks hatched in incubators will need indoor brooding. Those hatched under hens may be safely left to the care of the mother birds, provided each flock has a pen by itself. After the youngsters have reached the age of two months they should have open-front houses but it is better not to

provide roosting places if the bottom of the house has a floor to keep them from sitting on the cold ground.
 New Hamp. C. H. CHESLEY.

CLEANLINESS A FACTOR IN PROFITABLE POULTRY RAISING.

Reading the article of Mrs. L. F. L., of Tuscola county, prompts me to ask other poultry raisers to give their mode of managing the hens.

My method, from the fresh egg to the old hens, is as follows: I have every nest a separate box with the top as a lid and with only one end open. I kerosene the roosts and nests every week. I never fail to do this. I feed the best wheat and corn I can buy, and like the Missouri woman, I feed all they will eat three times a day. I clean the houses every day and never have any lice or mites. I water the hens in crocks which I wash every day. There will a slick slime settle around the side of the drinking crocks in 24 hours which is certainly very unhealthy and should be washed out. I feed all kinds of green feed, clover, grass, lettuce, wild lettuce, mustard, etc.

By this method my hens always give me eggs. I have never had white or any other diarrhea, gaps or any other disease among them.

I keep 6 to 100 in one-quarter of a common town lot, which I keep well cleaned. This thing of dirty, filthy henhouses, roosts and nests is responsible for non-paying, diseased poultry. Indiana. G. M. STREET.

FATTENING TURKEYS.

During the summer months, the turkeys will grow nicely with very little feeding, the range furnishing an abundance of insects and weed-seeds. But when the cool days of fall come, and food on the range becomes scarce, the farmer should gradually increase the grain food until they are getting all they will eat morning and night. This increase of food should be made gradually, since if the turkeys are given all they will eat of grains they are not accustomed to, their digestive systems will suffer. While getting in shape for market the turkeys should not be confined. If fed regularly, they will not wander far from home, and will take no more exercise than is necessary to keep them in a good vigorous state of health. A turkey that is poorly fed during the fall months, will, in her futile search for food, run off some of the flesh she made when food was plentiful during the summer months.

The best grains for turkeys are corn and wheat. If possible nothing but old corn should be fed. If necessary to feed new corn, it should be fed very sparingly at first, and gradually increased as the digestive system of the turkey becomes accustomed to it. New corn, unless fed with judgment, will cause looseness of the bowels.

Two or three weeks before the turkeys are to be marketed, it would be advisable to increase the food to three full meals a day. The corn and wheat should still be fed mornings and nights, and in addition to this, a mash mixture, composed of corn meal and ground oats, mixed with milk, should be fed at noon. Heavy feeding calls for a liberal supply of grit.

Indiana. T. Z. RICHEY.

If one is interested in bees and can give much time and thought to his apiary, there is profit in the business if you are in a good locality. Our honey is gathered mostly from white clover. Some years we get fruit blossom honey which is delicious, and we always have some buckwheat honey, which is rather strong flavored. We save all refuse wax, clean, melt and make it into foundation.

Dairy.

CONDUCTED BY COLON C. LILLIE.

LONG DISTANCE MILK RECORD.

Fifteen years ago an assistant in the dairy department of the University of Missouri began to keep record of the milk and butter production of a small Jersey cow. This assistant has gone and others have come and gone, but the Jersey cow is still on the job. In the 15 years she has produced 108,968 pounds of milk and 5,000 pounds of butter-fat, or 5,833 pounds of butter.

Her best year's record was 13,322 pounds of milk and 730 pounds of butter.

During the 15 years the cow, Grace Briggs, has given birth to 12 calves. Her last calf sold for \$300, and the average for the 12 is about \$200. About \$2,400 was obtained from the sale of all the calves. Figuring the entire milk production for 15 years at eight cents a quart, the total would be \$4,358.72. The approximate cost of keeping her was \$50 a year, or a total of \$750.

The average daily production of milk for the 15 years was a little more than nine quarts a day. During her best year she produced a little more than 18 quarts a day.

If the butter was sold instead of the milk, at the price of 35 cents a pound, the total for the butter production from Grace Briggs would be \$2,041.55.

HOLD FOURTH ANNUAL PICNIC.

On August 25 was held at Long Beach Stock Farm on the shores of Gull Lake, Kalamazoo county, the fourth annual picnic of the Western Michigan Holstein Breeders' Association.

Although the weather was cold and threatening, more than one hundred enthusiastic Holstein breeders enjoyed the hospitality of Mr. and Mrs. F. S. Kenfield at their beautiful home on Gull Lake.

While music by the Dalton Band entertained the women and children during the forenoon, the men folks inspected the fine barns and herds of Long Beach Farm and also showed much interest in fifty acres of alfalfa from one to three years old that is producing a wonderful yield.

After a bountiful chicken dinner served in picnic style, Mr. Kenfield opened the afternoon program with an entertaining speech of welcome. Many of the young farmers present were interested to learn that Mr. Kenfield started with an animal that cost him \$300 for which he has refused \$3,000.

Mr. Arthur Clarke, of Alto, Michigan, President of the Association, acknowledged Mr. Kenfield's greetings in a very humorous and inspiring talk on Holsteins.

Honorable Frank H. Williams, of Allegan, Michigan, spoke on the fraternal spirit among Holstein men, and their opportunities. His talk was very impressive, telling how the Holstein breeders are striving for an ideal animal and lauding the fact that many wealthy men who in the past have devoted their time and money to fast horses, striving to breed a horse that would cut another half second off the record, are now taking up the Holsteins and breeding for better milk records with the same enthusiasm and concentration with which they went after speed records. Mr. Williams has been breeding Holsteins for twenty years and to hear him tell of the good they do to the farm, how they return more than they take off (something that cannot be said of crop farming), was very encouraging to the young men present, many of

whom are starting pure-bred herds.

Honorable P. T. Colgrove, of Hastings, Michigan, gave a very interesting talk regarding Holsteins on the Michigan farm and on the good roads movement. Mr. Colgrove and Mr. Kenfield are old boyhood friends, both of whom have made good in their respective lines of work and are now devoting their time and talents to raising Holsteins. Mr. Colgrove was elected prosecuting attorney of his county when twenty-one years of age and continued in that office for several years. He has been honored by his party by being sent to the legislative halls of his state, and today, after many years of active public life, is putting in his time working for better roads and more and better Holsteins for the Michigan farmer.

Following Mr. Colgrove's excellent speech, the business reports were read, which showed the association to be in a flourishing condition.

At the close of the program the visitors were entertained by a trip around the lake and with music by the band. Upon their return they were served with ice cream and cake; everyone leaving for home with a hearty vote of thanks to the genial host and hostess of Long Beach Farm and a feeling that the day had been well spent in mingling with the men and women who are doing so much for the Holsteins and the farmer.

GERMAN MILLET FOR SILAGE.

I have a field of German millet which I would like to put into the silo, but do not know whether it is a suitable crop for ensilage. I would like to hear from someone with experience regarding its value. C. B. A.

I would advise making the millet into hay. It is not a good plant to ensilo. It does not readily pack down close enough to exclude the air sufficiently to make the best quality of silage. It can, however, be readily made into hay. Cut before it is too dry and cock in good sized cocks. These cocks will cure out in a few days, like alfalfa and clover, and you have some fine hay.

This crop can be ensiled successfully if you take great pains in packing it when filling, and then there should be some weight on top. If you could fill the top of the silo three or four feet with green corn or sorghum it will weight down and make fairly good silage. Even with this it will be none too good, for the hollow stems of the millet will contain so much air that considerable fermentation will take place.

Corn is the best and cheapest crop for the silo, and we want a dry roughage to feed with it. Millet makes a very good dry roughage, of course, not so good as clover hay or alfalfa to feed with corn silage, but it makes good forage.

FROSTED BEANS AS SILAGE.

I have four acres of beans that were frosted. Would you advise putting them in silo with corn fodder? I would pull them now and put them on poles until corn was ready for silo. Mecosta Co. W. D. C.

A silo is for the purpose of storing green succulent food. It is not the place for dry plants. The beans can be pulled at once after being frosted and run into the silo while they still have their natural juice, and make a very good silage. But to leave them until the corn is matured and let them get thoroughly dry will mean that you must wet them thoroughly while filling the silo or you will have dry mouldy silage.

Dry corn is sometimes put in the silo by wetting it while filling and it makes fair silage, but it should be put in while yet green, that is succulent, which means full of sap.

If you pull the beans now and cure them dry, I would store them dry and feed them dry. Bean hay made in this way is good hay and has high feeding value.

Prince Albert just does this little old thing:—



Copyright 1915 by R. J. Reynolds Tobacco Co.

Constantly, men who have earned their spurs as smokers are being chosen members of the Prince Albert "Old Time Jimmy Pipers Club." Here is J. H. Hill, of 208 W. 82nd Street, New York City, who has known the daily joys of a Jimmy pipe since he was 17 years old. Mr. Hill is enjoying his sixty-seventh summer.

puts a jimmy pipe into your mouth with a brand-new idea of how joy'usly good tobacco smoke can be! Fire-away any hour of the night or day with P. A., it's so good, so cool, so full of kindly flavor and fragrance. The patented process takes care of that—and cuts out bite and parch. Quick as you can, you get some

PRINCE ALBERT

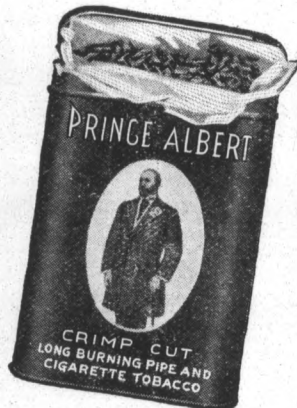
the national joy smoke

It certainly is the brand that's all there, no matter how you smoke it, when you smoke it, or where you smoke it! Just puts sunshine into your spirits the whole day long. Can't hardly wait, sometimes, till you can fill up that friendly old pipe!

Just you find out for yourself that Prince Albert excels in flavor, coolness and all-around smoke-joy the most cheerful thought either we, or its most enthusiastic friends, could express.

Buy Prince Albert everywhere in tippy red bags, six; tidy red tins, 10c; handsome pound and half-pound tin humidors—and that classy pound crystal-glass humidor with sponge-moistener top that keeps the tobacco in such fine condition.

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



MITCHELL STANCHIONS

Steel Stalls, Water Bowls, Cow, Calf and Bull Pens and Steel Horse Stalls.

26 Styles of Mitchell Carriers

to select from. Something entirely new in Carriers. You get the best and save money by getting Mitchell Barn Equipment. Write for FREE Catalog.

Mitchell Mfg. Co., 3100 Forest Home Ave., Milwaukee, Wis.

BUY COWS

BUY MILK COWS NOW! Now is the time! Why? Because dairy cattle are in great demand and dairy products never so high priced and profitable because you can depend on the monthly dairy check every month in the year, regardless of weather and climatic conditions.

\$39.50

500 Lbs. Cap. Because modern dairy equipment has reduced labor and increased dairy profits: because 1915 forage, hay and grain crops mean low cost of feed!

To increase profitable dairymaking on every farm in the U. S., we are making a special 90 day, low price proposition on our New Galloway Sanitary Cream Separator which enables you to entirely pay for it within the next four months with dairy profits! Write today for this startling proposition! Address WILLIAM GALLOWAY COMPANY, Box 183, Waterloo, Iowa.

Ditching Made Easy

with this common sense farm ditcher and road grader. No wheels or levers. Nothing to get out of fix. Simple—Practical. Price only one-fourth of big machines. Does same work. Soon pays for itself. Write for full information and introductory proposition.

Owensboro Ditcher & Grader Co. Inc. Box 330 Owensboro, Ky.

THE HOOSIER SLO EXTENSION-ROOF

Roof Open and Filled with Ensilage. Roof Closed (Section of Roof and Silo removed).

The Hoosier Roof will make your silo 100 per cent efficient. No space lost by your ensilage settling. It is the kind of silo roof you have been looking for. Write nearest office for catalog and learn why Hoosier customers say that the "HOOSIER ROOF" ought to be on every silo.

SHEET METAL SPECIALTY CO., 419 New York St., Goshen, Ind.

Only \$2 Down One Year to Pay!

\$24

Buy the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in four larger sizes up to 6 1-2 shown here.

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

ALBAUGH-DOVER CO. (INC) 2195 Marshall Blvd. CHICAGO

NOTICE!
Write to the Humane Stanchion Works for literature for the latest improved stanchion.
HUMANE STANCHION WORKS, Baraboo, Wis.
Just Say— Saw your ad. in the Michigan Farmer when writing advertisers

Sewage Disposal on the Farm

By FLOYD W. ROBISON

The greatest sanitary objection to the use of the old type cess pool or vault in the farm home is probably its menace to the home water supply. It is almost notorious that much of the water used on farms is entirely unsafe for drinking purposes, due to the surface, or undersurface, contamination from some such contaminating centers as a cess pool or vault. Very frequently the water supply is taken from a point where surface drainage from the farm yard is very readily identified in the water supply. There are, of course, many other valid reasons why a decided change in the disposal of sewage is desirable. The fly nuisance is very closely connected with the old unsanitary type of sewage disposal, to say nothing of the foul odors and many other objectionable items, and it is found that an improvement in the sewage disposal matter provides a household convenience instead of making it necessary to sacrifice convenience to sanitation. The installation of most sanitary devices and facilities is uphill work because it entails the sacrifice of some other easily manipulated system but in the matter of sewage disposal the securing of a proper disposal of the waste becomes at the same time a source of home convenience.

Economical Considerations.

In one sense of the word, it may be difficult to establish the fact on a small farm that these devices, such as a sewage disposal system, safe and sanitary water supply and proper lighting facilities, are economic conditions but insofar as the sewage disposal factor is concerned and the water supply problem is concerned, we must repeat the position which we have time and again taken that sanitary conditions must in every instance take precedence over those of economy. We fully believe that the installation of these facilities is not uneconomical but we do not approach this subject on the ground of economy. Just how much these factors have to do with the satisfaction of living upon the farm is too broad a question to deal with at this time.

Description of a Septic Tank.

A septic tank is nothing more nor less than a large sedimentation basin of sufficient capacity to hold the sewage material until its solids are completely reduced through the medium of reducing bacteria. The size of the septic tank necessary, therefore, must vary with the needs of the home in which it is installed. In the ordinary farm home it need not be of any greater size than an unusually large cistern. It should be placed at some considerable distance from the house, and in fact, if the ditch into which the farm drainage runs is at a considerable distance from the house and the fall is sufficient, the septic tank may be placed on the bank of the ditch so that the overflow has ready access into the drainage system. In building the septic tank in such a position there should be a manhole at intervals perhaps of twenty rods and the provision for the carrying off of any gases produced by bacterial action so that they will not follow the sewer line up into the house. These are merely details of the establishment of the sewer and plumbing and are pretty well understood by most plumbers, but the farmer should see to it that the opportunities for the escape of these gases are present. Provision should be made in the septic tank to stop the ordinary flow from one end of the tank to the other. For this reason it is quite customary to provide a series of baffles which deflect the current from the intake to the outlet so as to insure the overflow only of thoroughly liquified matter.

A well operating septic tank will after a time have a thick bacterial

crust over the entire surface and be a rich culture of the bacteria which affect the solvent action on the solid matter in the tank. When the tank is working properly the overflow, or effluent, will be perfectly clear and free from any suspended matter whatsoever. An analysis of it will show the absence of any insoluble organic compounds, the practical absence of any nitrogen in the form of nitrates or nitrites, but an abundance of nitrogen in the form of different ammonia compounds.

The Overflow of the Septic Tank.

The accomplishment of results as detailed just above marks the end of the action which is possible in the septic tank. So far the action has been practically an action in the absence of air. It now becomes necessary to accomplish the two other steps which are necessary before the outgoing liquid can reach a state of complete rest whereby it is directly suitable for nature's building up processes again, such as are typified by nitrogen in the form of nitrates. This next step must be accomplished in the presence of air and the more abundant the aeration the more rapidly do these changes take place. It would be well therefore that the overflow from the septic tank run into an open ditch with a satisfactory flow or into a ditch with large tiles where there is an abundant activity of air organisms. The ammonia in the overflow of water, if under the conditions which we have outlined, there speedily oxidizes, first to nitrites and finally to nitrates, in which condition, in the presence of air, no further changes take place.

The Drainage Should be Good.

The effluent, however, from a septic tank should pour into a ditch or drain which has a perceptible flow so that it does not become stagnant. If the ditch becomes clogged up with weeds and sticks so that the water does not drain off, the same type of organisms which were present in the septic tank and operated in the absence of air, begin again to operate antagonistically to the work of the air organisms and we get the reduction of the nitrates to nitrites and finally the reduction of the nitrites to ammonia again and the accompanying foul odors of putrefaction. It is this condition which has brought the condemnation of the septic tank in certain quarters, simply because a thorough understanding of its operation bacteriologically has not been had.

Connect up the Water Supply Also.

The adopting of this system makes necessary the installation of some type of household water supply for it is well that sewage which enters the septic tank should be fairly well diluted when it enters. This dilution is provided for by the ordinary closet flush system in the homes, such as is used in the homes in cities. Of course, it is not necessary that this be made automatic but if it is made automatic then the likelihood of the pipes becoming clogged before the sewage reaches the tank will be reduced to the minimum.

There is practically nothing in this method of sewage disposal which cannot be performed by the average farmer. He is familiar with the laying of tiles and drains and familiar generally with the simple problems in concrete construction. The septic tank may be quite ideally made from concrete. The main expenditure will be for toilet room facilities, such as the flush tank, and bowl. We would strongly urge the farmer to consider the possibility on his farm of putting in a complete water system at the same time the sewage system is installed. This has been avoided by many farmers because of the expense but there are many times during the year when a little planning ahead will

permit the farmer himself to do the major part of the work. It might be advisable for him to consult with someone competent who would lay out for him a general plan to which he can gradually work. When the sewage disposal proposition has been satisfactorily settled on his farm, when a convenient and safe water supply is conveniently at the command of the farmer's wife in the kitchen, then the farmer's home will not seem to be much less convenient than the home of his friends in the city.

NODULES ON CLOVER ROOTS.

Will you kindly advise me what my soil lacks or why it is that my clover does not have nodules on the roots? I plowed my ground in the spring of 1913 and sowed the clover without a nurse crop and got a good stand. I pastured it the latter part of the summer, cut it for hay in 1914, pastured it the latter part of that summer, and cut it for hay again in 1915. This summer it made a big growth after being cut for hay and now I am plowing it for wheat, but I have been unable to find any nodules on the clover roots.

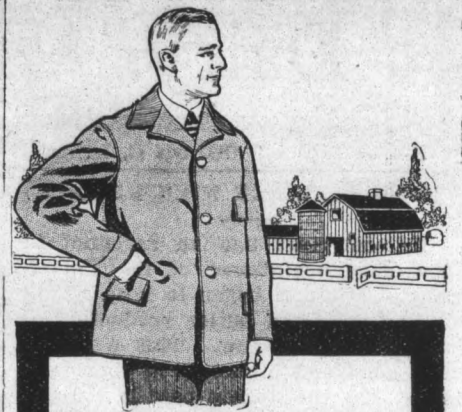
Berrien Co.

C. C. V.

The only reason why clover would not have nodules on its roots would be an acid condition of the soil which would make it an unfavorable medium for the development of the nitrogen fixing bacteria which causes the root nodules. The proper course of treatment in such a case would be to lime the soil when preparing the seed bed for the wheat. The kind and amount of lime to apply would depend somewhat upon local conditions. If located near a railroad station so that the expense of hauling would not be too great, and if the area to be limed is sufficiently large to make it feasible to purchase the ground limestone by the carload, then it would perhaps be best to apply finely ground limestone at the rate of say two tons per acre. In case only a small area is to be treated or the material has to be drawn from a considerable distance, it would be more economical of labor to use hydrated lime at the rate of say 500 pounds per acre. Something also would depend upon the equipment available for distributing same, since the better the distribution, the better will be the results secured.

Nothing is said in this inquiry regarding the nature or previous treatment of this soil, but from the fact that it was seeded to clover without a nurse crop, it is a reasonable deduction that there has been previous difficulty in securing a stand of clover on same. The lands which need lime most generally are of the more open sorts which have been more easily depleted of their lime supply by the action of rain. There are very large areas of these lighter and more open soils in Michigan, which would be greatly benefited by a liberal application of lime. In most cases they will grow clover readily after such treatment, and root nodules will be plentifully developed. On very rich soils which are liberally supplied with humus and consequently high in their content of nitrogen, clover plants might not develop many nodules, since they could secure an abundance of nitrogen from the soil. This, however, would not be the case on most Michigan soils.

The nodules which form on clover roots are smaller than those seen on alfalfa, and appear singly rather than in clusters but are normally so well distributed over the roots that they would scarcely be overlooked where a plant was pulled from the plowed furrow, which might easily be the case with alfalfa from which the nodules are more easily stripped in shaking the plant free from the soil. By liming this ground when preparing for wheat and fertilizing liberally, there should be no trouble in securing another good seeding of clover upon which root nodules would develop plentifully.



A Long-Wear Coat For Farmers

At first we made Duxbak clothes for sportsmen only. But many farmers bought them anyhow because they both shed rain and wear like iron, so we now make the

Duxbak

Special Farm Coat

for the man who must work outdoors in all sorts of weather, or who drives about the country in an automobile. Duxbak is rain-proof, ventilated, soft and comfortable at all times. Made of exactly the same material as our famous weather-resisting (Cravenette) Sportsmen's Clothes. Duxbak Coats in use in good condition after years of wear. 4 buttons, square corners, two rain-proof outside set-in pockets and one outside breast pocket. Large inside pocket for memo books, pencils, etc. and small inside pocket for tobacco, matches, etc. Body and upper half of sleeves lined throughout with Cravenette-protected material. Cuffs and collar corduroy faced to button close. You'll get the value out of this coat in the first season's wear.

A FREE Book About Strong Clothes Write for your complete catalogue of DUXBAK Outdoor Clothes—more wear with less repair.

Bird, Jones & Kenyon, 31 Hickory St., Utica, New York.

Get A Money Making

SANDWICH Hay Press

—the famous motor press that is making clear profits of \$10, \$15, \$20 a day for shrewd farmers everywhere. Makes its own power (4, 6, or 8 H. P.) from simple gas engine on same truck. Both Press and Engine made in our own factory. You can

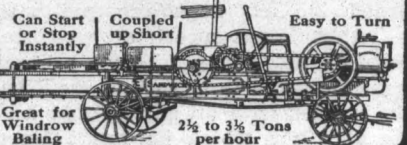
Break All Baling Records

in your neighborhood with the fast working Sandwich Motor Press. Sure certain operation—solid salable bales. Friction clutch right on press. Heavy "can't slip" steel chain belt. Simple self feeder and block dropper. Engine with Magneto. We make Horse and Belt Power Presses too.

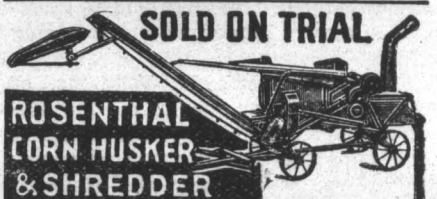
Get Our Book

—"Tons Tell"—packed from cover to cover with valuable hay baling facts. Show in actual figures the big profits you can make with a Sandwich Press. A postal brings a copy FREE. Write NOW! Address

SANDWICH MFG. CO., 5140AK ST., SANDWICH, ILL. Box 514, Council Bluffs, Ia. Box 514, Kansas City, Mo.



Be Sure To Write Tonight!



Handles your corn crop economically. Sizes to run with from 6 to 20 H. P. Engines. ROSENTHAL Huskers, Shredders, Feed Cutters and Silo Fillers, have been giving satisfaction for years. Free Book Get this Free Book about corn husking and shredding, and details about the Rosenthal. Give H. P. of your engine. We will also send Free Farmers Account Book. ROSENTHAL CORN HUSKER CO. BOX 2 MILWAUKEE, WIS.



