

# MICHIGAN FARMER

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## Michigan's Undeveloped Agricultural Possibilities

SINCE Michigan is not a new state, comparatively speaking, her people have too generally accepted as a fact the idea that greater agricultural opportunities are available in the newer states where agricultural development has been more recent. This is perhaps a natural error, particularly on the part of the young men who live in sections of the state which their grandfathers helped to develop half a century or more ago. That it is an error all who are familiar with our state well know, and those who are not familiar with the less well developed sections of Michigan can easily learn by a study of available statistics. It is for the purpose of acquainting such of our readers as fall in this class with the undeveloped possibilities of Michigan and the agricultural opportunities which are available for her young men right at home as compared with those which will be found in more distant localities, that this subject has been included among our list of special topics.

The uninformed reader may properly ask why, if such great agricultural opportunities still exist in Michigan, they should have been neglected while newer territory has been more rapidly developed. A little thought on the part of the enquirer will develop the most logical of answers to this natural inquiry. Michigan was a forest state; early settlers found the present well developed agricultural sections of the state covered for the most part with heavy timber, requiring a vast amount of labor to remove and place the land in condition for growing crops, consequently this work progressed slowly. Farther north there was a large belt which yielded a choice quality of pine timber awaiting a profitable market before it was removed from the land. Interspersed with this belt and continuing to the northernmost limits of the state was a large area of agricultural land covered with deciduous trees which was so inaccessible in the early years of our state's development as to remain practically untouched by the pioneers.

During this slow process of development, the prairie states to the southwest were rapidly settled, not only because of the greater ease with which they could be brought into cultivation, but as well because after the development of rail transportation they were more directly in the track of the westward movement than was Michigan, whose accessibility by water accounted for an earlier season of development than was enjoyed by the states of the grain belt.

### Michigan Only Half Developed.

The statistics given in the thirteenth decennial census show that while Michigan has justly enjoyed an enviable reputation as an agricultural state for many years, only 51.5 per cent of the land area in the state was included in farms in 1909 when the census figures were taken. This percentage includes, as should be borne in mind, all areas of unimproved lands

included in farms, the percentage of the entire land area in the state improved for agriculture being at that time 34.9 per cent as compared with 86 per cent of improved farm land in Iowa and 95 per cent of all land included within the farms of that state. From this comparison it will be seen that there remains in Iowa but five per cent of unoccupied land to reclaim for agricultural purposes, while in Michigan there remained in 1909, 48.5 per cent of the total land area not yet included in farms. This is perhaps an extreme comparison and might be construed by readers who are not familiar with actual condi-

than similar values given for the great and fully developed agricultural state of Iowa. In connection with this fact it must also be remembered that while the increase in total value of Michigan farm property during the decade previous to the census report was 57.7 per cent, Michigan farms were still changing hands at enough lower values than those of the better developed prairie states to make up for this apparent difference in the total valuation of farm properties.

### Michigan's Diversified Crop Production.

In amount and value of crops grown Michigan stands well up in the list of

agricultural products are more varied than will be found in any other state in the Union.

