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Irrigation on Michigan Farms By C. L. NASH

WITHIN the last year the writer has personally seen in operation a half dozen irrigation systems within a radius of twenty miles in Muskegon and adjoining counties. To the average mind, the word irrigation conveys mental visions of big ditches, government aid and alfalfa. He may have heard that irrigation is practical in certain market garden sections in the east, nevertheless, to the casual reader, a project worthy of the name, "irrigation," should be found in the west. Through the columns of this paper, many of its readers are constantly gaining a broader knowledge of various sections of our state, yet in this matter of irrigation many are unaware that it is being tried out in many localities by Michigan farmers and gardeners.

Two of the most successful of the plants visited are to be found under the management of Mr. Frank Hile, of Muskegon county. One is located on his farm and may be designated a flood irrigation system. The other is situated on the Lake Harbor Hotel

Farm, just back from the bluffs along Lake Michigan, and is of the overhead irrigation type. This is not an arid country but one in which the average rainfall is 31 inches. The soil is a loose, porous sand, such as is found in many parts of Michigan. It is typical cut-over land. It does not hold water particularly well, but if plenty of moisture can be had by irrigation, or by adding to the humus content of the soil and thus to its water-holding power, successful crops of small fruits and garden vegetables of many kinds can be grown. However, increasing the humus content is not so simple as it seems, as these sandy soils burn up the organic matter in them very rapidly on hot, dry summer days. Recognizing the need of water, or rather the possibilities of growing crops when water is plentiful, on these soils; Mr. Hile began five years ago to experiment with his flood irrigation system, which is still in operation.

His outfit consists of a three-and-one-half horse power gasoline engine, a home-made pump jack, and a two-cyl-

der pump. The cylinders are 6x20 inches, the pump having a capacity of about 90 gallons per minute under the conditions met. The simplicity of the outfit is shown by Fig. 1. A four-inch pipe line of sewer tile leads from the pumps to the highest part of the area to be flooded, about 20 rods distant. The water is drawn from a creek down the hill a few rods from where the outfit stands. In all the water is lifted about 20 feet. The total cost of installing the outfit was \$250. The engine may be used in other ways. In operation the water is pumped through the pipe line to the highest point in the field, mentioned above. Here the water bubbles up and flows out through ditches at the sides of the area to be flooded. (See Fig. 2). From these main ditches it is drawn into sub-ditches and conveyed to the vegetable rows. Sub-ditches and the vegetable rows are previously ridged somewhat by using a V-shaped affair resembling a snow plow. A little clay put in the main and sub-ditches prevents excess loss of water by seepage.

In operating, the operator starts and adjusts the engine, then gives attention to the ditches. The standpipe seen in the cut aids in equalizing the pressure so that after a few minutes things work smoothly. The operator working with a hoe allows the water to flood between the first two rows, then the next, etc., working across the field. By pumping two to three hours a day the tract is covered in three days. The pumping is usually done in the morning and at night. As the land slopes only gently, there is little trouble from surface washing. Once the plant is installed, there is little expense save the matter of a few repairs and the gasoline bill. The latter in the past has averaged around \$25 a year.

Mr. Hile states that by using water he has doubled production and as he is growing tomatoes, melons, and special garden crops, he finds the system cheap, practical, and profitable. Cultivation follows irrigation. Barnyard manure, supplemented by commercial (Continued on page 148).

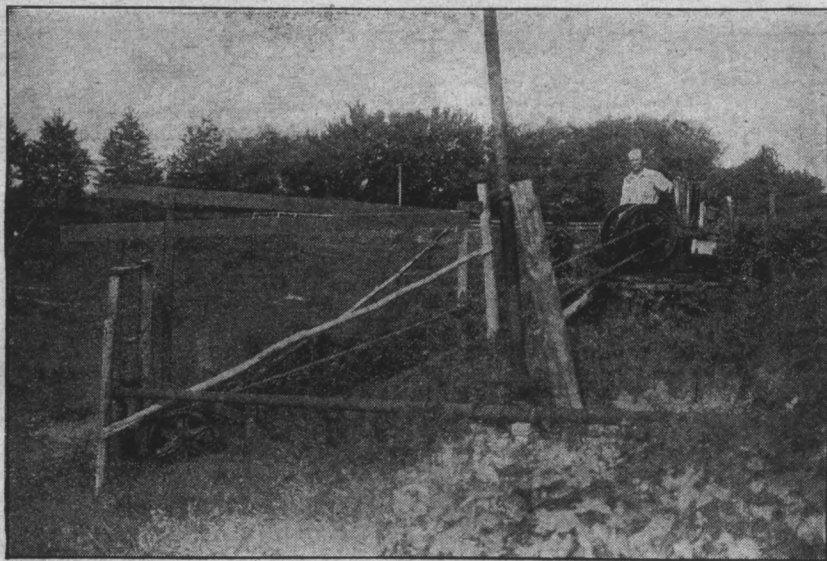


Fig. 1.—Engine and Pump Used in Flood Irrigation System on Mr. Hile's Muskegon County Farm.



Fig. 2.—Water Pumped through Tile to the Highest Point in the Field is Distributed through Open Ditches.

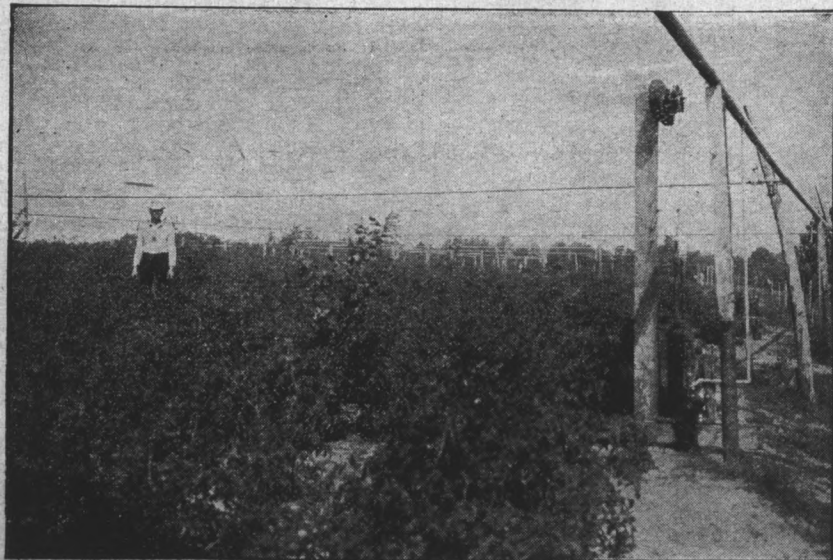


Fig. 3.—Overhead System, Showing Turning Device, Method of Supporting Pipes and Crop of Tomatoes.

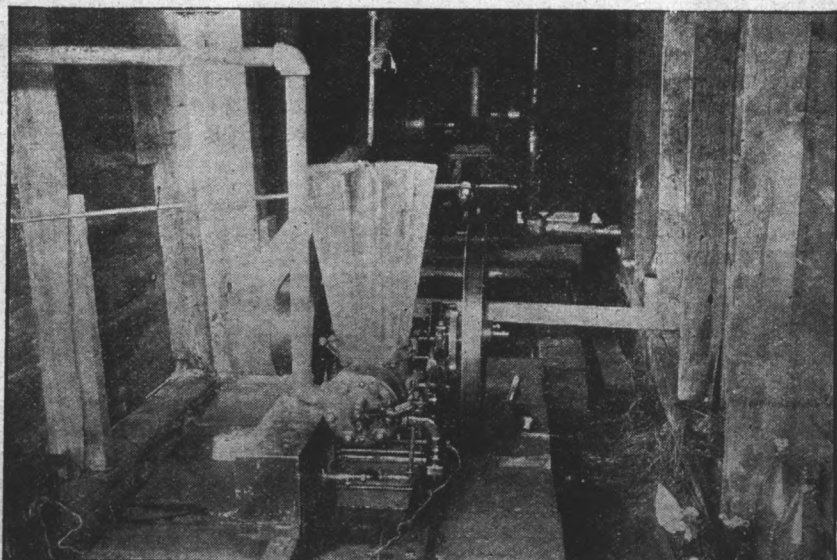


Fig. 4.—Engine and Pump Used in Overhead Irrigation System on Lake Harbor Hotel Farm.

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DETROIT, AUGUST 19, 1916

CURRENT COMMENT.

Michigan's Crop Income.

Notwithstanding the pessimistic reports published by the daily press during the extremely dry, hot days of July, the present outlook is most encouraging for the farmers of the state. In fact, it would appear from a close analysis of the situation that the effect of the unusual July weather will, as a whole, be beneficial rather than deleterious to the season's crops. Without doubt the hot weather advanced the date of the maturity of the corn crop many days which, in view of the unusually late date of planting last spring, is likely to be of very material benefit to the crop. This is especially true since the drought was broken in practically all sections of the state before the ears commenced to set. A very great improvement in conditions has occurred since the collection of the data for the August crop report, which appeared in the last issue and the examination of many fields affords convincing evidence that the comparatively small shortage in the crop prospect as compared with last year will be more than made up when the September estimates are made.

In like manner the bean crop was pushed more rapidly toward maturity by the hot weather, which was also valuable crop insurance in the matter of keeping in check the serious fungous diseases, anthracnose and blight, which played such havoc with last year's crop. In some sections beans suffered more than corn from the effect of the drought, but the comparatively late date of planting saved more serious injury from this cause, since rain came in time to insure the setting and filling of the pods in most bean fields, so that with prospects for a far better crop than was secured last year, with the market practically bare of old beans and prices at record figures, the prospect for bean growers is bright.

Potatoes have suffered comparatively little from the drought, while the hot, dry weather has served to keep the late blight in check in a season when infection with the spores must have been more general than common, owing to the almost universal prevalence of the disease last year. Notwithstanding the fact that the average quality of the seed used this year was poor, favorable conditions at planting time gave a good stand in practically all sections, and with anything like favorable weather conditions during the balance of the season this important cash crop will be the source of a far greater income than was the case last year. From present indications these two cash crops of beans and potatoes should bring the farmers of the state nearly if not quite twice the net income which they yielded last year.

The small grain crop is practically secured, and threshing well started. There is considerable shortage in the wheat crop due to reduced acreage on account of unfavorable weather at seeding time, but this shortage is fully compensated for by the higher price of this staple, due to the world shortage in prospect. The yield of oats is about normal, the state crop report appearing in another column of this issue placing the yield at approximately 60,050,000 bushels, or only 3,760,000 bushels short of last year's record crop. With normal crops of other small grains and a record hay crop of unusual quality stored in the barns, Michigan farmers have reason to congratulate themselves on their prospects what might be termed secondard sources of income.

Growers of tree fruits for which the state is famous, will find themselves in a more enviable position than in recent years. The peach crop prospect is a little below that of last year, but this shrinkage of only a little more than 10 per cent is compared with a loss of more than 35 per cent in the estimates of the country's crop. Apple prospects are 14 per cent better than a year ago, while the prospects for the country are nearly 10 per cent below last year's final estimates.

Another index of good prospects for the farmers of the state is found in the general review of crop conditions published by the United States Department of Agriculture, which places the composite condition of all crops in Michigan at 101.3 as compared with the average, while the composite condition for the country as a whole is given at 97.4. Michigan has a higher composite average than any contiguous state, only one of which has an average composite prospect.

When the great diversity of Michigan's agriculture is considered, which insures to Michigan farmers many comparatively important sources of income not considered in estimating staple crops, it becomes at once apparent that the crop income of the farmers of the state is certain to be more satisfactory than was the case last year, and there is every indication that the final returns will be a cause for sincere congratulation.

The press has recorded the death of Professor Clinton D. Smith. Clinton D. Smith of New York state, which occurred suddenly at Buffalo last week.

The life work of Prof. Smith was for a considerable period quite intimately connected with Michigan agriculture, and very directly with the Michigan Agricultural College, as Professor of Agriculture, Dean of the Short Courses, Superintendent of Farmers' Institutes and Director of the Experiment Station. Prof. Smith came to be well known among Michigan farmers. His name is associated with the development of Michigan agriculture, and especially with the dairy industry.

To the energy and untiring efforts of Prof. Smith, and to the spirit that he instilled into rural life, as well as to the results achieved thus far, the Michigan Farmer desires to pay tribute. His genius for making friends and his appreciation of the farmer's viewpoint have had a lasting effect and many a farm house in this state will have some remembrance of the genius of this man.

Prof. Smith was a practical agriculturist. While his mind was well equipped with the results of experimental farming he never lost sight of the fact that in his day at least each experiment must have a practical application attached to it. Consequently most of his bulletins were on problems directly related to farm life, soil experiments, feeding experiments, sugar beets and crop rotation. The dairy he considered his especial field and dairymen and creamery men will remember pleasantly their association with Prof. Smith.

The Michigan Farmer, on behalf of

Michigan agriculture, pays its profound respect to his memory. To the bereaved wife, herself for many years an invalid, we desire to convey our sincere sympathy.

Our Industrial Growth.

Data recently given out by the census bureau relating to the census of manufacturers for 1914, Detroit and Michigan lead the country in industrial growth since the census year of 1909. The increase in the number of persons engaged in manufactures is 26.2 per cent for Detroit and 18.3 per cent for Michigan as compared with 7.6 per cent for the country. Wage earners show a percentage of increase in Detroit of 23.9, in the state of 17.1, as compared with an increase for the country of 6.4, while wages show an increase in Detroit of 62.2 per cent, and in Michigan of 53.2 per cent as compared with 19 per cent for the country. The value of output of manufactures has increased 50.2 per cent for Detroit and 58.5 per cent for the state, as compared with 17.3 per cent for the country. The value added by manufacture, or the value of the output less cost of materials, is 46.1 for Detroit and 55.9 for the state, as compared with 15.8 for the country.

The farmers of the state are bound to share with other industries this great increase in industrial prosperity through a rapid enlargement of the home market for their products.

THE MICHIGAN STATE FAIR.

Pursuant to the announcement in the last issue, we present below a brief history of the Michigan State Fair for the benefit of readers who are not familiar with the character and purposes of the Michigan State Agricultural Society, under whose auspices it is held:

The Michigan State Agricultural Society was authorized by a special act of the legislature in March, 1849. This act provides for a president and twenty directors. A constitution and by-laws were drawn up and put in operation. The constitution provides that each director shall receive \$3.00 per day for his services for a period not exceeding ten days, and the president \$100 per annum. It also provides that any male citizen of Michigan, twenty-one years of age, may become a member by paying \$2.00 per year, which entitles the holder to membership, and to make exhibits in any or all departments; also an admission to the grounds once each day during the entire fair. The members have the right to vote at all caucuses and elections, and in this way control the election of the members of the executive board. Provision is also made that all surplus money be used for added improvements to the State Fair grounds.

The first exhibition of the Michigan State Fair was held in Detroit in 1849, east of Woodward avenue, and near Grand Circus Park. The total receipts from every source amounted to \$3,923.21.

Today the State Fair land alone is worth upwards of \$750,000. The original cost of the buildings and equipment was \$425,000 and new buildings costing \$150,000 are now being constructed. Among the buildings being erected are a coliseum, which will seat 15,000; an art building, floral hall, woman's building, and a poultry building. A new entrance is being constructed and a boulevard lighting system; concrete roads and sidewalks are being built and other buildings are being repaired and painted. With the improvements completed, the Michigan State Fair will have one of the most modern and convenient exposition grounds in the middle west. The State Fair now has an indebtedness in the form of a bond issue of \$255,000.

Some people have the erroneous idea that the Michigan State Fair is a private corporation and operated for private gain, but inasmuch as the State Fair was created by a special act of the legislature to promote the agricul-

tural and manufacturing interests of the state, and brought into existence by the then governor and state officers, and its directors are elected by the citizens of Michigan who are members, it would be quite difficult to make it more of a people's organization than it is at the present time. The ownership of the property in this instance, is vested in the organization, which is controlled by its members, who are citizens of Michigan. In some instances, (Continued on page 148).

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—Outstanding events in the week's review of the war are the capture by the Russians of Stanislaw an important railway center in southern Galicia and the taking of Gorizia by the Italians. Besides being a position of great military advantage the taking of Stanislaw opens the way for the Russians to move on Lemberg, the capital of Galicia. Gorizia likewise commanded the safety of Trieste, Austria's chief Adriatic seaport, and with the former in the hands of the Italians the eventual fall of Trieste seems but a matter of time. Both the Italians and the Russians are taking advantage of the enemy by pushing forward rapidly before he can reorganize his forces. —In Flanders the Anglo-French forward movement on a 15-mile front reaching from Thiepval to the Somme river, has resulted in decided gains, the French advancing over a mile while the British smashed their way closer to the Martinpuich ridge across the plateau of Bazentin le Petit. The British forces in Egypt continue to force the Turks farther back, following the recent encounter east of the Suez.

National.

The farm loan board recently appointed by President Wilson will hold hearings in a number of different places in the country to gather information to guide in the further organization of the plan provided for in the recently enacted rural credits law. The hearings begin at Augusta, Maine, on August 21. On August 25 the board will be at Lansing, Mich., to take testimony.

The leaders of the four brotherhoods of railway employes have refused to arbitrate the differences between the unions and the railways. Delegates from both parties are now to lay their troubles before President Wilson after which a joint conference is to be held looking toward a settlement. Should the conference fail and the unions declare a strike, about 225 railways will be tied up, among which are all the important lines of the country. President Wilson will likely use United States troops to move mail trains, following the precedent of President Cleveland, should the strikers refuse to do so.

The great dam at Lake Toxaway, South Carolina, weakened by recent heavy rains, broke Sunday night and sent a wall of water down tributaries of the Savannah river. So far as known, no casualties have resulted from the released waters as the territory through which they pass is very sparsely settled.

Collections by the internal revenue bureau for the fiscal year ending July 30 amounted to \$512,723,288, an increase of \$97,042,264 over those for the fiscal year of 1915. The income tax returned a revenue amounting to \$124,937,253.

Dr. John B. Murphy, world-renowned surgeon and benefactor of mankind, died at Mackinac Island, Mich., last Friday. His contributions to science have been many and they have won him the highest honors.

From the report of the census bureau on manufacturers for 1914 it appears that the manufacturers of the state of Michigan enjoy greater prosperity than those of any other state in the Union, and are only surpassed by the development of industries in the city of Detroit.

A tuberculosis survey of the inmates of the prisons of Michigan showed that of the 1,971 persons examined 89 were tubercular.

Total imports into the United States for the fiscal year ending June 30 were \$2,197,883,510 as compared with \$1,674,169,740 for the year ending June 30, 1915.

A strike of 200 drivers of milk wagons in Cleveland resulted in nearly 300,000 persons being unsupplied with milk or cream early this week.

To Monday of this week the number of cases of infantile paralysis in New York City during the present outbreak numbered 6,281 of which 1,393 resulted fatally. The number of deaths and new cases reported Sunday were smaller than for the day previous.

Rye Smut

Rye is ordinarily rather free from fungous diseases other than the too frequent ergot and the ever present rust. This year, however, there has appeared at several different points in the state the smut caused by the fungus *Urocystis Occulta*. This has been reported in the United States only a few times and has not been observed in Michigan except one specimen which was found in 1915. Thus far it has not been found doing much damage, the highest percentage of injury noted being five to six per cent. The danger lies in the increase to much higher figures, as it has been observed in Central Europe as a serious pest and in South Australia a good many years ago it destroyed two-thirds of the crop.

In view of the dangerous nature of the disease under favorable conditions all rye growers should examine their crop with extreme care this season so as to determine whether it is present. If it is found in a field the seed should not be used for planting purposes without formaldehyde treatment as described below. The land should not be used for rye again for at least one year.

Unlike wheat and oat smuts, the chief seat of injury for rye smut is not the head but the stem below the head. This is more or less swollen, as are the leaf sheaths, and with these shows longitudinal black lines. On cutting across the affected portion of such a stem it is found to contain an abundant dark brown or black powder, the spores or seeds of the fungus. As the grain in the healthy plants approaches ripeness, the diseased portions split open, permitting the escape of the spores. The portion of the stem that is most often affected is a short distance below the head. It is sometimes partly concealed by the uppermost leaf sheath but often extends out beyond it. The sheath is often affected as well. On badly diseased plants the whole stem from bottom to top may be affected. Ordinarily the heads are blasted without any sign of the smut in them. Occasionally, however, they too are smutted, in which case they are dwarfed and distorted, the chaff being swollen and twisted and filled with the dark masses of spores. All of the stalks arising from one seed will be diseased as in oat smut. They are dwarfed somewhat, varying from half the height to only a few inches shorter than the healthy plants.

The fact that the spores are set free at the time of ripening of the grain (as in oat smut) and not at flowering time (as in loose smut of wheat) tends to confirm the findings of the men who have given a little study to this disease and who believe that infection takes place when the grain germinates by means of smut spores that adhere to the outside of the grain. This would make it advisable to use the formaldehyde treatment for seed coming from fields showing the disease. This is as follows:

Add one pound of 40 per cent formaldehyde to 40 or 45 gallons of water and sprinkle over the grain, which should be spread out in a thin layer on a clean floor or canvas. About one gallon of the mixture will suffice for a bushel of grain. Shovel over the latter until it is evenly wet and then shovel it into a pile and cover with canvas or sacking for six to 12 hours. Then spread out thin and shovel occasionally until dry enough to drill.

If suspicious specimens are found that are thought to be affected with this disease they should be sent to the Department of Botany, Michigan Agricultural College, together with a note as to the abundance of the trouble, source of the seed, etc.

LILLIE FARMSTEAD NOTES.

Sunday night, July 30, we had a fine rain. It did world's of good. Monday morning the water stood in pools in the road. Thursday afternoon we had a violent electrical storm with a down-

pour of rain. This soaked things good, but it didn't stop there. Friday morning August 4 an unusually heavy shower filled the creeks almost bank high, washed away the soil in the plowed fields and did considerable damage. Saturday night it rained again. That is the way Dame Nature does things sometimes in some places. The air has not been cooled by these storms, it is nearly as hot as ever and the weather does not look settled. In the central and eastern part of the state it was very dry last week as it was here before the splendid rain of July 30. I hope these showers extended wherever needed. We got more than necessary. I hope all got sufficient.

These heavy storms have ruined our timothy seed. The heads are almost stripped bare. It will not pay to cut for seed now and, of course, it is too late for hay. Well, we have plenty of hay and have no time to cut it anyway. It will do the field good to plow this growth of clover and timothy down. It is what it needs.

The men got the corn fairly well cultivated before these storms, and it is booming these hot days and nights. One can almost see it grow. The fact is, one can see that it has grown over night. It was planted very late, but looks now as if we would get corn for the canning factory.

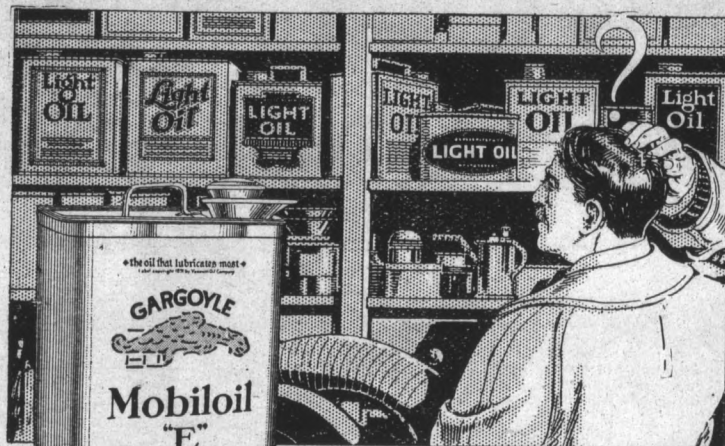
Never before did we have so much work to do that we had to let some of it go, but this has been the worst year ever to do farm work. The men had just commenced to thresh wheat when the storm came up Thursday afternoon. The balance is in the field. The oats, 20 acres and very heavy, are all in the shock and the second cutting of alfalfa was all in the cock before this rain. The plan was to cut the alfalfa, cock it and thresh the wheat while the alfalfa was curing. Then by that time the oats would be cured enough to thresh also. We will not change our plans. If the weather fairs off, and it probably will, no serious harm will come.

This great hay year is a good time, it seems to me, to hold all the live stock one has room for. In no other way will Michigan ever get rid of this unusual hay crop at a fair price. Keep all the cattle until spring. With good hay young cattle can be wintered with little grain. The hay is of much better quality this last year. Feed the hay crop. Save the cattle and the manure. We will need them later on. The old world will be nearly stripped of live stock by this great war. There will be a good demand for all we have from now on. After the Spanish war it took hundreds of thousands of cattle to restock Cuba. How many will it take to restock Europe?

There are many conflicting reports about the condition of the wheat crop. Probably reports of injury are exaggerated; they usually are. Nevertheless the old saying is that where there is so much smoke there must be some fire. The world must have wheat. Europe must have more and more. Had we not had a great world crop last year the price probably would have been \$2 for the American crop. Some of that last crop is left over, but this crop is bound to be less. The acreage is light compared to last year and it is not yielding as well. I expect to see wheat \$2.00 per bushel before next May. I have been mistaken before and may be again, but don't sell the wheat until it is necessary. It will be worth holding. I feel there are great prospects ahead for the farmers of this land. If the labor problem could only be solved, America could feed the world, but we can't get the help to produce the crops. We must cut down the acreage; this will increase the price. They can't produce it in Europe, and the world will need all the food products in sight for several years to come. It behooves the farmer to keep cool, conserve his energy, use his head and gather in the good things. Heretofore he has had none too many.

COLON C. LILLIE.