Hodges Potato SORTER

will pay for itself in a few days' work. Furnished with three screens of different size meshes. It folds up and can easily be carried in a top buggy. Every farmer and dealer should have one. Guaranteed to give perfect satisfaction or money refunded. Write for particulars. W. B. HODGES, New Hudson, Mich.

YOUNG Man, would you accept a tailor-made suit just for showing it to your friends? Then write BANNER TAILORING CO., Dept. 177, Chicago and get beautiful samples, styles and a wonderful offer

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

THE earth is teeming with mysteries, but we have lived amid them so long that they have become commonplace in our eyes. The mysteries of plant life are all about us, and yet how little attention the unthinking give them. Everything which has life has intelligence. Plants have intelligence, the same as human beings. They have senses just as we have; perhaps the same senses. We know that plants have the senses of feeling, tasting and touching, and very likely they also see, hear and smell. Everything which God blesses with life he also blesses with a kind of intelligence, an intelligence which fits that thing to some extent for protecting and prolonging its existence.

And each plant has an individuality

Intelligence of Plants

By ISAAC MOTES.

as distinct as human beings, or as any animal of the animal world. Why, for example, does one plant grow straight up, tall and slender, another creep along the ground, and still another climb up a pole? Because plants possess an intelligence and an individuality distinctively their own. A tree is, of course, a specimen of plant life, the same as the modest blue violet that pushes up through the brown leaves covering the earth in early spring.

What else but intelligence impels a climbing vine to reach out its sensi-

tive tendrils until they come in contact with a pole or bush up which they may climb? The pole or bush may be a yard away, but if it is the nearest support the vine can reach it will send out these sensitive arms in that direction in the effort to reach and climb up this object, or any other object strong enough to give it support. And if contrary winds or other forces tend to prevent the delicate shoots from reaching their support they will persist, and manifest a stubborn tendency to reach this, their natural support and this peculiarity continues to man-

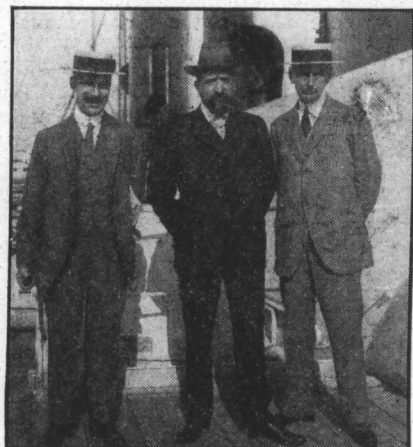
ifest itself throughout the growing season of the vine.

Climbing plants also know their natural friends from their enemies, the same as human beings do, or animals. Luther Burbank, the plant wizard of California, made an experiment which proves that plants have more intelligence than they are given credit for. He planted the seed of a climbing vine, then set an iron rod in the ground near by, and a little further away, in the same direction from the plant he set a wooden rod, and when the vine got large enough to send out its tender arms or "feelers" for something on which to climb, the arms on the side next to the rods crept along the ground by the iron rod nearest the root of the vine, but showed no in-

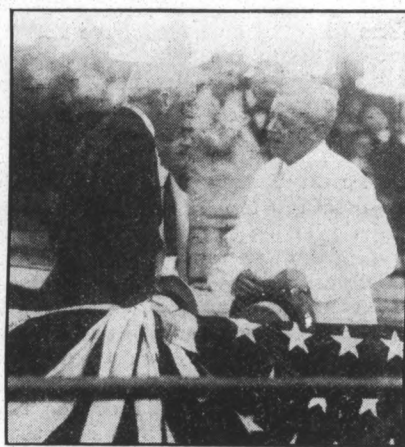
WORLD EVENTS IN PICTURES



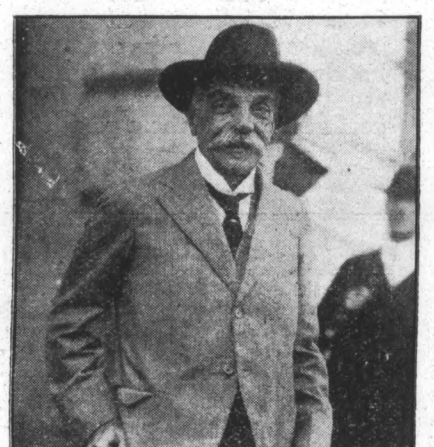
Mr. Archibald, who Carried Messages for Austrian Ambassador.



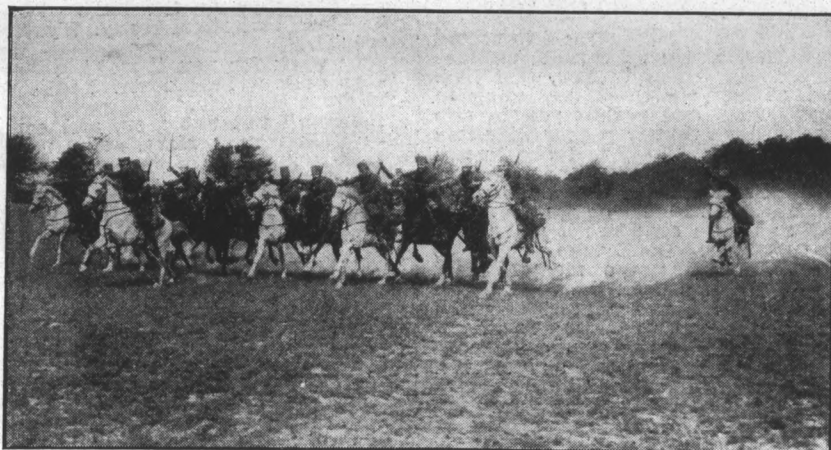
Members of Anglo-French Financial Commission now in America.



President Wilson and Secretary Lansing Confer at Ball Game.



Austrian Ambassador, Charged with Interfering with American Industries.



French African Chasseurs in one of their Daring and Brilliant Charges.



Mexican Bandits Captured by U. S. T. troops, and R. R. Bridge they Blew Up.



Collapsible Cycle for German Corps.



Victorious German Troops Entering Warsaw After Russian Evacuation.



These Uniforms Make Officers Invisible at Night, when Inspecting Lines Near Trenches.

Copyright by Underwood & Underwood, N. Y.



Plow Deep

Deep cultivation pays well in bigger crops.

Scientific factory methods give you more for your dollars when you buy a suit of clothes.

Clothcraft is known to the whole men's clothing industry as leader in the medium-priced field—\$10 to \$25—because its makers do every little thing in the one best way and guarantee the quality.

Come to the store and see for yourself. Don't overlook the Clothcraft Blue Serge Specials—"4130" at \$18.50, and "5130" at \$15. You wouldn't believe such handsome, well made suits for men and young men could be sold at these prices.

The Clothcraft Store

(IN YOUR TOWN)

CLOTHCRAFT ALL WOOL CLOTHES
\$10 to \$25 Ready to Wear

Made by The Joseph & Feiss Company, Cleveland



Cyclone Ensilage Cutter



Just the machine for that 5 or 6 H. P. Engine. Guaranteed for 5 years. It will pay for itself this season by saving your late corn crop.

The Cyclone is made in 12 sizes. Catalog and free Silo information book mailed upon request. Get our liberal proposition and easy terms to agents and farmers.

IRONWOOD MFG. CO. Bellefontaine, Ohio.



12 New Bulbs \$10c

Together with a Complete Treatise on the Culture of Hardy Bulbs both indoors and out, and our beautiful Catalogue—
1 Giant Calla, largest and finest.
2 Pink Freesia, exquisite new color.
3 Purly Freesia, big pure white.
3 Double Rosebud Oxalis, large as a half dollar, and fine as a Rose.
3 Oxalis G. Duchess, mixed colors.
All for 10 cts. postpaid.
Our Catalogue of Hyacinths, Tulips, Narcissus, Lilies, Hardy Plants and rare winter-blooming plants free to all.

John Lewis Childs, Inc., Floral Park, N. Y.

Mention Michigan Farmer when writing to advertisers

clination to climb up it. Instead they crept on two or three feet further and climbed up the wooden pole. This was because the vine had intelligence; it had senses just as we have, and its senses, either of sight, smell, feeling or some other natural instinct told it which direction to go to find a natural, friendly support on which to climb. It recognized the wooden pole as a friend, and the iron rod as a stranger in whom it was not its nature to trust.

I have said that plants also have the senses of taste and touch. The roots of plants taste fertility in the soil in which they grow; the natural elements a growing plant needs. You can attract the roots of trees to a certain spot of ground near the tree by making that spot much richer than the surrounding soil, just as you can attract a hungry boy to the dining-room by the smell of a savory dinner. Plants get hungry and thirsty the same as human beings and all animals.

Fruit growers know that in order to make the roots of a tree spread out at a distance around the tree the soil must be equally fertile out as far as you can make the roots extend. If you put the fertilizer close around the tree you gradually bunch the roots near the foot of the tree, and if the locality in which the tree stands is subject to storms or high winds you make the tree more liable to blow down, while with a wide-spread root system the tree is anchored securely in the ground, and resists the fury of storms. The roots of the tree feel, taste, see or smell the fertilizer, (call it what you will), and are drawn in that direction.

The roots of tree also have intelligence to go in the direction of moisture. If the orchardist puts a thick mulch of dead leaves close around a tree the leaves protect the ground and keep the moisture from drying out. The leaves therefore keep the moisture near the top of the ground, and if this practice is pursued for years many of the tree roots will grow close to the surface of the ground; so close that you can rake the leaves away and many of the roots will be in view. This shows that roots of trees have intelligence to grow toward moisture. Whether they taste, feel or see the moisture we don't know, but they have some quality or sense which makes them conscious of the presence of moisture.

A western writer tells of a eucalyptus tree which grew on the outskirts of a town in California in a semi-arid region, where there was not enough moisture in the ground to sustain the normal growth of the tree. A number of these trees grew in this locality, and all of them showed unmistakable signs of a lack of sufficient moisture except one, which was always green and flourishing despite the dry weather. It was a mystery to everyone why this tree was so luxuriant, for it stood in no more favorable place than any of the others.

There was, however, a sewer about ninety feet from this tree, with a tiny hole in the clay pipe of which the sewer was made, allowing a little water to leak out, and making the soil around the hole moist down two or three feet below the surface of the ground. Investigation showed that one of the roots of this eucalyptus tree had smelled, felt or tasted this moist earth ninety feet away, and had traveled straight towards it, never stopping until it got its "foot" in the moist earth, and this was what had given the tree its luxuriant appearance. It is very rare that the roots of one of these trees will extend out because it sensed moisture in that direction, and how else can you explain such a phenomenon than by saying that tree roots, along with all other plant life, have intelligence?

Everything God blesses with life he blessed with intelligence of a kind. Animals have one kind of intelligence, and plants still another kind.

THE RED MIST.

By RANDALL PARRISH.

Copyright A. C. McClurg Co.

CHAPTER XXX.

A Way of Escape.

"Explain first," I said shortly. "As far as trust goes I have confidence in you, Nichols, just so far as I can see. What is below?"

"Five steps leadin' down inter a wood tank," he explained slowly, realizing that his only hope of release lay in a full description. "It's empty now, an' dry as a board; ain't been a baptism yere in six months. The place whar the water runs out is at the south side, right down 'gainst the bottom; ther cover ter the opening is screwed tight by a wheel. Ol' Ned Cowan made ther contraption, an' yer kin stand on ther upper step an' open an' shut the thing, an never git yer feet wet."

"The entire cover comes off?"

"Sure, if yer unscrew it fer enough."

"And how big is the opening?"

"Wal, I don't know, but I've crawled through thar fixing a leak, an' if I did it onct, I reckon I kin again. 'Tain't mor'n 'bout six feet beyond ther wall till it hits the edge o' ther ravine. Thet's why the Yanks didn't make no attack on thet side o' ther church—thar ain't no room."

The whole situation lay clear before me. I had no thought of utilizing this unexpected opportunity myself, for I meant to stay with the others, and perform my part of the fighting to the end. But here was protection, and possible escape, for Noreen. Yet could the preacher be trusted? Would he play fair if I released him, and left them alone together? Did not his interests also lie in getting away safely? What act of treachery could he commit, and, besides the girl was armed.

"How do you light this church?"

"Candles mostly," surprised at the question, "yer ain't goin' fer ter light up, are yer?"

"Not here—no; but below; where is there one?"

"I reckon on thet shelf in the pulpit yer'll find a dozen or so."

"Bring a couple here, Noreen."

She slipped across silently, and came back with two in her hand.

"You are going to try to get away?" she whispered cautiously.

"No, not now. An opportunity may come later. If it was possible to slip all these men out I would gladly do so—but it is already too late for any such attempt. But there is a chance for you, and it is even barely possible that, when all hope of defense is over, I may find some way of joining you."

"You—you promise that?" she asked.

"If I consent to go, you will come later if you can?"

"Yes; I will pledge myself to accept every chance, when I can do no more fighting. I'll come to you, if I live. Now, Nichols, listen—I am going to set you free, and permit you to slip down through that trap door with this lady. She is armed, and she knows how to shoot. Attempt one treacherous trick and you pay the penalty."

"I ain't thet kind," he whined.

"Oh, yes you are; but it will never pay this time. Don't take your eyes off him, Noreen; the moment that trap door closes light the candle, and keep the revolver ready. Make him unscrew the cap, and leave it off out of the way. Set the candle down in one corner as far back as possible. You better go out first."

"I—I am not to wait for you?" he wondered.

"Not in there—no; outside, for they might fire the building. Nichols, where is the best place for the two of you to hide so I could find you?"

"In the woods to the west; there is a trail half way down the ravine a climbin' up—an ol' hog trail."

My fingers touched his throat, and I bent lower looking straight into his eyes.

"Now, mark well what I say, Nichols. I am going to release you, and give you a chance to get away. But you stay, with the girl—do you hear! Stay with her until you both reach the Confederate lines at Covington. If I ever get out of here alive, and learn you have attempted any trick, I'll run you down, Nichols, if it takes ten years. Now I'll cut the rope, and you creep over to where that ring is in the floor, and wait my order."

Evidently his limbs were numb from the tight cord, for he crept the few feet painfully, and then sat up rubbing the afflicted parts with both hands. I swept one glance out through the window, and then about the dim interior, endeavoring to locate the men nearest us. Only one stood close enough to observe our movements, two

and I sent him with a message to the sergeant.

"Now, Noreen," I whispered swiftly, "this is the best time. Take these papers; they are for Jackson; give them to the first Confederate officer you meet, and have them forwarded at once. Don't trust Nichols for a single moment out of range of your revolver."

"You will not come?"

"Not now; you would not wish me to desert my comrades—would you?"

"Oh, I do not know! I do not know! It is so hard to decide. You really wish me to go? It will please you?"

"Yes."

"And you will come if—if you can? I am to wait, and—hope for you?"

"I pledge you my word, dear girl." She clung to my hands, her face uplifted in the moonlight.

"I—I am your wife," she said softly, "and I—I want you to—"

Three shots rang out clear and distinct without, and a voice shouted hoarsely.

"Stand to it, lads!" cried Harwood from the dark vestibule. "The Yanks are coming!"

I swung her light form across the platform to where Nichols crouched.

"Quick now, both of you! Careful; don't fall, Noreen. Go on, man; I'll close the trap—and God help you if you don't remember!"

CHAPTER XXXI.

The End of Defense.

I HAD no time for thought—action called me. Yet her last unfinished sentence rang in my memory. Could it be that she cared also, that out of this strange association there had grown an awakening interest? Could she have meant that? Was that what she sought to say in those final words? I would have given much to know, yet the faith that it was so flamed up in my heart instantly, and seemed to blot all else out. For a single moment I stood there motionless, my feet on the lowered trap, dimly conscious of the uproar about me, yet scarcely able to realize the imminence of the peril. They were pouring volleys into the front door—the roaring of discharge ending in the sound of splintered wood, and sharp cries of pain. Carbines cracked in response, and Harwood's voice sounded continually through the hideous discord.

"Get back, men! get back! ay, beyond the partition, you fellows in front there! No, don't leave the windows; they'll charge presently, and there is no use firing those carbines now—the range is too long. Load again—load and stand ready. Wyatt!"

"Here, sir."

"Any work for you there?"

"No; only a half dozen Yanks in sight from this end."

"Bring all but two men, and come here! Wharton, O'Hare, stand ready to take a hand. Ah! there the bluebellies come, lads—now give them the lead! fire!"

The little squad of us leaped down the aisle, and Wharton's and O'Hare's men clambered over the benches, cursing and yelling. Already the smoke of the carbines filled the church, and we could see little except in the flash of the gun-fire. The swirl of bodies hurled me to the right, away from where Harwood stood, and brought me in front of the opposite door. Through this opening, and the narrow window beyond, I got a glimpse outside—at a black mass of men sweeping straight toward us, their guns gleaming viciously, their voices echoing in savage shout. It was a mere glimpse, an infernal vision, and, almost at the same instant, they came crashing against the shattered door, beating it down with their gun-stocks, and leaping through into the maze of overturned benches littering the vestibule. The door fell in splinters, the frenzied assailants plunging headlong among the debris, yet hurled forward by the mad impetus of those behind. The discharge of guns lit up the restricted space with red glare, giving us sight of faces, of brandished weapons, of wiggling, advancing forms. It was a glimpse into the pit, a scene of horror never to be effaced from memory. How they got through that tangle of death I know not. Into their very faces we poured our fire—our own men, caught within the narrow space, striking at them with clubbed guns—but they were too many to be held. Over the dead poured the torrent of living, firing, cursing, striking, jamming the few gray-jackets against the inner wall, and, in two resistless streams, hurling them—

selves against both vestibule doors.

Wedge in the portals I saw all this so clearly that each detail stands out in memory—the infuriated faces, the falling bodies, the disfiguring bloodstains, the savage glint of steel. Those who came first were not soldiers—they were Cowan's men, gaunt, rough fellows, bearded and dirty, their fierce curses sounding above the uproar. And they fought like fiends, driven by Cowan's voice, and pressed remorselessly forward by the cavalymen behind. I saw him once, a blood spot on his cheek, and I fired over the heads of those between us, but though he fell, he came to his feet again and was swept to one side by the rush of men. I saw all this, and no more; it was like a flash on the screen—and then everything became an indistinct blur. They were upon us, jammed in the narrow doorways, each man fighting for life. I used gun and revolver, fist and stock; I knew not who stood who fell; in the red mist before me were black shapes, hateful faces, and I struck to kill. Twice I lost foot and fell, but was up again, fronting them. I stepped on dead bodies, slipped in pools of blood; falling men caused me to stagger; a slug of lead tore burning through my shoulder; a glancing knife blade ripped my forearm. I had no time, no room, in which to reload; my hands gripped the hot carbine barrel and I swung the stock like a flail.

It was stifling—I could hardly breathe; the room choked with smoke and our bodies were reeking with sweat. A gripping hand ripped my shirt open, clutching for the throat, and I jabbed carbine barrel into the bearded face. Yet we could not hold; could not stand against that torrent—there were not enough of us. Inch by inch they won through the door; we could kill, but not stop them, and they hurled us back, stumbling over the dead, clambering across overturned benches, but unable to stem the increasing tide. We were all together now—Harwood, Wharton, O'Hare—the sole handful left, and we made a fight of it, the best we could. There was a moment's pause, the merest instant in which to breathe, and my eyes met Harwood's. He was naked to the waist, hatless, blood dripping from a cut over one eye, the stock of his carbine shattered.

"Ah, gunner of Staunton," he called out cheerily, although his voice cracked with dryness. "Didn't I tell you if you wanted a good time to fine the cavalry?"

"Forward, men! forward." It was Fox's voice, although I saw nothing of him. "Once more, and it's over with—forward!"

"Now, lads, meet them!" burst out Harwood. "About me, Third Kentucky—here they come!"

They drove us in so as to encircle us, yet the jumble of benches served as some protection to our rear. Perhaps the fact that there were Yankees between us and the pulpit prevented firing for we met hand to hand in a death grapple. I have seen battles, yet nothing like that; it was as though beasts of the jungle fought; men struggled with naked hands, struck death blows, fired into each other's faces, trampled over writhing bodies, cursing, or yelling defiance as they fell. We scarcely knew friend from foe, blue from gray. I cannot even tell what occurred to myself in those breathless moments. I know I fought madly, blindly—again and again sweeping a space clear with my weapon; hands gripped my throat, my hair, and I tore loose; fingers clutched at my legs, but I kicked free. I was conscious of blows, of wounds; I knew when Harwood fell, and was trampled under foot; I heard O'Hare scream; I saw the hated face of Anse Cowan in the ruck and leaped for him, but who my mad blow struck I could not tell. Some rush, some quick pressure of bodies, hurled me side-wise, caught me in a vise; I tripped over a dead man, staggered to my feet again. I got footing on the pulpit platform, and held it for an instant, my gun-barrel crashing into the mass of faces below. Wharton joined me, a bull mad with rage; I saw him rend the pulpit stand from the floor, and hurl it with all his strength into the ruck. Then twenty hands gripped him, hauling him down, a clubbed musket descended, and the sergeant pitched forward like a log of wood. There was a shot, the blow of a rifle barrel, and I went down, the very breath of life seemingly knocked out of me.

I fell on the platform, back of where the pulpit desk had stood, and a body lay across me. If I lost consciousness it was for no more than an instant, yet my whole body felt numbed and useless. I could scarcely move my fingers to unclasp them from the gun-barrel, and every breath I drew was in pain. Still I realized all that happened, distinguished voices, and the shuffling of feet on the poucheon floor. I heard Fox shouting orders, as the mad hubbub ceased.

"That's enough! that's enough

men! It's all over with. Here Sergeant, round up those prisoners; God knows there are few enough of the poor devils left. Guard those able to walk outside. Now, Herzog, carry the wounded over here. What? Why of course, you idiot, we are not savages—those fellows fought like men, and are to be treated decently. No distinction, mind you. Let the dead lie where they are till daylight, but don't overlook a wounded man. Where's Cowan? Does anyone know?"

"Shot, sir; he's here in this pile somewhere."

"See if the fellow is alive. Who is his lieutenant?"

"I am, sir; my name's Kelly."

"Well get your crew of scoundrels out of here, what's left of them. Do you hear! This is soldier work, and I want you fellows outside."

"You used us all right when thar was fightin' ter do—"

"That's enough, Kelly. I didn't use you—Moran did; and you can go to him with your complaints. I know how you treat prisoners, and would hang the whole of you, if I had my way. Now get out, and don't answer me—those are your orders. Lieutenant Raymond."

"He was here a minute ago, sir," a voice answered from the vestibule, "but he went outside. I think he was touched a little in one arm."

"Pity it wasn't in the mouth; has anyone seen a woman?"

No one answered.

"No! that's strange! Here Green, take a couple of men, and feel your way along the walls; Jasper make a light of some kind—who wants me? Colonel Moran? Tell him I am the only officer present, and I can't leave. The place is a shamble!"

The searching party was to the right of me, against the black shadow of the wall. It was darker than ever in the church, as though a cloud obscured the moon, but far away a ruddy glow reflected along the beams overhead, as someone coaxed a reluctant torch into flames. A medley of sound arose all about me—the mutter of voices, the shuffling of feet, groans, and cries for assistance, with the occasional thumping of a musket stock on the floor, and the rattle of broken glass. This was my chance, my one and only chance to slip away unobserved. In five minutes more the searching party would find me there, and bear me along with the others. I wiggled out from under the weight of the body lying across my legs, and groped about in the dark until my fingers encountered the ring embedded in the floor. I still lay thus, conscious of soreness in every muscle, afraid of attracting some eye if I moved, when a man leaped onto the platform, and strode across to the nearest window, his rough shoe actually grazing my hand as he passed. I heard him call some order to those without; then the thud of horses' hoofs to the left. The fellow leaned far out, watching.