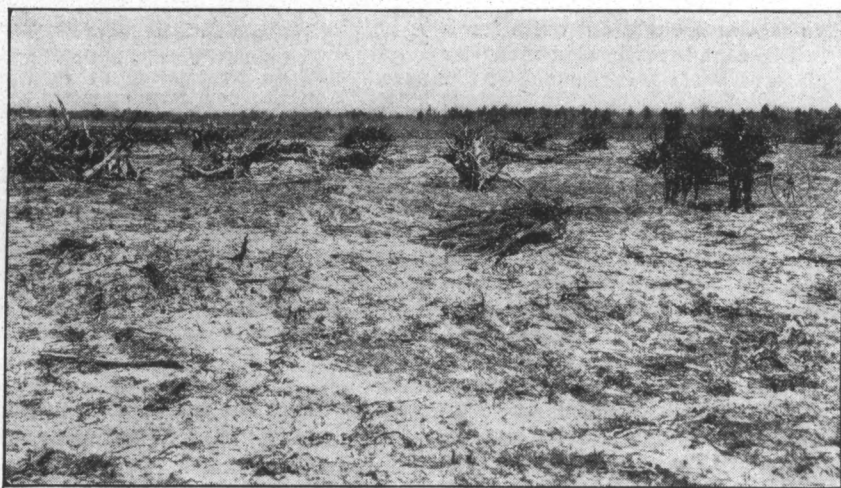
There are, however, other ways of judging of the comparative prosperity of agricultural states; one of these is the average size of the farms. The average size of the farms of the country in 1909 was 138.1 acres. The average size of Michigan farms in 1850 was 128 acres, while in 1910 the average size of farms in Michigan was 91.5 acres. Notwithstanding this comparatively small size of Michigan farms, any traveler will bear testimony to the fact that the buildings and improvements on the average Michigan farm are the equal or superior of those on the average farm in any other state.

The permanence of the state's agricultural prosperity is also indicated by the percentage of home-owning farmers as compared to renters, which in 1910 was 84.2 and 15.8 respectively. Another indication of agricultural prosperity in Michigan is the fact that the percentage of farms operated by the owners which are encumbered by mortgage indebtedness is not above the average in other and better developed states, the percentage of such farms in 1910 being 48.2 per cent. Similar figures might be cited almost indefinitely, but perhaps enough has been said to induce the doubtful reader to make further investigations and comparisons for himself, since the object of this article is to treat more specifically of the undeveloped agricultural possibilities of the state rather than of the accomplishments already achieved.

### Michigan's Unimproved Agricultural Lands.

The 48.5 per cent of Michigan lands not included in farms in 1910 may be roughly classified as lands still covered with standing timber, cut-over timber lands, sand areas and lands as yet unreclaimed by drainage. Since it is undoubtedly the cut-over timber lands which will be first developed for agricultural purposes, our readers will have a greater present interest in this class of land than any other. This class of lands comprises considerably more than one-half of the total area of unimproved lands above noted. Roughly, our cut-over lands may be classified in two distinct types, viz.; those which were originally covered with hardwoods and those producing pines and other conifers. Of these the hardwood land is, generally speaking, most desirable for agricultural development, due to the greater ease and less expense with which it may be brought under cultivation. If this land is promptly burned after clearing or brushed and burned at any later date, it can easily be seeded to clover and grasses, and after pasturing a few years the greater proportion of the stumps and grubs will be rotted and the land may be rapidly and cheaply reclaimed for crop growing or stock raising purposes.

(Continued on page 671).



Clearing Pine Land of Stumps in the Process of Development.

tions as indicating that Michigan is naturally less well adapted to agriculture than the more fully developed prairie states.

A glance at the figures showing Michigan's agricultural standing will, however, disabuse the mind of the average man of this erroneous idea. Notwithstanding the fact that only slightly over one-half of Michigan's total area is included in farms, the census report shows the total value of farm property, including equipment, to have been \$1,088,858,379 in 1910. This sum is only a trifle under one-third less

states, being at the head of the list in the production of important staples, including beans and potatoes, also at the head of the list in the production of rye, chicory and mint, and well up toward the top in the production of fruit, sugar beets, peas and buckwheat. The diversity of Michigan's agricultural products is perhaps greater than that of any other state. Her grain and forage crops are large; her fruit products, taken as a whole, stand near the top in the list of states; her live stock products are both large and varied, and her lines of specialized ag-



A Typical Young Orchard in the Fruit Belt of Northern Michigan.



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### CURRENT COMMENT.