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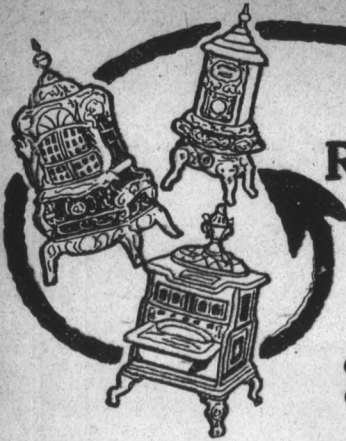
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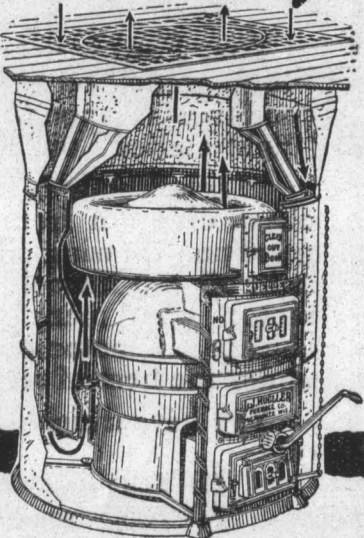
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IRRIGATION ON MICHIGAN FARMS.

(Continued from first page.)

fertilizers, is used on the plot. Water alone won't grow a crop. Fertilization Mr. Hile reasons, is even more necessary on irrigated tracts than on non-irrigated, for you are to take off a larger crop. He aims eventually to have enough land under irrigation to enable him to rotate his garden crops with a legume, thus cutting down on fertilizer bills.

To be preferred in some ways, but requiring a much greater initial investment, is the system found on the Lake Harbor Hotel Farm. Here, as shown in Fig. 3, the overhead system of irrigation is practiced. No attempt will be made to describe definitely how such a plant is installed. It should be mentioned, however, that the plant was installed without the aid of a plumber. The gas engine used here is a four horsepower size. The pump is of the one-cylinder, double action type, with cylinder 8x20 inches. In operation about 125 gallons of water are pumped per minute from a creek just back of the power house. A four-inch main leads from the pumps up a hill to a three-inch sub-main running across an end of the three and a half acre plot under irrigation. The water is raised 30 feet in all. From the sub-main and at right angles to it, laterals run out across the field at 40-foot intervals. These laterals reduce in size from one and three-fourths inches to three-fourths-inch pipe, according as they are near or far from the sub-main. Sprinkling nozzles are located four feet apart on these laterals. Sub-main and laterals are supported by posts and wire hangers about six feet above the ground. The laterals are turned automatically, sprinkling first on one side and then the other. Once the operator gets the outfit working well he can leave it and go about other work as it requires little attention.

I have not the figures as to the cost of installing this plant, but different companies estimate the cost at from \$300 to \$500 for the first acre, including engine and pump. Additional acres can be added at a cost of around \$100 an acre within the capacity of the engine and pumps, of course. The cost varies widely, depending very much on the location of the water supply in respect to the field to be irrigated.

From three and a half acres overhead irrigated last season, Mr. Hile sold \$927.50 worth of tomatoes and muskmelons. The season was an unfavorable one and one that gave little opportunity to test out an irrigation plant. The hotel people are planning to add to the plant with the idea of having fresh vegetables for use during the resort season.

While running water on land in the ways described above is not something every farmer can practice, it does appear to be the fact that under special conditions, growing special crops, it offers a means of utilizing Michigan's sandy lands and deriving therefrom more profit than has heretofore been the case. Good marketing is a very essential factor in handling a project that requires as great an initial investment as the two just described. The crops from these plots are sold in part to summer resort trade. However, it is only fair to state that a good portion of the tomatoes were put on the Chicago market.

TRACTOR DEMONSTRATION AT TOLEDO.

Michigan contributed a goodly number of the 2,500 or more agriculturists who witnessed the successful tractor demonstration held at Toledo August 8.

Six different makes were exhibited and operated for the benefit of the patrons. The International Harvester Company showed the Titan and the Mogul; the Avery Company had two tractors; the Waterloo Gasoline Engine Company three; The Bull Tractor Company, one; The Parrett Tractor

Company, one, and the McIntyre Company one. All ten machines were of the lighter type, each drawing two or three plows only.

The 32-acre field where the demonstration was staged had been in pasture for a number of years. The soil was of a clay loam and at the time of the show was dry and baked hard by continuous hot weather. On the morning of the trials a little rain fell, but not sufficient to mellow up the soil to any extent. These conditions offered the farmers an opportunity to see what the gas engines could do in breaking dry land and in traveling over the fields when covered with clods.

The meet was a demonstration and not a contest. It afforded farmers an opportunity to see the different makes at work, to compare the various features of convenience and construction. The farmers themselves were the judges as to efficiency and utility. Certainly the demonstration method of proving up the various merits of the different makes is a most wholesome one, and that it is being appreciated by the tillers of the soil is shown by the exceptional attendance at this show which was the more remarkable because of the busy season. Another splendid opportunity for Michigan farmers to witness the tractors at work will be given at the State Fair at Detroit September 4-13.

THE MICHIGAN STATE FAIR.

(Continued from page 146).

the title to State Fair property is vested in the state, and the state assumes all responsibility of its operation, and the appointment of the officers and directors in the majority of such cases, is made by the governor.

Many prominent men have served as president of the Michigan State Fair. Governor Epaphroditus Ransom was the first executive and served for two years. He was succeeded by James B. Hunt, of Pontiac. Other presidents follow:

Joseph R. Williams, Constantine; George C. Monroe, Hillsdale; Andrew Y. Moore, Schoolcraft; Michael Schomaker, Jackson; James Bayley, Troy; Charles Dickey, Marshall; H. G. Wells, Kalamazoo; J. B. Crippen, Coldwater; Benjamin Follet, Ypsilanti; W. G. Beckwith, Cassopolis; George W. Griggs; W. J. Baxter; Charles Kipp, St. Johns; E. O. Humphrey, Kalamazoo; W. L. Webber, Saginaw; George W. Phillips, Romeo; Henry Fralick, Grand Rapids; Philo Parsons, Detroit; William Chamberlain, Three Oaks; A. O. Hyde, Marshall; James M. Turner, Lansing; John T. Rich, Elba; William Ball, Hamburg; A. J. Dean, Adrian; I. H. Butterfield, Pontiac; M. P. Anderson, Midland; E. Howland, Pontiac; Eugene Fifield, Bay City; Fred Postal, Detroit; Thomas E. Newton, Detroit; D. D. Aitken, Flint; John S. Haggerty, Detroit.

Since the State Fair was organized, it has received appropriations from the legislature totaling \$97,700. This includes \$16,000, which will be paid the State Fair by the Michigan State Agricultural Fair Commission, created by the 1915 legislature. The State Fair received \$400 in 1849 and the same amount in 1850. During the next four years, \$1,000 was received annually. In 1855 and the next three years, \$2,000 received annually from the state. In 1861 and 1862, the appropriation was \$1,000. The next two years the state appropriated \$950 for the State Fair. No state aid was received from 1865 to 1901 when the appropriation totaled \$4,500. The same amount was received the following year. During 1903 and 1904, the state paid \$5,000 annually to the fair. An appropriation of \$10,000 was received in 1907, 1908 and 1909, nothing having been appropriated for 1905 or 1906. No state aid was voted by the legislature for 1910, 1911, 1912, 1913 or 1914. In 1915 \$16,000 was received from the state.

(Concluded next week.)

Use Good Sires

It is very difficult for farmers and packers to agree nowadays on a fair price for meat animals. It is often difficult for anyone to know whether exact justice is being done on any market, but concerted action among farmers can bring about much better conditions than now exist by meeting the needs of consumers more exactly and more uniformly than they do at present.

In the market for any kind of manufactured goods uniformity is demanded. The man who went to an implement dealer for a corn grinder like the one that did so well for his neighbor would object strongly if told that no other machine like it had ever been made, but that there was one in the market that day that weighed about as much and looked very much like it. He would want a machine that would give exactly the same results. Of course, this is not quite possible in case of corn and cattle but we can come much nearer uniformity than we do.

We have well-defined breeds within which uniformity and standardization are established facts. They do not provide quite the uniformity of the manufacturing world but come near enough to it for all practical purposes. Part of the market trouble is that carloads of stock do not come on the market, each made up of uniform animals of some one of these breeds. The breeder has too often used a scrub sire whose offspring lack uniformity or was uniformly inferior. In many more cases he has bought feeders rather indiscriminately from the owner of scrub sires and pure-bred sires of various breeds.

The use of the pure-bred sire is part of the remedy. If the rest of the herd is very inferior, it will take a number of years of "grading up" to bring the best results, but there will be marked improvement every generation if breeding is wisely done. As good pure-bred sires of the same breed are used on a farm year after year, that farm will send better stock and more uniform stock to market and the shipper will be in a better position to demand high prices. In this grading up, the sire is often said to be half the herd. As a matter of fact, he is more than half because the good pure-bred animal is so much more prepotent or able to impress his own good characteristics upon his offspring than the grade animal upon which he is crossed.

The man who cannot afford a pure-bred sire of his own can often co-operate with one or more of his neighbors in securing one, and whether he owns co-operatively or not, he should combine with as many others as possible at the same shipping point in securing similar good sires of the same breed in order to secure uniformity in mixed shipments, or in lots bought from various men in the vicinity to be fed by one of them.

The live stock industry of the middle west is undergoing a building process in both quality and numbers but it has only begun the improvement which must come in the near future if this section is to fulfill the demands of the markets, maintain its position in the live stock industry, and demand profitable prices. This section has some of the best flocks and herds to be found anywhere but the general average is far too low. This average must be raised and we may fairly expect a corresponding rise in price.

Mo. Ag. Col. S. T. SIMPSON.

SHEEP FOR NORTHERN MICHIGAN.

I have lived in this part of the state since 1879 and have had considerable experience with all kinds of stock, and I do not believe there is a place in the world where stock is healthier. Grasses of all kinds are very nutritious. Of course, our winters are long but we do not feed to exceed two or three weeks longer than in the southern part of the state.

Sheep do exceptionally well here

but there are very few in the country. The frost did us a lot of damage last fall, but those who had a good bunch of stock to turn off were fortunate.

The farms of this section would be ideal for wintering breeding ewes and starting the lambs. Silage could be used in connection with clover hay, bean straw, oat straw, etc. After shearing these flocks could be assembled in large bands with a couple of good, careful men to look after them, and in the fall the lambs would be ready for the feeders of lower Michigan.

Of course, this would require organization and the bringing into this country the necessary breeding stock. It seems as though this would be a good opportunity for the breeders' associations and development bureaus to get busy on, for there are certainly great prospects in view.

Gd. Traverse Co.

J. A. B.

THE SILO ROOF.

The capacity of the silos already constructed upon many farms is insufficient for the storing of the corn crop or to provide the desirable amount of succulent feed for the live stock maintained upon the farm. In many cases where the shortage of storage room is not so great as to make the erection of another silo good economy, the capacity of the silo can be materially increased by the use of one of the modern type of silo roofs which open up in cylindrical form and permit the completion of the filling at one operation, so that when the silage settles the silo proper will be completely filled with ensilage. The use of a roof of this kind will often be found very profitable on the silos already built upon the farm, and every farmer who erects a new silo should investigate the merits of this type of roof prior to its erection.

Where such an increase of the capacity of the silo already built will not provide sufficient storage room for the corn crop or for the storing of enough ensilage to give maximum results in the ration, it will be found good economy to erect another silo. Silage has passed the experimental stage as a feed for live stock and particularly for dairy cows, for which it is generally conceded among practical dairymen to be an indispensable factor in the ration.

This year's corn crop was gotten in much later than usual, and the silo will in many cases be more than ordinarily efficient in enabling the farmer to save his corn crop in the best condition for feed, particularly if untimely frosts should cut the growing season short on the latter end as the extremely wet weather did in the early spring.

Oakland Co.

A. R. FARMER.

LIVE STOCK NEWS.

A. J. Maurer was on the Chicago market recently with a shipment of prime beef cattle from his Missouri farm, the heavy steers selling for \$10.90 per 100 lbs. and yearlings for \$10.25. These cattle were fed on corn ensilage and cottonseed meal. Mr. Maurer is the fortunate owner of 1,300 fat hogs, including 1,000 on his Oklahoma farms. He reported the Oklahoma pastures in fine condition, while cattlemen have a great abundance of feed to take care of the large numbers of cattle shipped into Oklahoma from Texas, because of the long drouth in the Lone Star State. He said in southwest Texas, comprising practically all of the region lying south of San Angelo, the drought is playing havoc with the live stock interests. In some sections no rain has fallen since last September, and with no grass worth speaking of, cattlemen have been compelled to ship their stock northward. As it is located below the quarantine line, dipping is required.

There is no limit as to how high farmers in the corn belt and in Kentucky will go for breeding ewes this season and even then they are unable to fill their orders, often taking aged ewes when they started out to get yearlings. Heretofore unheard of prices are being paid and in recent weeks hundreds of aged ewes have gone to the country for breeding purposes at 7.50@8.

The Cream Separator to Buy



YOU don't begin to think of buying a cream separator until you are convinced that a separator will pay. When you come to buy, though, you want the one that pays best. How are you going to judge? Will these suggestions help you?

First, buy from a responsible, reputable concern. That still leaves you a number of separators to choose from.

Second, buy a separator that has proved itself a close, clean skimmer. This narrows your choice down still further. Let us send you a letter from the president of the Iowa Federation of Cow Testing Associations on this point.

Third, buy an easy running separator that requires but one adjustment, and that one you can make yourself. By this time your choice has narrowed down to two separators—a Primrose or a Lily. Either one of these, by any test you choose to put it to, will prove itself the separator to buy.

The local dealers who handle these machines can give you conclusive proof of the superiority in close skimming, handiness, cleanliness and length of service of **Primrose** and **Lily** cream separators. A letter to the address below will make it easy for you to investigate these separators as much as you please.

International Harvester Company of America

(Incorporated)

CHICAGO

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Champion Deering McCormick Milwaukee Osborne Plano

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's Caustic Balsam

IT HAS NO EQUAL

For — it is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. **HUMAN CAUSTIC BALSAM** has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
**Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
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Sore Lungs
Rheumatism
and
all Stiff Joints**

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle **Caustic Balsam** did my rheumatism more good than \$120.00 paid in doctor's bills." **OTTO A. BEYER.**
Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet B. **THE LAWRENCE-WILLIAMS COMPANY, Cleveland, O.**

A Wonderful FEED



THAT'S GUARANTEED

—to produce more milk than any other ration either home mixed or purchased and do it without giving your cows constipation or udder trouble. Ready to use right out of the sack without any mixing.

Larro-feed

Absolutely free from adulterants and fillers, just like the feed you would mix for yourself, is a special combination of choice cottonseed meal, dried beet pulp, gluten feed, corn distillers' grains, wheat bran, wheat middlings and a little salt, that's all; each ingredient weighed by automatic scales and all thoroughly mixed in huge power driven mixers, so that it is always absolutely uniform, and always good. An extra quart or two of milk daily from each cow may turn a loss into a profit. Try **LARRO-FEED** for more profits. Sold on "money back if not satisfied" plan, the decision being entirely up to you. **LARRO** dealers almost everywhere; write if none near you. **THE LARROWE MILLING CO 1055 Gillespie Bldg., Detroit, Mich.**

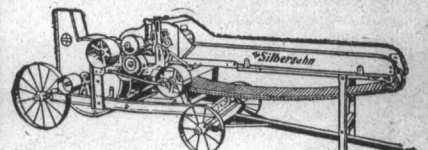
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THE HOOSIER Silo

OPEN EXTENSION-ROOF CLOSED

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THE PERMANENT SILO can't blow down, buckle, twist or collapse. Stands rigid even when empty. Fireproof, storm-proof. Capacity increased any time by adding to height. Guaranteed against silage acids. We also make the Ross Wood Silo. Write for free catalog.

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\$3 Package guaranteed to give satisfaction or money back. \$1 Package sufficient for ordinary cases. **MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburg, Pa.**

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40,000 bushels grown on 1232 acres in the Lancaster County Seed Wheat Belt.

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Graded through three modern cleaners—the "Wolf," the "Howe," the "Clipper." Free of smut, rye, cockle, chess, garlic.

Prices are just. It will cost you 20c to 30c per acre to change seed, including bags, and in most cases freight.

Seed must please you. If it don't you return it at our expense for freight and we return your money.

The head of wheat shown here is "Loap's Prolific." This variety is yielding 35 to 48 bushels per acre. We would like to send you a sample with "Hoffman's Wheat Catalog," both free, if you tell where you saw our advertisement.

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is the title of a little booklet telling how some of our customers have increased the value of their farms and made their bank accounts grow by using finely ground Raw Rock Phosphate. Why continue to pay war prices for acid phosphate and mixed fertilizers when you can obtain Nitrogen by growing legume crops and Phosphoric Acid by plowing under finely ground RAW ROCK PHOSPHATE with your legumes? Let us send you this money saving booklet. It's free. Write for your copy today.

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Vetch Separator



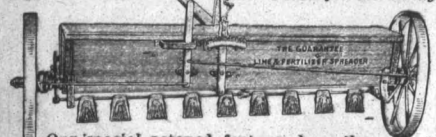
The machine that will positively separate vetch from wheat, rye or oats successfully.

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Our special patented features have them all guessing. No one else can use them, but some others try to imitate them. Thousands of American Farmers have discovered for themselves that not one of the imitations begin to equal the original GUARANTEE LIME & FERTILIZER SPREADER. Pay attention to the name of the spreader you buy. Nicknames encourage substitutes. Our trade mark "GUARANTEE" protects you from substitution. Write us at once for full information concerning the "GUARANTEE SPREADER," the spreader of "NO REGRETS."

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Bushel, Peach, and Grape Baskets, Farmers Bushel Crates



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When Writing to Advertisers Please Mention The Michigan Farmer.

Meeting of State Fruit Growers

THAT part of this state around Traverse City is a region of individuality. It is the only part of the state to which we apply the word "region." It stands apart from the rest of the state in its reputation and accomplishments. It is a place where nature has been kind and man industrious, and the results have produced the justly due reputation this section has. This is not a new section, for forty, or more, years ago the pioneers had faith in this Traverse region as an ideal fruit producing section and the results of today have verified their faith. Therefore, the summer meeting of the Michigan State Horticultural Society, which was held in the Traverse region on August 9-10, gave the fruit growers of other parts of the state an excellent opportunity to visit this country, of which they have heard so much.

The morning of the first day of this meeting was spent in social greetings and an informal meeting at the Chamber of Commerce rooms. Mr. O. A. Charles, secretary of the Chamber of Commerce, upon whom fell the duties of host, assured the visitors of their welcome to Traverse City and vicinity. In the impromptu talks which followed the subject of co-operation and organization prevailed. There is no doubt but what the fruit growers of the state fully realize that the marketing problem is their greatest problem of today, and although numerous co-operative organizations have been organized and are operating successfully, we are just entering upon the solution of the marketing problem. Mr. R. H. Elsworth, of the State Office of Markets, said that the next step was to federate and standardize the existing associations so that all of the organizations of the state could co-operate to maintain and increase the reputation of Michigan's fruit products.

Results from Spraying.

The matter of spraying and the prevalence of scab also brought out interesting discussions. In many places in the state the early apples are quite scabby; this was accounted for by Prof. L. R. Taft, who said that the weather conditions in the spring were abnormal and on that account applications were not made at the proper time in most cases. He emphasized the necessity of thorough and frequent sprayings early in the season, especially in abnormal seasons. He said that when weather conditions were favorable for the development of scab, sprayings should be made at intervals of about ten days. The fact that some growers reported clean fruit would indicate that thorough spraying often enough to keep the growing foliage covered with spray material will keep the fruit clean. This season's experience also demonstrated the fact that spraying is a preventive and not a cure, and that after a fungous disease gained foothold it was hard to keep in check.

Fruit Crop Conditions.

A number of fruit-growers told of crop conditions in their part of the state and Prof. C. P. Halligan told of his observations on crop conditions on a recent trip through the fruit sections of the state. A summary of these reports shows that the apple crop is a good one although a little scabby, the peach crop will be a very profitable one because the trees throughout the fruit belt have fair to good crops and indications are that prices will be high. The best showing of peaches is at South Haven where considerable thinning is necessary. Good crops of pears, plums and grapes will also be harvested unless something unforeseen happens. In all, the fruit growers of this state have no reason to complain as far as crops are concerned and the season should be a profitable one as the prices will be good.

In his comments on his trip through the fruit belt Prof. Halligan spoke of

the spread of the little peach and he urged that serious attention be given to the control of this disease. He said that he found that the little ones often followed in the wake of yellows and that both diseases, after becoming serious in new sections would "run themselves out," and become less serious but they would always be present. The only method of control is to cut the tree down and trees looking suspicious should be marked and watched.

Fruit Packing Law Discussed.

The afternoon session was held at the Traverse State Hospital. The program was given on the campus of the hospital grounds, after which the grounds and buildings and orchards were visited. The first matter given attention was a resolution, presented by J. H. Carmody, of M. A. C., which favored a fruit packing law similar to that of the New York law. A committee of three was appointed to take up this matter and report at the annual meeting at Grand Rapids December 5-6-7. The object of this movement is to get the State Horticultural Society and other interested associations to agree upon some form of law with reference to the grading and packing of fruit to present to the legislature next winter. The idea is to standardize the packing of the fruit of the state.

Mr. Charles spoke on the necessity of organization and co-operation in education and rural life. He said that we knew little of co-operation in this country. Things are run in a haphazard manner and are individualistic. In education, for instance, in Europe the child's inclinations were studied when he was as young as five years of age and his education was started in line with his natural bent, while here he is put through a course of training regardless of his interests. The lack of social intercourse in rural communities Mr. Charles indicated as one of the greatest hindrances for rural development. It is an important thing to develop the social instinct as the proportion of rural population to the total population of the state is quickly decreasing. These and other things need serious attention before many of the present-day evils can be corrected.

Value of Efficiency.

Dr. Munson, in charge of the State Hospital, gave a most excellent talk on efficiency. In the management of a state institution such as the doctor has in charge, efficiency methods and organization are most necessary and the fact that the State Hospital is maintained in the efficient manner it is on 53 cents per day per inmate is an indication of the fact that Dr. Munson practices what he preaches. One of his statements was, that one of the greatest wastes was the waste of time in idleness or in things of little or no value.

Dr. Eben Mumford, in charge of the Farm Bureau work of the state, gave one of his usual optimistic and inspirational talks. Several times the Standard Oil and the steel corporations were mentioned as examples of co-operative effort. Dr. Mumford said that they were not like what successful rural co-operative efforts will be. In the corporations the interests are financial as individual effort of all concerned was necessary for co-operative success. The speaker thought that all of the rural problems would be worked out in due time, and that rapid progress was being made now in solving them.

The Federation of Co-operative Associations.

Mr. Elsworth again touched upon the value of standardizing the co-operative organizations of the state and outlined the plan that the Office of Markets was endeavoring to work out. A combination of organizations having capital stock would violate the Sherman anti-trust law and as many of the co-operative associations organized as capital stock associations it would be

necessary to reorganize them in order to federate them. The Clayton amendment provides for rural organizations and permits rural organizations which are organized on the membership fee plan to federate. The Office of Markets is going to work out a standard form of organization for these capital stock organizations to reorganize under and after this is accomplished the standardization of the method of keeping accounts and of grading fruit will be worked out. And then a campaign of advertising Michigan fruit products will be undertaken by these federated societies. This plan of the Office of Markets is meeting favor everywhere in co-operative circles and the perfection of it will be of greatest value in maintaining the standing of Michigan fruits in the markets of the country.

The State Hospital.

After the program one of the wards of the hospital, the greenhouse, gardens, orchards and dairy barns were inspected. The orchards were in very fine shape considering the rolling condition of the land. The dairy barns were ideals of dairy cleanliness and sanitation which they naturally should be to house the famous Holstein herd which occupies them. A former world record cow with a record of over 34 pounds of butter-fat a week was found contentedly eating hay in the barnyard. The hospital was perfect in cleanliness and order, and the cheerfulness of the rooms were frequently commented upon when we were passing through.

There was no evening gathering, but the Chamber of Commerce showed its hospitality and its interest in the fruit growers by giving free tickets to one of the high-class moving picture shows.

The Peninsula Trip.

The second day of the meeting was spent in visiting the Old Mission peninsula. After gathering at the Chamber of Commerce rooms autos took the visitors along the eastern side of the peninsula up to Old Mission where an excellent chicken pie and cherry pie dinner was served by the ladies of the Grange. On the way several stops were made, the principle one being at the Titius Fram, where a demonstration of dust spraying was made under the supervision of Mr. A. N. Brown, of Kent county. Mr. Brown had previously told of the results that the Cornell Experiment station had in their recent tests with the dust spray. In the past, dust spraying has been of little value but in the recent work along this line the dust material used has been ground very fine which greatly increases the sticking qualities of the material. The results of the Cornell Station are interesting and indicate that dust spraying may become practical and economical, the economy being in the cost of application.

The Cherry Crop a Profitable One.

The other stops made were to watch the cherry picking and packing and to sample some real good Grand Traverse cherries. On account of the lateness of the season the cherry harvest was at its height at this time, and on account of the scarcity of pickers the local growers were rushed to the limit taking care of the crop. While the harvesting will be a strenuous one to the growers it will not be without its reward. Without a doubt the season will be the most profitable one that has been experienced for some time. The crop is double that of last year and the price averages about \$1.15 per 25-lb. crate as compared with about 75 cents last year.

On account of the rush of work there were very few local people in attendance at any of the meetings, but their fellow fruit growers from other parts of the state realized the necessity of getting the crop harvested and did not feel the lack of attendance as a lack of interest, and at the same time had the opportunity of seeing the cherry harvest at its height.

(Continued next week).