There would be no better time than this, for no one else was within thirty feet of me, and the light of the sputtering torch still left the pulpit platform in shadow; Fox was at the other end of the church, his sharp voice rasping out orders. I got to my knees and lifted the trap barely far enough to squeeze through. There was a gleam of light below, sufficient to reveal the dark outline of the steps leading down. Some eye might distinguish the glimmer, yet I thrust my body through the narrow opening noiselessly, and lowered the cover to the floor level. There was no cry, no sound indicating that the movement had been observed. I waited an instant, crouched breathlessly on the upper step, listening. Someone walked across, directly over my head—the fellow who had been at the window, no doubt—and jumped from the platform to the floor. My eyes surveyed those contracted surroundings curiously. The candle, a mere fragment, burned dimly in one corner, revealing what appeared to be the interior of a huge box, with a platform built half across it, its outer edge protected by a low rail. The wood was damp, and water-soaked, half way up, but there was no unpleasant odor. A small wheel ingeniously arranged to operate a lever, occupied one end of the platform, and directly across was an opening in the side of the wall next the floor, barely large enough for a man's body to squeeze into. Nothing else was visible; no evidence left of the two who had already passed that way.

(Continued next week.)

Vigilance in watching opportunity, tact and daring in seizing opportunity, force and persistence in crowding opportunity to its utmost possible achievement—these are the martial virtues which must command success. —Austin Phelps.

Life's reckoning we cannot make twice over. You cannot mend a wrong subtraction by doing your addition right. —George Eliot.

Go October 14 with Santa Fe Farmers' Special for a tour of California farms and fairs



Rural California invites you to be its guest, and will give our party a chance to see by auto the country life that most tourists miss.

Bring your family along for their vacation outing. October is a convenient month to get away, and it is a pleasant month to travel in.

California's two great fairs are at their best, and offer special features for entertainment of our party.

I am getting up a special limited party of people interested in the business of farming to make this trip under my personal escort.

I want you to see California farms and talk to the farmers there about the greater production per acre, the balmy, healthful climate, the year-round growing season. You will be the guests of many communities in Southern California and San Joaquin Valley. They will take you on auto trips to see their farms, orchards and homes. We have no land to sell. We just want you to see and know California.

Let me tell you at what small cost this trip will be made. We will live on our own special cars most of the time, so saving hotel bills. Go with us on the Santa Fe. We will stop a day on the way to see the wonders of the Grand Canyon of Arizona.

This party will leave Chicago October 14, reach San Francisco October 29, and return from there at your pleasure up to December 31. A second party will leave on date to be announced later. You'll see rural California—as you could see it in no other way.

I have just made a personal trip to the Coast to see what the various California communities propose in the way of entertainment. They are eager to show our party their country. They want you to know what California is like. They will make you feel at home. It will be a wonderful trip. I hope you can go with us.

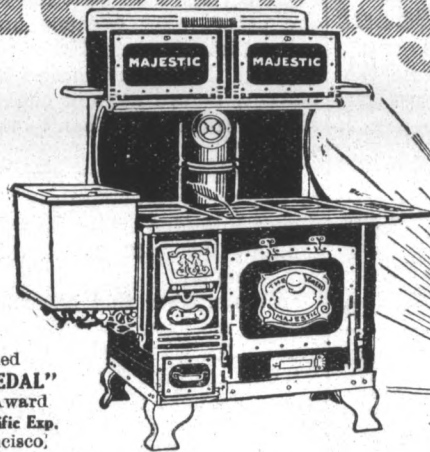
Make reservations promptly, to insure getting space wanted—the time is short.

Write me to-day for itinerary, particulars and rates.

C. L. Seagraves
General Colonization Agent
Atchison, Topeka & Santa Fe Ry.
2364 Railway Exchange, Chicago



Great Majestic



Awarded
"GOLD MEDAL"
Highest Award
Panama Pacific Exp.
San Francisco

Freedom from Kitchen Drudgery

A Majestic means freedom from baking failures; freedom from fuel and food waste, freedom from frequent repairs—freedom from the expense and annoyance of the ordinary range or cook stove.

The Majestic is the sure baker—its scientific construction forces the heat to every part of oven and its asbestos lining reflects the heat onto all parts of the baking. Bread is baked and browned perfectly, top, sides and bottom, without turning.

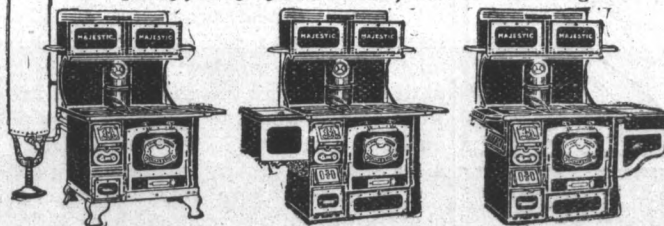
The Majestic is made of non-breakable, malleable iron and charcoal iron that resists

rust three times longer than steel. The oven is kept tight, permanently, by cold riveting (not bolted or clamped)—no cracks to be putted. The heat is held in, and maintained, with less fuel.

The Majestic's economy of fuel, food and repairs, its perfect baking results, and the years it outlasts the ordinary range—prove the wisdom of paying the slightly higher Majestic price.

There is a Majestic dealer in nearly every county of 42 States. If you don't know the one near you, write us.

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



Write for Book.

Tells what to look for and what to avoid when buying a range. You can't judge a range by looks. You should know how it is made and why. Write for free copy

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

Please mention the Michigan Farmer when you are writing to advertisers and you will do us a favor.



Renown Underfeed Heater

Positively Saves One-Quarter of the Fuel

And does away entirely with smoke, gas and soot by burning them. Makes soft coal heating clean and easy. No dirt—no "puffing" or "explosions."

It accomplishes this result by employing the underfeed principle. It feeds the coal below the fire; thus fresh coal really feeds the fire, instead of smothering it.

It burns the smoke, soot and gases. The only way you can burn them by mixing them with heated air of the same high temperature as the fire.

In design, materials and workmanship Renown Heaters and Ranges are superior. Nothing finer built at any price.

We guarantee a positive fuel saving of at least one-quarter.

Get Catalog Right Away

Send for catalog showing full line stoves. Say class of stove you want—you might as well save money.

Independent Stove Co.

Owosso, Mich.

Founded 1905

LET US TAN YOUR HIDE.

Cattle or Horse hide, Calf, Dog, Deer or any kind of skin with hair or fur on. We tan and finish them right; make them into coats (for men and women), robes, rugs or gloves when ordered. Your fur goods will cost you less than to buy them, and be worth more. Our Illustrated catalog gives a lot of information which every stock raiser should have, but we never send out this valuable book except upon request. It tells how to take off and care for hides; how and when we pay the freight both ways; about our safe dyeing process which is a tremendous advantage to the customer, especially on horse hides and calf skins; about the fur goods and game trophies we sell, taxidermy, etc. If you want a copy send us your correct address.

The Crosby Frisian Fur Company,
571 Lyell Ave., Rochester, N. Y.



Get This FREE

5-Pass. 28 H. P.



Magnificent BUSH Motor Car

And the Agency for Your Territory

Get a Car Free and qualify to make \$3000 to \$5000 a year and up in the Automobile Business. A Postal brings full details of this great Free Auto Offer. Write quick—before your territory is taken. Address me like this—J. H. Bush, President.

BUSH MOTOR COLLEGE, Inc.

DEPT. 943—BUSH BUILDING

North Clark Street and Chicago Avenue, Chicago, Ills.

DON'T Pay Two PRICES HOOSIER Stoves & Ranges FREE



To try in your own home for 80 days. Show your friends. Freight paid by us. Send it back at our expense if you do not want to keep it. You can buy the best at Actual Factory Prices. Our new improvements absolutely surpass anything ever produced. Save enough on a single stove to buy your winter's fuel. All HOOSIER STOVES Guaranteed for Years. Send postal today for large FREE Catalogue, showing large assortment to select from. No Obligations.

HOOSIER STOVE CO.
131 State St., Marion, Ind.

Boston Garter

The Standard for men
PAD, CORD AND NEVERBIND

Of your Dealer or by Mail on receipt of price

GEORGE FROST CO.
BOSTON, U.S.A.



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

When writing to advertisers please mention The Michigan Farmer.



Does the Punishment Fit the Crime?

THE mothers' club was in solemn assembly in the home of a "prominent member" when the young son of the hostess broke into the kitchen and sent up loud calls for help. Investigation showed that he had fallen into a mud-puddle and was most literally "a sight." The hostess presented him to her guests, and then laughingly excused herself long enough to bathe the lad and put on fresh clothing.

"If that had been my boy," remarked the "hen with one chicken," during the absence of the hostess, "I should have spanked him soundly and sent him to bed without any supper. There is no use of children making their mothers so much work. She humors her children too much for their own good."

"Oh, I don't know," replied the mother of six. "I don't suppose he fell into the mud because he wanted to. You don't feel comfortable when you are covered with mud. If she spanked him it would be just to relieve her own feelings, and she could not conscientiously tell him it was for his own good."

"She would be teaching him thoughtfulness for others," came back the first mother. "Children can be taught to be careful. I'd like to see my boy come in looking like that."

"I believe half the punishments children get are undeserved," broke in the president. "We punish them not so much because they are downright naughty as because the things they do bother us. I saw a mother slap a child's face last week for breaking a dish. Do you think she was right? Is any woman ever justified in striking a child for a thing like that?"

"A certain man sent his son to bed the other night because he hummed and whistled while father was trying to read the paper," broke in another mother, before anyone could reply to the president. "Wasn't the father wrong?"

"A woman put her small daughter to bed for three hours for tearing her new white dress," confessed a third mother. "Did the child deserve the punishment?"

"My neighbor told her small son to stay in the yard while she went to the store. He went fishing instead. She let him off with a threat of what she would do next time, but spanked him later when she found he had got his feet wet and torn his pants," volunteered another member. "Shouldn't she have punished him for his disobedience and overlooked his carelessness?"

"Mamie took a dish off the table when she was told not to. She was not punished for disobeying, so she took it up again next day, dropped it and broke it. Then she was whipped soundly for breaking the dish," contributed still another. "Should she not rather have been punished the first time for not minding?"

"Johnnie threw snowballs at the house. He was told to stop as he might break a window. He kept on until he did break the window, then he went to the woodshed. When should he have been trounced?" asked Johnnie's aunt.

The hostess here returned and a chorus of voices greeted her with, "Why didn't you spank him? Would you have done it if we hadn't been here?"

"I don't believe I would have," she

laughed, "though some days I might have felt like it. Do you think I should have punished him?" she asked a little wistfully. "I want to do the best thing."

"We'll put it to vote," said the president, "and make everyone give her reasons."

The vote stood three for punishment and seven against, and the reasons were most interesting. Then the club fell to discussing the other cases and the program was forgotten for a symposium on punishment and childish crime. Are not children all too often the victims of parental bad temper instead of the beneficiaries of what is "for their good?"

What does the reader think? Should carelessness be punished, or corrected by moral suasion? Were the children whose cases the mothers discussed whipped at the psychological moment?

DEBORAH.

ELDERBERRIES FOR PIES.

As a material for winter pies, or pies for any season, the humble elderberry, so plentiful in waste places during the early autumn, is worthy of attention on the part of the housewife.

Take the berries when fully ripe and remove from the stems. Weigh and for each three pounds take one pound of brown sugar and one scant half pint of vinegar. Cook slowly until rather thick. Add spices if preferred, then put into cans and seal. If there are not cans to spare the fruit will not spoil in an open jar by cooking down thicker and keeping it on the cellar floor. To use take one cupful for a pie, add water and a generous sprinkling of flour, bake with two crusts.—E. E. R.

The Sweater Coat

By MAE Y. MAHAFFY

ANY worker in yarn can crochet a medium sized sweater coat in the single crochet stitch. If desired a border, ten stitches in width on the fronts and bottom and five along the neck, may be of a different color to the main body, but this is a matter of choice. About eight hanks will be needed.

Begin work at the bottom of the front and chain 86 stitches for width, and one to turn. Make 20 rows this width, the first ten being of the trimming color if it is used. Decrease one every 10 rows after this, until 76 remain. Make 28 rows of 76 each. Increase one every 10th row until there are 82. Make six rows of 82 each. Drop 10 for armhole, and one at front edge of border to start neck. Continue leaving off one stitch at neck each row, and omit two at armhole every third row, until 60 remain. Then make armhole straight for 36 rows, but continue omitting last stitch each row of neck, and if border is of different color keep inner edge to correspond, so that it is just five stitches wide each row. Decrease for shoulder 2 sts. each row until only border remains. The opposite front is made in same way. Button molds are covered with crochet and attached to one front, and loops crocheted on the other to correspond.

For the back chain 126, and one to turn. Decrease to correspond to fronts, and crochet straight from the waist to armhole. Decrease armhole and shoulder to fit fronts.

Make bottom of sleeve 62 sts across, with one more to turn. Make 10 rows straight, then increase one each side every 6th row until there are 92 sts. Decrease one on each edge until 34 only remain.

If no border is used add collar and cuffs of same or contrasting color. Cuffs should be 18 rows deep, and may have a picot edge as a finish, if liked. Turn back over bottom of sleeve.

Make roll collar by chaining 5, and one to turn. Increase one in end st every other row until there are 32 sts. Work even for 28 rows. Decrease at end for remaining half, so that it will correspond with first. If picot was used on cuffs make similar edge to collar. All seams are united by a slip stitch.

MILLICENT KEENE'S TOMATOES.

BY MRS. M. KENNEDY.

If one has the time and strength, the best way to market tomatoes is to can them. A bushel of tomatoes will make 16 quarts of canned tomato, which our local dealer will give 18 cents per can for, making \$2.88 per bushel for tomatoes, less 83 cents for cost of cans, leaving the selling price \$2.05 per bushel.

I scald the tomatoes and remove skins, also all hard places, never using one that is at all decayed. I cut in pieces that will go in jars without mashing, put a little water and one teaspoon of salt in can and pack in tomatoes as closely as I can without mashing them. I lay a cloth in the bottom of galvanized tub and set my cans on this with cloth wrapped between them. When all are in I fill the tub up to within one-half inch of can covers and set on stove to cook. Cover and boil hard for 20 minutes, after it begins to boil, remove from tub and seal, using contents of one can to fill up the rest if they are not full when cooked.

These are fine in the winter to serve just the same as you do raw tomatoes. Tomatoes for stewing are prepared the same, only cooked on the stove in an open dish, cooking them till thick and dark red. These are sometimes served plain, merely seasoned with salt, pepper and butter, or if something more tasty is desired I put either whole crackers or stale bread broken up in the serving dish, add one-half cup of sweet cream to plain tomato, let boil up, pour over crackers or bread and serve at once.

If one likes tomato raw, with sugar and cream on, they will find the first mentioned very good if a few cans are put up without salt.

Tomato for soups is canned in pint cans, simply cooking up tomatoes, skins and all, and putting them through a wire sieve. This is cooked down in a jar in the oven till thick and canned hot.

Catsup is prepared in the same manner, putting the tomato through the sieve, as soon as it is well boiled up as it goes through so much easier, than when cooked thick. When cooked down thick as sour cream I remove jar from oven and season to taste, with sugar, vinegar, salt, a very little pepper, cinnamon and just a dash of ground cloves. Cook slowly for a half hour, put in bottles boiling hot, put corks down in neck of bottle, leaving half an inch above cork to fill with melted paraffine. If red peppers are liked they can be cooked in catsup and removed before seasoning.

If you like onion in catsup, cut one

in tiny bits, put in a glass, pour catsup over it and let set for one hour before using. It has a much better taste than catsup cooked with the onion in.

Tomato preserves are made as follows, and are very fine: Seven pounds of tomatoes cut in small pieces, seven pounds of granulated sugar stirred in well and let set till sugar melts. Wash two lemons, peel off the yellow rind, very thin and add to preserves. Next peel off the white skin and throw it away, cutting the lemon in small pieces, rejecting seeds, and add to preserves. Stir well and cook in oven till it is rather thick and transparent looking. Put in glasses and cover with paraffine. Great care must be taken not to scorch, as it burns easily.

Some people add raisins but we do not like them.

GRAPE JUICE.

BY ELLA E. ROCKWOOD.

No beverage is more wholesome than grape juice. It is also delicious to the taste and no home in Michigan, where the Concord grape grows to such perfection and in such abundance, should be without a plentiful supply.

Gather the grapes when fully ripe, wash carefully and remove from the stems. Place in an agate kettle, cover with cold water and heat slowly until the fruit bursts. The latter process is quite necessary else the juice will not be perfectly expelled. Pour into a cloth bag and allow to drain. For grape juice of first quality do not squeeze in the least, although gentle pressure which does not force the pulp through the bag is permissible. When thoroughly drained, add sugar, a small teaspoonful to the quart, bring to a boil and seal in fruit cans or in sterilized bottles. The bottles must be covered well with melted paraffin about the corks.

The juice may be put up without sugar but it is not so nice. And where this is added at the time of using it does not readily dissolve.

A bushel of grapes should produce at least 20 quarts of juice when ready to put into the cans.

TABLE SYRUP FROM WASTE WATERMELONS.

A delicious table syrup can be made from watermelons, and affords to the farmer, according to the fruit-juice specialists of the United States Department of Agriculture, a convenient means of using the surplus watermelons which otherwise are allowed to spoil in the field. This syrup can be used immediately or can be bottled hot in sterilized jars and kept just as is done in the canning of fruit. It is reddish brown in color, very sweet and well flavored and will serve most of the purposes for which syrup is used in the home. It has been tried with satisfactory results in making ginger cake, home-made candy and as a sweetening and flavoring in ice cream.

As the specialists point out, while the juice of commercial watermelons, such as the "Tom Watson," contain on an average only about seven per cent of sugar, or less than many other fruit juices, the ease with which the juice can be pressed out partly offsets the low sugar content. The method described below calls only for utensils found in every household.

Remove the pink flesh and seeds from the rind of sweet, fully ripe melons. Crush the flesh with a potato masher or by running it through a meat chopper. Place the crushed pulp and seed in cloth bags, and squeeze out the juice, which flows out readily. About five-sixths of the pulp will squeeze out as juice. About 13 gallons of the juice will make one gallon of syrup. This amount of juice can ordinarily be secured from 10 water-

melons weighing from 22 to 25 pounds each.

The juice is boiled down into a syrup in an ordinary serving kettle. The juice boils without much foaming until it begins to thicken, when the fire should be slackened to prevent foaming and burning. The red coloring matter in the juice coagulates during boiling and part of it rises to the surface where it can be removed by skimming. The remainder floats about in the juice forming red particles which gather near the top. Toward the last of the boiling the syrup must be watched constantly. If the housewife has a candy thermometer she should take the syrup from the fire as soon as it reaches a temperature of 220 degrees Fahrenheit, otherwise she should let it cook until a small sample on cooling is about as thick as maple syrup. When the boiling has finished, the syrup can be set aside to cool in covered vessels or can be poured while hot into cans or glass containers and sealed.

Where a cider press is available the melons can be cut into pieces and arranged on the press so that the pressure will extract the juice of the pulp before it presses the rind. The juice of the rind is not so rich in sugar, and experiments with rind juice alone indicate that it is not suitable for syrup.

If it is desired to make syrup free from red particles, start the syrup boiling and when some of the coagulated matter has been removed by skimming, transfer the juice to tall glass jars or other tall containers and allow it to settle and cool for a few hours. This allows the red particles to settle to the bottom. The upper part of the juice can then be poured off and boiled into syrup.

MICHIGAN FARMER PATTERNS.

No. 1330-1329—Ladies' Costume. Waist of 1330 cut in 6 sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. Skirt 1329 cut in 6 sizes, 22, 24, 26, 28, 30 and 32 inches waist measure. It requires three yards of 36-inch material for the waist, and 4 3/4 yards of 44-inch material for bolero and skirt for

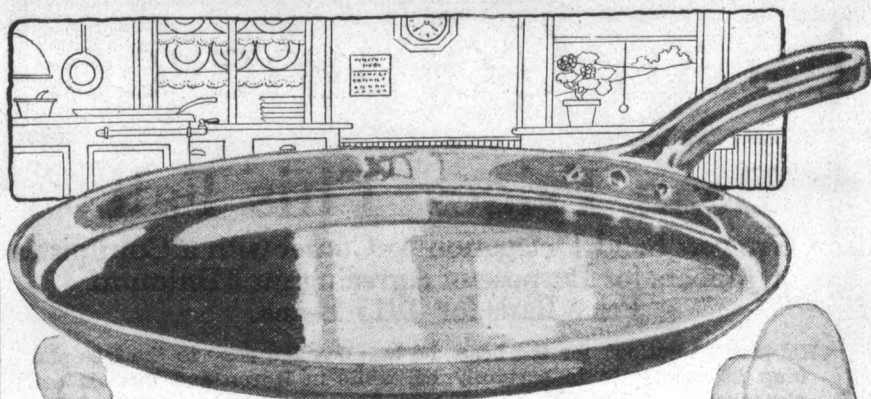


a 36-inch size. Skirt measures about 2 5/8 yards at its lower edge. This calls for two separate patterns which will be mailed on receipt of 10c for each pattern.

No. 1327—Ladies' Costume with Convertible Collar. Cut in 6 sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 6 3/4 yards of 44-inch material for a 36-inch size. The skirt measures about 3 1/4 yards at its lower edge. Price 10c.

No. 1043—Girls' Dress with Lining. Cut in 4 sizes, 6, 8, 10 and 12 years. It requires 3 1/4 yards of 44-inch material for an 8-year size. Price 10c.

No. 1030—Girls' Two-piece Dress. Cut in 4 sizes, 4, 6, 8 and 10 years. It requires 2 5/8 yards of 36-inch material for an 8-year size. Price 10c.



This **Karo**
(REG. U.S. PAT. OFF.)

Premium Griddle

LABELS from 50c worth of Karo (blue or red) and 85c brings you fine 10 1/2 inch aluminum griddle by parcels post prepaid. This Karo griddle, light and easy to handle, bright as a new dollar and needs no greasing, therefore no smoke. Heats uniformly all over, is very economical, will not rust, is easy to keep clean—and

MAKES THE FINEST GRIDDLE CAKES YOUR MEN FOLKS EVER TASTED.

This griddle retails regularly at \$2.25. Send your order for the Karo Aluminum Griddle today. This offer will prove popular. Place your order promptly.

The Men on the Farm Know Pancakes and They Know

Karo
(REG. U.S. PAT. OFF.)

but they never tasted cakes as good as the housewife will serve when she begins to use the Karo Aluminum Griddle.

At great expense we are seeking to place a Karo Aluminum Griddle in the homes of all Karo users, so that Karo—the famous spread for griddle cakes and waffles—may be served on the most deliciously baked cakes that can be made.

In the well regulated farm pantry there is always a reserve of three to a dozen cans of Karo.

Our Corn Products Cook Book and Preserving Book—illustrated in full colors—prepared by America's foremost culinary authorities will be sent free with each griddle, or without the griddle on request.

Corn Products Refining Company
New York, N. Y.
P. O. Box 161 Dept. 102



Farm Commerce.

Bean Prices This Fall

Bean Growers Send Delegation to Confer with a Committee of Jobbers for Purpose of Agreeing on Minimum Price Basis for 1915 Beans.

THE present outlook for the bean crop in this state is certainly discouraging to say the least. At the Bean Growers' Associational meeting at Flint last Wednesday, representatives from fifteen important bean growing counties were present. These representatives, who had carefully polled their respective counties reported at the meeting and the averaging of these reports shows an estimated yield of threshed beans of 38 per cent of a normal crop. The following are the estimates placed by the different representatives: Saginaw 33 1/3 per cent of a normal crop; Sanilac 33 per cent; Midland 35 per cent; Montcalm 40 per cent; Shiawassee 45 per cent; Genesee 35 per cent; Clinton 60 per cent; Isabella 45 per cent; Eaton 65 per cent; Huron 35 per cent; Ogemaw 40 per cent; St. Clair 10 per cent; Tuscola 33 1/3 per cent; Lapeer 30 per cent; Gladwin 50 per cent. The bean jobbers estimate for the state is 40 per cent of an average crop.

But this low threshing yield is not the worst. While there may be 38 per cent of a normal crop as measured from the baggers of the bean threshers, a very large per cent of what is threshed will never go into commerce; the amount of injured beans will be so large as to make picking unprofitable. Of those that will be sold for human consumption it was difficult to arrive at any satisfactory estimate of the amount of picking, but the consensus of opinion seemed to be that it would probably be as high as ten pounds per bushel on the average.