There has been some criticism of the present administration's foreign policy, particularly as related to the Mexican situation. This criticism has, however, been greatly overbalanced by the commendation of President Wilson's course in seeking to avoid the implication of the United States in the European difficulties, so far as this could be honorably accomplished. That commendation has been still more pronounced since the recent dramatic resignation of Mr. Bryan as Secretary of State for published reasons which do not seem to have appealed strongly to the American public.

It is a matter for congratulation that at a critical period like the present we have as president a man who cannot be stampeded by belligerent influences and who, at the same time insists upon an adherence to justice and humanity on the part of offending warring nations. The resignation of Mr. Bryan at a critical period when his action was bound to have a greater significance in the minds of people of foreign countries, particularly Germany, than its importance warrants, would seem to point in an obvious way to the real cause for such criticism as has been indulged in by our people with regard to our foreign policy.

Undoubtedly, the people of this country want peace, and the avoidance of serious foreign complications up to the present time indicates that peace will in all probability continue to prevail. At least the result of recent cabinet developments would seem to insure a united government backed by a united country in dealing with the foreign situation, a condition altogether desirable under existing conditions.

Our special article for this Michigan week briefly recounts in a general way something of the undeveloped agricultural possibilities of the state. Somehow we are prone not to appreciate the advantages of the state or locality in which we live. We are quite apt to think that some other location has better advantages because we may have been told or have read of some of those advantages without being acquainted with the disadvantages which go with them. This is a perfectly natural tendency, just as it is natural for us to think that some other man's business is a better business than ours, and that if we were only differently situated we would be much more prosperous and find life very much better worth living. While in some cases this may be true, yet as a general proposition it undoubtedly is not, as has been demonstrated by thousands of people who have acted upon this

erroneous idea and changed their location or their business to their future disappointment. The farmers of a western social organization have adopted an excellent motto which has a bearing on this subject; the motto is, "get acquainted with your neighbor, you may like him." It would be equally profitable to get better acquainted with the state in which we live, the probability being that we would be better satisfied with our own location.

Nature endowed Michigan far more liberally than most states, it having been said upon good authority that if Michigan were entirely isolated from the rest of the world, she could produce all of the commodities needed for the maintenance of her population for an indefinite period except the one necessity of cotton, and as a further illustration of the almost unlimited resources of the state this deficiency gives promise of being made up by the possible development of an equally valuable fibre from the stalks of a species of swamp milkweed.

Having become more intimately acquainted with our own state, and its possibilities and resources agricultural and otherwise, we will doubtless give it a better position in our comparisons with other states or localities.

While a broad knowledge of scientific investigations and determinations relating to agriculture is undoubtedly a valuable asset to any farmer, yet the practice in any particular department of agriculture may for various reasons quite properly be in contravention of some one or more well known scientific principles.

This fact is brought out quite forcibly in a recent investigation made by the office of Farm Management of the U. S. Department of Agriculture relating to the methods used in growing the corn crop in various sections of the country. The result of these investigations proved quite conclusively that the yield of corn was most largely governed by the fertility and physical condition of the soil, which factors in turn showed a close relation to the system of farming practiced as affecting the amount of organic matter present in the soil. The tillage problem on which so much emphasis is so often placed was found to be an economic rather than an agronomic problem. In other words, the tillage given corn in the various regions studied differed widely in method yet but little in results which could not be attributed to other causes.

There are very many cases in which a farmer, for instance, may have given his corn frequent surface cultivation which not only kept the weeds in check, but provided a suitable earth mulch to prevent the evaporation of moisture, only to find that his neighbor who practiced far less scientific methods of cultivation got a better crop of corn. Undoubtedly there was a good scientific reason back of this fact, due probably to a better system of farming so far as the maintenance of soil fertility was concerned on the part of the practical farmer who got the good crop, although he neglected scientific methods of cultivation.