Homemade Sterilizer for Dairy Utensils

THE ordinary washing of dairy utensils, the dairy specialists point out, is not sufficient to insure freedom from bacteria. The only safe method of destroying in utensils germs which affect the hygienic and keeping qualities of milk and cream is by sterilization. Even when dairy utensils appear clean, if they have not been properly sterilized they may harbor vast numbers of bacteria which contaminate milk or cream that comes in contact with them. Live steam at a temperature of at least 205 degrees F. is a thoroughly effective agent and one that this home-made apparatus makes readily available on the average dairy farm.

When placed on a stove or oil heater the apparatus in question develops steam in a shallow pan and introduces the live steam through a pipe into milk cans and buckets. In sterilizing separator parts, small articles and strainer cloths, a galvanized-iron box is placed over the steam outlet and used as a sterilizing chamber.

How to Construct the Sterilizer.

The sterilizer for cans and milk pails consists of a roasting pan, a spe-

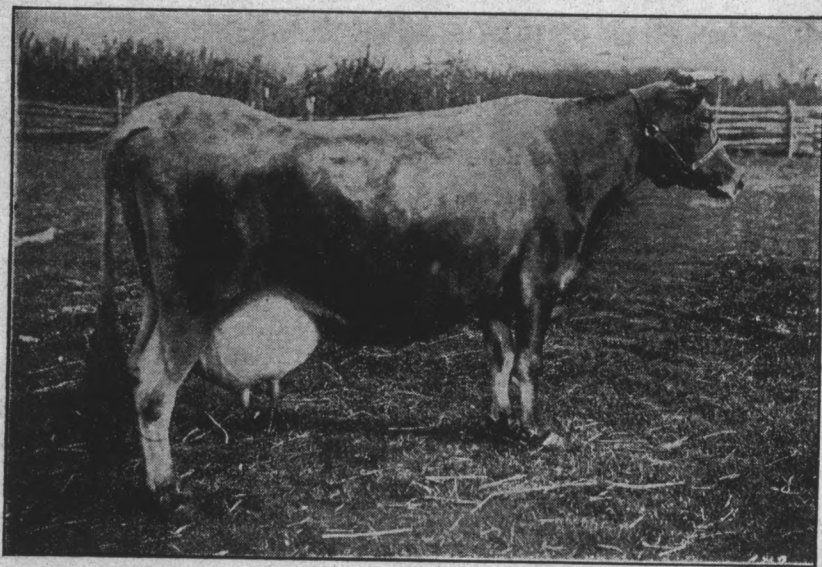
another galvanized iron sheet of the same size. Solder these two sheets all around the edges so as to make a tight seam. This makes an insulated cover and pad about three-eighths of an inch thick, which will be found as satisfactory and even preferable to the asbestos insulation.

Source of Heat.

The sterilizer may be used on the kitchen stove, or other stove, or over any other heat that is sufficient to furnish steam at the end of the outlet pipe at least 205 degrees F., or preferably 210 to 211 degrees F. A thermometer, if placed in the outlet pipe, will show whether the steam is hot enough.

Operating the Sterilizer.

Place the outfit, with one inch of water in the pan, on the stove, and see that the cover fits tightly. The first steam that comes from the apparatus will have a temperature of about 140 degrees F. Wait until a thermometer placed in the outlet pipe shows at least 205 degrees F. Then place the milk can—previously washed and rinsed—inverted over the steam outlet and resting on the ridges. Sterilize for five minutes; remove, shake out any water



Rosalind of Old Basing, a Jersey Cow which Produced 51,872 Pounds of Milk and 2,673 Pounds of Fat in Four Lactation Periods at 52 North Latitude.

cially prepared, insulated cover for it, and a steam outlet pipe that runs through the cover. An ordinary roasting pan of standard size, about 20 inches long, 14 inches wide, top measurement, and three inches deep, will be satisfactory.

The insulated cover for the pan is in three layers, the lowest of which is a sheet of galvanized iron covering the roasting pan and lapping a little over the edges. On the bottom of the cover solder flanges to meet and fit the inside edges of the pan and make a tight cover.

For the steam pipe, cut a hole one and a half inches in diameter and around it solder securely a steam outlet pipe four and a half inches high and one and a half inches in diameter.

To make the second layer of the cover, use a piece of asbestos board five-sixteenths of an inch thick and slightly smaller than the metal sheet. In the center cut a hole which will fit tightly around the steam outlet pipe.

For the top layer of the cover make a shallow pan of galvanized iron 14 inches square with sides five-eighths of an inch high, and cut a hole for the steam pipe. When the pan is pressed down tight on the asbestos, solder it firmly to the steam outlet pipe.

On the pan, solder, on edge, four strips of stiff, galvanized iron three-eighths of an inch wide. They should start one inch from each corner and should run to within one inch of the outlet pipe. These strips provide ridges which raise the milk can from the pan and permit the free circulation of steam.

Paper may be used instead of asbestos for the middle layer of the cover. Pack papers tightly to a height of three-eighths of an inch over the galvanized iron bottom and on top place

and place the can upright on the floor. The can should be absolutely dry in one or two minutes. If not, it is an indication either that the steam was not hot enough or that the can was not washed clean. Remember that the steaming does not remove dirt, so that previous washing is essential.

In winter or in cold rooms an insulating cover for the milk can is desirable, since otherwise the can may be cooled so quickly that it will not dry thoroughly. An insulated cover that will serve this purpose can be made from a blanket.

Sterilize the milk-receiving tank and separator parts and all milk pails in the same way and for the same time.

Before strainer cloths, separator parts, can covers, and small utensils can be sterilized, it is necessary to provide a bottomless, galvanized iron box 15x15x11 inches high, to be used as a sterilizing chamber. The four sides of the box should fit tightly into the shallow pan and the box itself should be provided with a tightly-fitting metal cover equipped with a handle.

To handle strainer cloths, string a wire across one side three-fourths of an inch from the top and one-half inch from the side. Before placing the box in position, hang the strainer cloth on the wire, folding it so that one edge may be reached easily without handling the entire cloth. Set the can covers upright along the sides of the box inside, with the tops of the covers against the box. The box should hold three covers at one time.

After steaming, place covers on cans as soon as both are dry and do not remove until the cans are to be filled with milk. The pails, as well as the tank and separator parts, should be kept always in a clean place, out of reach of dust.



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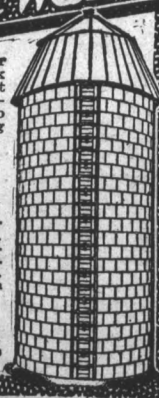
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Type 17
CHANDLER SIX
\$1295

No "Mark UP" in Price

The Truth Made Men Stop and Think

A RECENT statement by the President of the Chandler Motor Car Company on "motor car values and motor car prices" occasioned more searching thought on the part of prospective motor car purchasers than any other announcement that has been made by the Automobile Industry this year. It came as a revelation to many who had considered themselves well informed.

That statement led to the purchase of Chandler Type 17 Sixes within the past three weeks by hundreds of men who had been attracted, by extravagant advertising or otherwise, to some one of the several "marked up" cars in the medium priced field.

If you read this statement by the President of the Chandler Company, as you probably did, you know what we mean by "marked up." You know that in recent months sums ranging from \$80 to \$200 have been quietly *tacked on* to the selling prices of these Chandler competitors.

The explanation of the marked up prices has been the abnormal conditions, said to exist and really existing in a degree, in the motor car material market.

But you know, too, that the Chandler car has not been marked up.

And so you can still buy this great car—greatest of all the Sixes—at the same price established eighteen months ago, long before the war had made any effect on the material markets. And bear this in mind, that every change made in the Chandler car in all these past months has been a refinement and an improvement. *Every addition to it has represented increased manufacturing cost. Not a single thing has been cut out of the car.*

Bear in mind that today, while others are asking you to add eighty, a hundred, a hundred and fifty or two hundred dollars to your check, \$1295 plus freight buys you this big luxurious highly refined Chandler—this Chandler with the marvelous motor, the exclusive Chandler motor which has been developed and perfected through four years of intel-

ligent manufacturing and four years on the road in the service of thousands of Chandler drivers.

Bear in mind that the Chandler is still featured by its Bosch Magneto ignition—which others leave off, even the marked up cars, because it costs so much more; still featured by its solid cast aluminum motor base extending from frame to frame—where others use cast iron; still featured by the sturdiest, simplest chassis; still featured by ball bearings in rear wheels, differential, transmission and elsewhere, which helps make it the lightest running car on the road.

Bear in mind that in this Type 17 Chandler you get the exclusive Chandler full floating rear axle with its silent spiral bevel gear differential. And that you get the highest standard of carburetion that the market affords; Gray & Davis separate lighting and starting system; big double external and internal brakes, which stop the car at the instant of command and hold it safe on any grade.

Bear in mind that you get all of these highest grade, high priced features and scores of others which, together with Chandler workmanship, go to make up a car the superior quality of which cannot be questioned in comparison with the quality of any one of the many "marked up" cars.

And remember, too, that in the Type 17 Chandler you are offered the beautiful tonneau cowl bodies which preceded the mid-summer "new models" of other makes by seven months time.

In the Chandler you get mechanical excellence, luxury of body design, trim and finish at the minimum of purchase price.

If we asked you to pay \$100 more or \$200 more that wouldn't make the car a bit better.

In considering your purchase of a new car, think for yourself.

Measure what Chandler offers you along side of what any other car in the medium priced field offers you, *regardless of price*, and we think we know what your decision will be. Measure it along side of what any other car offers, *keeping the marked up price in mind*, and we know what your decision will be.

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 Chandler Limousine \$2595

Chandler Four-Passenger Convertible Coupe (Deliveries in October) \$1895
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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 Biggest Business

By ZONA GALE

I DONNO whether you ever lived in a town that's having a boom? That's being a boom town, as they call it? There ain't any more boom to Friendship Village than there is to a robin building a nest. There ain't any more boom to Friendship Village than there is to growth. We just go along and go along, and behave ourselves like the year does: Little spurt of spring now and then, when two-three folks build new houses and we get a new sidewalk or two or buy a new sprinkling cart. Little dead time, here and there, when the tobacco or pickle factory closes down to wait for more

to grow, and when somebody gets most built and boards up the windows till something else comes in to go on with. But most of the time Friendship Village keeps on pretty even, like the year, or the potato patch, or any of them common, growing things.

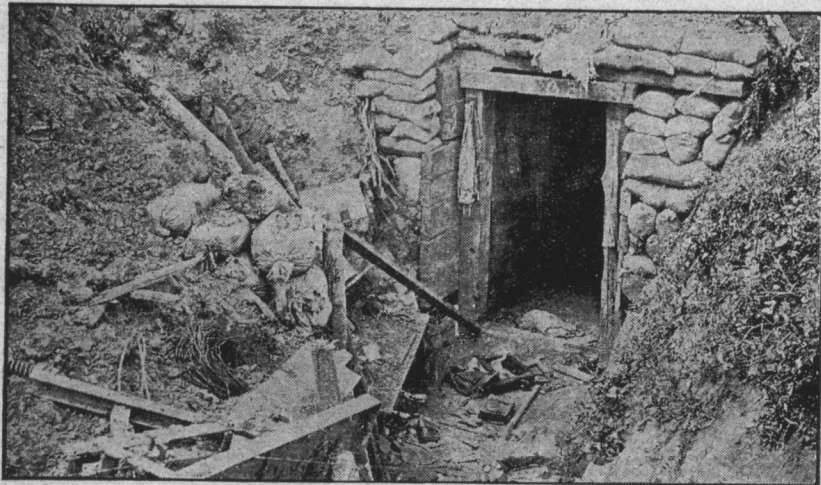
But now over to Red Barns it ain't so. Red Barns is eight miles away, and from the beginning the two towns sort of set with their backs to each

other, and give out promiscuous that the other didn't have a future. But, same time, the two towns looked out of the corners of their eyes enough to set quite a few things going for each other unconscious: Red Barns got a new depot, and Friendship Village instantly petitioned for one. Friendship Village set aside a little park, and Red Barns immediately appropriated for there, and then a big tobacco factory, one, with a little edge more ground,

Red Barns got a new post office, and Friendship Village started out for a new library. And so on. Just like a couple of boys seeing which could swim out farthest.

Then all of a sudden the Interurban come through Red Barns and left Friendship Village setting quiet out in the meadows eight miles from the track. And of course after that Red Barns shot ahead—Eppleby Holcomb said that on a still night you could hear Red Barns chuckle. Pretty soon a little knitting factory started up there, and then a big tobacco factory. And being as they had three motion-

WORLD EVENTS IN PICTURES



Entrance to one of the German Dug-outs on the Western Front.



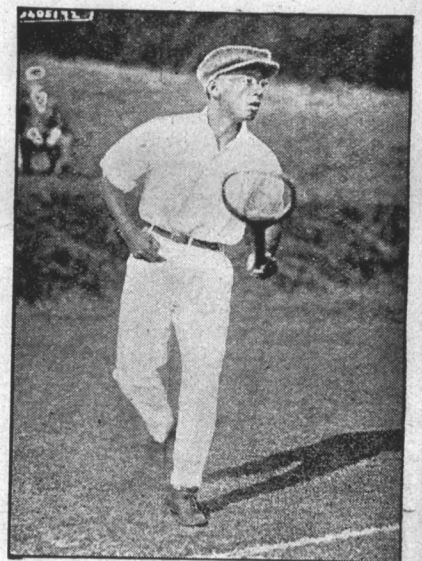
Catafalque Containing Body of Yuan Shai Kai Late President of China.



Englishwomen Shoe Horses.



Serious Disturbances Marked the Street Car Strike in New York City.



Japanese Tennis Champion.



Thousands of Austrian Prisoners Being Taken to the Interior of Russia.



German Submarine Mine-layer, now a Prize of the British Navy.

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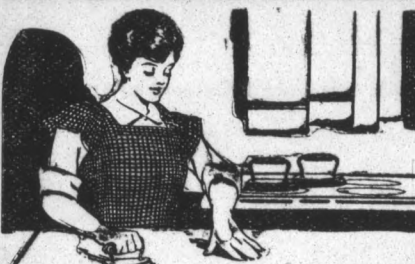
Rouge Rex Shoes are comfortable, sturdy, strong, and they cost no more than shoes not nearly so good. When you buy a pair of Rouge Rex Shoes you have bought a shoe as good as it can be made.

No. 441 is a shoe for summer and early fall work wear—it is a shoe built for work and for comfort, too. There's real service in this shoe—just the sort of service you find it necessary to have from the shoes you wear.

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Mention The Michigan Farmer When Writing Advertisers

picture houses to our one, and band concerts all summer instead of just through July, the folks in Silas Syke's Friendship Village Corn Canning Industry and in Timothy Toplady's Enterprise Pickle Manufactory began to want to go over to Red Barns to work. Two left from Eppeby Holcomb's Dry Goods Emporium. Even the kitchens of the few sparse ones that kept hired help begun to suffer. And the men begun to see that what was what had got to be helped to be something else—same as often happens in commercial circles.

Things was about to this degree when spring come on. I donno how it is with other people, but with me spring used to be the signal to run as far as I could from the place I was in, in the hopes, I guess, of getting close up to all outdoors. I used to want to run along country paths all squishy with water, and hang over a fence to try to tell whether it's a little quail or a big meadow-lark in the sedge; I wanted to smell the sweet, soft-water smell that spring rain has. I wanted to watch the crust of the earth move because May was coming up through the mold. I wanted to climb a tree and be a bud. And one morning I got up early bent on doing all these things, and ended by poking round my garden with a stick to see what was coming up—like you do. It was real early in the morning—not much after six—and outdoors looked surprised—you know that surprised look of early morning, as if the day had never thought of being born again till it up and happened to it? And I had got to the stage of hanging over the alley fence, doing nothing, when little David Beach come by. He was eating a piece of bread, and hurrying.

"Morning, David," I sings out to him. "Where's your fish-pole?"

He stopped running and stopped biting and looked up at me. And then he laughed, sharp and high up.

"Fish-pole!" says he.

"Is it swimming, then?" I says. And then I felt sick all over. For I remembered that David had gone to work in Silas Sykes's canning factory.

"Oh, David," I patched it up. "I forgot. You're a man now."

At that he put back his thin little shoulders, and stuck out his thin little chest, and held up his sharp little chin. And he said:

"Yup. I'm a man now. I get \$2.50 a week, now."

"Whew!" says I. "When do you bank your first million?"

He grinned and broke into a run again. "I'm docked if I'm late," he shouts back.

I looked after him. It didn't seem ten days since he was born. And here he was, of the general contour of a clay pipe, going to work. His father had been crippled in the factory, his mother was half sick, and there were three younger than David, and one older.

"Kind of nice of Silas to give David a job," I thought. "I don't suppose he's worth much to him, he's so little."

And that was all I thought, being that most of us uses our heads far more frequent to put hats on than for any other purpose.

Right after breakfast that morning I took a walk down town to pick out my vegetables before the flies done 'em too much violence in Silas Sykes's store window. And out in front of the store, I come on Silas himself, sprinkling his wilted lettuce.

The minute I see Silas, I knew that something had happened to make him pleased with himself. Not that Silas ain't always pleased with himself. But that day he looked extra-special self-pleased.

"Hello, Calliope," he says, "you're the very one I want to help me."

That surprised me, but, thinks I, I've asked Silas to do so many things he ain't done that I've kind of wore grooves in the atmosphere all around him; and I guess he's took to asking me first when he sees me, for fear I'll

come down on to him with another request. So I followed him into the post office store where he motioned me with his chin, and this was what he says:

"Calliope," says he, "how'd you like to help me do a little work for this town?"

I must just of stared at Silas. I can keep from looking surprised, same as the best, when a neighbor comes down on to me, with her eyebrows up over a piece of news—and I always do, for I do hate to be expected to play up to other folks's startled eyebrows. But with these words of Silas's I gave in and stared. For of some eight, nine, ten plans that I'd approached him with to the same end, he had turned down all of them, and all me.

"With who?" says I.

"For who?" says he. "Woman, do you realize that taking 'em all together, store and canning factory combined, I've got forty-two folks a-working for me?"

"Well!" says I. "Quite a family."

"Timothy Toplady's got twelve employees," he goes on, "and Eppeby's got seven in the store. That's sixty-one girls and women and then—er—"

"Children," says I, simple.

"Young folks," Silas says, smooth. "Sixty-one of 'em. Ain't that pretty near a club, I'd like to know."

"Oh," I says, "a club. A club! And do them sixty-one want to be a club, Silas?"

Silas scowled. "What you talking?" he says. "Of course they want all you'll do for 'em. Well, now: Us men has been facing this thing, and it's so plain that even a woman must see it: Friendship Village is going to empty itself out into Red Barns, same as a skin, if this town don't get up and do something."

"True," says I attentive. "Even a woman can take in that much, Silas, if you put it right before her, and lead her up to it, and point it out to her and," says I, warming up to it, "put blinders on her so's not to distract her attention from the real fact in hand."

"What you talking?" says Silas. "I never saw a woman yet that could keep on any one subject no more than a balloon. Well, now, what I thought was this: I thought I'd up and go around with a paper, and see how much everybody'd give, and we'd open an Evening Club somewheres, for the employees—folks's old furniture and magazines and books and some games—and give 'em a nice time. Here," says Silas, producing a paper from pe-hind the cheese, "I've gone into this thing to the tune of fifty dollars. Fifty dollars. And I thought," says he direct, "that you that's always so interested in doing things for folks might put down your own name, and might see some of the other ladies, too. And I could report it to our Commercial Club meeting next Friday night. After the business session."

I looked at him, meditative.

"If it's all the same to you, Silas," I says, "I'll take this paper and go round and see some of these sixty-one women and girls, instead."

Silas kind of raised up his whole face and left his chin hanging, idle.

"See them women and girls?" says he resembling a shout. "What have they got to do with it, I'd like to know?"

"Oh," says I, "ain't it some their club, too, Silas? I thought the whole was on their account."

Silas used his face like he'd run a drawstring down it.

"Women," he says, "dum women. Their minds ain't any more logical than—than floor-sweepings with the door open. Didn't I just tell you that the thing was going to be done for the benefit of Friendship Village and to keep them folks interested in it?"

"Well, but," I says, "ain't them folks some Friendship Village too?"

"What's that got to do with it?" shouts Silas. "Of course they are. Of course we want to help 'em. But they ain't got anything to do with it. All they got to do with it is to be helped!"

"Is it!" I says. "Is that all, Silas?" and while he was a-gathering himself up to reply, I picked up the subscription paper. "It can't do 'em no harm," I says, "to tell 'em about this. Then if any of 'em is thinking of leaving, it may hold on to 'em till we get a start. If it's all the same to you, I'll just run around and see 'em today. Mebbe they might help—who knows?"

"You'll bawl the whole thing up," says Silas. "I wish't I'd kep' my mouth shut."

"Well," I says, "you'd ought to know by this time that I ain't any great hand to do things for folks, Silas. I like to do 'em with 'em."

Silas was starting in to wave both arms when somebody come in for black molasses. And he says to me:

"Well, go on ahead. You'll ruin my whole idea—but go on ahead and see how little hurt you can do. I've got to have some lady-help from somewhere," says he, frank.

"Lady-help," thinks I, a-proceeding down the street. "Lady-help. That's me. Kind of auxiliating around. A member of the General Ladies' Aid Society. Lady-help. Ain't it a grand feeling?"

I went straight to Abigail Arnold that keeps the Home Bakery. Abigail lives in the bakery, and I dunno a nicer, homier place in town. She didn't make the mistake of putting up lace curtains in the store, to catch the dust. I always wonder when the time'll come that we'll be content not to have any curtains to any windows in the living-rooms of this earth, but just to let the boughs and the sun and the day smile in on us, like loving faces. Fade things! Fade 'em? I wonder they didn't think of that when they made the sun, and temper it down to keep the carpets good. Sometimes I dream of a house on a hill, with meadows of grass and the line of the sky and the all-day sun for neighbors, and not a thing to say to 'em: "Keep out. You'll fade me." But, "Come in. You'll feed me."

Well, Abigail Arnold was making her home-made doughnuts that morning, and the whole place smelled like when you was twelve years old, and struck the back stoop, running, about the time the colander was set on the wing of the stove, heaped up with brown, sizzling, doughnut-smelling doughnuts.

"Set right down," she says, "and have one." And so I done. And for a few minutes Silas and Red Barns and Friendship Village and the industrial and social relation of the entire country slipped away and was sunk in that nice-tasting, crumpy cake. Ain't it wonderful—well, we'd ought not to bother to go off into that; but sometimes I could draw near to the whole human race just thinking how every one of us loves a fresh doughnut, et in somebody's kitchen. It's a sign and symbol of how alike we are—and I donno but it means something, something big.

But with the last crumb I come back to commerce.

"Abigail," I says, "Silas wants to start a club for his and Timothy's and Eppeby's employees."

"Huh!" says Abigail, sticking her fork down in the kettle. "What's the profit. Ain't I getting nasty in my old age?" she adds solemn. "I meant, go on. Tell me about it."

I done so, winding up about the meeting to be held the coming Friday in Post Office Hall, at which Silas was to report on the progress of the club, after the business session. And she see it like I see it: That a club laid on to them sixty-one people had got to be managed awful wise—or what was to result would be considerable more like the stuff put into milk to preserve it than like the good, rich, thick cream that milk knows how to give, so be you treat it right.

Abigail said she'd help—she's one of them new women—oh, I ain't afraid of the word—she's one of them new women that catches fire at a big thing to be done in the world just as sure as another kind of woman flares up when

(Continued on page 164.)

THE LABOR GANG.

BY B. F. M. SOURS.
 With the humps of the hills, and the
 forest trees,
 The creek and the mountains and all,
 With glad heart and strong we tote
 plank along
 Or, with hearts as light as our arms
 are strong,
 On the ladders we scale the wall.

We bump our heads on the sprinkling
 pipes
 In the loft where the tinnies are;
 We don't mind that, if we spoil a hat—
 Our heads are hard, and it's good they
 are,
 For it saves a mental jar.

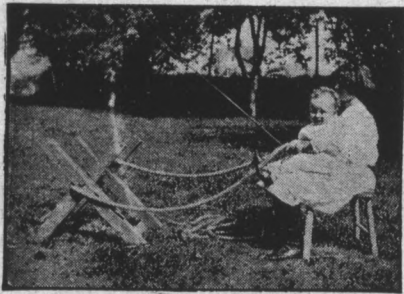
We're white sometimes, we're black
 sometimes,
 A smutty, greasy gang,
 As with Uncle Jake we fix a break,
 Or a happy hour, for a change, we
 take,
 Some smeary shaft to hang.

It's a merry life, it's a jolly crowd,
 That lugs and lugs all day;
 For health is wealth and this life is
 health,
 Though the years may bring—but they
 bring by stealth—
 The subtle streaks of gray.

But why should we not be a happy lot
 If our hearts are pure and strong?
 If we bring Christ the King love's
 offering,
 Be it lugging plank, yet our hearts
 may sing
 Till heaven hears our song.

For the Master wrought, in Galilee,
 In more than one work-gang,
 And burdens bore till arms were sore,
 Ah, yes! my sins for me he bore,
 And doubtless, too, he sang.

Go, trudge along, with heart of song,
 Be glad, you dusky crowd,
 We putty window-panes and sing
 And pound, 'tis our hearts offering
 Unto the heavenly King.



A FAITHFUL HORSE.

BY ALICE A. LARKIN.
 Grandpa Dixon has an auto
 That he bought in town;
 Everybody likes to use it,
 From the owner down.
 But today, when just we children
 Asked if we could go,
 Grandpa said, "I cannot let you,
 Tires are flat, you know."

Uncle Ned has just been buying
 Him a motor-wheel;
 I should think 'twas mostly racket,
 Guess it's made of steel.
 There's a seat that Aunt Matilda
 Sits in by his side,
 But we never yet have tried it;
 We're too small to ride.

Father Brown has two big horses,
 Gentle Dick and Jack,
 But they're turned out in a pasture,
 Sometime they'll come back.
 Father's been off to the city,
 And has bought a truck,
 But he doesn't always use it,
 Even now it's stuck.