Government Restricts Shipment.

To add to these already overwhelming burdens of the bean growers this year, the federal government has placed a ban upon diseased beans being shipped as interstate commerce for canning purposes. We do not have a copy of this order, but we understand that it refers to any beans affected with mould, disease or ferments. This restriction will probably amount to a considerable handicap in a season like the present when so many beans will be slightly discolored from different causes and the dealers will find it difficult to know just how the government inspectors will grade the product, hence to make themselves safe they will naturally put these beans with culls and sell them for stock feed rather than take a chance by selling them for human consumption. The government makes no claim, we understand, of these beans being unwholesome; they merely state that they do not look well. Although the ruling may be just, it is certain that because of it the consumer will be required to pay a higher price for beans which will discourage consumption and hurt the market for the product.

From the various reports it appears that the weather during the first half of September did the crop much damage. In a number of sections the fields were promising up to the first of the month, but since then many of these fields have been almost totally destroyed. Even while the tops remained green, the rust, blight and anthracnose were getting in their destructive work on the pods.

There appeared to be no uniformity of results from early and late planted fields. In Isabella county and at the Agricultural College there seemed to

be less damage done to the late planted, while in Huron and Tuscola counties, the opposite was reported to be true. It is possible that local weather conditions in these sections may explain these opposite results. The conviction, however, gives the farmer little or no guidance, as he cannot guess the weather conditions when he plants his crops.

The Program.

The session of the growers' association was called to order at the appointed hour by President Swan, of Genesee county, who called upon Secretary McBride to lay before the delegates the purpose of the meeting. After this, Mr. Potter, a Flint banker, pointed out the close relations that ought to exist between the banker and the farmer. Now that farming has become a specialty, it cannot be suc-

has resulted in the unusual development of the diseases infecting beans. Prof. Muncie's position holds out much encouragement to the growers, as he believes that the great damage done this year will be repeated only when we have similar abnormal rainfall, and the chance of this recurring in the next few years is very small. The diseases have been worse in fields not properly underdrained. He also observed in experiments made at the College that the late planted beans were less affected with diseases than those planted early. Beans put into the ground June 28 were in very fair condition on September 14. He further observes that the beans in many diseased pods were perfectly white.

Prof. Muncie emphasized his conviction that the experience of farmers this year should not discourage them from growing beans hereafter. He felt that seasons like the summer of 1915 are unlikely to recur and that the farmers can ill afford to go into some other line of farming and abandon this cash crop because of having met with a single season's handicap. The important thing to give attention to is the planting of clean seed and proper rotating of beans with other crops. So far nothing definite has been accomplished by spraying. The New York Experiment Station thought a few years ago that diseases could

that unusual care be given to the selection of seed. He reported on one New York grower who had not been troubled with bean diseases to any extent in thirty years, and that this man had practiced the careful selection of seed, taking particular pains that no diseased specimens were included in his plantings. This same man, however, felt that added insurance would be gained by selecting pods before the beans were threshed, and out of these clean pods taking beans for planting.

Committee to Set Prices.

Following the program the association went into a business session and selected a committee to confer with a similar committee of the Bean Jobbers' Association for the purpose of agreeing upon a reasonable minimum price for beans in October and upon the minimum advance to be added each month thereafter. This committee was also advised to secure a better understanding of the methods of grading and picking beans and the rules appertaining thereto. There appears to be no uniformity followed by the jobbers in different sections of the state. The growers felt that if the rules could be standardized and possibly simplified that there would be less objection made on the part of the grower and possibly less opportunity for unscrupulous jobbers to take financial advantage of the producer's ignorance along this line.

The association voted to extend the present temporary organization and the terms of the present officials to the date of the round-up institute at the College next March, when a session would be held to affect a permanent society.

SELLING FRUIT BY AUCTION.

Fruit auctions under the auspices of the New York State Department of Foods and Markets hopes to aid both producer and consumer. More than 50,000 barrels of apples were disposed of at the first day's sale. If the auction idea is successful it will be extended to every type of fruit and produce extensively grown in the state. The state will charge a commission of five per cent and will have charge of the auction.

Eighteen years ago the great bulk of Florida oranges were sold at private sale by large jobbing houses; today less than 15 per cent of the oranges and grape fruit is sold in that manner, remarked a prominent Florida grower who was in Washington recently. Eighty-five per cent of the Florida oranges and grape fruit now is sold at public auction.

This method of selling fruits has been taken up in California and the northwest Pacific coast, and Oregon and Washington are now auctioning their apples and other fruit. Auctioning fruit relieves the grower and the packer of many difficulties, is less expensive, and more satisfactory all around. It reaches the consumer at less cost than if sold by a jobber, for then it must go through perhaps half a dozen hands before it is finally placed on the market stall of the retailer. The time will come when fruits of all kinds from all sections are sold by auction.

DEVICE FOR SAMPLING GRAIN.

A simple and new device for sampling grain, seeds and other material has been developed by specialists of the Department of Agriculture primarily to meet the demands of grain and seed dealers and laboratory workers for a method of securing a reliable sample of grain or seed from a larger portion of the material to be examined, graded or analyzed. The construction and the process used in the device have been made very simple, and yet are such as to insure reliable samples. The device does not require power of any kind, as its principle is the distribution by gravity of the ma-

1913 Crop 7,000,000 bu.
Price started on \$1.85 basis.

1914 Crop, 5,000,000 bu.
Price started on \$1.75 basis.

1915 Crop, 2,700,000 bu.
Price ?

be controlled through the use of chemicals, but later experience has discouraged their recommending this method of protecting beans.

Bean Developed Under Dry Conditions.

Mr. Shoemaker, special agent of the U. S. Department of Agriculture, also spoke along the same line. He mentioned that the New York Station had discovered a strain of beans which they thought resistant to anthracnose, but when the disease was virulent these beans succumbed. However, their work indicated two things: that there were plants of varying resisting powers and that the diseases attacked with different degrees of virulency. Mr. Shoemaker also pointed out the fact that practically all of our staple crops, including beans, were developed under an arid system of agriculture. Babylon, Egypt, the plateaus of Mexico and Peru were the birthplace of important staple crops, the bean probably coming from the latter two localities. Here irrigation was practiced and being developed under such conditions, it takes no flight of fancy to assume that an abnormally wet season would prove more detrimental to such a crop than a season that lacked in moisture.

Planting in Clean Ground.

Mr. Shoemaker also suggested that seed be planted in clean ground. By this he meant ground not infected with the germs of these diseases. Here, however, is a problem, for no one seems to know how long the spores of these troubles will remain in the soil and still be able to reproduce. It is reasonable, however, to think that after four or five years there would be less likelihood of infections than where the beans followed beans or a rotation shorter than four years is practiced. He also felt that the conditions in Michigan this year did not warrant the discontinuation of bean growing, and also urged

Michigan Bean Crops for Past Three Years. What Should this Year's Price for October Beans Be?

cessfully followed by those who lack the capacity to succeed in other businesses, but demands at least an equal amount of business sagacity and foresight. For this reason Mr. Potter believes that the future farmer will be a better student than the present generation, and that general co-operation, will become common. He also believes in inter-co-operation, that is, the working together of the farmer with other classes of business men, and chief among these should be the farmer's co-operation with his banker.

Most farmers can and should establish a line of credit; to do this they call on their banker and give statements of facts covering their assets and liabilities. This is as consistent as going to a doctor and reciting the symptoms of our ailments or placing before an attorney the facts in cases we desire to prosecute or defend. Farmers should borrow money at the most opportune time; as specialists in financial matters, the advice of bankers should be sought as to the best time to make long loans. When money is high, short loans should be secured and vice versa.

Bean Diseases.

Following Mr. Potter's much appreciated talk, Prof. J. H. Muncie, of the Agricultural College, spoke briefly of the diseases that are now damaging and destroying the beans. Severe epidemics of plant diseases accompany excessive weather conditions. The large amount of rain that fell this summer in most sections of the state

terial to be sampled over a cone, which is provided with separate ducts in a way to insure thorough mixture of the grain. The device also can be so arranged that one-half of the sample can be used for testing and grading, and the second half provided for the seller or buyer. It can also be used for blending two or more streams of wheat or other grain in one or more sets of rows in a mill. The device also can be used for sampling flour, meal, feeds, coal, ore, or any other material of like kind, or to mix or blend and divide two or more streams of unlike material, and yet provide a thorough mixture of all the kinds of material. A bulletin describing same is published by the Department of Agriculture.

FROST DAMAGE IN MICHIGAN.

Recent frosts have caused much damage in the northern counties. Early reports painted the situation very black and when sent in the severe drouth was unbroken and added much to the distress. There has been lots of rain since that time and the situation is somewhat brighter. It is bad enough still.

Following are reports from 8 counties sent in from September 4 to September 7, in reply to an inquiry made of merchants, produce dealers and bankers in various sections by the Michigan Tradesman. The most damage was done the night of August 30. It was a freakish frost as usual, working hit and miss and often in ways not understood. Low grounds were hit hardest, also inland places. Lake Michigan and the bays and lakes were a protection over many miles of coast.

The figures given represent percentages of loss to crops. For example, "potatoes 50" would indicate that the crop was one-half destroyed. A number of correspondents were still uncertain as to the damage done and it is safe to say that reports made now would be brighter.

Practically no loss was sustained in the southern counties, an Eaton county man saying: "No frost around here." Oceana reports slight loss, Allegan no losses, except to cucumbers.

Saginaw, no damage in vicinity of Oakley; Lapeer, only slight damage to corn and potatoes; Ionia, corn, beans and potatoes 15 per cent injury; Lake, Cukes, potatoes and beans gone. Another correspondent says corn and beans will be one-half crop; Gladwin, cukes 50, other crops 10; Gratiot, cukes 50, corn 5; Luce, corn and beans killed, potatoes 50; Mackinac, corn 75, potatoes 40 to 50; Emmet, corn 75, potatoes 60, buckwheat and beans 85; Newaygo, most crops 50; Crawford, corn, buckwheat, millet and beans all gone, potatoes 50; Charlevoix, potatoes 50, beans, buckwheat, millet and cukes almost total loss; corn being put into silos and bean ground being cleared and put into fall crops; Manistee, damaged corn improving, beans and late potatoes hurt; Cheboygan, corn and beans fully 75, potatoes 50; Otsego, potatoes 50, corn and beans 75; Chippewa, potatoes 50, buckwheat 75, oats 25; Marquette, corn and beans total loss, potatoes 75; Antrim, potatoes, beans and corn 50 to 75, cukes and buckwheat almost a total loss; Mecosta, buckwheat 75; other crops 25 to 50; Isabella, 20 per cent injury to crops; Montcalm, reports vary from no damage to 25 per cent to corn, beans and cukes, and 15 per cent to potatoes; Mason, corn and beans 50 to 75, potatoes 25 to 35; Oscoda, corn and beans 50, potatoes 40; Missaukee, corn 75, beans 85, potatoes 65, buckwheat 90; Grand Traverse, potatoes and beans 40, cukes 60, buckwheat 50; Leelanau, corn and potatoes 50, beans 60, buckwheat and cukes 75. Other sections of this country report corn and potatoes 25, beans 35; Menominee, buckwheat total loss, corn and beans 90, potatoes 25; Benzie, corn, beans and potatoes 50 to 75; Kalkaska, corn and beans 75, potatoes 50; another report says "no corn, potatoes one-third, beans one-half." Another report says "many potato fields will not be dug. Buckwheat hard hit. Wexford—Mesick reports no corn. Another section of county reports corn 50, potatoes 30, beans 50, buckwheat 80; Clare, cukes total loss, beans one-third, potatoes one-half.

Kent Co.

ALMOND GRIFFEN.

Crop and Market Notes.

Michigan.

Washtenaw Co., Sept. 13.—Potato blight has ruined many fields. Wheat averaged 41 bushels, oats from 45 to 52 bushels. Bean crop fair. Prospects for clover seed and alfalfa good. Late apples and pears fair yield. A few farmers are buying large herds of

feeding stock. Wool 28@33c; wheat 97c@1; butter-fat 29c.

Mecosta Co., Sept. 13.—Wheat, oats and rye good average yield, but much wheat sprouted. Potatoes about 60 per cent of normal crop, corn 65 per cent, beans 35 per cent. Blight and frost injured the beans. A good deal of plowing done for wheat, but very little sown as the ground is too wet. Clover seed filling well, but mostly cut for hay. Potatoes not yet hit by late blight and none rotting. Feeding stock scarce and in good demand. Very few late apples or pears. Eggs 20c per dozen.

Ohio.

Ashtabula Co., Sept. 14.—Yield of wheat 15 to 47 bushels; oats average 40 bushels. Wheat being sown with slightly increased acreage. Potato rot and blight prevalent. Pastures and meadows good; corn poor. Potatoes 40c; wheat 90c; corn, shelled 95c; eggs 24c; butter 28c; veal 9c; pork \$7.50; milk \$1.25.

Carroll Co., Sept. 13.—Threshing is mostly done. Quality of wheat poor, and oats very smutty. Potatoes not damaged seriously by rot and blight. Farmers busy preparing for wheat sowing. Large crop of apples, peaches, plums and pears, and market for fruit poor.

Clermont Co., Sept. 13.—No rot in potatoes, but considerable blight and scab. Tomatoes grown for canneries rotting badly. The usual amount of wheat and rye will be sown. Corn an average crop and being cut for silage. Alfalfa and clover seed good; good crop of apples and pears. Butter 25 @30c; cream 24c; eggs 24c.

Guernsey Co., Sept. 13.—Wheat averaged 15 bushels; oats 30 to 35 bushels. Potatoes a good yield but are rotting. Some preparations for wheat seeding. Clover seed prospects good. The usual amount of feeding stock. Not many late apples and pears. Wool 28@30c; wheat \$1.25; butter-fat 30c.

Hardin Co., Sept. 13.—Wheat yield is good but quality only fair. Oats poor quality, some fields being left uncut. Potatoes rotting badly. Not much plowing for wheat. Alfalfa a heavy crop. Clover seed small yield. Apples and pears fine. Wheat 85@95c; oats 25@35c; old corn 85c; potatoes 60c; cream 23c; hay \$8@12.

Highland Co., Sept. 14.—Hay and alfalfa good. Wheat eight to 25 bushels per acre; oats a good crop; rye light. Corn extra good; potatoes a good crop. Fruits of all kinds good. Wheat 95c; wool 28@30c; cattle \$7@8; butter-fat 28c; eggs 22c; butter 25c; hay \$10@12.

Holmes Co., Sept. 14.—Plowing for wheat is well along and the average acreage will be put in. Wheat and oats yielding well. Corn will be good if it matures. Late potatoes affected with blight and early potatoes rotting. Clover seed light. There is more pasture than live stock to make use of it. Apples plentiful but markets are poor. Wheat \$1.02; oats 40c; hay \$15; timothy seed \$3; butter-fat 26c; eggs 22c.

Fairfield Co., Sept. 6.—Clover seed is not ripening very well. Yield of wheat averaged 15 bushels, but much of it damaged by rain. Some oats, rye and wheat still in the shock; potatoes fair yield but much complaint of rot. Corn promises a good yield if we could have some warm dry weather. Fall plowing about all done. Apple crop generally good except where the blight was bad. Peach crop immense, but where trees were heavily loaded the quality was not the best. Pears a light crop. Feeding cattle are not plentiful; about the usual number of hogs. Wheat \$1; corn 85c; butter 25 @30c; wool 28@30c.

Indiana.

Wayne Co., Sept. 13.—Wheat and oats damaged by sprouting. Wheat yielding 15 to 30 bushels; oats 40 to 55 bushels. Corn promises a large yield. Early potatoes made a good yield, but damaged considerably by rotting. Late potatoes poor. Alfalfa good; clover seed almost a failure. An unusually large crop of late apples and pears, all of good quality. A good amount of live stock and in good condition.

Wells Co., Sept. 13.—Threshing is finished. Hulling clover seed begun and early cutting well filled. Early potatoes are rotting badly. Corn earing well and will be a big crop. Lots of apples, no peaches. Corn \$1.05 per cwt; wheat 88c; oats 27c; rye 75c; clover seed \$7.75; timothy seed \$3; butter 26c; eggs 20c; fowls 10@13c.

Wisconsin.

Waukesha Co., Sept. 12.—Frost last month injured corn and potatoes. Wheat 30 to 40 bushels; oats averaged 75 bushels. Seeding is late. Clover seed fair. Late apples good; no pears. A good stock of hogs on hand, no cattle. Wheat 90c; butter-fat 20c.

Minnesota.

Stearns Co., Sept. 13.—Wheat yield 24 bushels; oats 60 bushels; barley 35 to 40 bushels. Corn is far from being ripe. Beans a good crop. Some

(Continued on page 274).

WINGHESTER



The W Brand
Loaded Smokeless Powder
SHELLS
Cheap in price, but not in quality. Costing little more than black powder shells they are cleaner and are better in every way from a game-getting standpoint. Try the "Repeater" and you will surely like it. It's **THE YELLOW SHELL WITH THE CORRUGATED HEAD.**



H. C. Phelps, Pres.

Only 5% Profit FOR MAKING YOUR BUGGY
You Save the Difference

Think what that means to you, Mr. Buggy-buyer! Now you can buy a genuine Split Hickory direct from the factory, backed by my personal guarantee at prices that save you from \$15 to \$25 over what dealers ask. This is without doubt the biggest and most surprising announcement of the year. It cuts dollars right off the price, and puts them in your pocket. No red tape—no waiting a year for rebates—no wondering what the price will be. My catalog shows plainly in black and white 150 stunning new styles—all marked down with only 5% profit. Send for FREE book today.

SPLIT HICKORY

The same high grade vehicles you have heard so much about—over 200,000 of them rolling over the roads in this country. Now you get them with all their new features, superiority of design, graceful lines and sturdy excellence, at prices that will surprise you. Remember I give 30 days free read test to prove the quality and stand back of every job with my personal guarantee that makes every Split Hickory customer safe. My new book—just out—shows 150 styles—200 illustrations and is yours for the asking. Drop a postal for it today. If you need a wagon or harness ask for my Special Catalogs—they will save you money. Address H. C. PHELPS, President

THE OHIO CARRIAGE MFG. CO., Station 56 Columbus, O.

Here's The PROOF \$39.25 and up



30 Days FREE Road Test

BOYS WATCH.

Every boy, young or old, would be proud to carry one of these watches. It is 16 size, with a nickel case. Stem set and wind. Regular watch movement with hair spring. Guaranteed by the makers and repaired free of charge for one year, if given ordinary care. Any boy who really wants a watch can easily earn one in one afternoon.

The watch alone free for sending three subscriptions to the Michigan Farmer.



WANTED first class, responsible men, now calling on farmers, to carry side line on commission. Only persons furnishing A-1 references need apply. Married men preferred. Detroit Times, Detroit, Mich.

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

WANTED! Position on dairy farm. Experienced temperate and a willing worker. Can furnish references. Address stating wages, Mr. Philip H. Basing, Luzerne E. Oscoda Co., Mich.

HOUNDS FOR HUNTING—Fox, Coon and Rabbits, all ages. 500 ferrets, send 2 cent stamp. W. E. LECKY, Holmesville, Ohio.

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

4000 FERRETS FOR SALE Price list free. C. J. DIMICK, Rochester, Ohio.

FERRETS FOR SALE. Catalogue free. C. D. MURRAY, R. 2, New London, Ohio.

When Writing to advertisers please state that you saw their ad. in The Michigan Farmer.

Markets.

WEATHER FORECAST.

For the week beginning Wednesday, September 22, for the region of the Great Lakes, fair and cool weather the first half of the week is probable, with heavy frosts Wednesday and Thursday. The latter half of the week will be warmer and unsettled with probably occasional showers.

GRAINS AND SEEDS.

September 21, 1915.

Wheat.—A good feeling prevailed in the wheat market at the opening this week and prices held steady with the close last Saturday. The conservative marketing by farmers is giving the trade much support as the current demand is absorbing the receipts and the anticipated heavy movement that speculators hoped would come to give them a chance to secure supplies on a low basis, is not materializing. The American visible supply increased less than two million bushels. There is little foreign demand in the states at present due to the heavy marketing of the large Canadian crop which always sells on a lower basis than the grain on this side, and consequently is purchased before agents turn their attention to this country. Millers are heavy buyers at present and the better grades are being readily taken by them as fast as the farmers sell. With the announcement of a Teutonic drive through the Balkan states, the possibilities of Russian wheat getting through the Dardanelles are diminished, making it more probable that America will again have to supply the western European nations. One year ago No. 2 red wheat was quoted locally at \$1.10 per bushel. Prices for the past week are as follows:

	No. 2	No. 1	Dec.
Wednesday	1.11	1.08	1.06
Thursday	1.12½	1.09½	1.08
Friday	1.14	1.11	1.09
Saturday	1.12	1.09	1.06
Monday	1.12	1.09	1.06
Tuesday	1.12	1.09	1.06

Chicago.—September wheat \$1.01½ per bu; December 93c; May 96.2c.

Corn.—Generally speaking, weather conditions have been such as to carry the corn crop well along toward maturity without serious damage from extreme cold. In most districts a week or ten days of freedom from frost will finish the crop and enable the farmers to secure most of it in merchantable condition. A few sections, however, have already suffered and the damaged corn is being largely cared for in silos. The price is holding at about steady. One year ago No. 2 corn was quoted at 81c per bushel. Prices for the past week are:

	No. 3	No. 3
	Mixed.	Yellow.
Wednesday	78½	81
Thursday	78½	81
Friday	78½	81
Saturday	78	80½
Monday	77½	80
Tuesday	77	79½

Chicago.—September corn 71.6 per bu; December 56.3c; May 57.4c.

Oats.—Values for this grain have improved and there appears to be a good local demand. Foreigners are seeking the grain, which has added strength to our market. The visible supply increased 3,574,000 bushels. A year ago standard oats were selling at 49½c per bushel. Quotations are as follows:

	Standard.	White.
	No. 3	No. 3
Wednesday	38	36½
Thursday	38	36½
Friday	38½	37
Saturday	38½	37
Monday	38½	37
Tuesday	38½	37

Chicago.—September oats 37.2c per bu; December 35.4c; May 37.4c.

Rye.—This cereal advanced 2c with the market firm but quiet. No. 2 rye is quoted at 91½c per bushel.

Barley.—At Milwaukee malting barley is quoted at 52@60c per bushel. Chicago quotations are 50@57c.

Beans.—All grades have advanced. Crop outlook is very discouraging. Farmers should get at least \$3 per bushel for October beans. No dealing here. Bids at Detroit now are: Cash \$3 per bushel; October \$2.90. Chicago trade is quiet and steady. Pea beans, hand-picked, choice, are firm at \$3@3.25; common \$2.62@2.80; red kidneys \$3.50@3.60. At Greenville the elevators quote \$2.60.

Peas.—At Chicago field peas, new, quoted at \$2.37@2.50 per bu., sacks included.

Timothy Seed.—Steady. Prime spot \$3.75 per bushel.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$5.90; seconds \$5.60; straight \$5.20; spring patent \$6.60; rye flour \$6.20.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$25; standard middlings \$29; fine middlings \$32; cracked corn \$24.50; corn and oat chop \$31.60 per ton.

New Hay.—No. 1 timothy \$18@19; standard timothy \$17@18; light mixed \$17@18; No. 2 timothy \$16@17; No. 1 mixed \$14@15; No. 2 mixed \$11@12; No. 1 clover \$11@11.50.

Chicago.—Demand good and supply of good hay is light. New timothy \$8@17 per ton.

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

DAIRY AND POULTRY PRODUCTS.

Butter.—The tone of the market is firmer and prices are higher. Extra creamery 25c; firsts 24c; dairy 21c; packing stock 18c.

Elgin.—Market is quiet but light supply of fancy creamery advanced prices 1c. Quotation for the week is 25c per lb.

Chicago.—Market is firm and prices slightly higher for the good grades. Extra creamery 25c; extra firsts 23½@24½c; firsts 22½@23c; seconds 21@22c; packing stock 19@19½c per lb.