A great many people for similar reasons come to have a contempt for scientific facts and theories which is not warranted by their experience if they would but go deeper into the science of agriculture, which, after all, may be summed up as the getting of maximum returns from the land with a minimum exhaustion of its fertility. One of the most vital factors in this problem is the keeping of the soil in a good physical condition and well supplied with vegetable matter or humus. This is a scientific fact which a great many Michigan farmers need to learn. Having learned it well, far better results will attend their efforts even though all their methods may not be strictly in accord with scientific theories of soil cultivation.

### MICHIGAN CROP REPORT.

Wheat.—The average condition of wheat is 91 in the state, 93 in the southern counties, 92 in the central counties, 88 in the northern counties and 98 in the upper peninsula. The present condition of wheat is approximately the same as reported on May 1. The condition one year ago was 93 in the state and southern counties, 97 in the central counties, 89 in the northern counties and 98 in the upper peninsula. The per cent of wheat sown that will be plowed up because winter killed or otherwise destroyed is 2 in the state, southern, central and northern counties and 1 in the upper peninsula. The damage by Hessian fly is 6 per cent in the state, 9 in the southern counties, 4 in the central counties and 2 in the northern counties.

The total number of bushels of wheat marketed by farmers in May at 66 flouring mills was 79,968 and at 73 elevators and to grain dealers 67,607 or a total of 147,575 bushels. Of this amount 102,193 bushels were marketed in the southern four tiers of counties, 39,544 in the central counties and 5,838 in the northern counties and upper peninsula. The estimated total number of bushels of wheat marketed and consumed by growers in the ten months August-May is 12,765,290. Sixty-five mills, elevators and grain dealers report no wheat marketed in May.

Rye.—The condition of rye in the state is 91, in the southern counties 94, in the central counties 83, in the northern counties 90 and in the upper peninsula 98. One year ago the condition was 94 in the state and central counties, 95 in the southern counties, 92 in the northern counties and 98 in the upper peninsula.

Corn.—The acreage of corn planted or to be planted as compared with last year is 101 in the state and southern counties, 100 in the central counties, 103 in the northern counties and 110 in the upper peninsula. The condition of corn as compared with an average is 83 in the state, 80 in the southern counties, 86 in the central counties, 87 in the northern counties and 96 in the upper peninsula.

Oats.—The condition of oats as compared with an average is 91 in the state, 92 in the southern counties, 88 in the central counties, 89 in the northern counties and 97 in the upper peninsula. The condition one year ago was 94 in the state and central counties, 92 in the southern counties, 95 in the northern counties and 102 in the upper peninsula.

Barley.—The acreage of barley sown or that will be sown as compared with last year is 92 in the state, 89 in the southern counties, 94 in the central counties, 93 in the northern counties and 99 in the upper peninsula.

Potatoes.—The acreage planted or to be planted as compared with last year is 92 in the state and southern counties, 94 in the central counties, 89 in the northern counties and 100 in the upper peninsula. The condition as compared with an average is 90 in the state, 86 in the southern and central counties, 87 in the northern counties and 98 in the upper peninsula.

Sugar Beets.—The acreage of sugar beets planted or to be planted as compared with last year is 104 in the state, 103 in the southern and central counties, 110 in the northern counties and 100 in the upper peninsula.

Fruit.—Fully 80 per cent of the fruit correspondents throughout the state report serious damage to all varieties of fruit by the severe frosts during the month of May.

The following table will show the prospect at the present time for a crop of the various kinds of fruit in the state and the different sections.

	State.	Sou.	Co's	Nor.	Up.
Apples	67	68	66	61	84
Pears	58	56	58	59	69
Peaches	66	66	70	59	100
Plums	66	69	60	59	79
Cherries	70	75	61	64	83
Strawberries	59	58	62	51	81

### NATIONAL CROP REPORT.

The crop reporting board of the bureau of crop estimates report on the condition of crops on June 1 as follows:

Wheat.—It is estimated that the present crop of winter and spring wheat will aggregate 950,000,000 bushels, against 891,000,000 bushels as the final estimate of 1914 and 686,000,000 bushels as the average for the five years from 1909-1913. Of the above total estimate winter wheat promises a yield of 676,000,000 bushels, and spring wheat 274,000,000 bushels. There was a decline of 7.1 points in the condition of winter wheat from May 1 to June 1.