Automobiles, trucks or motors
 Come and go at will,
 We've a horse that's always faithful,
 We can trust him still.
 Get up, Jumbo, we must hurry,
 Do your best, of course;
 All the boys and girls can use you,
 You're an auto-horse.

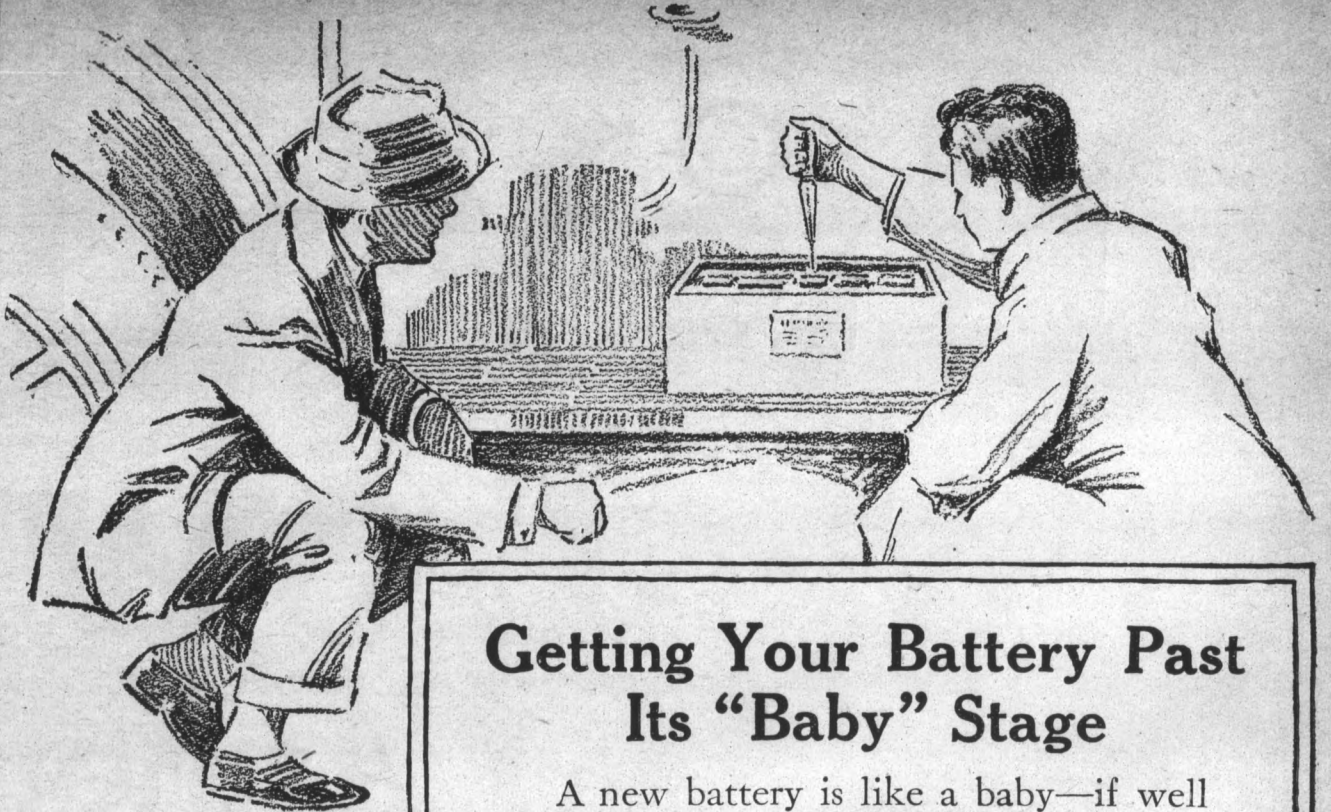
THOUGHTS OF BARDS.

Judgment for an evil thing is many
 times delayed, some day or two, some
 century or two, but it is sure as life,
 it is sure as death.—Carlyle.

He did not know he bore with him
 from school and college a character
 worth much fine gold.—Kipling.

Lost wealth may be replaced by in-
 dustry, lost knowledge by study, lost
 health by temperance or medicine, but
 lost time is gone forever.—Anonymous.

The one secret of life and develop-
 ment is not to devise and plan, but to
 fall in with the forces at work—to do
 every moment's duty aright.—Mac-
 Donald.

Getting Your Battery Past
Its "Baby" Stage

A new battery is like a baby—if well
 nourished it is bound to live longer.

That's why it pays to buy a Willard.
 Our new free service plan helps you take
 care of your battery while it is young.
 It teaches you what you should know
 about battery care. It offers valuable
 suggestions for prolonging battery life.

The purchaser of a Willard Battery is
 sure of a good start. With over 750
 service stations at your disposal you may
 be sure of enough free, expert service to
 keep it in good condition during its
 "baby" period.

After that it is easy—you have learned how
 to take care of your own battery. Willard
 Service affords suggestions that prevent trouble.
 Ask about the new plan.

Willard Storage Battery Company
Cleveland, Ohio

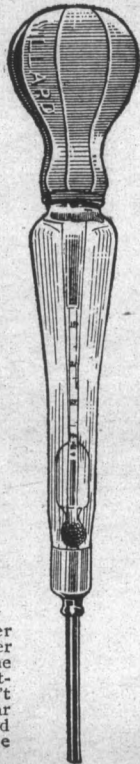
NEW YORK: 228-230 W. 58th Street
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 Direct Factory Representatives in Philadelphia, Boston, Dallas, Kansas City, Omaha,
 Seattle. Service Stations in All Principal Cities in the
 United States and Canada.

Willard Storage Batteries are for sale by car dealers, garages, and all
 Willard Service Stations and Factory Branches.

Willard STORAGE BATTERY

A Battery
Safeguard

Every car owner
 needs a Hydrometer
 syringe to test the
 condition of his bat-
 tery. If you haven't
 one, enclose a dollar
 with the coupon and
 we will send one
 postpaid.

Willard Storage Battery Co.,
 Cleveland, Ohio

Please send me one hydrometer syringe, for
 which I enclose one dollar.

Name _____

Address _____

Town _____ State _____

Make of Car _____

THE COAST LINE TO MACKINAC

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

A REAL VACATION—The Water Way is the Only Way

Daily service between Detroit and Buffalo and Detroit and Cleveland. Day trips during
 July and August, as well as two boats out of Detroit and Cleveland every Saturday and
 Sunday nights during these two months. FOUR TRIPS WEEKLY FROM TOLEDO
 AND DETROIT TO MACKINAC ISLAND AND WAY PORTS—From June 25th to
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 TRIPS WEEKLY. NO STOPS ENROUTE EXCEPT AT DETROIT EVERY TRIP.
 Daily service between Toledo and Put-in-Bay, June 10th to Sept. 10th.

RAILROAD TICKETS ACCEPTED ON D. & C. Line Steamers between Detroit, Cleveland
 and Buffalo, either direction. Send two cent stamp for illustrated pamphlet and Great Lakes
 Map. Address L. G. Lewis, G. P. A., Detroit, Mich.

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 P. H. McMILLAN, Pres.
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Central
 Standard
 Time.



KITSELMAN FENCE



HORSE-HIGH, BULL-
 STRONG, PIG-TIGHT
 Made of Open Hearth wire,
 heavily galvanized—a strong,
 durable, long-lasting, rust-
 resisting fence. Sold direct to the
 Farmer at wire mill prices.
 Here's a few of our big values:
 26-inch Hog Fence - 15 cts. a rod.
 47-inch Farm Fence - 21 cts. a rod.
 48-inch Poultry Fence - 27 cts. a rod.
 Special Prices on Galv. Barbed Wire.
 Our big Catalog of fence values shows 100 styles
 and heights of Farm, Poultry and Lawn Fence at
 money-saving prices. Write for it to-day. It's free.
 KITSELMAN BROS. Box 278 Muncie, Ind.

WRITE FOR

BROWN FENCE
BARGAIN BOOK
AND SAMPLE

Over 25,000,000 rods Brown
 Fence already sold to 400,000
 farmers. Factory Prices,
 Freight Prepaid. 150 styles,
 13c per rod up. Gates and
 Steel Posts, too! Write postal.
 THE BROWN FENCE & WIRE CO.
 Dept. 49 Cleveland, Ohio

Mention the Michigan Farmer when writing Advertisers

The World's Most Low Priced Announcing the

31 1/2 Horsepower

75-

Overland
TRADE MARK REG.

This newest Overland is the world's most powerful low-priced car.

It has a 31 1/2 horsepower en bloc motor that is a perfect marvel for speed, power and endurance.

By increasing the bore of the motor from 3 1/8 to 3 3/8" we are able to offer a power plant which at 1950 R.P.M. develops full 31 1/2 horsepower.

Tests under every condition in all parts of the country demonstrate that it easily develops better than fifty miles per hour on the road.

Speed of course varies under different conditions, but in practically every instance

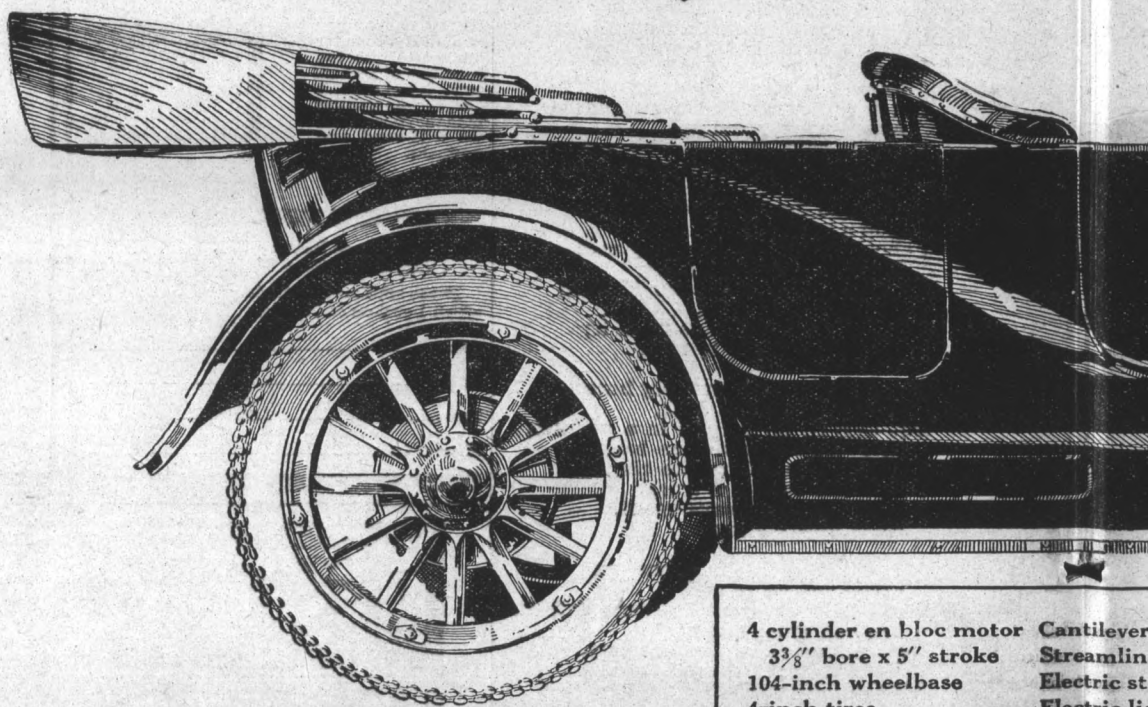
it has been getting fifty miles an hour and with ease.

We have scores of telegrams showing that eighteen to twenty-five miles per gallon of gasoline is not unusual.

The performance of this car is almost beyond belief.

Take any other low-priced car on the market. Pit it against this new Overland. Compare them for sheer speed, for abundance of power, for riding comfort and economy, and you'll find this car will back anything else clean off the boards.

That's a strong statement, but a fact nevertheless.



4 cylinder en bloc motor	Cantilever
3 3/8" bore x 5" stroke	Streamlined
104-inch wheelbase	Electric start
4-inch tires	Electric light

Catalogue on request.

The Willys-Overland

"Made in America"

Most Powerful Priced Car

The New Series

5-B

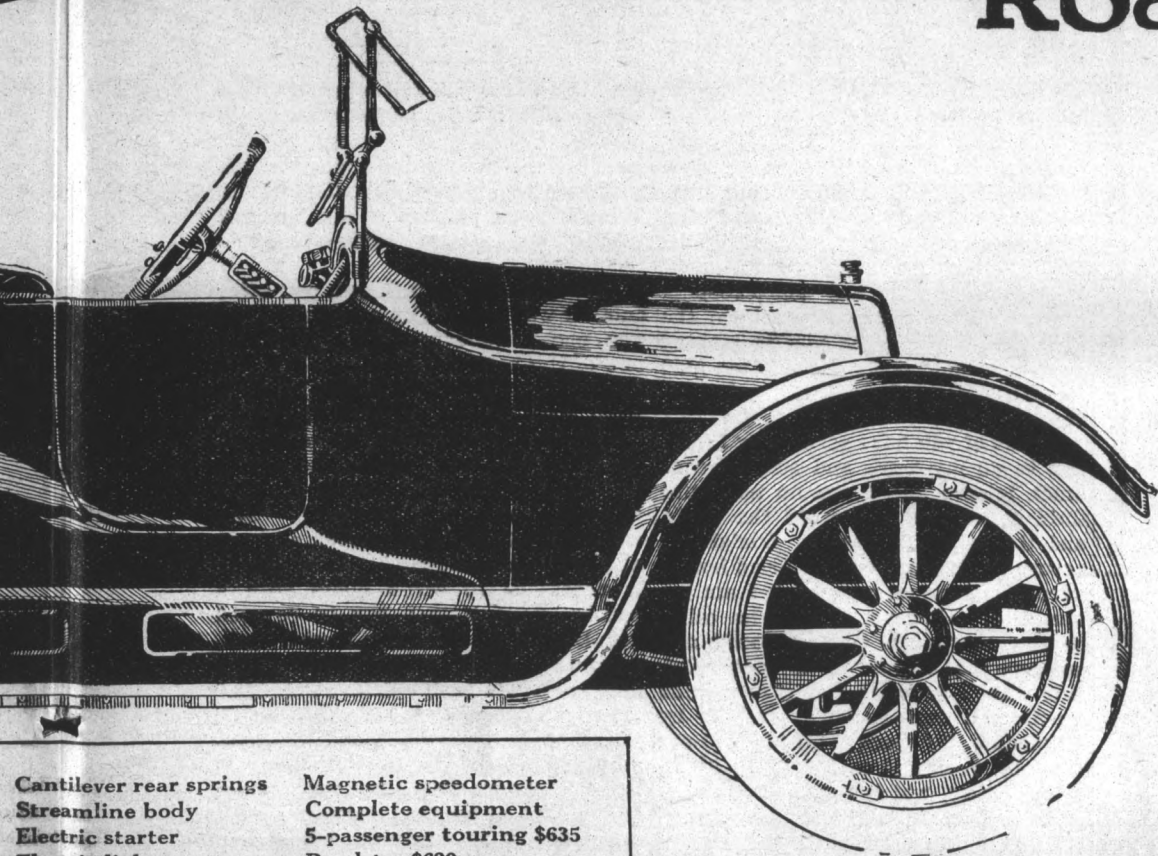
Overland

\$ 635

5 PASSENGER TOURING CAR

Roadster \$620

f. o. b. Toledo



Cantilever rear springs	Magnetic speedometer
Streamline body	Complete equipment
Electric starter	5-passenger touring \$635
Electric lights	Roadster \$620

request. Please address Dept. 566.

Overland Company, Toledo, Ohio

"Made in U. S. A."

Try it yourself and see. Here are more important facts.

It has four-inch tires which are more than generous for a car of this size.

Not only has it a large and roomy body, but it has an attractive, up-to-date streamline body.

It has the latest and most improved system of ignition.

It has the cantilever springs—the easiest riding springs in the world.

What's more, it's complete. Not a thing to buy. You get the finest Auto-Lite electric starting and lighting system, magnetic speedometer, one-man top, demount-

able rims and practically every accessory found on the highest priced cars.

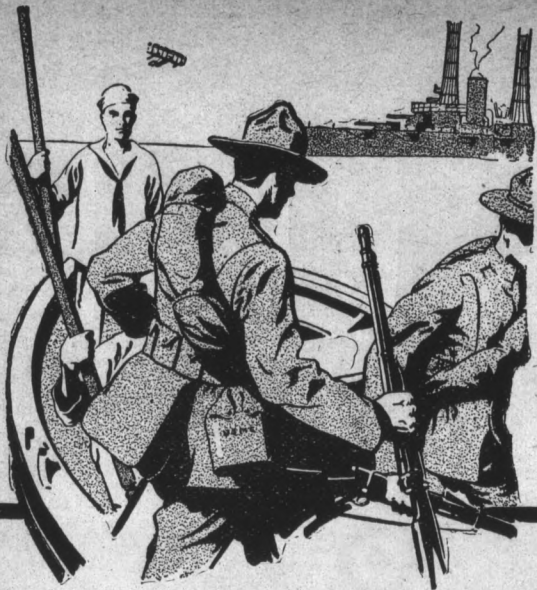
From a driving standpoint, the new car is ideal. It's light, easy to handle and anyone can drive it.

Take one look and be convinced.

And mark these words—the car is destined to be regarded and referred to as one of the really great achievements of the great automobile industry.

Yet it only goes to prove how big production can cut cost and save you money.

First come, first served. See the nearest Overland dealer and place your order now.



Hop Aboard with the Marines and Sailors of the U. S. A.

Get your feet into the socks the marines and sailors wear—long-lasting, soft, well-knit, foot-comforting Durable Durham Hosiery.

Yes, the marines and sailors wear 'em, work in 'em, play in 'em, and, if need be, they'll fight in 'em, too. And the reason:

Durable Durham Hosiery stands the gaff of government inspection, the most rigid of examinations. Each separate thread of each separate sock must measure up. Durhams do. And this is the evidence:

404,416 pairs of Durable Durham Hosiery were recently shipped to the Navy Department. 100,000 pairs were for the marines, 16 pairs were rejected. 304,416 pairs for the sailors, only 5 pairs weren't up to snuff. And these only because they had been damaged in packing.

DURABLE DURHAM HOSIERY FOR MEN, WOMEN AND CHILDREN

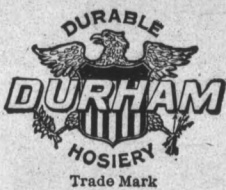
There is a sock for you in the Durable Durham Line that's got every bit of the comfort and the durability that the government specifications demand for the wear of the sailors and marines—the identical strong, reinforced toe and heel—knit of the same yarn and with the same care—but it is a smarter sock, with uppers that are sheer and light.

We have named this sock 1700 G. S. It is a regular number of the Durable Durham Line.

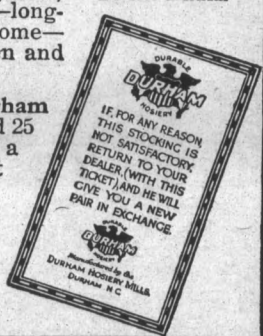
It will wear like iron—there is a fit for every foot, and 1700 G. S. is surely smart. Exactly the same—long-wearing, strong, grateful to the feet and handsome—are The Durable Durham stockings for women and children.

And the wonderful part is that Durable Durham for men, women and children sell for 10, 15 and 25 cents the pair. Each pair is guaranteed with a guarantee so broad and strong that you might have written it yourself. This guarantee is made possible only by expert manufacture and rigid factory inspection.

DURHAM HOSIERY MILLS
Durham, N. C.



This guarantee
is on every pair of
Durable Durham



Woman and Her Needs

The "Pass-It-Along" Club

NEARLY every neighborhood can boast an exceptionally good housekeeper, one who is a model in the various lines of work pertaining to the home. In the community where the "Pass-it-Along" Club was located a certain Mrs. McGregor held this distinction. Her home was immaculate, her children always neat and clean, her work always in order. Her jelly always jellied; her canned fruit always kept. Her husband also reflected the spirit of the home and even in his working garb always looked neat and clean, no matter at what task he was employed.

Possessed of only ordinary means, her home was without many of the labor-saving devices of modern times, yet her remarkable ability as a manager and her well-directed industry kept the household machinery going smoothly. Her reputation as a housekeeper earned for her the admiration of all her friends and acquaintances, yet she was not a slave to her work. Under her capable fingers results were achieved as by a magic wand. That was where her method differed from some others, who, in order to accomplish such results were compelled to be at work morning, noon and night. Mrs. McGregor apparently had plenty of leisure and almost any afternoon a caller would find her neatly dressed, employed, it is true, but at something which did not necessitate her being on her feet. She belonged to the Grange and the Farmers' Club, entertained in hospitable fashion and was by no means a "stay-at-home." In short, she was a model housekeeper and home-maker.

The club decided to invite this lady to be the guest of honor at one of their meetings, and asked her to tell the members something of her methods—how she accomplished so much with apparently so little effort. Upon the appointed day every member was present and all were eager to catch the words that fell from the speaker's lips.

"I feel highly honored in being invited to attend your meeting," said Mrs. McGregor modestly, "and feel that I might better be a listener than attempt to give advice on any housekeeping topic. However, since you have the idea that I can assist you in making your household tasks easier, I am glad to give you the benefit of my experience."

"Some of you have asked how I manage to do my work and still have so much leisure and I can do no better than express in one word the reply, and that word is system. I might be accused of being a cut-and-dried housekeeper and sometimes think I am too much so. However, I find no other method so good in getting results and am sure that I could never accomplish half what I do were I to give up this practice. I work as far as possible by a schedule. My work is all planned out week by week and each day has its allotted duties, which I strive to accomplish so that nothing is left to go over. Of course, this rule will not always work, but I get back again as quickly as possible when the unexpected occurs. Yes, I wash on Monday and iron on Tuesday, and, with these two jobs out of the way, can easily keep to schedule, while, if they were allowed to go until some other time, it would seriously interrupt the work of the whole week.

"One thing I have taught myself, and that is to work quickly and not dawdle. As soon as a meal is finished I waste no time but get busy with the dishes at once. I could easily sit and rest awhile many times, and enjoy doing so, but when I indulge this incli-

nation I find myself less in the mood for work afterward, so I make it a rule to do my work and rest when it is finished. I try to make every minute count in the early morning hours, thereby getting through with my tasks before dinner, so that I have the afternoon for sewing, mending, or often reading or fancy work, which I very much enjoy. It does one no harm to hurry, as I often do in the morning, to see how much I can get done in an hour. Plenty of good soap makes the washing easy. I do not boil the clothes. The ironing is one of the biggest jobs, but properly dampened clothes and good hot irons help out even in that. Some things are just as well folded and put away without ironing. I have linoleum on my kitchen floor and find it very easy to keep clean. I also have an oiled mop for dusting around rugs and over doors and windows, which saves a good deal of work. We send our cream to the creamery, and I never before realized what an amount of work this takes out of the house. I would not like to go back to the old way again.

"One thing that helps very much in doing my work is our water system, which gives me abundance of water without pumping and disposes of the waste through the drain pipe. We do not have the complete system, only the running water in the kitchen furnished by the windmill tank, but hope some day to have a fully equipped toilet and bath.

"If I have any better method than the average for doing my work it is because I have studied it out and adapted one to fit my own case. I am blessed with good help, which makes a great difference. The men folks help by keeping the woodbox filled and before we had water under pressure they kept the water pail full whenever possible. Nor am I called upon to do outdoor tasks. Some women are expected to milk cows and work in the garden. The most I do outside is to attend to my chickens. My husband thinks I am doing my share when I do the indoor work."

As the speaker concluded, one after another was ready with a question. "Do you use a vacuum cleaner?" "Yes, one of the hand-run style and find it a great help." "Do you sweep twice a week over the whole house?" "No, only once a week, on Friday, although the most used rooms have the sweeper run over the floors once a day." "Isn't the mending a bugbear?" "Not when attended to every week and not allowed to accumulate." "Do you think it necessary to scrub floors with a brush?" "Not if they can be covered with linoleum, and even if they are not, a painted floor is easily cleaned with a mop, which is easier than scrubbing." "Do you have all-over carpets or rugs?" "Large rugs, one to a room, with borders painted or covered with wood-finished linoleum. These are much more easily kept clean than carpets tacked down firmly all around." "You send your cream to the creamery. Do you find this as profitable as making the butter at home?" "Yes, when we consider the extra time consumed in making it. It is like selling hogs alive, whereas we used to butcher them at home. Times have changed."

As the ladies discussed the sherbet and cake, talk became general and all admitted having gained some valuable pointers from the afternoon's program. Systematic work, following as far as possible a weekly schedule, and trying to make every moment count in the early morning hours, seemed to be responsible in a large degree for Mrs.

COFFEE From IMPORTER To CONSUMER

Regular 35c. Coffee at wholesale price (26c a lb.) parcel post prepaid. We will send 5 lbs. of our Colombian Blend Coffee for three days' trial. You may try 1-2 lb. and return balance at our expense if not entirely satisfactory. Otherwise remit \$1.30 for the 5 lbs.

COLOMBIAN COFFEE IMPORTING COMPANY,
Dept. 501, 417 So. Dearborn St., Chicago, Ill.

WEAR YOUR OWN WOOL

Spun and woven by the old homespun methods, just as the Pilgrim Mothers did it for the Pilgrim Fathers. We will make you pure wool blankets, campers blankets, tweeds, fulled cloth, flannels, wool batting, yarn, and hosiery, if you will send us your wool. Write today for price list, and learn how to save money on the best wools.

REED CITY WOOLEN MILLS,
Established 1883, Reed City, Mich.