Poultry.—The market is good for all kinds. No change in prices. Live.—Broilers No. 1, 15c; No. 2 14@14½c; heavy hens 14@14½c; others 11@13½c; ducks 14@15c; geese 10c; turkeys 15c.

Chicago.—Trade is good and offerings are liberal. Ducks and geese are slightly lower. Fowls, good weights, 14c; others 10@12c; spring chickens 16c; ducks 12@13c; geese 10@12c; guinea hens \$2.75@3 per dozen; turkeys, good weights, 14c; spring turkeys 20c.

Eggs.—Market is firm with offerings light. Canned firsts sell at 24c; current receipts 23c.

Chicago.—A good demand exists and fresh stock is taken readily. Prices are slightly higher. Miscellaneous lots, cases included 18@23c; ordinary firsts 22@23c; firsts 23@24c.

Veal.—Quoted steady at 14@14½c for fancy, and 13@13½c for common.

FRUITS AND VEGETABLES.

Apples.—Supply good. Fancy \$2.25 @2.50 per bbl, and 75@80c per bu; common \$1@1.50 per bbl and 40@50c per bushel. At Chicago the market is in poor condition. Bulk stock is hurting market. Wealthy sells for \$1.50@2; Maiden Blush \$1.50@2; Alexander \$1.75@2.25.

Pears.—Market is fair for good stock, good Bartlett's bringing \$4.50@4.75. At Chicago desirable stock is scarce. Michigan Bartlett's sell for \$4@4.50 per bbl, 75c@1.25 per bu; other varieties \$2@3.

Potatoes.—Market steady for good quality stock. Michigan tubers sell for 25@50c per bu. At Chicago Michigan whites are selling at 40@48c per bushel in carlots. At Greenville 27@30c per bushel is being paid, the quality being good.

Peaches.—Market active and firmer. Demand is good. Fancy peaches are bringing \$1; AA's 60c; A's 50c; B's 30@40c. The market at Chicago is a little firmer. Michigan fruit sells for 50@65c per bushel, 10@12½c per one-fifth bushel basket.

GRAND RAPIDS.

The peach market has gone to pieces in the wet, hot weather, with no signs of relief as yet. Fruit has not been fit to ship so that sales have been for local consumption only, with supply far outrunning the demand. It has been one of the worst seasons for peaches and plums in years and nominal quotations for peaches are 40@60c, and 30@50c for plums. Some system of co-operative marketing and advertising Michigan fruit seems to be urgent. Southern and western growers are liberal advertisers and this competition seems to be more keenly felt in Michigan each year. Potatoes are selling around 40c with demand slow. Dairy butter is 21c; fresh eggs 22½c; wheat, No. 2 red, has advanced to \$1.05 and other grain is unchanged.

DETROIT EASTERN MARKET.

Business was active on the eastern market Tuesday morning and prices were being well maintained. Potato values ranged from 55@80c according to quality. Apples 60c@1.50; peaches 50c@1.50, with the stock moving quite freely; tomatoes 50c@1.50; cabbage 35@40c; string beans 1.50; melons 50c@1.25; onions 65c; butter 35c; eggs 35c; comb honey 15c per frame; extracted honey 50c per quart; loose

hay selling mostly at \$18@22 with some good loads reaching \$24.

LIVE STOCK MARKETS.

Buffalo.

September 20, 1915.

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

Receipt of stock here today as follows: Cattle 92 cars; hogs 80 d. d.; sheep and lambs 38 d. d.; calves 800 head.

With 92 loads of cattle on the market here today, we had a good all round market. The heavy cattle sold from 25@40c per cwt higher than last Monday, and the butchers' cattle from 15@25c higher. Nothing but a light run saved us from a bad market here today. Chicago came in with 25,000 and lower, but our market kept up strong on the good kind. We had one load of little white faced yearlings, weighing 1045 lbs, that sold for \$9.25 per cwt., which was the top of the market. The government is going to lift the quarantine Wednesday so that we can handle stockers, feeders, milch cows and springers. Think when we get regulated that there will be good demand for all this kind of stock and we think it would be a good plan not to rush too many in at one time, let them come along gradually. We also think that the rangers will be pretty well in in two or three weeks, as they are affecting the market now in the west.

We had a fair run of hogs today and a lower market on everything but pig stuff. Demand good for all classes of pigs and prices anywhere from 15@25c higher than the close of last week, while the best grades of hogs sold 10@15c lower, and in some cases extreme heavies as much as 25c lower than Saturday. Bulk of the handy weights sold at \$8.40; mixed and medium grades from \$8.20@8.35; heavies \$7.75@8; roughs \$6@6.50; stags \$5@5.50. There was quite a range in the prices of pigs, weight and quality governing the price. Bulk changed hands at \$7.35@7.75, with some strong weight stuff as high as 8c. Market closed rather dull and a few good weight hogs going over unsold.

The market today was active on both sheep and lambs, with prices steady with the close of last week on lambs, sheep firm; most of the choice lambs selling at \$9.25. Look for steady prices last of week with moderate receipts.

We quote: Lambs \$9.25@9.35; cull to fair \$7.50@9; yearlings \$7@7.25; bucks \$3@5; handy ewes \$5.50@5.75; heavy ewes \$5@5.25; wethers \$6@6.25; cull sheep \$3@4.75; veals, choice to extra \$11.25@11.50; fair to good \$8.50@11; heavy calves \$5@8.50.

Chicago.

September 20, 1915.

Cattle. Hogs. Sheep.

Receipts today..26,000 24,000 12,000
Same day 1914..21,189 24,845 58,528
Last week.....38,987 102,811 77,923
Same wk 1914..59,746 81,705 117,769

Shipments from here last week aggregated, 6,782 cattle, 22,149 hogs and 8,960 sheep, comparing with 9,580 cattle, 28,009 hogs and 2,912 sheep a week earlier and 20,789 cattle, 19,989 hogs and 23,593 sheep a year ago. There was a big run of cattle today, including about 5,000 western rangers, and trade was unusually late in opening, with bids anywhere from 10@25c lower. Hogs were mainly steady, with a single car of light weights sold at \$8.10. Hogs marketed last week averaged 238 lbs. Sheep and lambs were steady to a dime higher.

Cattle suffered such large reductions in prices week before last, because of the unusually large receipts, that country shippers sent in much smaller supplies last week, and this resulted in sharp advances, the upward movement being mainly in desirable lots. By Wednesday a good many fat steers were selling 60c higher than the low time on the previous Thursday and Friday, and there were instances of gains of 75c and even more, the general demand being brisk and competition between buyers keen. The advance started on Monday afternoon, and not until Thursday was there any decline in prices, the hot weather being one of the reasons given by buyers, who claimed that it was checking the consumption of beef throughout the country. The lesser advance was shown for cattle going below \$9, although the \$8@9 kinds showed advances by Wednesday of 40@50c over the wrecked prices late in the preceding week. Western range cattle showed up in only fair numbers, with 48 cars from Canada offered on Wednesday, and range stock shared in the upward movement. The bulk of the native steers received during the week went at a range of \$8.25@10.15, with the choicest class taken at \$10@10.40 and some fancy 1516-lb. steers taken at the top price, or 5c higher than

was paid for the choicest little yearlings. Inferior to fair thin steers of light weight taken off grass brought \$5@7, while sales were made of common to medium warmed-up steers at \$7.10@8.20 and medium to good handy steers at \$8.25@8.95, with good to choice corn-fed steers at \$9@9.95. Yearlings sold all the way from \$7.25 @8.50 for the commoner class up to \$10@10.35 for the choicer class. Butchering cows and heifers sold freely at \$4.90@9.25, ruling largely 35@50c higher, with the best cows going around \$7.50 and few heifers good enough to sell above \$8.50. Cutters went at \$4.30@4.85, canners at \$3@4.25 and bulls at \$4.25@7.50. Calves mounted up to \$11@12 for light vealers, with sales all the way down to \$4.75@7.75 for the heavier weights. Western range cattle sold at \$7@8.75 for steers and at \$4@7.50 for cows and heifers.

Hogs were in active local shipping demand most of last week, and prices had some good advances, followed by declines after the best light weights had brought \$8.45. Recent receipts have averaged in weight 238 lbs., comparing with 247 lbs. a month ago, 241 lbs. a year ago and 231 lbs. two years ago. The best hogs sold at the highest prices recorded since October 10, 1914. The range of prices remained about as wide as at any time of late, the commoner grades failing to move up as much as the strictly prime consignments. Pigs continued to go at a large discount from prices paid for hogs. The sudden appearance of extremely hot weather caused a large number of dead hogs in arriving trains. A sensational decline in prices took place during the latter part of the week, with sales at \$6.15@8, light hogs being plentier, slow and leading the break. The packers used the decision of the British prize courts against them as a bear argument and refused to buy.

Lambs and sheep sold at much lower prices last week, particularly lambs, despite the moderate receipts, killers holding off much of the time. The offerings were larger than a week earlier, but showed up small when compared with those in recent years. Fluctuations in lamb prices from week to week are exceedingly wide, and only a short time ago the best lots sold at \$9.50, while week before last the top was \$9.10. Idaho furnished most of the range lambs, although some big bunches arrived from Washington, California, Nevada and Utah. Wethers were scarce, nor did many ewes show up. Lambs sold at the close at \$6.25@8.60, yearlings at \$5.75 @7, wethers at \$5.25@5.90, ewes at \$3 @5.50 and bucks and stags at \$4.25@4.75.

Horses were marketed freely last week and had a good sale, the greater part going to Great Britain and France for army purposes at unchanged prices. Desirable little chunks sold at \$350@375 per pair, while single animals that weighed not over 1400 lbs. went as high as \$190. A heavier class of chunks brought \$195@240 or more, and pairs of good, big horses sold at \$540@550.

CROP AND MARKET NOTES.

(Continued from page 273).

plowing done, but no seeding yet. Very dry and we are greatly in need of rain. A lot of feeding stock on hand and no corn. Wheat 90c; oats 27c; barley 37c; eggs 15c; apples \$1. Illinois.

Marion Co., Sept. 13.—Potato crop good, though some complaint of rotting. Corn good except on flat land. No beans to speak of. Wheat yield 10 to 30 bushels; oats 30 to 50 bushels. There will not be as much wheat sown as last year. Not much clover seed. No feeding cattle, and not very many hogs. Prospects good for late apples; no pears. Butter-fat 24½c.

Kansas.

Lincoln Co., Sept. 13.—Weather dry and threshing is progressing nicely. Wheat yielding 15 to 25 bushels; oats 50 bushels. Wheat land needs rain before seeding can be done. Corn is good and ripening fine. Not much alfalfa standing for seed. Apples and pears good. Wheat 85@90c; cream 21c; eggs 18c.

Smith Co., Sept. 14.—Most of the plowing for wheat is finished. Corn will make a good yield if frost keeps off. Potatoes are good. All fruits yielding well. Wheat 75c@1; corn 58c; potatoes \$1; butter 16@20c; butter-fat 20c; eggs 18c; fowls 8@10c.

Nebraska.

Pierce Co., Sept. 13.—Wheat yielding 10 to 30 bushels; oats 25 to 40 bushels. Some corn is poor while other fields look fine. Beans are good; potatoes seem good but none dug yet. Not much seeding done. No live stock shipped out. Wheat 96c; oats 25c; corn 61c; cream 22c; eggs 17c; butter 20c. Recent hail storms damaged late apples to some extent.

THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

September 16, 1915.

Cattle.

Receipts 1691. There was a heavy supply of live stock of all kinds on sale at the local yards this week. Especially so with cattle. Word was received here that the Buffalo yards start cleaning Friday morning and will probably be open again on Monday for shipments from clean territory only. This bars anything from here, and now nothing can be shipped out of here to either Chicago or Buffalo yards and everything coming here must be for immediate slaughter. This condition will prevail until the Michigan Central cleans these yards again, which it hopes will be at once. With the yards open for stockers and feeders there would have been no trouble disposing of the large supply, but they cannot go out until the yards are cleaned and as a consequence, Wednesday night found a large number still unsold at dark. The market in the cattle division was very dull and all grades were strong 50@75c lower than last week, and on Thursday they were no better and the close was extremely dull as follows: Best heavy steers \$7.25@7.50; best handy weight butcher steers \$6.75@7; mixed steers and heifers \$5.75@6.50; handy light butchers \$5.75@6; light butchers \$5@5.50; best cows \$5.25@5.75; butcher cows \$4.50@5; common cows \$4@4.25; canners \$3@4; best heavy bulls \$5.25@5.50; bologna bulls \$5@5.15.

Reason & S. sold Parker, W. & Co. 2 cows av 710 at \$4; to Kull 1 do wgh 1140 at \$4.75; to Parker, W. & Co. 2 bulls av 650 at \$4.50, 2 do av 1090 at \$5; to Kull 6 steers av 966 at \$7.35, 2 do av 775 at \$6.25; to Garber 4 cows av 1092 at \$5.35; to Watts 11 butchers av 732 at \$6.30.

Bishop, B. & H. sold Fineman 11 cows and bulls av 913 at \$5.35; to Mich. B. Co. 1 bull wgh 1280 at \$5.75; to Kull 7 steers av 780 at \$7, 1 cow wgh 1090 at \$4.75; to Parker, W. & Co. 7 cows av 867 at \$4, 1 bull wgh 910 at \$5, 1 do wgh 910 at \$5, 1 cow wgh 820 at \$4; to Hammond, S. & Co. 4 cows av 1282 at \$5.40, 1 steer wgh 950 at \$7; to Sullivan P. Co. 3 butchers av 933 at \$6.50, 2 cows av 900 at \$4.75, 3 do av 1100 at \$4.75, 7 do av 870 at \$5.25; to Parker, W. & Co. 6 bulls av 1081 at \$5.25; to Goose 26 butchers av 573 at \$5; to Parker, W. & Co. 2 bulls av 1140 at \$5.50; to Cook 8 steers av 1030 at \$7.50; to Mich. B. Co. 3 cows and bulls av 970 at \$5, 2 heifers av 585 at \$5.75, 7 butchers av 820 at \$6.25, 13 steers av 1020 at \$7.25.

Haley & M. sold Resnick 5 butchers av 898 at \$5; to Newton B. Co. 6 do av 750 at \$5.50; to Sullivan P. Co. 13 cows av 1063 at \$5.25; to Hammond, S. & Co. 28 steers av 884 at \$6.65, 3 cows av 980 at \$6, 4 butchers av 907 at \$6.50, 1 cow wgh 900 at \$5.25, 1 do wgh 1150 at \$5.75, 1 do wgh 1170 at \$4, 2 do av 1045 at \$5.25, 2 canners av 860 at \$3.75, 4 cows av 1095 at \$5.40.

Veal Calves.

Receipts 527. The veal calf trade was steady with Wednesday on good grades, but heavy and common grades were very dull and \$1.50@2 a hundred lower than last week. Best grades \$10@11.50, with bulk at \$10.50@11; medium and heavy \$5@9.50.

Sandel, S., B. & G. sold Nagle P. Co. 3 av 195 at \$8, 6 av 150 at \$11, 4 av 150 at \$10.50, 2 av 195 at \$11.50, 1 wgh 190 at \$11.50, 4 av 180 at \$9, 9 av 175 at \$11.50; to Hammond, S. & Co. 10 av 150 at \$11, 3 av 130 at \$10.50, 2 av 205 at \$10, 2 av 125 at \$11, 3 av 150 at \$10.75; to Nagle P. Co. 2 av 130 at \$10; to Rattkowsky 3 av 140 at \$11, 2 av 125 at \$10.50.

Sheep and Lambs.

Receipts 7060. The sheep and lamb trade was steady with last week, the bulk of the good ones selling at \$8.50. Swift & Co. bought nearly a thousand helping out in good shape and the close was steady. Best lambs \$8.25@8.50; fair lambs \$7@8; light to common lambs \$6@7; fair to good sheep \$4.50@5; culls and common \$2.50@3.50.

Roe Com. Co. sold Nagle P. Co. 15 lambs av 80 at \$8, 100 do av 85 at \$7.90, 15 do av 55 at \$6.50, 49 do av 85 at \$7.85, 12 do av 65 at \$6.50, 36 do av 70 at \$8, 18 do av 45 at \$6.50, 27 do av 90 at \$7.75, 5 sheep av 155 at \$4.75; to Barlage 2 sheep av 95 at \$4, 11 lambs av 85 at \$8.

Hogs.

Receipts 7601. In the hog department the trade was steady to 5c lower than on Wednesday. Light pigs \$6.50@6.75; good pigs \$7@7.25; vorkers \$8.10@8.15; heavy and mixed \$7.75@8.

THE MICHIGAN CENTRAL STOCK YARDS CLOSE FOR CLEANING.

The Michigan Central Stock Yards are to be cleaned and disinfected for the third time since last November, starting at once and no live stock of any description will be received here after 12:00 noon, Thursday, September 23, until the job is completed. Anything arriving after this time must go direct to packing plants for immediate slaughter. It is expected that it will take about ten days to do this work and after same has been completed and the yards released by federal inspectors, stock may be shipped to any point for any purpose and stockers and feeders and Michigan cows may be handled as before the quarantine was placed. No stock will be received unless same originates in the free area. All Michigan, after yards are released, will be in this area. Shippers should bear in mind that Detroit packers do not want pigs or extreme heavy hogs and they must use care when loading to packing plants.

Veterinary.

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

Warts on Teats.—I saw a treatment for warts on cows' teats published in Michigan Farmer, but I have mislaid paper and I would like to know what to apply to take scores of warts off udder. Between these warts the skin cracks, consequently her udder is very sore. R. V. O., Berlin, Mich.—Warts on teats are often very troublesome, but if you will apply pure olive oil after each milking, you will perhaps get rid of most of them. Or you might apply one part carbolic acid and 19 parts vaseline. Those that have necks should be clipped off with a pair of sharp scissors and wound touched with lunar caustic.

Cold Abscess.—I have a ten-year-old mare that has a large bunch about ten inches in diameter on shoulder and I would like to know what can be done for it. Four years ago she had a similar bunch which opened, discharged freely, then she got well. The present bunch first showed itself last fall. A. W., Gaylord, Mich.—Apply equal parts of tincture iodine and spirits of camphor to bunch daily, or perhaps you had better secure the services of a Vet. and have it opened.

Apoplexy.—I am anxious to know what ails my pigs; they seem well up to a certain moment, then drop over dead. While they were eating this morning, one made a little noise, fell over and was dead in less than a minute. This is the fifth one that has died recently, every one of them showing similar symptoms. J. S., New Boston, Mich.—Your hogs die, either the result of apoplexy, brain hemorrhage, or heart disease. It is possible that they inherit predisposition to a weak heart. Less food and more exercise might perhaps help them; however, it is doubtful.

Barrenness—Contagious Abortion.—Last spring I commenced to farm on a new piece of land; had three sows, two of them I had bred to a good boar. One of them I bred twice and she did not come in heat again until it was time for her to farrow. The other dropped her pigs three weeks before time; they are both young sows. I have been feeding boiled beans, middlings and rape. They run on a creek bottom in the brush. I am told that feeding these sows rape prevents them from breeding; is it so? C. E. W., East Jordan, Mich.—I do not believe feeding sows rape will prevent conception, neither do I believe it a cause of abortion. I am inclined to believe that your sow suffers from contagious abortion and as you know, this is one of the common causes of barrenness. You had better fatten them and buy others, as I believe the sows you have will prove unprofitable for breeding purposes.

Barren Mares.—I have two young mares that have not apparently come in heat this summer and I would like to know what can be done for them. W. S. F., Detroit, Mich.—Hobble the mares securely, apply a twitch to upper lip snugly and oblige them to submit to a forced service, then they will perhaps soon come in heat; perhaps they come in heat regularly, but do not show it.

Feeding Smutty Oats to Horses.—I would like to know if feeding smutty oats to horses would have any bad effect on them and have a tendency to produce heaves? A. L., Levering, Mich.—Feeding smutty oats is not likely to produce heaves. Feeding badly cured clover and bulky, badly cured fodder is one of the causes of heaves.



California Now is Delightful

See the Expositions

As soon as the harvest is in, you will have the means and the leisure for a trip to California. Now is the best season of the year to go. The autumn climate along the entire coast is delightful. The two big fairs are in full swing and at the height of their glory. They are marvels of beauty and charm, and both are unusually strong in features that touch the life of the farmer. Low fare excursions daily to November 30th.

You have the choice of two splendid through trains direct to California, without change of cars, without extra fare—"The Pacific Limited" and "The San Francisco Limited." Both trains are steel-equipped, splendidly appointed and unrivaled in comforts and conveniences.

Chicago, Milwaukee & St. Paul Ry.

Plan to return via the Northwest—stop over, talk to the farmers and learn first hand of the wonderful opportunities in this region.

Send now for literature and full information—address
GEO. B. HAYNES, Gen'l Pass'r Agt., CHICAGO

Farms and Farm Lands For Sale

100 Acres \$5500

Stock, Tools and C. ops Included.

Three horses, 19 cows, bull, machinery, wagons, all tools and crops go to quick buyer of this splendid New York State farm; only 3 miles to town, close to school; fertile fields average 50 tons hay besides other crops, large pasture, lot of wood, variety fruit, excellent 2-story 12-room house, running water, big barn, other buildings; a real bargain at \$5500 for all, easy terms; full details, page 1, "Strout's Biggest Farm Bargains," just out, write today for your free copy. E. A. Strout Farm Agency, Station 101, University Block, Syracuse, N. Y.

WHY PAY RENT when you can buy the best farm land in Michigan at from \$12 to \$20 an acre on easy terms. Write for particulars, STAFFELD BROTHERS, Owners, 15 Merrill Bldg., Saginaw, West Side, Mich.

OWN A FARM—Never was a better time to see Gladwin Co. Make date at once for auto tour to my Improved and Unimproved farm lands. You will never regret it. U. G. REYNOLDS, Gladwin, Michigan

Good Stock Farms, 480 acres, level, black land, good buildings, well watered, at half price. Also 200 acres, cheap buildings, woven wire fenced, creek, cheap. Owner, Lock Box, Hart, Mich.

Central Michigan Farms, Very best stock, dairy and general farming country. Splendid water, schools, roads, markets. Real bargain to offer. Write for list A. Benham & Trim, Hastings, Mich.

110 Acre Farm For Sale on contract, easy terms. A great bargain. Ask for full particulars regarding any size farm you want to buy in Eaton Co. 600 acre stock farm, fenced. Will sacrifice. M. HARTZ, Charlotte, Michigan.

SEND DESCRIPTION OF YOUR FARM or RANCH! We have Cash Buyers. Don't Pay Commission. Write NATIONAL REAL ESTATE EXCHANGE ASSOCIATION, Dept. No. 8, PERU, ILLINOIS.

WANTED—To hear from owner of good farm or unimproved land for sale. H. L. Downing, 104 Palace Bldg., Minneapolis, Minn.

FINE FARM IN CANADIAN NORTHWEST FOR SALE 320 acres good farm land, one mile from Lashburn, Saskatchewan. On the Can. Northern Ry. Price reasonable for cash, or could be sold on terms. For particulars write B. B. MUIR, LASHBURN, SASK.

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

FRUIT Growers, we want your entire crop. Highest market prices. Write for stencil. THE E. L. Richmond Co., Detroit, Mich.

WE CAN SELL STOCKERS and feeders, also feeding lams, consign heretofore, or if you are in the market for feeding stock write or wire us. HARPSTER COMMISSION COMPANY, Toledo Union Stock Yards, Toledo, Ohio

One Car Native Two year old, de-horned Steers, good stock, your choice out of 29 head. J. B. Wagner, Marion, Mich.

Farmer Brand Choice Cotton Seed Meal. Highest grade manufactured—41 to 48% protein. Ask for price. BARTLETT CO., Jackson, Mich.

CULL BEANS FOR FEED. Write if you can use a car or less. YOUNG-RANDOLPH SEED CO., Owosso, Mich.



Valuable Book Given Away

by Makers of

Red Seal Dry Batteries

Most efficient, satisfactory and economical medium of ignition for

Gas Engines—Automobiles—Tractors

also for Phones, Bells, Hand Lanterns, etc.

Complimentary to Users of Dry Batteries Send us your dealer's name and we will forward you free and postpaid, book—"How to Run the Gas Engine—Simplified"—also our catalog containing pictures and descriptions of everything electrical for home and on the farm.

Ask Your Dealer for Red Seal Dry Batteries

The Guarantee Protects You

MANHATTAN ELECTRICAL SUPPLY CO.

104 S. Fifth Ave., Chicago

New York St. Louis San Francisco

Factories: Jersey City, Cincinnati and Ravenna, O.

Concrete Mixer Plans

FREE Blue prints and instructions for building the best practical home-made concrete mixer invented. Your name on post card brings all ABSOLUTELY FREE. WRITE

Sheldon Mfg. Co., Box 4870, Nehawka, Neb.

FARMERS—We are paying from three to five cents above the highest official Detroit Market quotation for your eggs shipped direct to us by express. Write us for information. It will pay you. American Butter & Cheese Co., Detroit, Mich.

Farmers Month at the California Exposition —OCTOBER— Worlds Greatest County Fair

SPECIAL ATTRACTIONS

Horse Show—Live Stock Exhibition—Conference of Boys and Girls Agriculture Clubs—Cattle Parades—World's Light Harness Races—International Irrigation Congress and many other features.

Reduced Round-Trip Tickets
are on sale daily via

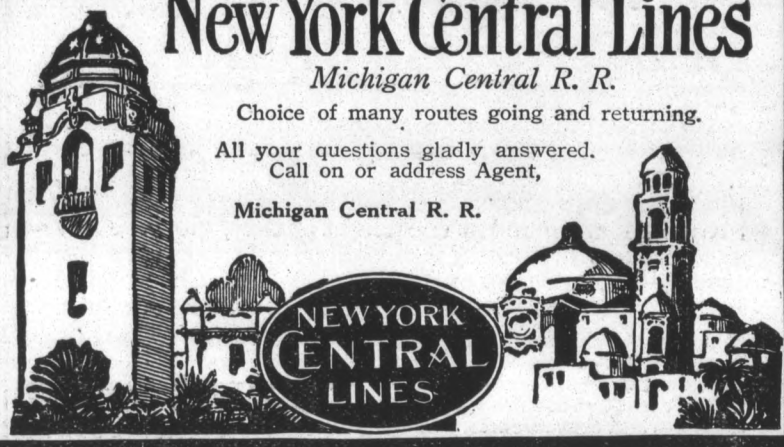
New York Central Lines

Michigan Central R. R.

Choice of many routes going and returning.

All your questions gladly answered.
Call on or address Agent,

Michigan Central R. R.



BREEDERS' DIRECTORY

CATTLE.

ABERDEEN-ANGUS

HERD ESTABLISHED IN 1900.
TROYAN-ERICAS and BLACKBIRDS only.
Also breeders of Percheron, Hackney and Saddle Horses. Young bulls and Percheron stallions for sale. WOODCOTE STOCK FARM, Ionia, Mich.

ABERDEEN ANGUS

If you are in need of an extra good bull or a few choice young cows or heifers, we have them for sale. Our herd is headed by the Grand Champion Black Monarch 3rd. We invite you to come to our farm and see them. They are bred right and priced right. U. L. Clark, Hunters Creek, Mich. Sidney Smith, Mgr.

AYRSHIRES—One of the foremost dairy breeds. The most economical milk producers. Calves for sale. White Leghorn cockerels. Duroc Jersey swine. Michigan School for the Deaf, Flint, Michigan.

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

MILO D. CAMPBELL CHAS. J. ANGEVINE

BEACH FARM GUERNSEYS

Combine the blood of the following great producing sires and dams:—
Masher Sequel . . . 57 A. R. Daughters
Galaxy's Sequel . . . 37 A. R. "
Glenwood Boy of Haddon . . . 26 A. R. "
May Rose King . . . 21 A. R. "
Dairymaid of Pinehurst . . . 910 lbs. fat
Dolly Bloom . . . 836 "
Imp. Itchen Daisy . . . 714 "
Selma of Pinehurst . . . 702 "
Stanford's Princess . . . 725 "
Bulls for sale only.

A Dairy Show Every Day.
CAMPBELL & ANGEVINE, Coldwater, Mich.

For Sale—Reg. Guernsey Cattle and BERKSHIRE
JOHN EBELS, R. 10, Holland, Michigan.

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

GUERNSEY BULLS FOR SALE, ready for service from A. R.
Dams. If you want the right kind write for price and
breeding. BYERS & BARNES BROS., Coldwater, Michigan.

REGISTERED Young Guernsey Bulls, great grand-
sons of Gov. Chene, Serviceable age nicely marked,
exceptional breeding. Avondale Stock Farm, Wayne, Mich.

FOR SALE A choice lot of Registered Guernsey
cows, heifers and bulls of May Rose breed-
ing. H. W. WIGMAN, Lansing, Michigan.

GUERNSEYS—20 High Grade
Bred heifers at
reasonable prices. E. D. JESSOP, Lansing, Mich.

GUERNSEY BULL FOR SALE Grandson of Imported
Yoeman. Well marked
and ready for service. Eugene Wilcox, R. 4, Hartford, Mich.

HEREFORDS; Two last Oct. bull
fellows. ALLEN BROS., Paw Paw, Michigan

Top Notch Holsteins!

Young bulls that will add most desirable qualities to
registered herds or transform grades into near full
bloods in appearance and production. The bull is
fifty per cent or over of the herd.
McPHERSON FARMS CO., Howell, Michigan.

Do You Want A Bull?

Ready For Service.

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

EDWIN S. LEWIS, Marshall, Mich.

Espanore Farm,

LANSING, MICHIGAN.

Home of the great Holstein bull "Pledge Spofford
Calamity Paul"—sire of a 35-lb. cow and three
over 30 lbs. If you are looking for a bull calf of
this kind of breeding write for prices and ped-
igrees.

CHASE S. OSBORN, } Owners.
ADAM E. FERGUSON, }

I don't want to sell anything but HOLSTEIN BULLS

and I have some bull bargains. Don't
buy a bull until you know I have not got
what you want. Come and see bulls.
L. E. CONNELL, Fayette, Ohio.

HATCH HERD

YPSILANTI, MICHIGAN

Registered Holstein-Friesian sires, grandson's of
World's greatest dairy sire, out of choice A. R. O.
dams and King Pontiac Jewel Korndyke; Brother of
K. P. Pontiac Lass 44.15; average record of 50 dams in
his pedigree 31.25 in 7 days; average per cent of fat
three nearest dams 4.37; of his own dam 4.93. Sires in
first three generations already have over 600 A. R. O.
daughters. A few females bred to "King". Prices
reasonable.

The Two Greatest Bulls

KING OF THE PONTIACS

DE KOL 2d's BUTTER BOY 3rd

I have young bulls from cows having high official
records and granddaughters of above bulls. Stock
extra good. Prices reasonable.

BIGELOW'S HOLSTEIN FARMS,
BREEDSVILLE, MICH.

BROOKWATER FARM

Caters to Discriminating Buyers.

Read the record of our winnings at the
Michigan State Fair, then decide whether
or not there is a better place to buy
Durocs. Why not buy a boar before
they are picked over?

BROOKWATER FARM, R. 7, Ann Arbor, Michigan.

Breeders' Directory—Continued on page 279.

Grange.

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

AMONG THE LIVE GRANGES.

One of the Most Enjoyable of the
social sessions of Ypsilanti Grange
was held September 4 at the pleasant
home of Mr. and Mrs. Alonzo Austin.
The feature of the day was the ad-
dress given by Floyd W. Robinson,
formerly of the M. A. C. Experiment
Station, and now connected with the
Michigan Farmer. "The Science of
Agriculture in Relation to Farming,"
was the topic for discussion, in which
the fact was impressed that there is
always a necessity of replacing in the
soil a well balanced condition of that
tripod of agriculture, potassium, phos-
phorus and nitrogen, in the form of
barnyard manure or other fertilizers.
A field may be non-productive in the
presence of an abundance of fertility,
by over fertilizing. The speaker spoke
of the importance of the M. A. C. as
an experiment station, saying that it
is the first "Land Grant Act College"
in the United States, and that it has
recently celebrated its fiftieth anni-
versary. Mr. Robinson stated that he
believes that dairymen are not re-
ceiving adequate compensation for
their milk and that the price paid per
quart is not a six per cent investment.
He gave some kindly advice as to the
prevention of the multiplying of bac-
teria, the care of the lacteal fluid
from the time it has left the udder of
the cow until it is in the hands of the
consumer and viewed the milk prob-
lem through the eyes of both the city
board of health and the dairyman.
The lecture was a scientific one and
the consensus of opinion was, at its
close, that it had not only been thor-
oughly instructive, but interesting as
well. Variety to the program was
furnished by a solo by John Graves,
a reading by Mrs. Roy Lewis, and a
recitation by Mrs. Floyd E. Budd, af-
ter which a delicious supper was
served.—A. C. A.

Over 200 people attended the annual
basket picnic of Kent County Pomona
Grange at Comstock Park Aug. 28. It
was not quite as large a gathering as
there has been some years but for all
that it was a very pleasant affair. The
crowd gathered in the agricultural
building during the forenoon and spent
a couple of hours in renewing old ac-
quaintances with friends of Granges
from other parts of the county. After
the dinner baskets were emptied the
Grangers and their friends gathered
together to listen to the program
which had been prepared by the com-
mittee. Pomona President T. H. Mac-
Naughton, acted as chairman and in-
troduced Hon. Huntley Russell, who
delivered the address of welcome in
the place of Joseph Brewer, president
of the fair association, who had been
called out of town on business. Mr.
Russell said that the fair grounds
seemed to be just the place for these
gatherings as the interests of the
Grange and the fair association were
identical and it was with great pleas-
ure that he welcomed Pomona Grange
to the place. E. R. Keech responded
and was followed by Mrs. J. J. Lillie
and A. Peterson, lecturer of Ottawa
County Grange, in readings. The fife
and drum corps from the Soldiers'
Home helped along the good feeling
with patriotic selections and also ac-
companied in the singing of "The Star
Spangled Banner," in which Mr. Rus-
sell took the leading part. At the
close of the meeting "America" was
sung to the accompaniment of the fife
and drums. Lee M. Hutchins gave an
address refuting the idea so prevalent
in many rural communities that the
American business man is primarily a
money grabber. He insisted that the
reverse is true, that the average Am-
erican business man is not only noth-
ing of the kind, but he is more than
willing to co-operate with the farmer
and the Grange to the end that both
may be successful and be constructive
agents in the community. Mrs. O. J.
C. Woodman, of Paw Paw, chaplain of
the State Grange, gave a helpful ad-
dress on co-operation and community
spirit, as being necessary to the suc-
cess of the Grange. Mrs. Woodman
especially frowned on the present
growing war spirit, and declared the
attitude of Theodore Roosevelt and
others of his school is detrimental to
the welfare of the nation.

Lincoln Grange, Alcona county, took
the leadership in a farmer's picnic
which is an annual affair, and partici-
pated in by the whole countryside.
There was a parade, water games and
a kidnapping stunt in which a masked

cowboy, on a wild pony, carried of a
child and was in turn run down and
captured after a pistol charge, and
then hung, amid the approving cheers
of an incensed crowd. Later the peo-
ple repaired to a quiet grove, over the
hill from the town, and gave attention
to addresses for an hour before sep-
arating. It was a great day generally.
It raised the question, why do we not
prepare and publish in our Grange
columns helps for features in parades
at rallies and for simple, spectacular
plays of modern type?—J. B.

The Washtenaw Pomona Grange
meeting, held September 14, in the
Masonic Temple, was largely attended
by representative citizens from every
quarter of the county. The speaker
of the day was Mrs. Olivia J. C. Wood-
man, of Paw Paw, who spoke on
"Temperance." Year books were plan-
ned, and a committee appointed to
have charge of this. An invitation
was received and accepted from the
Wayne Pomona for a tri-county meet-
ing to consist of the Pomona Granges
of Wayne, Washtenaw and Lenawee,
to be held in Wayne on October 16.

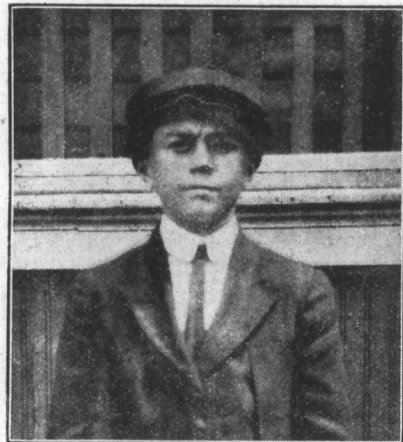
COMING EVENTS.

Monroe County Pomona Grange will
meet with Raisinville Grange, Tues-
day, October 5, at 10:30. Election of
officers and delegates to the state con-
vention.

HAVE YOU SEEN THIS BOY?

Eugene W. McNamara, 14, son of
John E. McNamara, 188 Victor ave,
nue, Highland Park, has been missing
from his home since August 11.

Wednesday, August 11, the mother
gave Eugene \$3.50 to buy a new pair
of shoes. She saw him board a car
for down town and has not seen him
since. When he left he wore a pair
of khaki pants, the first pair of long



EUGENE W. McNAMARA.

trousers he had ever worn; a dark
blue coat, a white waist and a gray-
checked cap. He is about five feet
one inch tall and weighs about 110
pounds. His hair is dark brown, his
eyes hazel hue and he has a scar near
his lower lip. According to Harry
Waters, one of Eugene's chums, the
youth had at times expressed his
longing to live on a farm. Other boys
who knew him say they can think of
no reason for his leaving home.

A RAZOR SNAP.

A new lot of Imported German
Razors at 50 cents while the supply
lasts, is now offered by the Michigan
Farmer.

The razors are made of the best
German steel, five-eighth inch blade,
and black handle. We will not say
just what these razors ordinarily re-
tail 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 50 cents each, post-
paid, or a half-dozen at \$2.00, post-
paid.

A Strop Bargain, Too.

We also have a new lot of Presto
All-in-One razor strops that dealers
sold at \$1.00 each. These strops are
made of finest horsehide leather and
one side is treated with All-in-One
solution which makes it possible to
put a hair-splitting edge on the dull-
est razor. It combines the strop and
hone in one.

The special price on the strop
alone, while the supply lasts, will be
50 cents, postpaid, but if ordered to-
gether with one of the above razors
the price of both will be only 75 cents
postpaid, or \$1.15 with the Michigan
Farmer one year; \$1.60 for three years.

This would make a nice present,
worth double the cost.
and \$2.10 for five years.

Farmers' Clubs

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

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

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

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

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

Associational Motto:

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

MEMORY DAY.

Public attention will this year be called to September 30 as Memory Day in a more impressive manner than ever before. A recent advice from Ex-Associational President J. T. Daniells, to whose initiative the Memory Day movement is due, states that Governor Ferris has informed him of his intention to issue a proclamation inviting the people of Michi-

dorsed also by the State Grange, then in session; and

Whereas, At the following session of our State Legislature, an act was passed in conformity with the spirit of the above resolution, and which has resulted in an improved condition of the cemeteries within our state—this through the creating, thereby, of a better public sentiment—and which benefits we believe should be extended over this entire land; therefore, be it

Resolved, By this State Association of the Farmers' Clubs of Michigan that we do, hereby, most earnestly petition our National Congress, through the members thereof from this State of Michigan, to enact that September 30, of each year, be designated "Memory Day" and be devoted to improving the condition of the cemeteries within these entire United States and making beautiful with flowers and loving care, the graves therein.

With this movement which was first launched at a meeting of the State Association of Farmers' Clubs gaining such general recognition, the members of local Farmers' Clubs within the state should give it an added impetus by arranging for a proper observance of the day in their own communities. In order to facilitate the holding of suitable exercises, we are reproducing the Memory Day hymn which was prepared for this purpose at the request of Ex-President Daniells. Other suitable exercises will suggest themselves to the local committee in charge, while the important work of cleaning up the rural cemetery and

Memory Day.

E. R. Latta. "Memory Day," September 30. CHAS. H. GABRIEL.

Copyright, 1910, by J. T. Daniells.

gan as a whole to observe September 30 as Memory Day.

The Memory Day movement, which originated in Michigan, is also gathering national force and the time is not far distant when the day will be recognized by Congress as it has been by the Legislature of our own state. At the last annual meeting of the State Association of Farmers' Clubs a resolution was adopted urging upon Congress to enact suitable legislation looking toward the making of Memory Day a national affair. This resolution was later presented to Congress by Senator Smith, of Michigan, and it is hoped that legislative action will follow. The text of the resolution follows:

Whereas, This State Association of the Farmers' Clubs of Michigan did, at its annual meeting of 1904, adopt a resolution asking that September 30, of each year, be designated "Memory Day" and be devoted to improving the condition of the cemeteries throughout the state, and of the graves therein, and which resolution was en-

placing it in a more attractive condition should interest the people of the entire community, making the event a community matter.

Let every Farmers' Club worker of the state give this Memory Day movement his hearty and whole-souled support, to the end that the community may be made more attractive and its ideals more noble through the giving of a day to the cherishing of the memory of departed friends. We bespeak for Memory Day a general and more feeling observance than has been given it in the past.

The placing of the rural cemeteries in a better condition will benefit the community in many ways. The doing of this work will induce wholesome reflection on the part of those engaged in the work, and its accomplishment will reflect the general progressiveness of the community, indicating that where proper care is given to the burial ground of the dead, life will be better worth living.

OCTOBER IS FARMERS' MONTH at the Panama-Pacific Fair

Every farmer who can should visit California and the Exposition during October. You will find more agricultural exhibits and more events which will interest you than ever before were shown in one place in one month in the History of the World.

There will be at least 24 national and international stock shows and conventions, with one event lapping over into the next. Moreover, you can stop off in the great agricultural sections of the New West and see how the farmers of this section make money on great ranches and on smaller irrigated tracts. And you will see the Great Panama-Pacific Exposition, which for beauty and general interest has never been equaled.

All this you will see at the lowest fare in years—a rate made particularly for the expositions. This is probably the best chance of your lifetime to make the western trip you have been thinking about—to make it at the *least cost* and to *see the most* on the Coast and on the way. You will find living expenses very reasonable—all hotels are under agreement not to raise rates. Write for Free Book No. 6 —Tells what to see and cost of trip. For the quickest trip over smoothest roadbed and to travel through the region of greatest scenic and agricultural interest, buy your ticket via

UNION PACIFIC-SOUTHERN PACIFIC

W. R. Alexander, G. A.
11 Fort St., West
Detroit, Mich.

E. A. Macon, G. A.
221 Majestic Bldg.
Detroit, Mich.

Get Wholesale Prices

We Pay the Freight and Ship Within 24 Hours

on stoves, ranges, base-burners, cook stoves, gas stoves, etc., from Kalamazoo factory.

WRITE for 1916 catalog—see new styles—1916 prices. 300,000 satisfied customers endorse Kalamazoo offer—low wholesale price—30 days' trial—year's test—cash or easy payments—\$100,000 guaranty. We pay freight and start shipment within 24 hours. Mail postal today for catalog—also receive new 1916 souvenir, "Recipes in Rhyme." Both free. Ask for Catalog No. 113. KALAMAZOO STOVE CO., Mfrs., Kalamazoo, Mich. We manufacture stoves, ranges, gas stoves, furnaces and white enameled metal kitchen cabinets and tables. Mention which catalog wanted.

"A Kalamazoo Direct to You"
Trade Mark Registered



PURE FIELD SEEDS

SEED WHEAT—Red Wave, Poole and Winter King; Clover, Timothy, Alsike, Alfalfa and all kinds of Pure Field Seeds, direct from producer to consumer. Free from Noxious weeds. Ask for Samples. BIG TYPE POLAND CHINAS, March and April pigs at reasonable prices. A. C. HOYT & CO., - - FOSTORIA, OHIO

maloney's TREES

Fruit and Ornamental trees, vines, shrubs, etc. for fall planting, in small or large lots at wholesale prices. Grown and guaranteed by the largest Nursery in New York. Write for free catalog. Maloney Bros. & Wells Co., Box 33, Danville, N. Y.

ROSEN RYE. Best yielding rye ever discovered. R. will yield from 25 to 50 per cent more than common rye. \$1.50 per bu. A. D. GREGORY, R. No. 3, Ionia, Mich.

RED WAVE SEED WHEAT. The best wheat in Michigan and description. W. C. TAYLOR, Milan, Mich.

LILLIE'S IMPROVED GROENE WHEAT. A vigorous, red, bearded wheat, very stiff straw, and of good milling qualities, a good yielder, write for sample and prices. COLON C. LILLIE, Coopersville, Michigan.

Gold Coin & Kharkov Wheat. 56 and 40 bu. per acre in 1915. \$1.60 per bu. Samples and bags free. Muncytown Stock Farm, Flat Rock, Mich.

WINTER VETCH

NEW CROP MICHIGAN GROWN
YOUNG-RANDOLPH SEED CO., Owosso, Michigan

Hairy Vetch Seed For Sale
16 pound, \$8.00 bushel. Sacks free. DORR D. BUELL, Elmira, Michigan.

WANTED—RYE and VETCH MIXTURE
SEND SAMPLES FOR ID TO YOUNG-RANDOLPH SEED CO., Owosso, Mich.

RED Wave and Gold Coin Wheat cleaned for seed \$1.35 per bushel, for 5 bushels or more sacks free. F. C. McEUN, Mason, Michigan.

Mammoth Clover Wanted.
Also other clovers and Timothy seed. Send sample and price to O. M. Scott & Sons Co. 12 Main St. Marysville, O.

Government Farmers Wanted. Examination Oct. 13. Good salaries. Free quarters. Write OZMENT 17 F. St. Louis.

ROSEN RYE. Extra fine quality. Immediate shipments. Sample on request. \$2.50 per bu. in less than ten bu. lots. Ten bu. or over \$2.00. Bags free. J. A. Campbell & Son (Member Mich. Experiment Association) Farma, Mich.

LIVE STOCK AWARDS AT THE
STATE FAIR.

Cattle.—Shorthorns.

Bull, 3 yrs. or over—1st, Michael A. Wagner, Fremont, Ohio; 2nd, John Lessiter's Sons, Clarkston, Mich.
Bull, 2 yrs. and under 3—1st, A. E. Stevenson, Port Huron; 2nd, Adams Bros., Litchfield, Mich.
Bull, senior yearling—1st, Wagner Sons.
Bull, junior yearling—1st, Lessiter's Sons.
Bull, senior calf—1st and 4th, A. E. Stevenson; 2nd and 3rd, Lessiter's Sons; 5th and 6th, Adams Bros.
Bull, junior calf—1st, 2nd and 3rd—Lessiter's Sons; 4th, Wagner; 5th, Adams Bros.
Cow, 3 yrs. and over—1st, 2nd and 3rd, Wagner; 4th and 5th, Stevenson; 6th, Lessiter's Sons.
Heifer, 2 yrs. and under 3—1st and 4th, Stevenson; 2nd, Wagner; 3rd, Lessiter's Sons; 5th and 6th, Adams Bros.
Heifer, senior yearling—1st and 3rd, Stevenson; 2nd, Wagner; 4th, Lessiter's Sons; 5th, Adams Bros.
Heifer, junior yearling—1st and 4th, Stevenson; 2nd, Wagner; 3rd, Lessiter's Sons; 5th, Adams Bros.
Heifer, senior calf—1st, Wagner; 2nd, Stevenson; 3rd, Lessiter's Sons; 4th, Adams Bros.
Heifer, junior calf—1st and 4th, Wagner; 2nd, Lessiter's Sons; 3rd, 5th and 6th, Stevenson; 7th and 8th, Adams Bros.
Bull, senior champion—1st, Wagner.
Reserve champion—Stevenson.
Bull, junior champion—1st, Stevenson.
Reserve champion—Wagner.
Bull, grand champion—1st, Wagner.
Reserve champion—Stevenson.
Female, senior champion—1st, Wagner.
Female, junior champion—1st, Stevenson.
Female, grand champion—1st, Wagner.
Reserve champion—Stevenson.
Graded Herd—1st, Wagner; 2nd, Stevenson; 3rd, Lessiter's Sons; 4th, Adams Bros.
Breeders' young herd—1st, Stevenson; 2nd, Wagner; 3rd, Lessiter's Sons; 4th, Adams Bros.
Breeders' herd, calf—1st, Stevenson; 2nd, Wagner; 3rd, Lessiter's Sons; 4th, Adams Bros.
Produce of cow—1st, Wagner; 2nd, Stevenson; 3rd, Lessiter's Sons; 4th, Adams Bros.
Get of sire—1st, Wagner; 2nd, Stevenson; 3rd, Lessiter's Sons; 4th, Adams Bros.