Reliable Watches at Bargain Prices



Elgin or Hampden 7-jewel movements in 20-year gold-filled cases, 12 or 16 size. Regularly \$10 or \$12. My special prices open face \$8.25; Hunting case \$10. Money refunded if not satisfactory. Write today. Jewellery catalogue FREE.

J. W. DONLAN, 115 E. 1st St.,
Flint, Mich.
References: Industrial Bank or
National Bank of Flint.

Mention The Michigan Farmer When Writing Advertisers

WOLVERINE



THE FURNACE
THAT SAVES
YOU MONEY

The heating plant has more to do with comfort in the home than any other one thing—so don't spoil your home life with a poor furnace.

WOLVERINE FURNACES

are making thousands of farm homes comfortable. They burn any fuel—do not heat the cellar—are easy to clean and operate and are sold direct to you from factory with all fixtures at the lowest possible price for first quality goods.

Our own heating engineers plan every job and our own expert mechanics install it. Every job is guaranteed to give perfect satisfaction and all castings guaranteed for five years.

Send us a postal card today for 32-page FREE catalog that tells all about WOLVERINE FURNACES. Ask for catalog No. 71.

Marshall Furnace Company
17 Dobbins St., Marshall, Mich.

McGregor's success as a housekeeper, with a knack of turning off work thrown in, and the members went home resolved to give her methods a trial, in part, if not in every detail.

ELLA E. ROCKWOOD.

SEWING MACHINE HELPS.

A very practical and helpful demonstration of the sewing machine was given one afternoon by Mrs. Peppard, of the Domestic Science Art of M. A. C.

She said that the sewing machine has been called "America's chief contribution to civilization." Machines are found in most country homes, but the great majority of women do not begin to realize their possibilities. Ask some one to tell you the advantages of using a sewing machine and see if she doesn't tell you it is a time-saver and then stop. But the machine has other advantages. 1, it uses a different set of muscles than those ordinarily used. 2, there is greater convenience in handling material. 3, less close attention is required. 4, there is less eye strain. 5, there is not the muscular effort required that is used in pushing the needle and long thread through the cloth. 6, the use of the feet and not the hands to push the needle through the cloth.

Where a machine is kept clean and well oiled, it is easy to run. Too much oil gums it up and makes it hard to run. This can be remedied by cleaning with kerosene, then oiling.

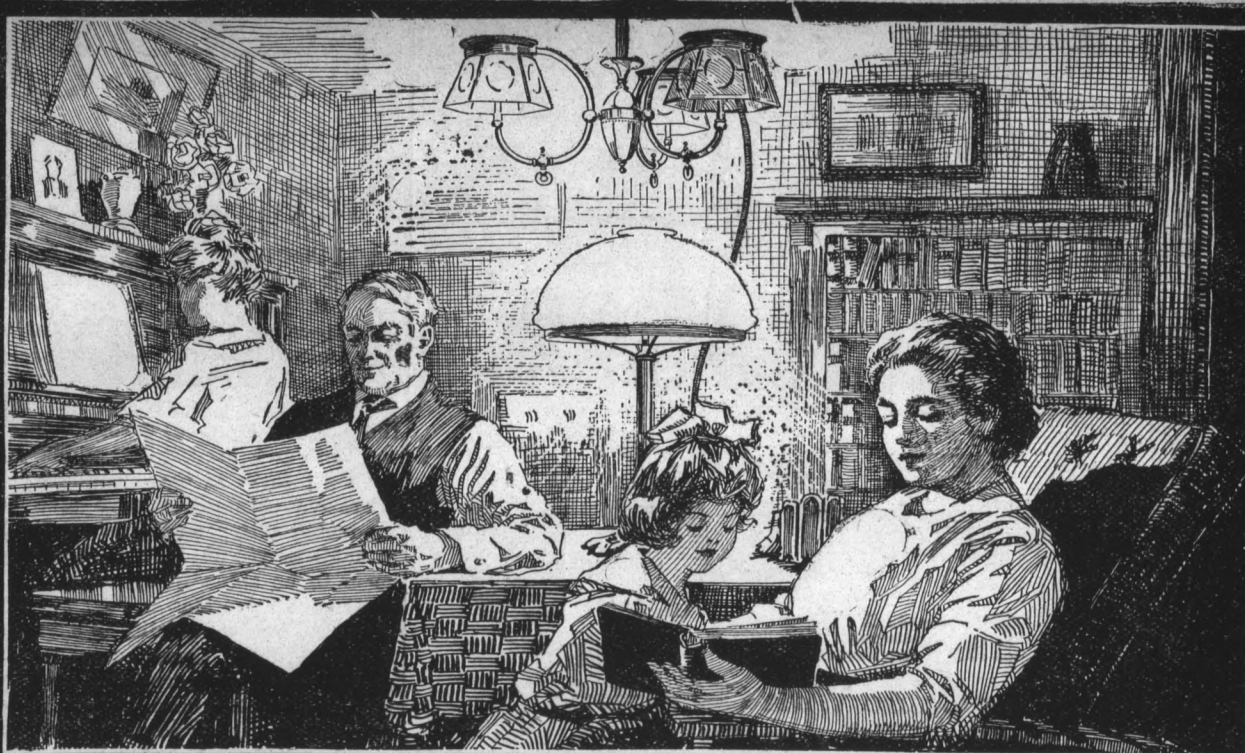
With the intelligent use of the various attachments that come with a good machine many attractive articles can be made at only a slight cost. Some women object to the use of these attachments, saying they can do the work quicker by hand. With a little practice one soon becomes expert and would not go back to the old laborious process. There is a binder for finishing edges of aprons, binding seams and also buttonholes for undergarments; a tucker is used for straight tucks frequently, but how many make the beautiful cross-tucking that can be used for yokes, collar and cuff sets, baby bonnets, etc.? With a hemmer one can hem and sew on lace at the same time. The ruffler will gather or plait, as you wish; not only that, but you can sew on the ruffle at the same time as you gather it. There is also a little bias cutter that you can attach to your shears and quickly cut the bias strips used for binding.

A most attractive child's apron was shown, made from pink calico and edged with white bias tape; it cost eight cents and took one-half hour to make. We were also shown just how to use the various attachments, but the directions in the books are usually so clear that anyone can follow them.

Sewing machine agents will usually be willing to show the use of the attachments if the housekeeper will appoint a time for him to do so and then keep the appointment. He will also show you how to clean your machine, to regulate the tension and the length of the stitch. Slight adjustments you should be able to make yourself, and thereby save time, temper and money. Once become familiar with your machine and its possibilities and I am sure you will find its use a pleasure.

C. R. H.

To Clean Brass and Copper Articles.
—Either rub with fine powdered pumice and sweet oil, washing and polishing afterwards, or make a paste of the following ingredients: One dram of oxalic acid, four ounces of finest pumice, one dram of oil of turpentine, one with a brush. Allow them to dry, then rinse off, and polish with plain whiting. ounce of hot water, one-half ounce of soft soap, and five drams of sweet oil. Dissolve the acid in the water, add the other ingredients and beat to a creamy paste. Or, equal parts of oxalic acid and whiting may be kept in a closed box and a little of this moistened with boiling water and rubbed on articles to be cleaned will do good work.



You Can Afford Good Light

You up-to-date farmers who own your property—take pride in your home and love your good wife and children—you should have good light.

The day has passed when good light in the farm home could be considered a novelty or expensive luxury. Nor is it a matter of big investment. Today good light is an inexpensive necessity.

Pilot-Carbide-Outdoor Lighting and Cooking Plants

have totally changed the old fashioned methods of house and barn lighting and cooking in the country home.

Hundreds of thousands of progressive farmers in all parts of the country have selected the PILOT because they were quick to recognize the value of good light—its safety and the convenience it brings them and their families. These country home owners—men like yourself—found they could easily afford the moderate investment for their PILOTS.

So can you afford it.

You can afford that new mowing machine, seed drill, and sulky plow. You can afford all the improvements that make your place a model farm, because they save **you** time and work.

Think of your good wife. She is your business partner. Her duty has been to make your home. She has done it well. She has contributed as much to your success as you have yourself.

The PILOT is going to save *her* a lot of hard work—dirty work—filling, cleaning and carrying lamps about the house—the meanest work a woman has to do. Think, too, what a gas cook stove will mean to her on hot days and when quick meals are wanted in a hurry.

If you can afford improvements for your farm, surely you can afford this one great improvement for your home—your wife—and your children. It is the one thing that you and your whole family will enjoy every night—365 times—every year.

Consider the PILOT from every standpoint—safety, comfort, convenience and better living. Your decision will be what 300,000 other country home owners have decided—**you can't afford to be without it.**

Write for illustrated catalogs and descriptive booklets giving all the facts. Find out, **today**, about the PILOT.

A. R. GRAHAM, Supervisor
810 Mason St., FLINT, MICH.

OXWELD ACETYLENE COMPANY, CHICAGO
Largest Makers of Private Lighting and Cooking Plants in the World.

FREE!

Write for my New Buggy Book today. Shows 150 snappy styles of genuine Split Hickory Vehicles. Tells about the most startling price-splitting offer ever made by any vehicle factory. A postal brings it free—postpaid.

SPLIT HICKORY

Are recognized the world's finest driving vehicles. Famous for easy riding, lightness, strength and long service. Nearly a quarter of a million in use. Every rig sold on 30 days free trial and 2 years guarantee. Send for book today. See for yourself the new styles and the money you can save.

Address H. C. PHELPS, Pres.,
The OHIO CARRIAGE MFG. CO.,
Station 55
COLUMBUS, OHIO

Catalog \$39.25
Shows 150
Other Styles and up

The Teachers College Indianapolis

Efficient training for teachers in all school grades; primary, kindergarten and household economics. Classes in elementary and advanced sewing and costume design. Public school drawing, music, and the manual arts. College in session entire year. Established 34 years. Accredited A. B. C. State Board of Education. Write for Catalog L.

ELIZA A. BLAKER, Pres. Indianapolis, Ind.

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

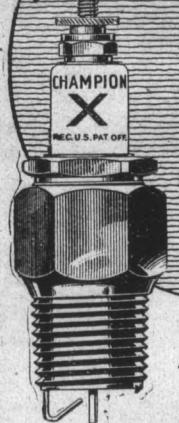
BOYS WATCH.

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 at 50c each.



Champion
TRADE MARK FOR THE WHOLE WORLD'S TRADE
Dependable Spark Plugs



4

All
Others

1

Champion X has been
the regular factory equipment
on all Ford cars since 1911.

Four Cars Come With Champions to One With Any Other

Since four of every five new cars come equipped with Champions, our plugs are constantly on test with 80% of the owners of new cars.

No other spark plug is undergoing such a gigantic final consumer test.

And on the outcome is staked the very life of our business.

But the consumer verdict in favor of Champions has enabled us to double our business every year of its existence.

Such a test—such a verdict—establish Champion dependability as known—proven, indisputable fact to be remembered when you replace the spark plugs in your car.

Dealers everywhere are prepared to satisfy the insistent consumer demand for Champions.

They know which Champion is designed to serve each different motor. See that the name Champion is on the porcelain—not merely on the box. Notify us immediately if you have any trouble getting Champions and we will see that you are supplied.

Champion Spark Plug Co., 511 Avondale Ave., Toledo, Ohio

Wanted 30,000 Men For Harvest Work on Immense Crops of Western Canada

**Wages \$3.00 Per Day and Board
Cheap Railway Rates From Boundary Points**

Employment bureaus at Winnipeg, Regina, North Portal, Saskatoon, Ft. Frances, Kings Gate, B. C.; Coutts, Calgary, Alberta.

No Conscription—Absolutely No Military Interference

For all particulars apply to the following Canadian Government Agent.

M. V. Mc INNES
178 Jefferson Ave., Detroit, Mich.

Eureka Potato Digger

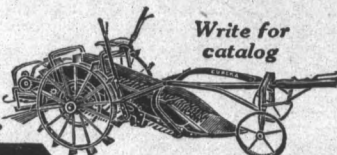
**Gets the Potatoes and separates
where no other digger can**

A strong statement, but an actual experience many times, saving growers more than the cost of the Digger. Ask us for the proof.

The Eureka elevator and duplex shaker provide more separation than other diggers. Large wheels and main gears supply ample power. Mostly malleable and steel, avoiding frequent breakage and lost time. Growers report digging 80 or more acres without repairs. High clearance over shovel prevents weeds and vines bunching. Has vine-turner attachment.

6-ft. and 7-ft. sizes; several styles.
Prompt shipments from distributing points.

EUREKA MOWER CO., Box 1022, Utica, N.Y.



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New Fields for Cooperation

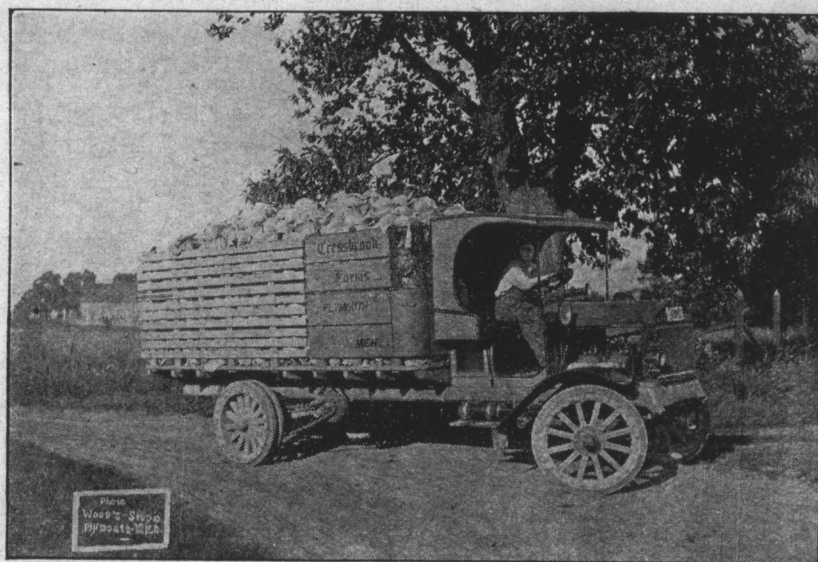
ALTHOUGH the co-operative idea has spread with amazing rapidity throughout southern Michigan, there are some fields favorable to its successful growth, which are as yet untried. In the main, the co-operative movement in this section has taken the form of shipping associations, the working and success of which have been set forth in these columns. Co-operative creameries have also been conducted with remarkable results. But in fields as yet untouched, there would seem to be splendid opportunities for the co-operative idea to bear rich fruit.

In the writer's locality and in many other localities throughout the state, certain contracted crops are grown annually, by both those who do general farming and those who do truck farming on small patches of ground. These crops are: Cabbage, cucumbers, tomatoes, pop-corn, and the like. Concerns contract these crops, months ahead. In normal seasons, as a rule, the crops are profitable. In abnormal seasons,

In the case of the creamery, the same difference exists. Practically all the farmers of the township or district are interested in dairying on a larger or smaller scale. There is no difficulty to get a good-sized membership in the association, once the project is well launched.

But while there are difficulties in the way of co-operation in the industries under consideration, yet the main trouble seems to lie in inaction. The first and often the most important step is in the starting of a desired movement. Let the way once be opened, and all who are interested will travel it. In any cabbage-growing locality, growers are numerous enough to form a co-operative association. In fact, the question has been discussed more than once, but has never as yet, reached the workable stage.

In a cooperative movement such as the foregoing, the entire community would be benefited. As the case now stands, outside concerns buy the crop



Over Three Tons of Early Cabbage Being Conveyed from Cressbrook Farm, Wayne County, Twenty-two Miles to the Detroit City Markets.

the grower fails to reap the advantage of advance in price, due to scarcity. His contract price is based on a good yield, and if the year is such that the yield is poor, he is powerless to take advantage of the situation. The concern which contracted the crop, gets the profits already figured on the basis of a good crop, plus the raise in price due to scarcity of the product.

In the face of this situation, why would it not be a good plan for the growers of these crops to co-operate, own their own kraut or pickle or canning plant, and reap the full share of the reward that is justly theirs? If co-operative creameries are a splendid success, surely co-operative kraut and pickle factories may be made so. Two obstacles, however, seem to stand in the way of such a project:

In the first place, the growing of these crops is confined to small and often widely separated areas. In the very nature of the case, growers must be reasonably near the delivery station in order to make these crops pay. Long hauls take off the profits, and a distance of three or four miles is considered about the limit as regards profitable hauling.

In the second place, because of the restricted area, the number of farmers engaged in any one of these industries is necessarily few. Only a small per cent of the members of a co-operative shipping association are cabbage growers or cucumber growers. For this reason, the organization can not very well engage in co-operative kraut or pickle making.

and spend the profits outside the community. Under the co-operative idea, all the profits from the industry would remain in the community. Not only the grower, but his neighbor as well, would be a party to this benefit. The more money there is available in any community, the more will be spent there, in permanent improvements and for the good of all.

As has been said, this is an untried field. It would seem, however, to be a possible and practicable field for the working of the co-operative idea. The obstacles in the way are largely minor obstacles and easily overcome, once the movement is fairly launched. Under the co-operative system, many more growers would engage in the industry, because of the greater profits that would naturally result. If butter can be made at a greatly increased profit by a co-operative association, why not kraut or pickles. The case does not differ much except in the number of people interested. With farmers everywhere thoroughly alive to the possibilities of the co-operative movement, the time is surely coming when the system will be worked out successfully in the production of the finished products of the above-named and other kindred industries. J. A. KAISER.

DAIRYMEN EAGER TO ORGANIZE.

The Field Secretary of the Michigan Milk Producers' Association brings the encouraging news that dairymen in all the important producing sections of the state are ardently pushing the mat-

ter of local organization of producers. Since beginning active field work a fortnight ago, he states that in fully twenty communities the movement has started. Old associations are also taking on new life, increasing membership and preparing to co-operate with the other local associations through the state society.

Requests for dates have come so rapidly that the secretary has found it impossible to attend personally all the meetings planned and he has been obliged to send substitutes where the dates conflict. If those taking the initiative in this important matter, would correspond with the Field Secretary, Mr. R. C. Reed, of Howell, before setting a definite date for a public meeting, he could then, in most instances, fit dates in with others already set and thus be able to render the widest possible service to the producers. We believe that wherever possible it would be wise to even delay the meeting a few days in order to have the Field Secretary or one of his co-workers present to set before the producers carefully the present situation of the milk business and the objects to be sought in organizing. Their presence and service would no doubt help greatly toward insuring the permanency of the new organization.

MICHIGAN CROP REPORT.

Wheat.—The average estimated yield per acre in the state is 16.31, in the southern counties 16.19, in the central counties 16.32, in the northern counties 16.23 and in the upper peninsula 18.89 bushels. The estimate at present indicates that the state yield will be very close to 12,500,000 bushels.

Oats.—The estimated average yield in the state is 35.23, in the southern counties 35.22, in the central counties 34.68, in the northern counties 34.11 and in the upper peninsula 43.07 bushels per acre. The above estimate indicates that the state yield will be very close to 60,500,000 bushels.

Corn.—The condition of corn as compared with an average is 71 in the state, 67 in the southern counties, 76 in the central and northern counties and 85 in the upper peninsula. The condition one year ago was 74 in the state, southern and central counties and upper peninsula, and 73 in the northern counties.

Potatoes.—The condition of potatoes as compared with an average is 72 in the state, 67 in the southern counties, 76 in the central counties, 78 in the northern counties and 87 in the upper peninsula. The condition one year ago was 93 in the state, central and northern counties, 94 in the southern counties and 92 in the upper peninsula.

Beans.—The condition of beans compared with an average per cent is 86 in the state and southern counties, 84 in the central counties, 87 in the northern counties and 97 in the upper peninsula. The condition one year ago was 89 in the state, 87 in the southern counties, 90 in the central counties, 92 in the northern counties and 85 in the upper peninsula.

Sugar Beets.—The condition of sugar beets as compared with an average is 75 in the state, 68 in the southern counties, 78 in the central counties, 80 in the northern counties and 91 in the upper peninsula. The condition one year ago was 93 in the state, 94 in the southern counties, central counties and upper peninsula and 91 in the northern counties.

Chicory.—The condition of chicory as compared with an average is 78 in the state, 100 in the southern counties, 81 in the central counties and 69 in the northern counties.

Mint.—The condition of mint as compared with an average is 82 in the state and southern counties and 90 in the central counties.

Cabbage.—The condition of cabbage as compared with an average is 77 in the state, 71 in the southern counties, 76 in the central counties, 79 in the northern counties and 98 in the upper peninsula.

Celery.—The condition of celery as compared with an average is 83 in the state, 81 in the southern counties, 87 in the central counties, 80 in the northern counties and 97 in the upper peninsula.

Hay and Forage.—The estimated yield per acre of hay and forage in tons is 1.64 in the state, 1.66 in the southern counties, 1.65 in the central counties, 1.56 in the northern counties and 1.73 in the upper peninsula. The above estimate indicates that the state yield will be about 3,824,000 tons, which exceeds the ten-year average, (Continued on page 162).

26 Extra Features

Mitchell
MID-YEAR
MODEL

\$1325
F. o. b. Racine

John W. Bate's Surprise

This Mid-Year Mitchell came out in April as a nation-wide surprise.

It combined in one car all the best new conceptions found in 257 Show models. It embodied 26 extra features, most of which all other cars omit.

Yet it sells at a price which is way below other cars of its size and class.

But what you see here is the final result of 13 years of effort. John W. Bate, the efficiency engineer, has devoted those years to the Mitchell. The car which amazes you today has come through that evolution.

The Extra Values

You see here extra values. You see the most complete car ever shown. You see many costly features, exclusive to the Mitchell. And you wonder how we give them at our price.

The reason lies in factory efficiency, due to Mr. Bate. He has built and equipped here a model motor car plant. He has, in six years, cut our factory cost in two.

We now build in this plant, by his up-to-date methods, 98 per cent of this car. And all of the extra values we give you are paid for by factory savings.

700 Improvements

But Mr. Bate, in those years, has done more than you see. He has worked out in the car over 700 improvements.

Under his direction, every part has been studied. And every part brought to perfection.

Castings have been practically eliminated. He employs drop forgings and steel stampings to make lighter, stronger parts. There are 440 such parts in this Mitchell.

He gives you big margins of safety. There are oversize parts

where the strain comes. There is much Chrome-Vanadium steel.

He has aimed at a lifetime car, enduring and trouble-proof. Six of his cars, as a result, have averaged 164,372 miles each. That is over 30 years of ordinary service.

That's the sort of car that wise men want when they buy a car to keep.

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He has given you a car big, roomy and powerful, yet very economical of fuel. For ease in driving he has given you a new type of control. He has given you ball-bearing steering gear, an engine primer at the driver's hand, a power tire pump, etc.

For easy riding he has given you Bate cantilever springs, 52 inches long.

He gives you a 22-coat finish, deep, rich upholstery, a light in the tonneau, a locked compartment, and many unique appointments.

Those are results of efficiency. They would be impossible at the Mitchell price without this model plant. And such a car would be impossible without a John W. Bate.

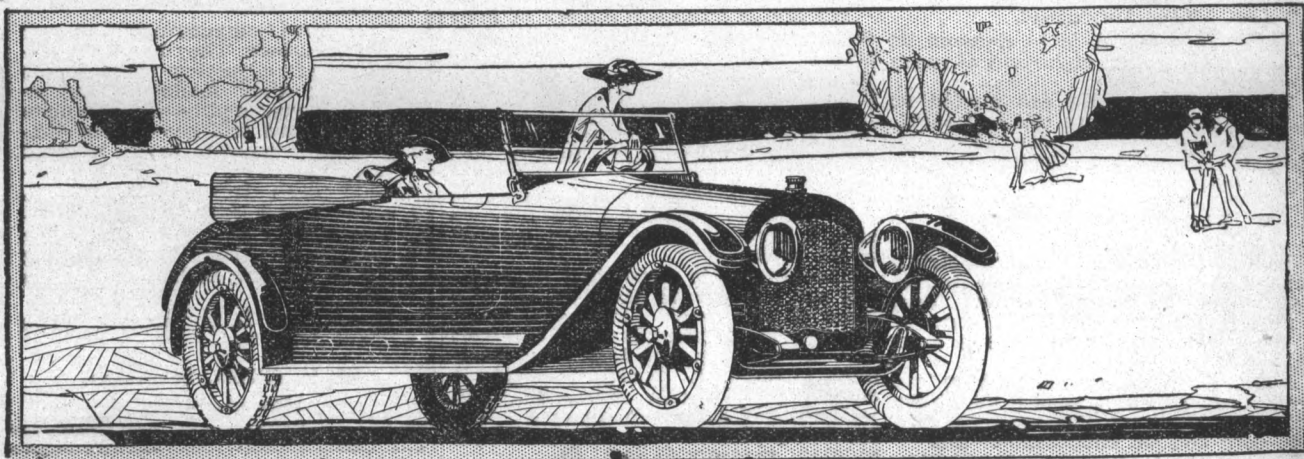
That is why so many big men are buying Mitchells now. Many engineers—men of nation-wide fame—have lately bought the Mitchell. Thousands of business men select it. They know what efficiency means.

You will want this car when you know it. You

will want its attractions, you will want its endurance. Let your nearest Mitchell dealer show you in how many ways it excels. If you don't know who he is, ask us for his name.

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For 5-Passenger Touring Car or
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7-Passenger Touring Body \$35 Extra
High-speed economical Six—48 horsepower—127-inch wheelbase. Complete equipment, including 26 extra features.

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Rock Phosphate is the petrified remains of ancient animals deposited in the phosphate beds of Tennessee to provide phosphorus to increase your crops and build up your soil. What Will Rock Phosphate Do for You? The average of 20 years of Experiment Station tests shows \$5.00 worth of increased crops from each dollar's worth of phosphate used.

What Will It Cost? The use of Rock Phosphate at a cost of \$1.00 per acre per year will provide the phosphorus needed for maximum crops, and permanently enrich your soil. You Want to Know More About It? Just write us today for prices and we will send you a beautifully illustrated booklet, "The Farm That Won't Wear Out."

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Ground Rock Department
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ROSEN RYE

Grown in the heart of Northern Mich., \$1.50 per bu.
DORR D. BUELL, Elmira, Michigan.

WINTER SEED WHEAT

KHARKOV HAS YIELDED 50 TO 70 BU. PER ACRE

Write for catalog and circular, describing this wonderful yielder. BERRY'S ORIGINAL KHARKOV. Imported direct from Russia. Has no superior. Has no superior. Largest yielder by tests and withstands the severest winters. Have improved Turkey Red, other varieties and Mammoth White Rye. Large stock Alfalfa, Timothy and all Grass Seed. Write for circular, free samples, special low prices.

A. A. BERRY SEED CO., BOX 131, CLARINDA, IOWA

TIMOTHY AT WHOLESALE

Extraordinary big values. New tested re-cleaned seed. Quality guaranteed. Sold subject your approval. Lowest prices on Alsike, Blue Grass, Clover, Alfalfa and mixed grass and all field seeds. Samples, prices and big valuable profit-sharing Seed Guide Free. AMERICAN MUTUAL SEED CO., Dept. 309 43rd and Roby St., Chicago, Ill.

Winter Seed Wheat For Sale Kharkov is bred wheat, Hardy and good yielder. Try a few acres A. A. PATULLO. Deckerville No. 4, Michigan.

SWEET WHITE BLOSSOM VARIETY. TREATED FOR QUICK GERMINATION. WRITE FOR SPECIAL PRICES—DEPT. B. YOUNG-RANDOLPH SEED CO., OWOSSO, MICH.

VETCH SEED: \$8.00 per bushel by the grower.

A. A. LAMBERTSON, CEDAR SPRINGS, MICH.
Mammoth White Rye, Timothy, Alfalfa, Vetch, etc. 5000 bushels Seed Wheat. Sample, and catalog free. W. N. Scarff, Box E, New Carlisle, O.

Pedrigood Seed Wheat, Red Rock and Shepherds' free. Huizenga & Shoemaker, R. 2, Hudsonville, Mich.

WE WANT VETCH. SEND US SAMPLES. YOUNG-RANDOLPH SEED CO., Owosso, Mich.

Northern Grown Hairy Vetch Seed. DORR D. BUELL, Elmira, Michigan.

WHEAT No. 1 Red Champion, the wonder wheat from the east, guaranteed to increase your yields. For prices and samples write W. J. MERRIAM, Almont, Michigan.

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, THE MICHIGAN FARMER, Detroit

Markets.

GRAINS AND SEEDS.

Wheat.—Values fluctuated over a wide range last week, with the bulls in command of the situation until Monday when a sharp decline followed reports of improved conditions in western Canada and of a threatened investigation of the cause of recent wide changes in prices by the federal government. The statistical situation, however, is very favorable to the maintenance of high values and with western Europe in the market for large supplies it is reasonable for producers to stand firm and sell the grain only on a rising market. A year ago the price for No. 2 red wheat was \$1.09 per bu. Last week's Detroit prices were:

	No. 2	No. 1	
	Red.	White.	Sept.
Wednesday	1.49	1.44	1.51
Thursday	1.47	1.42	1.49
Friday	1.47	1.42	1.49
Saturday	1.46½	1.41½	1.48½
Monday	1.41½	1.36½	1.43½
Tuesday	1.46½	1.41½	1.48

Chicago.—September wheat \$1.42 a bu; December \$1.45½; May \$1.49½ @1.50.

Corn.—While the trend of values have been more or less sympathetic with the changes in wheat prices the result of the week's trading has been an advance of two cents. Rains have helped the crop in some districts. There is a steady export demand reported and offerings are limited. A year ago the price for No. 3 corn was 81½¢ per bushel. Last week's Detroit quotations were:

	No. 3	No. 3
	Mixed.	Yellow.
Wednesday	87½	89
Thursday	87½	89
Friday	87½	89
Saturday	88	89½
Monday	87½	89
Tuesday	87½	89

Chicago.—September corn 83½¢ per bu; December 71¼¢; May 74½¢.

Oats.—With threshing in progress the delivery of oats has increased and the visible supply shows a gain of over four million bushels. Notwithstanding this prices show an advance over a week ago in harmony with higher range of values for corn and wheat. A year ago standard oats were quoted at 64¢ per bushel. Prices for the past week are:

	Standard.	No. 3
		White.
Wednesday	44½	44½
Thursday	45	45
Friday	45	45
Saturday	45	45
Monday	44½	44½
Tuesday	44½	45

Chicago.—September oats 43½¢ per bu; Dec. 46½¢; May 49½¢.

Rye.—This cereal is in demand at \$1.10 per bushel, an eight-cent advance over last week.

Beans.—Cash beans are quoted at \$5.70 in Detroit and at Chicago \$5@7.

Seeds.—Prime red clover \$10.60; do. alsike \$9.85; alfalfa \$10@11; timothy \$3 per bushel.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$7.70; seconds \$7.50; straight \$7.30; spring patent \$8.10; rye flour \$6.30 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$25.30; standard middlings \$26; fine middlings \$30; cracked corn \$30; corn and oat chop \$32 per ton.

Hay.—No. 1 timothy \$17.50@18; standard timothy \$16.50@17; light mixed \$16.50@17; No. 2 timothy \$9@10; No. 2 mixed \$9@10; No. 1 clover \$10@11.

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

DAIRY AND POULTRY PRODUCTS.

Butter.—Demand active and prices 1½¢ higher; receipts are light. Extra creamery 29½¢; firsts 28¢; dairy 23¢; packing stock 12¢.

Eggs.—Light receipts caused an increase in price. Price for the week based on sales is 29½¢.

Chicago.—Demand sufficient to clean up receipts and market firm at advanced prices. Extra creamery 29½¢; extra firsts 28@29¢; firsts 27@27½¢ per lb; packing stock 22½@23¢.

Eggs.—Best candled eggs higher; others unchanged. Current receipts are quoted at 21½¢; firsts 25½¢.

Chicago.—The feeling still continues firm and the market favors holders. Receipts light for this time of year. Firsts 23@24¢; ordinary firsts 22@

22½¢; miscellaneous lots, cases included 15@23¢.

Poultry.—Hens and broilers are lower but the market is firm at the decline. Fowls 17@18¢; broilers 20@23¢; ducks 17@19¢; geese 12@13¢.

Chicago.—Demand continues good and prices are higher for everything except hens, receipts of which are increasing. Hens 15@16½¢; roosters 12; spring chickens 19@20½¢; ducks 15¢; spring geese 12¢.

FRUITS AND VEGETABLES.

Cherries.—The supply of cherries is moderate. Sour cherries are selling at 1.75@2; sweet \$2.25 per 16-qt. case. At Chicago the market is quiet with Montmorencies selling at \$1@1.50, and Windsors \$1.75@2.25.

Apples.—Apples are quoted on the local market at \$5.50@6 per bbl. At Chicago Duchess are plentiful and sell at \$3@3.50 per bbl; good eating apples are in demand.

Peaches.—At Detroit peaches are selling at \$3@3.50 per bushel, while Michigan clings are selling at 15@20¢ per one-fifth bushel basket and 75¢@1.25 per bushel at Chicago.

GRAND RAPIDS.

Potatoes on the city market started in this week at \$1 per bushel with the price rather weak at this figure owing to supply. Sweet corn sells at 20@25¢ per dozen ears; celery 15¢; tomatoes 50@65¢ per 8-lb. basket. Creamery butter advanced 1¢ this week and the quotation of 28½¢ on No. 1 dairy butter is nominal because none to speak of is coming in. Dealers are paying 23@23½¢, loss off, for fresh eggs. No. 2 red wheat starts the week at 1.37; corn 85¢; rye 90¢; oats 45¢. White beans on hand-picked basis are quoted at \$7. Hay is worth \$9@11.

DETROIT EASTERN MARKET.

Tomatoes sold around \$2 per bushel and from 75@90¢ per 16-lb. basket; corn \$1.50 for common 10-dozen bags and \$2 for yellow Bantam; apples \$1@2 per bushel; pears \$1.50; cucumbers \$2.50 for dills and \$1 for slicers; eggs 35¢ per dozen.

LIVE STOCK MARKETS.

Buffalo.

August 14, 1916.
(Special Report of Dunning & Stevens, New York Central Stock Yards, Buffalo, N. Y.)

Receipts here today as follows: Cattle 215 cars; hogs 75 d. d.; sheep 15 d. d.; calves 1200 head.

Demand is strong for the good shipping steers and best butcher steers and heifers. One choice load of shippers sold at \$10.60, and bulk of them showed an advance of 25@50¢, with best butcher steers and heifers selling strong, but the medium class is very slow and lower.

We had a moderate supply of hogs today and a light demand. All classes sold generally 10@15¢ lower, the pig weights in most cases 25@30¢ lower than Saturday's best time. A few selected grades of hogs sold at \$10.70; bulk around \$10.65, and some common yorkers as low as \$10.25. Bulk of pigs and lights around \$10; roughs \$9@9.25; stags \$7@8. About everything sold at the close and looks like we should have a strong market balance of the week.

Sheep receipts were light again today and prices were about steady with close of last week. Prospects about steady. Best spring lambs \$11@11.25; cull to common do. \$9@10.50; yearlings \$7.75@9.50; bucks \$5.50@6.25; ewes \$7@7.75; cull sheep \$3.50@6; wethers \$8@8.25; top veals \$12.75@13; heavy \$9@11.50; common and light \$10@12; grassers \$5.50@7.50.

Chicago.

August 14, 1916.
Cattle. Hogs. Sheep.
Receipts today..18,000 47,000 28,000
Same day 1915..18,689 30,555 16,337
Last week.....47,800 116,021 74,720
Same wk 1915...47,775 86,538 71,668

Week opens with much larger receipts of sheep and hogs than on Monday last week, and it is evident that range sheepmen are hurrying up shipments for fear of a railway strike. Swift & Co. received about 5,500 range lambs consigned to the firm direct, and all the packers held back and forced the price of prime range lambs down to \$11, showing a decline of 35¢. Cattle were in strong demand, and the commoner to fair grades sold at steady prices, while the choicer kinds were scarce and in lively demand at advances of around 10@15¢, with several sales at \$10.90, while some fancy beefs were held for \$11. Hogs declined as much as 15¢ in most instances, with sales at \$9.60@11.50. Hogs marketed last week averaged 231 lbs.

Cattle sellers had things their own way last week, as the increased consumption, and the comparatively moderate supply of cattle sent prices up at a rapid rate. By the middle of the week steers sold at \$10.30@10.85, the top for the previous week being \$10.25. Numerous short-fed lots sold at \$8.75 and over, inferior to fair steers of light weight \$6.30@8.70; some good heavy grassers \$9@9.25, and good to choice yearling steers \$9.50@10.60; common to good yearlings \$8@9.45; butcher cows \$5.50@8.50; do. heifers \$5.25@9.75. Canners sold at \$3.50@4.70, cutters \$4.75@5.45 and bulls at \$5@8.25. Calves sold higher with light weight vealers going at \$11.25@12.75, while heavy calves ranged from \$4.75@11. There was a fair traffic in stockers and feeders, with sales at \$5@7.80. The week's advance in cattle averaged from 25¢ to 50¢, the better class advancing the most.

Hogs sold much higher last week than at any previous time this year, decreasing receipts meeting with a vigorous general demand, carrying the top price to \$10.80. Previous to last week the top for hogs this year was \$10.35. A late reaction in prices left hogs selling at the close of the week at a range of \$9.70@10.65, with pigs at \$8@10, top for heavy shipping hogs being \$10.60 and for light shipping lots \$10.65. Heavy packers brought \$9.70@10.20. A week earlier top hogs brought \$10.05.

The market for sheep and lambs was variable last week. Good breeders and feeders were as scarce as ever and extremely high in price. The other day a new high record was made by the sale of 109 head of prime western yearlings averaging 76 lbs. at \$10 per 100 lbs. Closing prices were: Lambs \$8@11.35; feeding lambs \$9.10@9.85; yearlings \$6.75@9; wethers \$5.50@8; ewes \$3.50@7.60; bucks \$4.50@6; breeding ewes \$7@9.25; lambs closed at strong prices.

AUTO THIEVES

Many automobiles have been stolen the past few weeks. One of the boldest robberies occurred on the night of August 10th, in which the automobile belonging to D. A. Jolliffe & Son, of Plymouth, was stolen some time during the night from a cement garage located a short distance from the residence. The thieves undoubtedly got in through a window, removed the bars to the door and ran the automobile out by hand and away from town. It was a large car from the Detroit Company.

Also, a Ford automobile belonging to Glen Gillespie, Assistant Prosecuting Attorney, at Pontiac, was stolen a few days ago. The Citizens' Mutual Automobile Insurance Company has offered a reward for the arrest and conviction of the thieves.

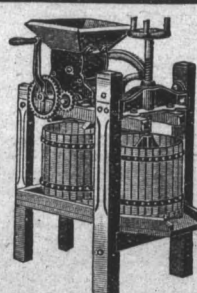
The above Company now has over 11,000 members. They have the reputation of adjusting their losses promptly; they made no assessment last year and have made none this year, and still have about \$22,000 cash on hand in banks to meet claims. The Company furnishes protection first, from theft, second, from fire, and third, from liability.

The cost is only \$1.00 for policy plus 25 cents per H. P., making \$6.50 on a Ford, and other cars in proportion.

If your car is not insured write without delay to

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

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Made in Four Sizes and Prices. Hand and Power

FORCE FEED	JUNIOR
\$7.15	\$9.63
2 Barrels per Day.	4 Barrels per Day.
MEDIUM	SENIOR
\$12.58	\$17.25
6 Barrels per Day.	10 Barrels per Day.

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Satisfaction Guaranteed or Money Refunded.

For silo owners

DECIDE NOT to take the chance of depending on somebody else's cutter.

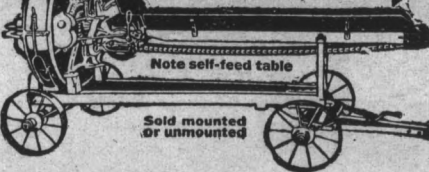
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Get one Quick

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Fills Silos absolutely dependably. Swift, safe and easy-running. Unlimited cutting and elevating capacity.

Write today giving size of silo and valuable information for you. The Jos. Dick Mfg. Company Box 24 Canton, Ohio



Farms and Farm Lands For Sale

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

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Potatoes, grain, tools, wagon, sleds, etc. etc. Productive dark soil, 400 sugar maples and outfit; valuable lot wood ready to cut. Only 1½ miles to up-to-date village and R. R.; near cannery factory for corn and beans. 125 apple trees; pleasant 9-rm. house newly painted; 40-ft. barn with cellar; abundance cold spring water. The owner, a professional man, has no use for it and \$600 takes all. For details this and big 150-acre farm for \$800, where the owner sold \$600 worth maple syrup one year, page 8, "Strout's Big Bunch of Bargains." Write today for your free copy. E. A. STROUT FARM AGENCY, Dept. 101, 150 Nassau St., New York.

A Farm at a Bargain

90 Acres, 2 miles from Cass city, Mich. 55 acres plow land, 35 good pasture, comfortable 2 story house with basement, large basement barn, wire fenced, 2½ acres apple bearing orchard, Gravel roads, elegant water, school rods away, will sell cheap. Dr. B. C. THOMAS, 84 Michigan Ave., Detroit, Mich.

A FINE DAIRY FARM OF 120 ACRES ALL EQUIPPED FOR \$3,500.

This farm is located on a good road within two miles of a nice town and markets. Good buildings, fine water, some fruit, land lays nice. Will include at this price 17 head fine cattle, 2 horses, all farm tools, also crops if sold soon. Price \$3,500, \$1,000 down. Mintz, 216 Phelps Building, Binghamton, N.Y.

McClure-Stevens Land Co.

Successors to A. J. Stevens & Co. Established 1883. Farm, Fruit and Stock Lands. We own 15,000 acres of choice unimproved land in Gladwin and Elgin counties. Sold on easy payments. Interest 6 per cent. Write for information.

Gladwin, Michigan

320 Acres in Almont twp., Lapeer Co., Mich., near market, R. R., D. U. R. Electric line, in Dairy section, good roads, phone, R. F. D. frame house, hip roof barn 40 x 112, horse barn, splendid cow barn for 25 head, sheep-barn, granary, machine-sheds, etc., good well and water system, land is moderately level, drained, 220 acres plowed, 30 acres good timber, soil is gravelly, clay and dark loam, well fenced, buy of owner will sell on contract, write, LEWIS DETRICH, Almont, Mich.

New Land,

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

For sale, 120 acres general farming land in Mecosta Co., Mich. New 7 room house, barn 20x34, 10x34 silo, and other necessary out buildings, good well and windmill, small orchard, 2½ miles from town, ¾ miles from school. Price \$4,000. Box 64, Altona, Michigan.

CENTRAL Michigan Farms. Best general farming country in world. Real bargains. Easy terms. Write for list A. Benham & Coats, Hastings, Michigan.

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

WANTED—AN IDEA. Who can think of simple thing to patent? Protect 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.

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 MARKET.

Thursday's Market.
August 10, 1916.
Cattle.

Receipts 2745. The market opened at the local stock yards with another heavy supply of cattle on sale, a large portion of it being of an inferior quality, while the general market was a trifle more active, prices were no higher than they were a week ago. One bunch of extra-good steers brought \$8.75, which was the top; they were bought by Parker, Webb & Co. The demand from the country is still light for stockers and feeders, owing to the recent dry spell and shortage of pasture. Milch cows were dull and few good ones were in the receipts. Prices ranged as follows: Best heavy steers \$8@8.75; best handy weight butcher steers \$7@7.50; mixed steers and heifers \$6.50@7; handy light butchers \$6@6.25; light butchers \$5.50@6; best cows \$6@6.25; butcher cows \$5@5.50; common cows \$4.50@4.75; canners \$3.50@4.25; best heavy bulls \$6@6.50; bologna bulls \$5.50@6; stock bulls \$5@5.50; feeders \$6.50@7; stockers \$5.50@6.50; milkers and springers \$4@7.50.

Bishop, B. & H. sold Mich. B. Co. 2 bulls av 1415 at \$6.50, 2 do av 880 at \$6, 1 do wgh 1380 at \$6.25; to Bray & B. 8 stockers av 667 at \$5.75, 4 cows av 905 at \$5.25, 3 do av 903 at \$5.50, 2 do av 850 at \$4.25, 14 stockers av 666 at \$5.50, 16 cows av 1053 at \$5.75; to Breitenbeck 20 steers av 906 at \$7, 4 heifers av 900 at \$6; to Garber 11 butchers av 650 at \$6.25, 7 do av 764 at \$6.60; to Parker, W. & Co. 22 steers av 1106 at \$8.75, 3 do av 1027 at \$7.50, 8 do av 1043 at \$7.50; to Sullivan P. Co. 13 do av 1055 at \$7.75, 1 cow wgh 900 at \$5.50, 5 butchers av 904 at \$6.50, 16 do av 803 at \$6.25, 1 cow wgh 980 at \$6, 19 steers av 971 at \$7.25; to Breitenbeck 15 butchers av 864 at \$6.30; to Bray & B. 22 stockers av 621 at \$5.50; to Parker, W. & Co. 2 bulls av 1015 at \$6, 5 cows av 796 at \$4.25, 3 bulls av 1083 at \$6, 3 do av 970 at \$6, 2 cows av 1110 at \$4.25, 34 steers av 858 at \$7, 4 cows av 940 at \$4.25; to Nagle P. Co. 7 stockers av 891 at \$6.85; to Bray & B. 16 stockers av 740 at \$5.50, 3 cows av 910 at \$5.75, 4 do av 905 at \$5.65, 13 stockers av 590 at \$5.60; to Nagle P. Co. 11 butchers av 924 at \$6.85, 8 do av 840 at \$6.50; to Sullivan P. Co. 13 do av 773 at \$6.50, 10 do av 850 at \$5.50; to Golden 9 do av 850 at \$5.50.

Haley & M. sold Mason B. Co. 8 butchers av 600 at \$5.75; to Walsh 5 stockers av 608 at \$5.80; to Golden 2 butchers av 675 at \$5.35; to Spera 2 steers av 635 at \$6, 1 do wgh 800 at \$6.85; to Thompson 9 do av 910 at \$7, 2 bulls av 1035 at \$6; to Gueritch 5 butchers av 786 at \$5.50; to Sullivan P. Co. 1 bull wgh 1400 at \$6.25, 2 steers av 1090 at \$7.25, 5 do av 880 at \$6.75, 4 do av 1150 at \$8.25; to Nagle P. Co. 2 do av 675 at \$6.10; to Mason B. Co. 1 bull wgh 1320 at \$6.25.

Erwin & S. sold Sullivan P. Co. 4 butchers av 950 at \$6.25, 2 cows av 960 at \$5, 4 do av 975 at \$5.50, 1 do wgh 860 at \$4.75; to Mich. B. Co. 16 steers av 1030 at \$7.35; to Bresnahan 8 butchers av 600 at \$6; to Sullivan P. Co. 4 steers av 995 at \$7.60; to Nagle P. Co. 5 do av 900 at \$7.

Veal Calves.

Receipts 980. The veal calf trade was full steady with last week, bulk of the good ones selling at \$12 per cwt., and now and then a bunch of extra fancy at \$12.25; heavy grades dull at \$6@9.

Sandel, S., B. & G. sold Thompson 3 av 155 at \$10.50; to Sullivan P. Co. 2 av 205 at \$10, 3 av 175 at \$11.75; to Rattkowsky 1 wgh 140 at \$12, 4 av 250 at \$8.35; to Burnstine 8 av 190 at \$10.75, 11 av 150 at \$11.

Sheep and Lambs.

Receipts 2625. The sheep and lamb trade was active, the best selling at \$11; bulk of good lambs at \$10.50; heavy common sheep dull and not wanted. Best lambs \$10.50@11; fair lambs \$9.50@10; light to common do. \$8@9.25; fair to good sheep \$5.50@6.50; culls and common \$3@5.

Sandel, S., B. & G. sold Thompson 84 lambs av 73 at \$10; to Sullivan P. Co. 22 do av 75 at \$10, 53 do av 80 at \$10.50, 95 do av 75 at \$10.50, 30 sheep av 150 at \$5.75, 26 do av 130 at \$5.75.

Hogs.

Receipts 4075. Hogs are again climbing up rapidly in price and have been getting higher every day this week. Today Chicago, with 19,000 is 15c higher than yesterday, the top being \$10.60. Here prices are 10@15c higher than on Wednesday on yorkers and heavy selling at \$10@10.35; pigs holding about steady at \$8.75@9.50.

MICHIGAN CROP REPORT.

(Continued from page 161).

1906 to 1915, by over 1,000,000 tons and the banner year during this period, 1908, by over 500,000 tons.

Apples.—On the first day of July the prospect for an average crop of apples in the state was 76 per cent, but the extremely dry and hot weather during the month of July has very materially damaged the fruit and the prospect has been reduced 17 per cent, which makes the final estimate but 14 per cent above the figures of one year ago.

The prospect for an average crop is 59 in the state, 63 in the southern counties, 50 in the central counties, 63 in the northern counties and 50 in the upper peninsula.

One year ago the average was 45 in the state, 54 in the southern counties, 35 in the central counties, 37 in the northern counties and 50 in the upper peninsula. The winter varieties that promise best are, in the order: Baldwin, Northern Spy, Wagner, Greening, Ben Davis, Tolman Sweet, Russet and Hubbardston. Of the early sorts the most promising are Duchess, Wealthy, Yellow Transparent, Fameuse, Maiden Blush, Red Astrachan, Fall Pippin and Early Harvest.

Peaches.—On April 1 the prospect throughout the state for an average crop of peaches was 76 per cent on May 1 79, on June 1 73 and on July 1 67. The final average for the Michigan Fruit Belt is 61 per cent, which is 12 per cent below last year's figures. The varieties that promise best are, in their order: Elberta, Golden Drop, Kalamazoo, Crawford's, New Prolific, Englemann's Mammoth, Crosby and Hill's Chili.

BROOKWATER DUROC SALE.

Brookwater, the magnet that drew breeders and farmers from twelve different states and sold the offering into seven states is briefly the story of the fifth sale of Duroc Jerseys at the farm, Ann Arbor, Michigan, August 3. Breeders journeyed all the way from Louisiana, Oklahoma, Tennessee, Mississippi, Florida and Kentucky. Other states represented in the audience were breeders from New York, Indiana, Ohio, Illinois and Michigan. Breeders from Michigan, Iowa, Missouri, Oklahoma, Tennessee, Louisiana and Ohio were fortunate in securing some of the stock. While no spectacular prices were reached the sales indicated the uniform merit of the offering. The heaviest buyer was Mr. E. J. McCall, of Louisiana, who took ten head. One more than half of the offering sold to Michigan farmers and breeders. The entire offering, including 13 spring pigs, averaged close to \$60 per head, the bred sows making nearly \$70. This shows that the spring pigs sold much below their value. Notwithstanding this fact, one of the pigs sold for \$102. The highest priced sow went to Mr. McCall at \$136. She was fit to step into the show ring and make a good record for herself and owner.

The owner of the farm is Herbert W. Mumford, Urbana, Ill., Professor of Animal Husbandry, University of Ill.

This is the time of the year when the distant ranges of Idaho, Oregon, Washington and other states are marketing their flocks of lambs born in the spring of the present year, with Idaho leading off at a big distance in furnishing the Chicago market. These range lambs are mostly prime in quality, and they greatly outsell in high prices the less attractive native lambs, which come to market in small consignments usually. A large demand prevails for both range feeding lambs and high-class breeding ewes, but very few are offered, while sellers insist upon such high prices invariably that many intending buyers decide to stay out for the present at least.