Galloways.

Bull, 3 yrs.—1st, Jas. Frantz.
Bull, 2 yrs.—1st, Frantz Bros., Bluffton, Ohio.
Bull, senior yearling—1st, James Frantz.
Bull, junior calf yearling—1st, Frantz Bros.
Bull, senior calf—1st, Jas. Frantz.
Bull, junior calf—1st, Frantz Bros.
Cow, 3 yrs. or over—1st and 2nd, Jas. Frantz.
Heifer, 2 yrs.—1st and 2nd, James Frantz.
Heifer, senior yearling—1st, Frantz Bros.
Heifer, junior yearling—1st, James Frantz.
Heifer, senior calf—1st, Jas. Frantz.
Heifer, junior calf—1st, Jas. Frantz.
Exhibitors' herd—1st, Jas. Frantz; 2nd, Frantz Bros.
Four get of sire—1st, Jas. Frantz; 2nd, Frantz Bros.
Two produce of cow—1st, James Frantz; 2nd, Frantz Bros.
Senior champion bull—1st, James Frantz.
Junior champion bull—1st, Frantz Bros.
Senior champion female—1st, Jas. Frantz.
Junior champion female—1st, Jas. Frantz.
Grand champion bull—1st, James Frantz.
Grand champion female—1st, Jas. Frantz.
Cups for the grand champion Galloway bull and grand champion Galloway female were awarded to James Frantz, Bluffton, Ohio.

Aberdeen Angus.

Bull, 3 yrs. or over—1st, Clark Bros. Grand Blanc, Mich.; 2nd, F. C. Romshe, Wapakoneta, Ohio; 3rd, Marshall Kelly, Charlotte, Mich.
Bull, 2 yrs.—1st, U. L. Clark, Hunter's Creek; 2nd, Clark Bros.; 3rd and 4th, Romshe.
Bull, senior yearling—1st, Clark.
Bull, junior yearling—1st, Clark; 2nd and 5th, Kelly; 3rd and 4th, Romshe.
Bull, senior calf—1st and 2nd, U. L. Clark; 3rd, Clark Bros.; 4th, Romshe.
Bull, junior calf—1st and 2nd, Clark Bros.; 3rd, Kelly.
Cow, 3 yrs.—1st, U. L. Clark; 2nd and 3rd, Clark Bros.; 4th, Kelly; 5th, Romshe.
Heifer, 2 yrs.—1st, U. L. Clark; 2nd and 4th, Romshe; 3rd, Kelly; 5th, Clark Bros.

Heifer, senior yearling—1st and 2nd, U. L. Clark; 3rd, Romshe.
Heifer, junior yearling—1st, Romshe; 2nd and 3rd, Clark Bros.; 4th, Kelly.

Heifer, senior calf—1st, U. L. Clark; 2nd and 3rd, Romshe; 4th, Kelly.
Heifer, junior calf—1st, U. L. Clark; 2nd and 4th, Clark Bros.; 3rd, Kelly.
Exhibitors' herd—1st, U. L. Clark; 2nd, Clark Bros.; 3rd, Romshe; 4th, Kelly.

Breeders' herd—1st, U. L. Clark; 2nd, Romshe; 3rd, Clark Bros.
Calf herd—1st, U. L. Clark; 2nd, Romshe; 3rd, Clark Bros.; 4th, Kelly.
Four get of sire—1st, U. L. Clark; 2nd, Clark Bros.; 3rd, Romshe.

Two produce of cow—1st, U. L. Clark; 2nd, Clark Bros.; 3rd, Romshe; 4th, Kelly.

Senior champion bull—1st, U. L. Clark; reserve, Clark Bros.
Junior champion bull—1st, U. L. Clark; reserve, Clark Bros.
Junior champion female—1st, U. L. Clark; reserve, Romshe.

Senior champion female—1st, U. L. Clark; reserve, Romshe.
Grand champion bull—cup—U. L. Clark; reserve, Romshe.

Grand champion female—cup—U. L. Clark; reserve, Romshe.

Polled Durham.

Bull, 3 yrs. or over—1st, L. C. Kelly, Ypsilanti, Mich.

Bull, 2 yrs.—1st, M. M. Garrett, Coldwater, Mich.

Bull, junior yearling—1st, Kelly.

Bull, senior calf—1st and 2nd, Garrett; 3rd, Kelly.

Bull, junior calf—1st and 3rd, Kelly; 2nd, Garrett.

Cow, 3 yrs.—1st and 2nd, Garrett; 3rd and 4th, Kelly.

Heifer, 2 yrs.—1st, Garrett; 2nd and 3rd, Kelly.

Heifer, senior yearling—1st, Garrett; 2nd and 3rd, Kelly.

Heifer, junior yearling—1st, Garrett; 2nd, Kelly.

Heifer, senior calf—1st, Garrett; 2nd, Kelly.

Heifer, junior calf—1st, Garrett; 2nd, Kelly.

Exhibitors herd—1st, Garrett; 2nd, Kelly.

Breeders' herd—1st, Garrett; 2nd, Kelly.

Calf herd—1st, Garrett; 2nd, Kelly.

Four get of sire—1st, Garrett; 2nd, Kelly.

Two produce of cow—1st, Kelly; 2nd, Garrett.

Senior champion bull—Garrett, reserve, Kelly.

Junior champion bull, Garrett; reserve Kelly.

Senior and junior champion female—Garrett.

Grand champion bull—cup—Garrett; reserve same.

Grand champion female—cup—Garrett; reserve, same.

Red Polled.

Bull, 3 yrs. or over—1st, Calhoun Bros., Bronson, Mich.

Bull, 2 yrs.—1st, Herbison Bros., Birmingham, Mich.

Bull, senior yearling—1st, Calhoun Bros.

Bull, junior yearling—1st, Calhoun Bros.

Bull, junior calf—1st and 2nd, Herbison Bros.

Cow, 3 yrs.—1st and 3rd, Herbison Bros.; 2nd and 4th, Calhoun Bros.

Heifer, 2 yrs.—1st, Calhoun Bros.; 2nd, Herbison Bros.

Heifer, senior yearling—1st, Calhoun Bros.

Heifer, junior yearling—1st, Calhoun Bros.; 2nd, Herbison Bros.

Heifer, senior calf—1st, Herbison Bros.; 2nd, Calhoun Bros.

Heifer, junior calf—1st and 2nd, Herbison Bros.; 3rd, Calhoun Bros.

Exhibitors' herd—1st, Calhoun Bros.; 2nd, Herbison Bros.

Breeders' herd—1st, Herbison Bros.; 2nd, Calhoun Bros.

Calf herd—1st, Herbison Bros.; 2nd, Calhoun Bros.

Four get of sire—1st, Herbison Bros.; 2nd, Calhoun Bros.

Two produce of cow—1st, Calhoun Bros.; 2nd, Herbison Bros.

Senior champ. bull—Herbison Bros.

Junior champ. bull—Calhoun Bros.

Senior champion female—Calhoun Bros.

Junior champion female—Herbison Bros.

Grand champion bull—cup—Herbison Bros.

Grand champion female—cup—Calhoun Bros.

Brown Swiss.

All first and championship awards in this class went to Hull Bros., Painesville, Ohio, the only exhibitor.

Fat Steers.

Steer, 2 yrs. and under 3—1st, John Lessiter's Sons, Clarkston, Mich.

Steer, 1 yr. and under 2—1st, Lessiter's Sons; 2nd, Jas. Frantz, Bluffton, Ohio.

Steer, 6 mos. and under 1 yr.—1st, Lessiter's Sons; 2nd, L. C. Kelly, Ypsilanti, Mich.

Herd, 3 age lots—1st, Lessiter's Sons.

Champion, any age under 3 yrs.—1st, Lessiter's Sons.

Swine.—Chester Whites.

All awards went to Adams Bros., Litchfield, Mich., except second premium of four of either sex which went to Geo. W. Heskett, Fulton, O.

Duroc Jerseys.

Boar, 2 yrs. or over—1st and 4th, Brookwater Farm, Ann Arbor, Mich.; 2nd, Zale Barton, West Unity, Ohio; 3rd, M. T. Story, Lowell, Mich.

Boar, 18 mos. and under—1st and 3rd, Brookwater Farm; 2nd, C. A. Story, Lowell, Mich.

Boar, 12 mos. and under 18 mos.—1st and 2nd, Brookwater Farm; 3rd, Barton.

Boar, 6 mos. and under 12 mos.—1st and 3rd, Barton; 2nd and 4th, Brookwater Farm.

Boars, under 6 mos.—1st and 2nd, Barton; 3rd and 4th, Brookwater Farm.

Sow, 2 yrs. or over—1st, Barton; 2nd, Brookwater Farm; 3rd, M. T. Story; 4th, C. A. Story.

Sow, 18 mos. and under 2 yrs.—1st, Brookwater Farm; 2nd, M. T. Story; 3rd, C. A. Story.

Sow, 12 mos. and under 18 mos.—1st and 3rd, Barton; 2nd and 4th, Brookwater Farm.

Sow, 6 mos. and under 12 mos.—1st, 2nd and 3rd, Barton; 4th, M. T. Story.

Sow, under 6 mos.—1st, F. J. Drott, Monroe, Mich.; 2nd, 3rd and 4th, Brookwater Farm.

Exhibitors' herd—1st, Barton; 2nd, Brookwater Farm; 3rd, M. T. Story.

Breeders' young herd—1st, Brookwater Farm; 2nd, M. T. Story.

Four, either sex, get of same boar—1st, and 4th, Brookwater Farm; 2nd, Barton; 3rd, M. T. Story.

Four of either sex, under 6 mos., produce of same sow—1st and 3rd, Brookwater Farm; 2nd, Barton; 4th, F. J. Drott.

Champion boar 1 yr. or over—1st, Brookwater Farm.

Champion boar under 1 yr.—1st, Barton.

Champion sow 1 yr. or over—1st, Brookwater Farm.

Champion sow under 1 yr.—1st, Barton.

Grand champion boar—1st, Brookwater Farm.

Grand champion sow—1st, Brookwater Farm.

Cups were awarded the Brookwater Farm, Ann Arbor, for grand champion boar and grand champion sow.

Poland Chinas.

Boar, 2 yrs. or over—1st, Hillcrest Farm, Kalamazoo, Mich.; 2nd, Bean Creek Farm, Addison, Mich.

Boar, 18 mos. and under 2 yrs.—1st, Bean Creek Farm.

Boar, 12 mos. and under 18 mos.—1st, Bean Creek Farm.

Boar, 6 mos. and under 12 mos.—1st, Bean Creek Farm; 2nd, Hillcrest Farm.

Boar, under 6 mos.—1st and 2nd, Hillcrest Farm; 3rd and 4th, Bean Creek Farm.

Sow, 2 yrs. or over—1st, Bean Creek Farm; 2nd, Hillcrest Farm.

Sow, 18 mos. and under 2 yrs.—1st, Bean Creek Farm.

Sow, 12 mos. and under 18 mos.—1st, Bean Creek Farm; 2nd, 3rd and 4th, Hillcrest Farm.

Sow, 6 mos. and under 12 mos.—1st, Bean Creek Farm; 2nd and 3rd, Hillcrest Farm.

Sow, under 6 mos.—1st and 2nd, Bean Creek Farm; 3rd, Hillcrest Farm.

Exhibitors' herd—1st, Bean Creek Farm; 2nd, Hillcrest Farm.

Breeders' young herd—1st, Bean Creek Farm; 2nd, Hillcrest Farm.

Four, get of same boar—1st, Bean Creek Farm; 2nd, Hillcrest Farm.

Four of either sex, produce of the same sow—1st, Hillcrest Farm; 2nd, Bean Creek Farm.

Boar, champion, 1 yr. or over—Hillcrest Farm.

Champion boar, under 1 yr.—Bean Creek Farm.

Champion sow, 1 yr. or over—Bean Creek Farm.

Champion sow, under 1 yr.—Bean Creek Farm.

Grand champion boar—Hillcrest Farm.

Grand champion sow—Bean Creek Farm.

Premier champion for exhibitor—Bean Creek Farm.

Premier champion for breeder—Bean Creek Farm.

Silver cup for grand champion boar awarded to Hillcrest Farm; and silver cup for grand champion sow, to Bean Creek Farm.

Berkshires.

Boar, 2 yrs. or over—1st, Hamilton Farms, Gladstone, N. J.; 2nd, J. L. Miller, Caledonia, Mich.; 3rd, John Ebels, Holland, Mich.

Boar, 18 mos. and under 2 yrs.—1st, Hamilton Farms; 2nd, Swigartdale Farm, Petersburg, Mich.

Boar, 12 mos. and under 18 mos.—1st, Hamilton Farms; 2nd, J. L. Miller; 3rd, Ebels.

Boar, 6 mos. and under 12—1st, Hamilton Farms; 2nd, Miller; 3rd, E.

W. & L. J. Miller, Caledonia; 4th, Ebels.

Boar, under 6 mos.—1st and 4th, J. L. Miller; 2nd and 3rd, E. W. & L. J. Miller.

Sow, 2 yrs. or over—1st, Hamilton Farms; 2nd, J. L. Miller; 3rd, Swigartdale Farm.

Sow, 18 mos. and under 2 yrs.—1st and 2nd, Hamilton Farms; 3rd, J. L. Miller; 4th, Swigartdale Farm.

Sow, 12 mos. and under 18 mos.—1st, 2nd and 3rd, Hamilton Farms; 4th, J. L. Miller.

Sow, 6 mos. and under 12 mos.—1st, Hamilton Farms; 2nd and 4th; J. L. Miller; 3rd, Hamilton Farms.

Sow, under 6 mos.—1st, J. L. Miller; 2nd, Hamilton Farms; 3rd and 4th, E. W. & L. J. Miller.

Exhibitors' herd—1st, Hamilton Farms; 2nd, J. L. Miller; 3rd, Swigartdale Farm.

Breeders' young herd—1st, J. L. Miller; 2nd, E. W. & L. J. Miller; 3rd, Ebels.

Four of either sex, get of same boar—1st, Hamilton Farms; 2nd, J. L. Miller; 3rd, E. W. & L. J. Miller; 4th, Ebels.

Four of either sex, under 6 mos., produce of same sow—1st, J. L. Miller; 2nd, E. W. & L. J. Miller; 3rd, Swigartdale Farm.

Champion boar, 1 yr. or over—Hamilton Farms.

Champion boar, under 1 yr.—Hamilton Farms.

Champion sow, 1 yr. or over—Hamilton Farms.

Champion sow, under 1 yr.—Hamilton Farms.

Grand champion boar—Hamilton Farms.

Grand champion sow—Hamilton Farms.

Premier champion for exhibitor—Hamilton Farms.

Premier champion for breeder—Hamilton Farms.

Cups were awarded to Hamilton Farms for grand champion boar, and grand champion sow.

Fat Hogs.

Best barrow under 1 yr.—1st, 2nd and 3rd, Brookwater Farm, Ann Arbor, Mich.; 4th, Clark Bros., Grand Blanc, Mich.

Best pen, 3 barrows under 1 yr.—1st, Brookwater Farm.

Victoria and Small Yorkshires.

Boar, 2 yrs. or over—1st, C. A. Story, Lowell, Mich.

Boar, 18 mos. and under 2 yrs.—1st, M. T. Story, Lowell, Mich.

Boar, 12 mos. and under 18 mos.—1st, C. A. Story.

Boar, under 6 mos.—1st, M. T. Story; 2nd, C. A. Story.

Sow 2 yrs. or over—1st, C. A. Story; 2nd, M. T. Story.

Sow, 18 mos. and under 2 yrs.—1st, C. A. Story; 2nd, M. T. Story.

Sow, 12 mos. and under 18 mos.—1st, C. A. Story; 2nd, M. T. Story.

Sow, 6 mos. and under 12 mos.—1st, M. T. Story; 2nd, C. A. Story.

Sow, under 6 mos.—1st, M. T. Story; 2nd, C. A. Story.

Exhibitors' herd—1st, C. A. Story; 2nd, M. T. Story.

Breeders' young herd—1st, M. T. Story; 2nd, C. A. Story.

Four of either sex, get of same boar—1st, M. T. Story; 2nd, C. A. Story.

Four of either sex, produce of same sow—1st, M. T. Story; 2nd, C. A. Story.

Champion boar, 1 yr. or over—C. A. Story.

Champion boar, under 1 yr.—M. T. Story.

Sow, 1 yr. or over—C. A. Story.

Champion sow, under 1 yr.—C. A. Story.

Grand champion boar—C. A. Story.

Grand champion sow—C. A. Story.

Premier champion, exhibitor—C. A. Story.

Premier championship, breeder—C. A. Story.

C. A. Story, Lowell, Mich., was awarded cups for grand champion boar, and grand champion sow.

Hampshires.

Boar, 2 yrs. or over—1st, Clark Bros., Grand Blanc, Mich.; 2nd, W. C. Gilliland, Van Wert, Ohio; 3rd, Garvin Denby, Farmington, Mich.; 4th, E. P. Hammond.

Boar, 18 mos. and under 2 yrs.—1st, Gilliland.

Boar, 12 mos. and under 18 mos.—1st, Adam Alt, Rockford, Ohio; 2nd, Gilliland; 3rd, Denby.

Boar, 6 mos. and under 12 mos.—1st, Alt; 2nd and 3rd, Gilliland; 4th, Alt.

Boar, under 6 mos.—1st, Clark Bros.; 2nd, Gilliland; 3rd, Alt; 4th, Clark Bros.

Sow, 2 yrs. or over—1st, Alt; 2nd, Gilliland; 3rd, Clark Bros.; 4th, Denby.

Sow, 18 mos. and under 2 yrs.—1st and 3rd, Alt; 2nd, Gilliland.

Sow, 12 mos. and under 18 mos.—1st and 2nd, Alt; 3rd, Clark Bros.; 4th, Gilliland.

Sow, 6 mos. and under 12 mos.—1st and 2nd, Alt; 3rd and 4th, Gilliland.

Sow, under 6 mos.—1st and 3rd, Gilliland; 2nd and 4th, Alt.

Exhibitors' herd—1st, Alt; 2nd, Gilliland.
 Breeders' young herd—1st, Gilliland; 2nd, Alt; 3rd, Clark Bros.
 Four of either sex, get of same boar—1st, Alt; 2nd and 3rd, Gilliland; 4th, Clark Bros.
 Four of either sex, under 6 mos., produce of same sow—1st and 3rd, Alt; 2nd, Clark Bros; 4th, E. P. Hammond, Pontiac, Mich.
 Champion boar, 1 yr. or over—W. C. Gilliland.
 Champion boar, under 1 yr.—Clark Bros.
 Champion sow, 1 yr. or over—Alt.
 Champion sow, under 1 yr.—Alt.
 Grand champion boar—Gilliland.
 Grand champion sow—Alt.
 Premier champion exhibitor—Gilliland.
 Premier championship, breeder—Gilliland.
 Cup for grand champion boar was awarded to W. C. Gilliland, of Van Wert, Ohio, and cup for grand champion sow awarded to Adam Alt, Rockford, Ohio.

Tamworths.
 All awards in this class went to Adams Bros., Litchfield, Mich., the only exhibitors.

Horses.—Percherons.
 Stallions, 4 yrs.—1st, Lonzo McClain & Sons, Lima, Ohio; on Laurier; 2nd, Loeser Bros., Ligonier, Ind.; on Lincoln; 3rd, McClain & Sons on Sullys.

Stallions, 3 yrs.—1st, McClain & Sons on Madagascar; 2nd, Loeser Bros. on Morning; 3rd, A. E. Stevenson, Port Huron, Mich., on Marinos.
 Stallion, 2 yrs.—1st, Loeser Bros. on Glenwood.

Stallions, 1 yr.—1st, McClain & Sons on Mignon; 2nd, Chas. W. Stevenson, Smith Creek, Mich., on Peterbury.

Stallion colt—1st, A. E. Stevenson on Patrocles.

Mare, 4 yrs.—1st, A. E. Stevenson on Limonite; 2nd, Same on Liason; 3rd, same on Lanonaille.

Mare, 3 yrs.—1st, Loeser Bros. on Mandarin; 2nd, McClain & Sons on Lena; 3rd, A. E. Stevenson on Magicienne.

Mare, 2 yrs.—1st, McClain & Sons on Vericourt.

Mare colt—1st, A. E. Stevenson on Philemon; 2nd, same on Patricion.

Champion stallion—McClain & Sons on Madagascar.

Champion mare—A. E. Stevenson on Limonite.

Clydesdales.
 Stallion, 4 yrs.—1st, Jas. Inness, Marquette, Mich., on Marquis Best; 2nd, Findlay Bros., Vassar, Mich., on Rinelda; 3rd, Ackerman & Sons, Elkton, Mich., on Saffon.

Stallions, 2 yrs.—1st, D. M. McIntyre, Sault Ste. Marie, Mich., on Sylvander's Favorite; 2nd, Findlay Bros. on Shorty; 3rd, Ackerman & Sons on Decorate.

Mare, 4 yrs.—1st, Ackerman & Sons on Queen Carogan; 2nd, same on Cherry Carogan; 3rd, same on Lady McQueen.

Mare, 3 yrs.—1st, Findlay Bros. on Hither Lady; 2nd, same on Princess Hither.

Mare, 2 yrs.—1st, Ackerman & Sons on Oakland Queen; 2nd, same on Saffon's Gift.

Mare colt—1st, Ackerman & Sons on The Graceful; 2nd, same on Mary Mine.

Mare with 2 colts—1st, Ackerman & Sons; 2nd, Findlay Bros.; 3rd, Ackerman & Sons.

Champion stallion—Inness on Marquis Best.

Champion mare—Ackerman & Sons on Queen Carogan.

Shetlands.
 Stallion, 3 yrs.—1st, Geo. A. Heyl, Washington, Ill., on King Larrigo; 2nd, Pelletier Farms, Orchard Lake, Mich., on Perfect Harum; 3rd, Mrs. Grace Gordon, Birmingham, Mich., on Harum's Addition; 4th, same on Prince Royal.

Stallion, 2 yrs.—1st, Heyl on Larrigo's Perfection; 2nd, same on Duke Larrigo.

Stallion, 1 yr.—Heyl on Larrigo's Triumph; 2nd, Gordon on Billy G.; 3rd, Pelletier Farms on Kennedy's Lad; 4th, Gordon on Dandy.

Shetland colt—1st, Gordon; 2nd, Pelletier Farms.

Mare, 3 yrs.—1st, Heyl on Princess Larrigo; 2nd, Pelletier Farms on Mac's Princess; 3rd, Heyl on Pearl; 4th, Gordon on Princess C.

Mare, 2 yrs.—1st, Heyl on Orbetta Larrigo.

Mare, 1 yr.—1st, Heyl on Maple Leaf Larrigo; 2nd, Gordon on Topsy.

Mare colt—1st, Heyl on Larrigo's primrose; 2nd, Gordon on Lily C; 3rd, Pelletier Farms on Maida P.

Champion stallion—Heyl on King Larrigo.

Champion mare—Heyl on Pearl.

(Continued next week).

Look beneath the surface anywhere and you can find ugly things enough, especially if you have a taste for the revolting.—Stephen.

THE OCTOBER SALE

120 - Registered Holsteins - 120

Sales Pavilion, THURSDAY, OCTOBER 14, 1915
 Howell, Michigan

Choice individuals of the best of breeding. Many cows with A. R. O. records and daughters of A. R. O. cows well along in calf to bulls combining the best producing strains of the breed. An opportunity to select foundation stock at your own price.

Ninth Public Sale

The Michigan Breeders Consignment Sale Co.,
 H. W. NORTON JR., Mgr., Howell, Mich.