All of the early year predictions made by the packers and their hornblowers regarding the tremendous fall in prices for hogs that was coming have been flatly contradicted, and instead of cheap hogs, sales are still made at almost unprecedentedly high values. Recent transactions in hogs on the Chicago Board of Trade were at nearly the highest prices paid this year, with eastern shippers taking the highest-priced butcher weights and paying a discount of about 15c for the best light weight shipping hogs.

ALWAYS SIGN YOUR NAME.

Frequently inquiries are received from subscribers who neglect to sign their name or give their postoffice address. Such inquiries are not replied to under our rules. To receive prompt attention the enquirer must sign his name and give his postoffice address. The name will not be published if request for this omission is made.



WHAT ONE MAN DID WITH MEDUSA

Mr. Edward A. Kuharske, of Rockford, Ill., is a leader in the advanced method of concrete construction for the farm. He believes in having his farm equipment up-to-date and practical—and his neighbors have not been slow in following his example. Mr. Kuharske has made his neighborhood a typical Medusa Colony.

A horse barn, milk house, water tower, a silo and a barnyard fence—all made with Medusa Waterproofed Gray and faced with Medusa White Portland Cement—are some of the recent improvements made by Mr. Kuharske. He writes "Medusa Portland Cement has always given the very best results in silos, foundations and for various farm structures."

What he has done—you can do. You can make your concrete work sound, permanent and waterproof and beautiful by using the Medusa Cement products with

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Makes your concrete structures weatherproof—and you use a leaner mix. It is the cheap, efficient way for making concrete last.

We also make

Medusa Waterproofed Portland Cement

(Gray or White)

a mixture ground in the factory in the right proportions for any kind of work and guaranteed watertight when properly used.

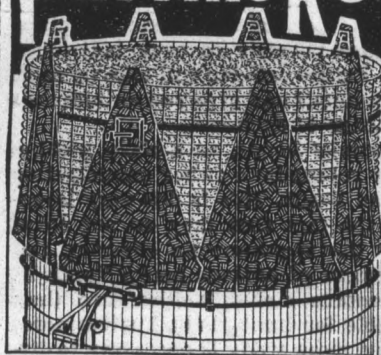
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Write today for free booklets, "Concrete on the Farm," "How to Make Concrete Watertight."



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THE McCALLUM ROAD PLANE

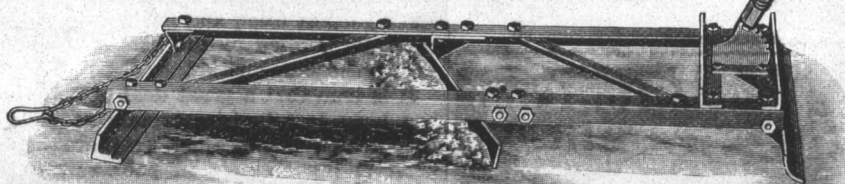
The Implement that gives the cheapest and best road maintenance. It will fill the road ways, chuck holes and ruts. Will work the surface material toward the centre of the road. The depth of cut is controlled by lever deflecting rear blade. The plane is ten feet long by five feet wide. Weight 400lbs. Drawn by two horses or tractor. Giving entire satisfaction wherever used. Try one, you can't afford to be without it. After a 10 days trial if not perfectly satisfactory return it to me at my expense. The Oakland County highway Commission own and are using 20 of these machines.

ANGUS McCALLUM,

PONTIAC, MICH.

Pontiac, Mich., January 29, 1916.

Dear Sir:—During the past year we have had the opportunity of trying out several styles of road floats and planes and we do not hesitate in saying that the McCallum plane is the only one that has met or exceeded our expectations. We are especially satisfied with its work on hard gravel surfaces. Its length tends to produce a uniform cutting and filling which leaves a smooth and true crown. The plane is not unwieldy and can be adjusted to meet various requirements. John A. Adam, Thos. Lytle, Robt. Garner, Commissioners; M. DeGlopper, Engineer. Oakland County Road Commission, Pontiac, Michigan.



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Industrial Bonds

OUR readers will recall past articles concerning municipal bonds and railroad bonds, and this article deals briefly with the third class of investments known as "Corporation" or "Industrial" issues.

In this division are included a great many different character of securities, covering a great many diversified activities. In order to intelligently study and analyze this type of security an investor need have, more particularly, a good amount of sound common sense and business judgment, and the scientific application of economic facts has a less important part to play in the loaning of money to industrial concerns than to the other class of borrowers mentioned in previous articles. The moral hazard, or personal risk, is a very important element in this field of investment.

The more common "Corporation" or "Industrial" bond is that issued by a manufacturing company, or business concern, to either provide funds for further expansion and development, or to refund or pay off its floating debt. There have also been cases where mortgages have been placed to cover the cost of new properties or to buy out new companies. There are also cases where this money has been borrowed to acquire the interests of other stockholders; in fact, there are a great many legitimate uses to which money may be diverted, provided the end in view has for its purpose, the further progress of the company.

The great mass of issues, such as coal bonds, timber bonds, steamship bonds, steel bonds, real estate bonds, and any number of issues put out by companies engaged in the manufacturing business, come under this head. It is, of course, very difficult to treat on each type of security in an article attempting to deal with them as a whole, because the considerations affecting them are peculiar to each individual type. Future articles will take up each type in detail and give you an intimate knowledge of each one.

Industrial bonds, as a class, yield a higher return than either municipal or railroad bonds. This is due very largely to the fact that they do not come under the requirements covering the investment of savings banks' funds in the eastern states, neither are they available for trust funds. Furthermore, because more study is necessary to discriminate between the good and the bad, the investor wants added return on his money.

The writer, personally, believes very sincerely in the merit of a good industrial bond—where the company has fixed assets of three or four times the amount of the issue; where established earnings, over a period of years, show, after depreciation, ample to cover the interest requirements and the maturity payments; where the business is concerned with a standard commodity or necessity of life, and not a luxury. The ability to compete with others in the same line of business is an important item, and is one which is carefully studied by the bankers sponsoring these securities.

It is true that a great deal of money has been lost in investments in poor corporation bonds—just as there has been in investments in poor railroad and municipal issues, but, on the other hand, when the selection has been well made, and the recommendations taken of a reliable banker or bond house, the investor has secured an unusually good return on his funds, and at the same time enjoyed a substantial profit in a great many cases, where the bonds have been called in advance of maturity or redeemed by operation of the sinking fund.

The larger issues of this class are very often listed on the New York, Boston and Cleveland Stock Exchanges, and actively dealt in through giving them a wide and marked degree of convertibility. But the significant fea-

ture in these bonds consists in the fact that a great many local issues are sold by the smaller houses to their clients, and the bonds are held by the investors until maturity. As the issue is reduced through serial payments and operation of the sinking fund, the margin of equity to the loan increases, and in this way, the bonds become more desirable, are more eagerly sought after by other investors, and may be readily converted into cash—often at a profit.

J. R. MILLIGAN,
Financial Editor.

THE BIGGEST BUSINESS.

(Continued from page 154).

her poor little pride is hurt. I've seen 'em both in action, and so have you. And we made out a list—in between doughnuts—of them sixty-one women and girls and children that was working in Friendship Village, and we divided up the list according to which of us was best friends with which of 'em—you know that's a sort of thing you can't leave out in the sort of commercial enterprise we was embarking on—and we agreed to start out separate, right after supper, and see what turned out to be what.

I went first to see Mary Beach, little David Beach's sister. They lived about half a mile from the village on a little triangle of land that had been sold off from both sides and left because it was boggy. They had a little drab house, with thick lips. David's mother set outside the door with a big clothes-basketful of leggings beside her. She was a strong, straight creature with a mass of gray hair, and a way of putting her hands on her knees when she talked, and eyes that said: "I know and I think," and not "I'm sure I can't tell," like so many eyes are built to represent. Mary that I'd come to see might have been a person in a portrait—she was that kind of girl. And little David was there, laying sprawled out on the floor taking a clock to pieces and putting the items in a pie-tin.

"You won't care," says Mis' Beach, "if I keep on with the leggings?"

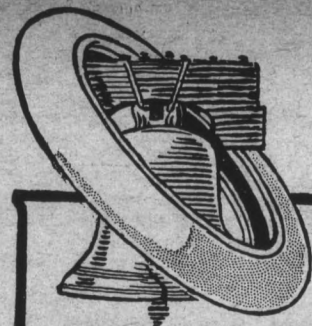
"Leggings?" says I.

She nodded to the basket. "It's bad pairs," she said. "They leave me catch up the dropped stitches."

"How much do they give you?" says I, brutal. If it had been Silas Sykes I'd never have dreamt of asking him how much anybody give him for anything. But—well, sometimes we wound folks and hang folks and ask folks questions, merely because they're poor. "Six cents a dozen," she says.

I remember they had a fly-paper on the window sill, and the caught flies and the uncaught ones whirled and buzzed. I can see the room: The floor that sagged, the walls that cracked, the hot, nameless smell of it. And in it a woman with the strength and the figure of a race that hasn't got here yet, and three children—one of them beautiful, and David, taking a clock to pieces and putting it together again without ever having been taught. You know all about it—and so did I. And while I set there talking with her, I couldn't keep my mind on anything else but that hole of a home, and the three splendid beings chained there, like folks in a bad dream. Someway I never get used to it, and I know I never shall. It makes me feel as if I was looking on the inside of a table spoon and seeing things twisted, and saying: "Already such things can't be. Already they sound old and false—like thumb-screws!"

And the worst of it was, David's mother was so used to it. She was so bitter used to it. And, oh—don't things turn round in the world? A few years before if somebody like me had gone to see her, I'd of been telling her to be resigned, and to make the best of her lot, and trying to give her to understand that the Lord had meant it personal. And instead, when she said she was doing nice I longed to say to her: (Concluded next week).



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32 by 8 1/2	8.50	9.75	2.60
33 by 4	11.95	15.65	3.30
34 by 4	12.10	13.95	3.40
35 by 4	12.25	14.25	3.60
36 by 4	12.75	14.75	3.60
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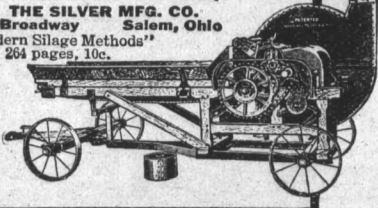
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WHEN GRANGERS GET TOGETHER.

The following topics have furnished entertainment and instruction in the Grange meetings of our county. They are passed on to other grangers for what they are worth:

How much insurance should the average farmer carry?

Which offers the cheapest and most satisfactory protection, an "old line" or a local mutual company?

Is it good policy to ground fence wires?

What is the best method of ridding a place of rats and mice?

How many cats should the average farm support?

How many dogs can the average farmer afford to keep?

What is the best fuel for warm weather cooking?

How can we make work easier at harvest time?

Do we need three hot meals in hot weather?

Does it pay to keep pure-bred poultry?

Is company ownership of threshing machines, shredders and silo fillers satisfactory to all concerned?

What is the best time to swat the weeds?

Is it wise to borrow money to buy pedigreed stock?

Illinois. LULU G. PARKER.

LENAWEE POMONA.

Lenawee County Pomona Grange met at Morenci, Thursday, August 3. The stage in the opera house was prepared for the rendering of the fifth degree, which ceremony took place in the forenoon. The degree was conferred upon sixteen candidates and the ceremony was very impressive. The work was in charge of A. E. Illenden, who is a past master in this particular line of Grange endeavor.

A most excellent dinner was served at the Grange hall and a very large company partook of it.

The public exercises of the afternoon began with music by the orchestra and when the master of Morenci Grange rose to give the address of welcome the opera house was well filled. The response by Hon. Geo. B. Horton was characteristic of the man. He spoke of the great objects for which the Grange was instituted and urged more earnest and practical effort along all lines of Grange work.

The addresses of the day were delivered by Mrs. O. J. C. Woodman, chaplain of the State Grange, and the writer.

It was a pleasure to meet the patrons of Lenawee county in Pomona and to see and contemplate the growth of the order in that locality.

The work of a few faithful patrons who for many years have borne the Grange standard, is bringing forth good fruit. Some of them have already borne the burden and heat of the day. May their efforts in behalf of the order never be forgotten and may their last days be their best.

W. F. TAYLOR.

Farmers' Clubs

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

A SUCCESSFUL LYCEUM COURSE.

The time for the winter lyceum course is drawing near, and by request of the editor, we will attempt to tell the story of the five years of successful programs, carried on by the Looking-glass Valley Farmers' Club.

We are a farming community within about a three-mile radius of the little village of Wacousta, and our Club has an average membership of about 75 families.

The aim of the Club has always been to raise the standard of farming and the farmer, in both of which the thinking men and women of our community agree we have been successful.

The lecture course entertainments were planned and carried out to teach our people, especially the boys and girls, to know and appreciate clean, instructive, and healthy forms of amusement.

We began with a committee of three which has been increased to six, who look after all the details, buying the course, selling the tickets, acting as ushers, doorkeepers, and handy men in general.

The rules which we consider have kept our course from all trouble are, first, all profits are used for the lecture course, for example, we began with a course of four numbers costing \$205, rent of church and incidentals \$15, cleared about \$50, \$30 of which was applied on the purchase of a church piano, which is one of the absolute necessities in carrying on a course. Each year we have bought higher-priced talent, and our 1915 course included five numbers costing \$270. The second rule is to sell reserved seats. This is work, but is very important. The third, sell, deliver and count your cash before your first night. The fourth, be sure and secure a committee that is not afraid to work without wages, and not sensitive to adverse criticism.

If you have a few people with the best interests of your community at heart, and who are willing to boost a lecture course, do not let the winter go by without placing before your young people concerts and lectures, which they will soon be unable to do without.

Our committee will gladly answer in detail any questions which will help make the way clearer.

Do not hesitate because some think it extravagant, because you are near a larger town, and least of all, because there is too much going on now, all of which are common excuses.

Canvas your territory, plan out your course, go ahead, and make the work of your Club count for something in your community.

BEL MAIER, Secretary.

CLUB DISCUSSIONS.

Young Folks' Day.—In spite of the rain Thursday, July 20, nearly half a hundred people participated in the July meeting of the Indianfields Farmers' Club at the pleasant home of Mr. and Mrs. D. E. VanBuren. The young people had charge of the program and recitations were given by Milton VanBuren, Hazel, Sada and Hugh Black and Dorothy Taggett, all of which were good and deserved the encore they received. Music by the Club and an interesting question box followed. The annual picnic of the Club will be held at the home of Mr. and Mrs. Horton Moore, August 17.

Will Hold Big Picnic.—Members and guests of the Commonwealth Club spent a delightful evening at the new home of Mr. and Mrs. James Reid, south of Vassar, July 20. Guy Baker was in charge of the meeting, and the program included a recitation, "When the Circus Comes to Town," by Bessie Reid; one by Mrs. Greenough, "An Inventor's Wife," both of whom were obliged to respond to recalls. J. K. Osgerby made some excellent remarks concerning the training of children and gave his views regarding what a boy should be. A number of the Vassar council tendered the use of the fair grounds there for the annual picnic of the Club which will be held Aug. 20.

MICHIGAN STATE FAIR

DETROIT SEPT. 4-13

"STILL GROWING"

Annual Review of Michigan's Progress

Notable attractions and exhibitions will feature Michigan's great exposition, which will more truly represent than ever before the wonderful Agricultural and Industrial progress made by the people of the Wolverine State during the past year.

Million Dollar Live Stock Show

Prize winning horses, cattle, sheep and swine will compete in the various classes for premiums valued at thousands of dollars. The livestock parade in front of the grand stand will be a daily feature the first six days of the Fair.

Stupendous Machinery Display

Most modern types of farm machinery, including gasoline engines, cream separators, silo fillers, farm tractors and other time saving inventions of mechanical experts, will attract the attention of Michigan rural residents especially. The display of machinery and mechanical appliances will set a new record for size and interest it will create.

Other Notable Attractions

Included in the list of features are Better Babies' contest, automobile show, harness horse racing, Boys' State Fair school, day and night fireworks, horse polo, chariot races, running races, poultry and pet stock show, athletic events, domestic exhibits, auto polo, entertaining midway shows, girls milking contest, day and night horse show, automobile races, trained animal acts, wild fowl exhibits, demonstrations by physical culture, dairy, apiary, horticultural and agricultural experts, and superb displays of the products of Michigan's farms and factories.

You are invited to spend your vacation at the Michigan State Fair grounds. A tented city with all sleeping comforts, and properly policed, awaits you. There is a hospital, and restroom for women and the little ones, with expert attendants in charge.

G. W. DICKINSON,
Secretary-Manager





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POULTRY.

BARRED Rocks Parks 200 Egg Strain with records to 230 eggs a year—\$1.50 per 15. Delivered. By Parcel post. Fred Astling, Constantine, Mich.

Barred Rock Eggs, Cock birds, hens. Four pullets laid 950 eggs in one year. **W. C. COFFMAN, BENTON HARBOR, MICH.**

GET YOUR ORDER IN EARLY FOR Cockerels from Cousins Northern King Strain Barred Rocks. Write David W. Cousins, North Port, Mich.

Buff Leghorns. Exclusively. Now is the time to buy pure bred stock at a big reduction in price. Dr. William A. Smith, Petersburg, Michigan

JOHN'S Big, beautiful, hen-hatched Barred Rocks. Eggs, 30, \$2.50; 100, \$7.00. Select matings 15, \$4.30; \$7.00, all postpaid. Photos, Circulars. John Northon, Clare, Mich.

FOR SALE Pure bred S. C. Buff Leghorns and white Plymouth Rock cockerels. Kietzlen & Webster, Bath, Mich.

Hatching Eggs Buff, Barred, Columbian, Partridge, Silver and White Rocks Pekin and Rouen Ducks, Sheridan Poultry Yards, Sheridan, Mich. **Chickss Duckling**

Fowlers' Buff Rocks. Prices reduced one half. Utility eggs \$7.50 for 15, \$1.50 for 30, \$2 for 50, \$3.50 for 100. **R. B. FOWLER, Hartford, Mich.**

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

ORPINGTONS: —White, Single-Comb Kellers, 8 wks. old, chix Cockerels 75c., pullets \$1. up. **M. E. THOMPSON, Redford, Mich**

Pine Crest, S. C. White Orpingtons. Bargain, 4 yearling hens and cock, \$8, \$12 and \$15, just one half what they will cost next spring. **MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.**

300 R. I. RED HENS, for Price List. Sell your mongrels and buy pure bred R. I. Reds. **INTERLAKES FARM, BOX 39, LAWRENCE, MICH.**

Rose and Single Comb Reds, young and old, for sale. Correspondence as to your Red needs invited. **JENNIE BUELL, Ann Arbor, R. 8, Michigan.**

Rose Comb Brown Leghorns Kulp and Gale strains \$2.50 per 100 eggs. Cockerels 50c each. **CLAUDIA BETTS, Hillsdale, Mich.**

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

RHODE ISLAND REDS AND PLYMOUTH ROCKS. Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 5 to 10 lbs., eggs 15 for \$1.00, 100, \$5; 120, \$6. Mammoth Bronze Tom Turkeys, 8 to 38 lbs. according to age \$6 to \$25, 10 eggs \$3. **A. E. Cramton, Vassar, Mich.**

S. C. WHITE LEGHORN HENS We offer 800 choice S. C. White Leghorn yearling hens at a bargain. These hens have composed our breeding flock for the past season and are the pick of our flocks in size, vigor and egg production. We are making price of \$80 per 100. In lots of 50 or less \$1.00 each. We will be glad to furnish references on our stock. Write Krentel Bros., East Lansing, Mich. Box 624.

S. S. Hamburg Eggs reduced prices, balance of season. Free delivery, R.C. white Leghorn hens \$1.00, Belgian Hare Bucks \$5.00 with pedigree. **RIVERVIEW FARM, Vassar, Mich.**

SILVER GOLDEN AND WHITE WYANDOTTES. Eggs from all matings, 150 per 15, \$2.50 per 30 until July 1st. **C. W. Browning, R. 2, Portland, Mich.**

White Wyandotte Cock & Cockerels. Eggs \$1.25, \$3, per 15, \$4 per 50, \$7 per 100. **DAVID RAY, 202 Forest Ave., Ypsilanti, Michigan.**

WHITE WYANDOTTES. Eggs \$1.50 per 15, \$2.50 per 30, \$7.00 per 100. From choice stock. **A. FRANKLIN SMITH, Ann Arbor, Michigan.**

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

FOX, COON, SKUNK, HOUNDS Broke to gun and field, and guaranteed. Fox, coon & rabbit hound pups, from the best of stock—\$5.00 each. Stamp for photos. **H. C. Lytle, Fredericksburg, Ohio.**

Collie Pups \$5 each. One white Collie, \$20. Good workers. **WARD DUNSTON, Clarkston, Michigan.**

PURE BRED SCOTCH COLLIE PUPS, Belgian Hares and R. and S. C. R. I. Reds for sale. Good quality, prices reasonable. **O. E. Hawley, Ludington, Mich.**

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ABERDEEN-ANGUS HERD ESTABLISHED IN 1900. **TROJAN-ERICAS** and **BLACKBIRDS** only. Also breeders of **Percheron, Hackney and Saddle Horses**. **WOODCOTE STOCK FARM, Ionia, Mich.**

ABERDEEN ANGUS

We have a choice lot of Bull Calves, that are 6 to 12 months old and another crop coming. I will be pleased to have you visit our farm, where we have a stock show every day; we will also have a show herd at the Michigan State Fair. **U. L. CLARK, Hunters Creek, Mich. SIDNEY SMITH, Manager.**

Pure Bred Aberdeen Angus, a few bulls and heifers one year and older at \$100 each. **GEO. HATHAWAY & SON, OVID, MICHIGAN.**

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.

VILLAGE FARMS, Incorporated
Grass Lake, Michigan,
GUERNSEY CATTLE
BERKSHIRE HOGS

Watering the Farm Flock

THE farm flock will need an abundant supply of fresh water during the summer and as other duties will be demanding much attention the farmer will probably be too busy to water the birds more than twice each day. For this reason large receptacles are much better than the shallow pans which are soon scratched full of litter. An ordinary water pail placed on a raised platform will be the most satisfactory for watering the old birds and possibly one pail per day placed in a shady spot will be enough for 100 hens. A solution of permanganate of potash should be used at all seasons of the year as drinking water in an impure condition is a serious menace and results in much disease. Keep a large bottle of thick permanganate solution near the well and add enough to make the water dark red whenever the drinking pail is filled with fresh water.

A dead hen is not necessary to prove to you that the hens need a cleaner water supply. Many times dead hens are better than unproductive hens which waste the feed and it is the flock just sick enough to eat without laying which will bankrupt the prac-

tical poultryman. In poultry farming it is necessary to learn that preventing disease is much more important than curing it and the prevention begins with the clean water pail.

Young chicks cannot drink from a large pail, and even deep pans may be the cause of drowned chicks. Shallow pans soon become very unclean and the only solution is the home-made fountain. Take a thoroughly clean gallon paint can or a lard pail and drive a spike through the side two or three times about half an inch from the top. Fill this with clean water and invert it in a shallow pan, just a little larger in diameter. The chicks will then have fresh water for several hours if the receptacle is placed in a shady spot and very little of the litter will be scratched into the dish if it is placed two or three inches above the level of the brooder floor. It is also advisable to use permanganate of potash in the water fountains used for young chicks. The dishes should be scalded frequently. The best of poultry feeding will not make a flock profitable unless the fowls have constant access to a supply of fresh clean water.

Ingham Co.

R. G. KIRBY.

POOR GROWTH OF FEATHERS.

Last year and this year we have had so many of the Barred Rock chicks to stay naked; they are even innocent of any down and the skin is shiny and glossy and they do not grow. I feed milk mash, rolled oats, pinhead oats, chick feed, beef meal and raw ground bone in the dry mash, and some beef scrap, all the grass clipping, radish tops and lettuce that I can spare. They have a run 10x40 ft. and I have 200 hens in it. I have a good warm brooder coop 10x12 ft., with cement floor, plenty of straw on floor, and I had been heating it with a kerosene stove and later with a lantern. I give charcoal and grit too. Can you tell me the cause of this trouble?

Muskegon Co. J. T. M.

The reason for your chicks not developing feathers as they should is that you are feeding them too narrow a ration. The ration you are feeding them has too much protein or nitrogenous matter, and not enough of the carbohydrates. Carbohydrates and mineral matter are essential for the development of feathers.

The milk, beef meal and raw bone are all strong protein feeds. The oats are also quite strong in protein. I would suggest that you eliminate the ground bone or the beef meal and replace some of the oats with finely cracked corn. In most poultry rations nearly one-half of the ration consists of corn.

Keeping the chicks in a brooder which is too warm may also have some effect upon the production of feathers, but we believe in your case the ration you are feeding is most to blame.

APOPLEXY.

I have had trouble with my hens dying this spring and also last year. They seem to be in good health but die suddenly mostly on the nests. Some have dropped from the roosts dead. After they are dead the combs and head turn dark. Do you think it is cholera, and if so what should I do for them, and what should be used to disinfect? The feed during winter months was mostly boiled oats, but now I do not boil their oats and am feeding some corn. Please give me your advice as to what the trouble is, and also what to do for it. **Newaygo Co. F. R.**

The cause of your hens dying was apoplexy. This trouble is rarely noticed in its early stages, and the first indication of anything wrong is the finding of the dead hens under the roosts or on the nests. Death is due to rupture of blood vessels in the head, which may be caused by some undue excitement which arrests blood pressure, or improper diet which may also have effect upon the pressure of the blood.

In your case, the trouble is undoubt-

edly one of diet, and I would suggest if you are feeding a ration consisting of grain, that you cut down the amount of oats, and add if possible, wheat to the ration. Where a large amount of oats is fed, the hulls of the oats are likely to have an irritating effect on the system, and this would have some effect on the blood pressure.