Send for Catalog. Michigan-bred Holsteins are Free from Disease.

Oct. 21 Howell Sale Oct. 21

Sales Pavilion, Howell, Mich.

100 choice registered Holstein young Cows with records from 19 to 24 lbs. Daughters of A. R. O. cows in calf to some of the best 30 lb. bulls in the State. Heifer calves and yearlings with A. R. O. dams and sires, a few bulls.

Last Sale of 1915 at Howell

Oct. 21, 10:30 a. m. Three Auctioneers, Perry, Ellis, Mack. Catalogs Oct. 10.

The Howell Sales Company

of Livingston County.

F. G. Johnston, Columbus, O., Ped. Expert
 A. R. Eastman, Sec., Howell, Mich.

20 Registered H. F. Bulls

FOR SALE

Tested dams 30 lb. sires. Sept. price \$50 to \$100, according to breeding. Age 1 to 24 mo. Write what you need.

A. R. EASTMAN, HOWELL, MICH.

REGISTERED HOLSTEINS—Herd headed by Alma Bonte Butter Boy. His dam has A. R. O. records as follows: at 2 yrs. milk 430, but or 18.85; 4 yrs. milk 604.8, butter 27.03; at 6 yrs. milk 620, butter 28.55 lbs. W. B. READER, Howell, Mich.

HIGH CLASS HOLSTEINS—My herd is headed by Smithdale Alcatraz Pontiac, whose dam is the famous Alcatraz Polkadot. Have few young bulls and females for sale at reasonable prices. Will buy a few heifers about 15 months, not bred, Farm 1/4 mile from court house. SETH B. RUBERT, Howell, Mich.

5 Registered Holstein Heifers 5 months old. Very nice in every way. \$100, delivered free, safe arrival guaranteed. Write for pedigree and photo. Hobart W. Fay, Mason, Mich.

Holstein Bull Calf 6 mo. old, 30 lb. sire and from a promising 2 yr. old dam \$60 with all papers. Elmer E. Smith, Redford, Mich.

FOR SALE Registered Holstein Bulls ready for service, and bull calves, also females. FREEMAN J. FISBECK, Howell, Michigan.

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

Reg. Holstein Friesian Bull Calves From heavy producing dams. Bargain prices. DEWEY C. PIERSON, Hadley, Michigan.

Only \$30.00 Delivered. Handsome Holstein bull calf, 1/2 white, six wks. old, thoroughbred, but not eligible to registry. ROUGEMONT FARMS, Detroit, Mich.

HOLSTEINS AND GUERNSEYS Our Holsteins combine the blood of Belle Korndyke and DeKol 2nd. Our Guernseys are strong in Lady Gempsey. Glenwood Boy of Haddon, and Stranford's Glenwood of Pinehurst blood. Some fine bull calves of both breeds for sale. Boardman Farm, Jackson, Mich.

REGISTERED HOLSTEIN BULL, calved Jan. 2, 1914. Send for description. W. C. TAYLOR, Milan, Mich.

HOLSTEIN CATTLE and Duroc Jersey Swine. Choice pigs of both sex now ready to ship. Price reasonable. E. R. CORNELL, Howell, Michigan.

Registered Holstein—FRIESIAN BULLS ready for service, \$50 to \$75 each. B. B. REAVEY, Akron, Michigan.

Maple Lane Register of Merit Jersey Herd. Tuberculin tested by U. S. Government. For sale bull calves and heifer calves from R. of M. dams and grand dams, and Hood Farm Sire. IRVIN FOX, Allegan, Michigan.

LAST BULL Sold to Mr. A. Fleming of Weidman, Mich. Just one bull left, age 10 mo. He's a bargain at \$200, breeding conformation considered. Brother to former world's record 3 1/2 yr. old Holstein. M. L. McLaurin, Redford, Mich.

THE WILDWOOD Jersey Herd. Registered Jersey Cattle of Quality. Herd headed by Majesty's Wonder 3077, one of the best sons of Royal Majesty. The daughters of Majesty's Wonder are mated to a son of Majesty's Oxford King. Herd tuberculin tested. We have for sale a few choice young bulls for fall service from high producing cows. Alvin Balden, Capac, Mich.

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

Jerseys. Bulls ready for service, extra quality sired by Jacobus's Fairy Emanon, No. 10711, from high producing dams. SMITH & PARKER, Howell, Mich.

FOR SALE—High class Jersey Bull Calves from Register of Merit ancestry. WATERMAN & WATERMAN, Meadowland Farm, Ann Arbor, Mich.

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

HILLSIDE Farm Jerseys. Yearling bulls, solid color, half brothers to ex-world's-record senior 2 yr. old and from R. of M. dams, with records from 400 lbs. to 800 lbs. C. and O. DEAKE, Ypsilanti, Michigan.

St. Lambert Jerseys. Bull calves, \$25 to \$50, delivered, free to any station in Mich. 3 to 8 mo. old. Also heifer calves; 6 mo. yearlings, and two year old Bred. All registered. For details write, J. W. HELME, Adrian, Mich.

For Sale—Tested Registered Jersey Sire, fine breeding. Several heifers running over 400 lbs to his credit. Good natured, tractable, price reasonable. Chas. B. Cook Farm, Owosso, Mich. R. No. 1.

Milking Shorthorns 1 bull 8 months old \$125, 2 cows. DAVIDSON & HALL, Tecumseh, Michigan.

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

BIDWELL SHORTHORNS

For "Beef and Milk"
 Registered Bulls, Cows and heifers, Scotch-topped roans, and reds for sale. Farm at N. Y. Central Depot, also D. T. & L. R. Y. BIDWELL STOCK FARM Box B, Tecumseh, Mich.

Shorthorns For Sale 8 young bulls also female, farm 1/4 mile east of Davis crossing on A. A. R. B. W. B. McQUILLAN, Howell, Mich.

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

Dairy Bred Shorthorns of best Bates strains. Young bulls 7 months old for sale. Price \$100 each. J. B. HUMMEL, Mason, Mich.

HOGS.

Durocs & Victorias—Grand bunch of Gilts due March and April. Comprising the blood of Superba, Defender, Much Col, Orions and others. A few young boars. M. T. STORY, Lowell, Mich.

FOR SALE—Berkshire hogs, both sexes and different ages. Bred gilts for fall farrowing. Poll Angus Bull Calf, not registered. Price right. Chase's Stock Farm, R. 1, Marlette, Mich.

Berkshires. Two fall gilts bred for Aug. & Sept. farrowing and a choice lot of April gilts for sale. A. A. PATULLO, Deckerville, Mich.

Royalton Bred Berkshires—Boar pigs ready to ship last of July at 12 weeks age with registry papers. Write for pedigree and prices. D. F. VALENTINE, Supt., Temperance, Mich.

FOR SALE—Berkshires, pigs, gilts, boars. Bred right. P. Fed right. Priced right. W. N. LISTER, Ypsilanti, Mich.

For Sale Duroc Jerseys Bred Gilts for Sept. farrow. Carey U. Edmonds, Hastings, Mich.

Duroc Jersey—March pigs either sex, also am booking orders for fall pigs for Nov. shipment. Inspection invited. E. D. Heylenberk, Wayland, Mich.

HAMPSHIRE Swine—Breeding stock of all ages from most popular strains. Write for breeding. Inspection invited. Floyd Myers, R. 2, Decatur, Ind.

WEST WINDS HAMPSHIRE SWINE. Booking orders for sow pigs immediate shipment. No males to offer. E. P. Hammond, owner, N. A. Wiser, manager, Pontiac, Mich.

WOULD like to hear from those desiring to start a herd of thoroughbred Chesters. Prices attractive. F. W. ALEXANDER, Vassar, Michigan.

Big Type, O.I.C.'s and Chester White Swine.

400 fall pigs either sex, special prices for the next 30 days, also bred gilts and service males and we are booking orders for spring pig, all our stock is good enough that I will ship C. O. D. and reg. free in the O. I. C. or Chester White Assn. We won, more prizes than all other breeders put together, at Ill. and Wis. State Fairs. Write for Show record.

ROLLING VIEW STOCK FARM
 Cass City, Michigan.

O. I. C.—Gilts bred for Aug. and Sept. farrow. H. W. MANN, Danville, Michigan.

O. I. C. SWINE—Are you on the market for a choice bred sow to farrow the last of Aug. or fore part of Sept. If you are, write me, I have them. A. J. GORDEN, R. No. 2, Dorr, Michigan.

O. I. C.'s—8 last fall gilts bred to farrow last of Aug. and in Sept. Big growthy stock, also last Spring pigs and one last fall boar. 1/4 mile west of depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C. Choice Gilts bred for Sept. farrow. ALVIN V. HATT, Grass Lake, Michigan

O. I. C. GILT BRED SPRING PIGS ready to ship. H. J. FERLEY, Holt, Michigan.

O. I. C.'s—Bred sows, bred gilts, spring pigs both sex. Service Boars. Price low. A. R. GRAHAM, Flint, Michigan.

REGISTERED O. I. C. BOARS & GILTS High class fall pigs at reasonable prices. J. CARL JEWETT, Mason, Mich.

O. I. C. SPRING BOARS of good type and Red Polled bull calves. John Berner and Son, Grand Ledge, Mich.

O. I. C.'s STRICTLY BIG TYPE. March, April and May pigs Sired by Lehigh Prince, White Monarch and Frost's Choice, all big type boars and sows weighing from 500 to 700 lbs. with quality second to none. Can furnish in pairs not akin. Prices reasonable. Newman's Stock Farm, Marlette, Mich. R. 1.

Way Brothers Stock Farm. The home of the big bone O. I. C. Hogs. Stock for sale. Registered free. J. R. Way, Pomper, Mich.

FOR SALE—Fancy bred gilts, fall males, spring pigs, of the large, smooth kind. Price to sell. JOHN McNICOLL, Station A, R. 4, Bay City, Mich.

Capitol Herd Duroc Jersey Swine. Established 1888. Spring pigs for sale, satisfaction guaranteed. Express prepaid. J. H. Banghart, East Lansing, Mich.

DUROC JERSEYS—Spring pigs either sex. Gilts bred for Sept. farrow to a son of Volunteer Grand Champion at Intern'l Stock Show Chicago. F. J. Drott, R. 1, Monroe, Mich.

Duroc Jersey—March pigs either sex, sired by a son of Volunteer Grand Champion of 38 State Fairs and Chicago Show in 1912. E. H. Morris, Monroe, Mich.

Durocs of the best of breeding. April farrow either sex or pairs for next 30 days \$20 each. Two fall boars. Oct. farrow \$30 each. Also Holstein bull one year Oct. 6. H. G. KEESLER, Cassopolis, Mich.

THIS
O.I.C.
 SOW WEIGHED 932 LBS.
 AT 23 MONTHS OLD
 IONIA GIRL

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN, R. No. 10, Portland, Mich.

DUROC JERSEYS—Fall and spring pigs either sex, from choice strains. S. C. STAHLMAN, CHERRY LAWN FARM, Shepherd, Michigan.

Duroc Jerseys 5 large brood sows in pig and Herd Boar all full blood at the right price. C. A. HUFF, R. 1, Mendon, Michigan.

BIG TYPE P. C. Either sex, pairs or trios not akin. Bred sows and gilts. Have several 1000 lb. boar prospects. Absolutely no larrier breeding. Everything guaranteed right. FRANK KRUGER, Ravenna, Mich.

Poland Chi as, either sex, all ages. Something good at a low price. Bargains in boars ready for service. P. D. LONG, R. F. D. 8, Grand Rapids, Mich.

POLAND CHINAS of the big type. Boars ready for service. Sows bred for spring farrow. A. A. Wood & Son, Saline, Mich.

LARGE TYPE P. C.—Either sex, pairs and trios, not bred gilts. W. J. HAGELSHAW, Augusta, Mich.

Big Boned Poland Chinas. Fall gilts bred weighing from 250 to 300 lbs. ROBERT MARTIN, R. F. D. No. 7, Hastings, Mich.

Large Strain P. C. two extra good Summer Yearling Boars; a few choice sows bred for Aug. & Sept. farrow. Spring pigs that are beauties, sired by Big Defender, the boar that everybody goes wild over. Come and see him. H. O. SWARTZ, Schoolcraft, Mich.

BIG TYPE POLAND CHINAS. Some choice boars now ready to ship. Satisfaction guaranteed. G. W. HOLTON, R. No. 11, Kalamazoo, Michigan.

Spring Pigs at Half Price:—Bred from strain of Poland Chinas on earth, none bigger. If you ever expect to own a registered Poland China, this is your opportunity. Get busy and order at once. Pairs and trios not akin \$15 each. A few bred sows at \$25. J. C. BUTLER, Portland, Mich. Bell Phone.

LARGE Type P. C. Herd Boar Hoosier Giant 2nd 238011, Pig sired by him, One Big Smooth Junior, bred sows, pigs right. MRS. J. E. BRAITHWAITE, Brant, Mich.

For Sale Poland Chinas of Merit, Ayreshire Bull. B. M. WING & SON, Sheridan, Mich.

BIG type Poland Chinas with quality bred right, feed right, and priced right for their new homes and do right. A. D. GREGORY, Ionia, Mich.

POLAND CHINA Spring Pigs from heavy boned prolific stock. Also, Oxford Sheep, both sex at bargain prices. ROBERT NEVE, Pierson, Michigan.

REGISTERED YORKSHIRES

Imported Strain. Both sexes. Prices Reasonable. Hatch Herd, Ypsilanti, Michigan.

50 YORKSHIRES—All ages. Red Polled Cattle, Oxford Down Sheep, W. P. Rocks, I. E. Ducks, E. S. CARR, Homer, Mich.

Large Yorkshires Gilts bred for September and October farrow. Serviceable boars. Pigs all ages. Prices reasonable. W. C. Cook, Route 42, Ada, Michigan.

Lillie Farmstead Yorkshires. Boars ready for service. L. Gilts bred for Sept. farrow. Spring pigs, pairs and trios, not akin. Colon C. Lillie, Coopersville, Mich.

Mulefoot Hogs:—Weaning pigs, pairs not akin. Bred sows and gilts for fall farrow, two service boars. C. F. BACON, R. 3, Britton, Mich.

MULE FOOT HOGS REGISTERED 2 very large boars—why not start right. LONG BEACH FARM, Augusta, Mich.

HORSES

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

Pigeon Pony Farm—Reg. Shetland Ponies, mostly for sale. Spotless stallion and young stock for sale. Dr. W. T. Morrison, Pigeon, Mich.

Registered Percherons Brood mares, Fillies and Young Stallions. Priced to sell. Inspection invited. L. C. HUNT & CO., Eaton Rapids, Michigan.

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

SHEEP.

Black Top Delaine Sheep. Yearling rams for sale. Registered to stock only. Fred E. Reichert, Elm Ridge Farm, Ann Arbor, Mich.

Oxford Down Sheep. Good Yearling Field Rams and ewes of all ages for sale. M. F. GANSSLEY, Lennon, Michigan.

SHROPSHIRE RAMS Good big fellows with quality. Special prices on them this month. See our exhibit at Columbus and Detroit. KOPE KON FARM, Kinderhook, Michigan.

FOR SALE SHROPSHIRE RAMS that have wool from toes. M. A. BRAY, Okemos, Ingham Co., Mich.

Shropshires Ewes and Ram Lambs for Sale. DAN BOOHER, Marlon, Michigan.

Big Robust Wool-Mutton Shropshire Rams Priced right and satisfaction guaranteed or money back. Write today for Special Price List 24. A. H. FOSTER, Allegan, Michigan.

Shropshire 3 year-old stock ram, 2 year-old yearlings and lamb rams. Wool-mutton type. G. P. ANDREWS, Danville, Michigan.

SHROPSHIREs. Am offering 4 yearling rams, 8 ram lambs and 6 young ewes at reasonable prices. C. J. Thompson, Rockford, Mich.

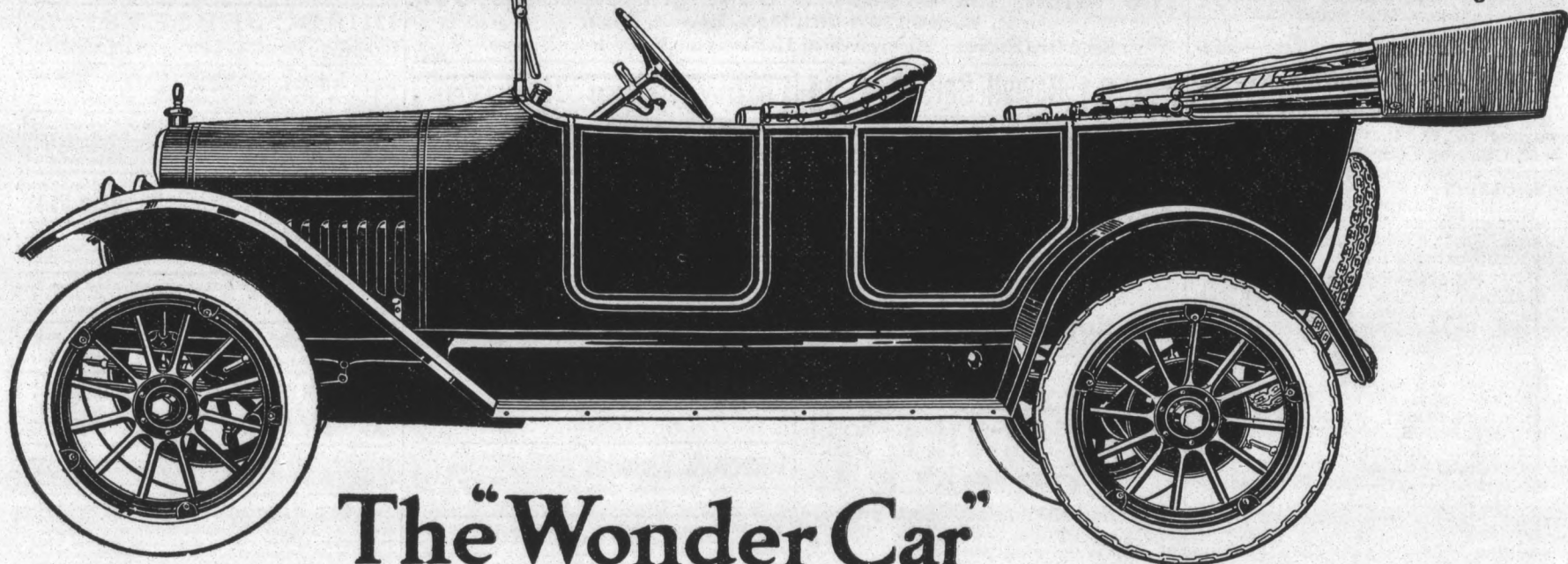
FOR SALE Registered American Delaine Sheep, with both size and quality. Also Registered Poland China pigs of both sexes. ELMER E. BOWEN, R. No. 2, MANCHESTER, MICH.

Shropshire Rams and RAM LAMBS. Registered, large and well woolled. Write your wants. A. E. BACON & SON, Sheridan, Mich.

Leicesters—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berkshire swine. Elmhurst Stock Farm, Almont, Mich.

1916 Maxwell \$655

Including Electric Starter
and Electric Lights



The "Wonder Car"

A Stampede to the 1916 Maxwell

Today, the 1916 models of every important make of automobile have been viewed by the most critical jury in the world—the American automobilists.

Already the record-breaking sales of the 1916 Maxwell show an absolute buying stampede to the "Wonder Car."

The "wise ones" who have given the 1916 Maxwell the verdict, base their judgment of real automobile value upon these four vital points:

- 1st—The "first cost" of the car
- 2nd—The "after cost" of the car
- 3rd—The quality of the materials and workmanship in the car
- 4th—The equipment and the "completeness" of the car

The 1916 Maxwell's new price, \$655, fully equipped, with electric starter, electric lights, high-tension magneto, demountable rims, "one man" mohair top, and every other high-priced-car feature, has earned it first place as the car of record low "First Cost."

The 1916 Maxwell's lowering of all economy records for—

- 1st—Miles per set of tires
- 2nd—Miles per gallon of gasoline
- 3rd—Miles per quart of lubricating oil
- 4th—Lowest year-in-and-year-out repair bills

has earned it first place as The Car of Lowest "After Cost."

The 1916 Maxwell's pure stream-line body, new rounded clean-cut radiator design, and handsome "one-man" top, have earned for it first place as "the prettiest thing on four wheels."

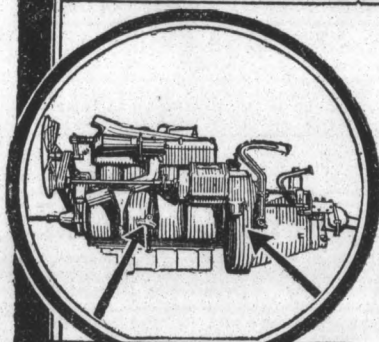
The 1916 Maxwell's special heat-treated, laboratory-tested steel, built into a Twentieth Century Automobile by men who really know how,—has earned for it first place as the car of record low repair bills. And this record will extend over the entire life of the 1916 Maxwell.

1916 Maxwell High-Priced-Car Features, all included for \$655

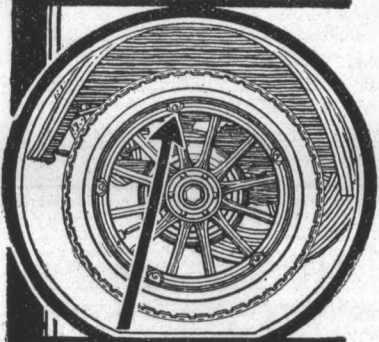
Electric Starter and Electric Lights	Electric Horn	Handsome Rounded Radiator and Hood	Easy Riding and Mar- velous Flexibility
Demountable Rims	Double Ventilating Windshield (clear vision and rain-proof)	Linoleum covered running-boards and floor-boards	Unusual power on hills and in sand
High-tension Magneto	Aluminum Transmis- sion Housing	Automatic Tell-tale Oil Gauge	Ability to hold the road at high speed
"One-man" Mohair Top	Robe Rail with back of front seat leather covered	Heat-treated, Tested Steel Throughout	Improved Instrument Board with all in- struments set flush
New Stream-line Design			
Wider Front and Rear Seats			

Every feature and every refinement of cars that sell at twice its price
PRICE F. O. B. DETROIT

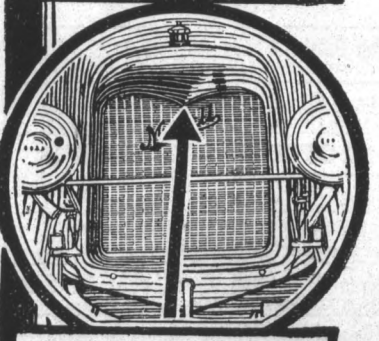
Write for 1916 Maxwell Catalogue, and the name of Maxwell Dealer nearest you. Address Dept. C. F.
MAXWELL MOTOR COMPANY, Inc., Detroit, Michigan.



4-cylinder Unit Power Plant with
enclosed fly-wheel and clutch.



Demountable Rims are regular
equipment of the 1916 Maxwell.

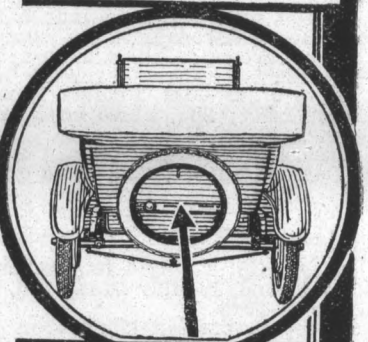


Front view showing the handsome
lines of the new radiator and hood.

Built complete by
the three gigantic
Maxwell factories at
Detroit, Dayton, and
Newcastle.



Speedometer, fuse box, ignition,
lights, battery regulator, all mounted
flush on instrument board.



Note the compact arrangement
of spare tire carrier, tail light and
license bracket.



Perfect-fitting, "one-man" mohair
top; quick adjustable storm curtains,
rolled up inside of top.

16 Great Maxwell
Service Stations—35
District Offices—Over
2,500 Dealers—all giv-
ing Maxwell service.