In addition to the grains, plenty of cooling green feeds should be given. Anything in the green vegetable line, or if the hens can get plenty of grass it will furnish the need in this regard. There is no treatment for apoplexy, and commercial remedies purporting to cure this disease have little effect. The best way to get rid of the trouble is to keep the hens from excitement and change their feed as suggested above.

SUMMER CHICKS.

One year I was rather unfortunate in hatching early chickens. I had the opinion that it was useless to hatch chicks later than June so I didn't set any more hens. In August several hens that had stolen their nests came off with large broods of chickens. I hated to think of them dying without an effort to save them, so I sprayed the coops and dusted the hens with louse-killer. Otherwise than spraying the coops often, I didn't give the chicks a bit of extra care, but they seemed to grow faster than spring chickens. By the time cold weather came they were well feathered and perfectly able to withstand the cold. Some of the largest roosters were sold in March, the smaller ones made excellent fries in the summer, while the pullets were ready to lay when the old hens were slacking up.

If anyone is going to set hens for late hatching care must be exercised with regards to placing of nests. On the ground is the most desirable sitting place. The nests and hens should be sprayed with louse killer. The hen should have fresh water and green food as well as dry. After hatching the coops should be sprayed and the hens dusted again with louse killer. Never put chicks in dirty parks left by the older chickens. It is better to have separate runways for the older chicks as they eat all the insects away from the smaller ones.

If late chickens are given good developing food, plenty of fresh water, well ventilated and clean sleeping places, there is no reason why the late hatched chick will not be as healthy as the spring ones and he certainly is not any harder to raise.

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BEACH FARM GUERNSEYS

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

CAMPBELL & ANGEVINE, Coldwater, Michigan.

Reg. Guernsey Bulls, serviceable age, great grand sons of Gov. Chene, also grade Guernsey and Jersey heifers 6 wks old \$20 each. **Avondale Stock Farm, Wayne, Mich**

Guernsey (May Rose) Bull for sale, born Sept. 5, 1913. G Splendid animal in every respect, Dam 520 lbs. fat class F. J. K. Blatchford, Auditorium Tower, Chicago, Ill.

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

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

Guernsey Bulls sold three last 10 days—One left Gr. Son Pauline Spootwood. He is a beauty—and you can buy him. **J. M. Williams, No. Adams, Michigan**

Herefords—One Bull Calf. **ALLEN BROS. PAW PAW, MICH.**

HEREFORDS: 4 Bulls, 4 Heifers. **EARL C. McCARTY, Bad Axe, Michigan.**



Purebred Registered HOLSTEIN CATTLE

Holsteins, the best dual purpose breed.

Half a million purebred Holsteins. There are in the United States nearly half a million purebred Holstein-Friesian cattle and this number is being increased at the average of sixty thousand annually. To the man who considers dairy farming as a business proposition, the fact that these figures represent the actual growth of the "Black-and-White" breed in this country since 1871 is a powerful testimony that the profits which breeders and owners of Holsteins enjoy are most satisfactory. Investigate the big "Black-and-Whites."

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

Do You Want A Bull?

Ready For Service.

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

EDWIN S. LEWIS, Marshall, Mich.

HOLSTEIN BULLS FOR SALE

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

FOR SALE

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

HOLSTEINS, a nice straight deep bodied, blocky built bull calf, born Oct. 5th, 1915. His 7 nearest dams have A. R. O. records that average butter 7 days 23.86 lbs., milk 53.36 lbs. **W. B. READER, Howell, Mich.**

30 lb. bull for sale, 2 years old, by a son of King of the Pontiacs, Dam sold for \$100 in Detroit sale. **Ferd. J. Lange, Sebawaing, Mich.**

\$75 gets **Hazel-Jet** grandson of **Maplecrest De Kol** Parthena and **Pontiac Maid** 30.2 lb. Born March 26. Dam **Pontiac Hesperia** 2nd, 14.89 lb; 436.6 lb; her dam's sire brother to sire of world's record cow 31334 lb milk 1 yr. **M. L. McLAULIN, REDFORD, MICH.**

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"TOPNOTCH" Holsteins

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

FOR SALE Two Holstein Bull Calves

6 months old from 20 lb. dams. **FREEMAN J. FISBECK, Howell, Michigan.**

Grade up your herd with one of our Holstein bulls. Their six nearest dams on the sire's side average 24 lb butter in 7 da. The semi-official yearly records of three of these dams, including two two-year old heifers, average 32 lb. of butter and 15,000 lb. of milk. Six to nine months of age and from A. R. O. dams. **Peaceland Stock Farm, Three Rivers, Mich. Chas. Peters, Herdsman. O. L. Brody, Owner, Fort Huron, Mich.**

HOBART W. FAY, MASON, MICH. REGISTERED HOLSTEINS ESTABLISHED 1904

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

Reg. Holstein Bull Calf, 2 nearest dams average 90 lb. milk per day **Pontiac Korndyke** and **Hengerveld DeKol** breeding. Prices right. **John A. Rinke, Warren, Mich**

Holstein Calves, 10 heifers, and 2 bulls 15-18th pure, 5 weeks old, beautifully marked, \$20.00 each, crated for shipment anywhere. **Edgewood Farm, Whitewater, Wis**

Veterinary.

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

Ringbone.—My four-year-old mare had ringbone on each fore leg and our local Vet. has been applying blisters, without relieving her lameness. G. McD., Port Austin, Mich.—It must have occurred to you that exercise either slight or severe caused the ringbones; consequently the most important part of treatment should be absolute rest and preventing concussion; therefore, without giving the animal rest, you should not expect a recovery. Clip off hair and apply one part red iodide mercury and four parts lard every two weeks. Keep the horse perfectly quiet and feed him green food, or perhaps you had better have him fired, then give him rest. It is well to keep in mind that many cases of low-down ringbone are incurable and the animal will usually go stiff or lame permanently.

Tongue Loller.—I have a four-year-old mare which for the past two months hangs tongue out of mouth when she is in harness. J. S. Harrisville, Mich.—Consult your harness maker and he can supply you with a bit, made to prevent tongue lolling.

Umbilical Hernia—Sore Teats.—I have a colt that was foaled May 14, which has a soft bunch on navel which our local Vet. calls a rupture. He advises a surgical operation as a remedy. Also have a cow that is troubled with sore teats, and I might add that this same cow is a hard milker. A. S. Peacock, Mich.—Your Vet. is right, but you had better wait until cool weather before operating on colt. Apply equal parts glycerine and lemon juice to the sores on teat twice a day.

Imperfect Teat.—I have a heifer that dropped her first calf about two months ago. She is an easy milker, but sprays milk from one hind teat. I was advised by our local Vet. to insert a smooth plug of wood or bone before milking, and leaving it there for perhaps 30 minutes, but this seems to do no good. V. K., Plainwell, Mich.—Use a milking tube.

Bunches on hind Leg.—One of my cows has small bunches on hind leg and applying blisters fails to reduce them. These bunches appear to be underneath the skin. I also have a colt that I believe is troubled with worms. M. J. H., Kent City, Mich.—Apply tincture of iodine to bunches three times a week. Mix together equal parts of powdered sulphate of iron, salt and ground gentian and give yearling colt a teaspoonful at a dose once or twice a day.

Pigs Have Worms.—We have a number of white pigs eight weeks old that are troubled with worms. These pigs are becoming stunted in growth. R. B. Reading, Mich.—Mix together equal parts of fluid extract spigelia and fluid extract of senna—give each pig half a teaspoonful two or three times a day until purging takes place, then discontinue its use.

Worms.—My cats are troubled with worms and on account of it their bowels are altogether too loose. Mrs. J. D., St. Charles, Mich.—For each one pound that your cat weighs give one grain of powdered kamala in a tablespoonful of milk twice a day. Also give half a grain of salol at a dose once or twice a day to each full-grown cat.

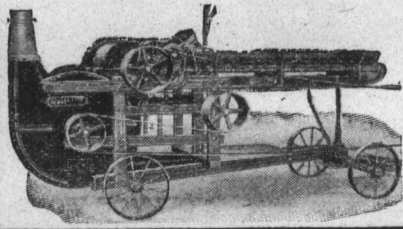
Suppurating Foot—Sweeney Shoulder.—I have a seven-year-old horse that had gravel in foot, causing suppurating; called a Vet. who prescribed poultices and opened up foot freely. The whole frog of foot sloughed off. I applied butter of antimony, but this failed to help him much. I am now treating him for sweeney, have blistered shoulder but would like to know if this is the right treatment. I need the horse to work badly. W. B. Crosswell, Mich.—If you have not already done so, discontinue poulticing foot and apply tincture iodine occasionally to the sore parts, not forgetting, however, to keep the foot clean and if he is not much lame, moderate work will perhaps do him no harm. Apply to shoulder equal parts turpentine, aqua ammonia and olive oil two or three times a week.

Scurvy—Ringworm.—I have a nine-month-old bull that has been running in pasture among other cattle; he has sores on forehead, especially above the eyes and on lids, which appear to be scurvy, or scabs, and is very painful. L. J. J., Breedsville, Mich.—Apply iodine ointment occasionally, but first of all wash the scurvy parts or apply olive oil to soften scabs, then paint the diseased parts with tincture iodine. Give bull 2 drs. of Fowler's solution at a dose in feed or water three times a day.

ROWELL "AUTOMATIC" SILO FILLERS

Designed for perfect efficiency and built for service by a pioneer organization of over fifty years' experience. Satisfied users all over America who claim the Rowell the perfect silo filler and urge its exclusive use. The Rowell is the most complete line in point of sizes and equipments in the United States. Complete stocks of machines and repair parts are carried at distributing points to insure quick delivery to all buyers. Send for our Free Catalog and see the features that have made "The Rowell Automatic" supreme.

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1114 Lincoln Ave., Waukesha, Wis.



FIRST \$100 CHECK

Gets 15 month old, Handsome Thoroughbred Holstein Bull. World record sire. Dam 25 lb. 3 year old. Have three as good, same age. C. E. Winters, Augusta, Mich.

FOR SALE: Five Registered Holstein cows, twenty brood sows, three high class road mares with speed and broke for a woman to drive. Fearless of all objects. Some high bred colts, sired by the great Stallion, Marble Grit. A drouth here has caught us overstocked and short of pasture. Prices very reasonable on above stock. Address, STARKWEATHER STOCK FARM, NORTHVILLE, MICHIGAN.

ONLY \$50 DELIVERED: Handsome Holstein bull calf, 4 white; sire 25 lb. butter bull, dam 15 lb. 3 year old. Large and heavily boned. ROUGEMONT FARMS, Detroit.

FOR SALE: Two Holstein Bull Calves, one and six weeks old, nicely marked, eligible to registration. Address Joseph M. Frost, Superintendent, Industrial School for Boys, Lansing, Mich.

FOR SALE: Two Reg. Holstein cows, due to freshen in Aug. Age 4 and 13 yrs. Both have A. R. O. records. Price for both \$325. Chas. L. Cook, Fowlerville, Mich. Box 438.

Little Farmstead Jersey Cattle. Bull calves from R. of M. Cows, also heifer calves and several bred heifers for sale. Colon C. Little, Cooperaville, Mich.

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

THE WILDWOOD JERSEY FARM

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

Hillside Farm Jerseys 10 mos. old, solid color bull now offered for sale. Dam is a R. of M. cow with record of 546 lbs. of butter as a 3 yr. old. He is a fine individual. Price right. C. & O. Deane, Ypsilanti, Mich.

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

JERSEY BULL CALF FOR SALE

Ready for service. Majesty—Raleigh breeding. Meadowland Farm, Waterman & Waterman, Ann Arbor, Mich.

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

BIDWELL SHORTHORNS



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

Shorthorn Cattle of both Sex for Sale

W. W. KNAPP, Howell, Michigan.

DAIRY BRED Shorthorns of best Bates strains, young bull 8 months old for sale, price \$150. J. B. HUMMELL, MASON, MICHIGAN.

FOR Sale—Reg. Short Horn Bulls by Maxwalton 1st Monarch 2nd, a son of Avondale, from 8 to 10 mos. old. John Schmidt, Reed City, R. No. 5, Michigan.

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

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

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

Registered Shorthorn Cattle, young bulls and heifers \$100.00, bred cows and heifers \$150.00. Write, W. J. BELL, ROSE CITY, MICHIGAN.

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

Red Polled Cattle. Have a fine young bull and O. I. C. pigs for sale. John Berner and Son, Grand Ledge, Mich.

FOR SALE:—16 mo. 5 heifers. Majesty Int. Prince Bull RAY BAKER, HAMBURG, MICHIGAN.

HOGS.

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

SWIGARTDALE FARM HOLSTEINS.

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

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

Duroc Jersey Herd Boars

Special Offering of High Class Fall Boar Pigs. Breeding and Individuality good enough for breeders who appreciate the best.

Also some good farmer's boars. This is the best lot of fall pigs we have ever had to offer. A cordial invitation is extended to visit the farm and inspect the stock. If you wish one of the best young Jersey bulls in Michigan we have him for sale. For further particulars, address,

Brookwater Farm, Swine Dept., Ann Arbor, Mich.

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

Berkshires. I have 6 choice fall gilts bred for Sept. farrowing at \$25 each for immediate delivery. A. A. PATTULLO, R. 4, Deckerville, Mich.

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

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

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

DUROC JERSEYS

A choice lot of spring pigs, both sex, pairs and trios, not akin. Prices reasonable. Send for pedigrees. THE JENNING'S FARMS, R. F. D. 1, Bailey, Mich.

Duroc Jersey Boars and Red pigs, price, weight enough to head your herd. Will sell Eureka Cherry King 67145. Ask about him. W. C. Taylor, Milan, Mich.

Duroc Jerseys—Fall and spring pigs either sex, from choice strains. S. C. STAHLMAN, CHERRY LAWN FARM, Shepherd, Michigan.

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

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

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

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

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

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

DUROC Jerseys Gilts of the large heavy boned type bred to a Son of Orion Cherry King the greatest boar of his breed. Bred for early Sept. farrow. F. J. DROTT, R. 1, Monroe, Michigan

Durocs. Sows to farrow Aug. and Sept., spring pigs. Either sex. Percheron Stud colt one year old. E. J. ALDRICH, Tekonsha, Cal. Co., Mich., Bell Phone.

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

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

CHESTER WHITES Sows bred for Sept. farrow, spring pigs in pairs, not akin. F. W. ALEXANDER, Vassar, Mich.



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

O. I. C. BRED GILTS, Also young boars shipped C. O. D. J. CARL JEWETT, Mason, Mich.



O. I. C. Swine—A nice lot of spring pigs. Write for your wants. Meadow View Stock Farm, Holland, Michigan. R. R. No. 5.

400 Big Type O. I. C. and Chester White Pigs From Feb. Mar. and Apr. farrow sired by the five best boars in the state. School Master 3270 who won more champions, defeated more champions than any boar show 1915. Also 2nd, sire to our undefeated breeders young herd at 7 state fairs, Allen junior champion at Wis. State fair 1914, and Captain Jim 33161, under 6 months boar and Junior champion at every state fair show 1915. Then we have Le Doux model 23015, first in class at Sioux City, Iowa, 1914. Get our catalogue, its free. We Register Free; Guarantee satisfaction in every way. ROLLING VIEW STOCK FARM, Cass City, Mich.

O. I. C. October boars weighing 200 lbs. at \$25 each for April shipment. C. J. THOMPSON, Rockford, Michigan.

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

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

O. I. C. Spring pigs either sex, large bone and good growth. Prices right. A. J. BARKER, R. R. 1, Belmont, Michigan

O. I. C's. A few bred sows to farrow in April, May and June. I have 20 last fall boars to offer, also gilts. Have them not akin. All good stock. Otto B. Schulze, Nashville, Mich. 1/2 mile west of depot.

O. I. C's Some extra good fall boars; also gilts. Satisfaction guaranteed. A. R. GRAHAM, Flint, Michigan.

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

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

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

O. I. C. SWINE: If you are interested in you with a choice pair or trio, not akin, or a gilt, due to farrow about September first. A. J. GORDEN, R. No. 2, Dorrr, Mich.

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

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

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

Boars at Half Price We still have a few big boned, big type Poland China boars ready for service, weighing up to 250 lbs. not fat at \$20 & \$25 each. Registered in buyer's name. Also registered black Percheron Stallion 2 years old \$250.00. J. C. BUTLER, Portland, Mich., Bell Phone.

BIG TYPE Poland China sows bred for July and August arrow, Spring pigs. G. W. HOLTON, Route 11, Kalamazoo Michigan.

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

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

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

Large Strain P. C.—Two nice fall gilts to farrow in Aug., Sept. and Oct., get one of these sows with pigs by side. H. O. SWARTZ, Schoolcraft, Mich.

Large Type P. C. Gilts and sows. Bred for Mich. and Moines, Big Knox Jr. and Giant Defender. Bred to Big Knox Jr. Smooth W onder 3 and Big Junbo, four great boars in state. Come or write. W. E. Livingston, Farms, Mich.

BIG TYPE Poland Chinas, Sired by Big Type King, 2 our 1000 lb. boar. Spring pigs, sired by big type King, Fessmeyer & Wonder Jr., and Mow's Big Bone. W. Brewbaker & Sons, Elsie, Michigan.

For Sale Poland Chinas either sex, all ages Something good at a low price. P. D. Long, R. F. D. No. 8, Grand Rapids, Mich.

Heavy boned Poland China Spring pigs from large Prolific sows, also young and older sows, bred for Sept. farrow. ROBERT NEVE, Piersen, Michigan.

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

Large Yorkshires August and September pigs. 2 spring boars. Prices reasonable. W. C. COOK, Route No. 1, ADA, MICHIGAN.

GROWTHY THE DISEASE PROLIFIC "MULEFOOT" RESIST- PROFITABLE HOG ING

FOUNDATION STOCK FROM BEST BLOOD OF BREED

THE CAHILL FARMS
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HAMPSHIRE SWINE Spring registered. John W. Snyder, R. 4, St. Johns, Mich.

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

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

SHEEP.

SHROPSHIRE

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

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

Oxford Down Sheep. Good yearling field Rams and ewes of all ages for sale. M. F. GANSSLEY, Lennon, Michigan.

HORSES

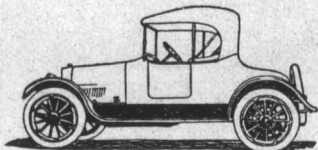
Percherons, Holsteins, Angus, Shropshires, Durocs
DORR D. BUELL, Elmira, Michigan.

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

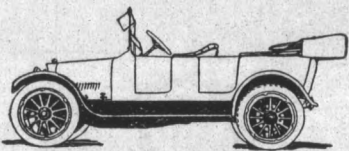


Announcing The Reo Models and Prices¹

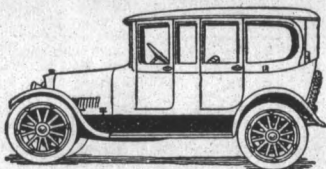
**Two Important Price Reductions
Two Interesting New Models**



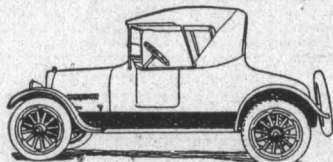
The New Four-Cylinder, 3-passenger Reo Roadster, \$875



The New Reo the Fifth, "The Incomparable Four," \$875



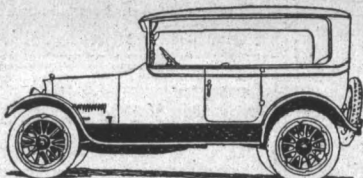
The New Four-Cylinder Reo Enclosed Car, \$1025



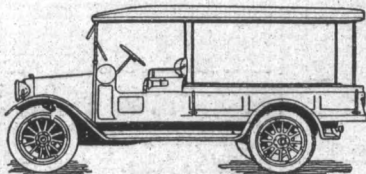
The New 4-passenger Reo Six Roadster, \$1150



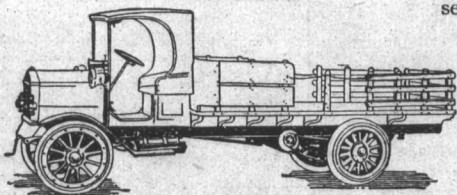
The New 7-passenger Reo Six Touring Car, \$1150



The New Reo Six 7-passenger Sedan, \$1750



1500-pound Reo "Speed Wagon," \$1000



2-ton Reo Truck (Chassis only, with Driver's Seat and Cab), \$1650

(All Prices are f. o. b. Lansing, Michigan)

YOU WANT TO KNOW—everybody always wants to know—what models Reo will make the coming year, and the price of each.

OF COURSE THERE ARE NO NEW MODELS—new chassis models we mean. You do not look for, do not expect, do not want new chassis models from Reo.

THAT ISN'T THE REO WAY. Refinements—of course. Detail improvements—wherever and whenever we can find a place or a way to make them.

NOTHING RADICALLY NEW is ever offered to Reo buyers. For it isn't new when it gets to you—it has been thoroughly tried and conclusively proven before we let it get into a Reo car.

NEW BODY TYPES—YES—and some that put Reo in the highest class of cars in looks as well as in performance and longevity. We'll treat of each in turn.

REO THE FIFTH COMES FIRST, of course. First not only among Reos, but among motor cars.

FOR THIS IS THE GREATEST automobile ever built, we verily believe.

THIS IS THE SEVENTH SEASON that Reo the Fifth has been standard in practically its present form.

NO: THE PRICE WILL NOT BE CHANGED this season. We will not increase—we cannot lower it.

ACTUAL COST OF MAKING is now more (\$50 more) than when the present price, \$875, was set a year ago. And we had made this model so long; had so refined and perfected manufacturing processes; had reached such a high state of efficiency in production; and cut dealers' discounts so low that we had, then, reached rock bottom.

IT WAS AN ACHIEVEMENT of the first magnitude to produce such a car and sell it at such a price—\$875.

TODAY YOU SEE OTHERS increasing prices all along the line. They must do so. They have no choice.

ORDINARY BUSINESS RULES dictate that we also "tilt" the price of Reo the Fifth \$50 at least.

BUT REO PRIDE PROMPTS that we absorb the extra cost, as we have for months past, and keep the price where it is until conditions will, happily, return to normal.

THE FOUR-CYLINDER ROADSTER—same wonderful chassis, same price, is the smartest thing on wheels—the most popular car in the world among physicians, and all professional and business men. Also \$875.

TO SUPPLY A GROWING DEMAND for an enclosed body on Reo the Fifth chassis, we have planned to build a limited number. The quality will be Reo—which is to say, excellent. The top is rigidly supported at front and rear. Removable glass panels convert it into a veritable limousine for winter, and these discarded and with jiffy curtains (which are also furnished) it is an ideal summer touring car. The price is \$1025.

THE NEW REO SIX will continue in its present popular forms—the 7-passenger touring car and the classy 4-passenger roadster; and we will make a limited number with Sedan bodies to supply an insistent demand for this type of body on this splendid chassis.

THE PRICE IS REDUCED \$100 on the 7-passenger and roadster models. Now \$1150.

NOW YOU WONDER, and naturally, how we can reduce the price of the Reo Six models and not the Four—especially after what we have just told you about the increased cost of production.

SEEMS ILLOGICAL at first blush—doesn't it? But it isn't. For the truth is never illogical. And the truth is that despite the present higher prices of materials and labor still it costs us less to make this six-cylinder model than it did a year ago.

THIS POPULAR REO SIX is now in its third season. It has passed the same stages through which its great four-cylinder namesake went—initial costs have been absorbed, charged off. And in accordance with that unswerving Reo policy we give the buyer the benefit and set the price at \$1150 f. o. b. Lansing.

WE WILL MAKE A LOT MORE of those 4-passenger Six Roadsters the coming season. We underestimated the appeal and the demand for this model. It proved one of the most popular Reos ever built.

THE SIX SEDAN speaks for itself, though, truth to tell, an illustration does it scant justice.

YOU MUST SEE IT where you can study its artistic lines and faultless finish to fully appreciate this latest Reo which we price at \$1750.

NOW A WORD ABOUT THE TRUCKS since 90 per cent of all Reo automobile distributors also handle Reo motor trucks.

PRICE OF THE 1500-POUND REO "Speed Wagon" has been reduced to \$1000.

SAME REASON—SAME POLICY—reduced cost of manufacture despite higher present cost of materials—as enunciated in speaking of the Reo Six.

AND THAT TWO-TON REO. What shall we say? What need we say? We submit, it is the greatest 2-Ton motor truck in existence. Has been standard for longer. Has given greater proof of its sturdiness and efficiency and low cost of upkeep.

IF WE ARE TO JUDGE by that over-demand, we may well assume that we could sell all that we could make were the price \$2500, instead of \$1650.

AND FINALLY A WORD about the big general plan—a brief reiteration of the Reo policy.

WE STILL ADHERE to our determination never to make more Reo cars or trucks than we can make and make every one good.

TEMPTATION IS GREAT of course. Dealers protesting, buyers begging for more Reos. But we know—we know—on what solid foundation this Reo success was built; and we'll jealously guard that policy to the last.

RIGHT NOW—AUGUST—there are more orders on hand at the factories than at any previous time in Reo history. Orders hopelessly in excess of factory output—and that also is greater than ever before.

AND RIGHT NOW Reo stands higher in the esteem of buyers and of the trade than ever before.

\$30,000,000 PER ANNUM is not small by any means. Reo is in fact one of the largest in point of production. We have no ambition, however, to be the largest. Don't want to make all the automobiles—only the best.

RATHER THAN INCREASE the quantity we shall strive always to improve the quality so that, as the art advances and cars generally improve, still Reo will continue to be known as—
"The Gold Standard of Values."

**REO MOTOR CAR COMPANY
REO MOTOR TRUCK COMPANY**
Factories: Lansing, Mich.