Oats.—The estimated yield is 1,288,000,000 bushels against 1,141,000,000 bushels for 1914 and an average of 1,131,000,000 bushels for the five years from 1909 to 1913.

Barley.—A total yield of 197,000,000 bushels is estimated, which is 2,000,000

000 bushels greater than the final estimate of 1914, and 15,000,000 bushels greater than the average for the five years from 1909 to 1913.

Rye.—The condition of this crop is estimated at 92, which is 1.6 points below the June 1 estimate in 1914, and 1.6 points above the average estimate of June 1 during the past ten years.

Apples.—The estimated yield of apples is 191,000,000 bushels as compared with 253,000,000 bushels for 1914, and a five-year average of 176,000,000 bushels.

### HAPPENINGS OF THE WEEK.

#### Foreign.

The European War.—During the past week small successes have attended the efforts of the Allies in the western theater of war. Fighting has been violent between Arras and the Belgian coast, also a number of encounters have occurred in the vicinity of Soissons, Rheims and farther to the southeast. The French have been encouraged by recent successes and continue offensive movements. To the northeast the Germans and Russians have fought only minor engagements. The Germans are said to have taken Libau, which, however, is claimed by the Russians to be of little strategic advantage to either side. In Galicia the Russians have checked the Teutonic-Allies and have taken a large number of prisoners. At the present time Lemberg does not appear to be in immediate danger of capture. It is stated, however, that the Germans are beginning a campaign against it from the north since their southern attack failed. The Italians have thus far been successful in their campaign looking toward the capture of Trieste, the Austrian port on the Adriatic; they are now within 22 miles of that city. The last strong barrier before the city is now being attacked. In the Caucasus region the Russians are occupying Turkish positions and driving the Turks back in the direction of Olti. Little news has come of operations along the Dardanelles; however, fighting continues by the Allied forces against obdurate Turkish troops.

Interest in Mexican politics is again developing in this country. President Wilson recently sent a communication to the leaders of the different factions insisting that they establish a government for the protection of the people from civil strife and starvation. Gen. Carranza has replied, asserting that as he controls a large territory and has instituted civil administration therein, he is logically entitled to the recognition of this government. Gen. Villa has made overtures directly to Carranza. Villa asserts that he is also in possession of a large area of Mexico, and that law and order exist within his jurisdiction. Each faction hopes to ultimately obtain the active moral support promised in President Wilson's statement. Relief by the American Red Cross is proceeding with much vigor.

#### National.

Last week President Wilson forwarded to the German government an answer to the note of Germany on the Lusitania disaster and the attacks on American boats on the high seas. While the note set forth clearly the position of the United States, and especially emphasized the principle of humanity involved in the cases under consideration, it did not close the doors entirely to an amicable settlement providing Germany seemed disposed to respect the rights of the citizens of the United States when on legitimate errands. As a result of the tone of the note Secretary of State Bryan resigned his post in the cabinet.

Severe storms visited several sections of the country Sunday and did considerable damage. At Elroy, Wisconsin, and vicinity ten persons are known to be dead and 40 or 50 injured by a gale which also sent the steamer Frontenac to the bottom of the Mississippi river. Over \$50,000 worth of property was also destroyed. At Dowagiac, Mich., a water tank was blown into a factory by a cyclone which also damaged other structures, crops, etc. At Indianapolis fully \$100,000 worth of damage was done to private property owners and public service corporations. Another \$100,000 worth of property was destroyed in Beaver County, Pa., where the towns of Woodlawn and Aliquippa are said to be largely under water. At St. Louis, Mo., all traffic was stopped and telephone and lighting service demoralized when a hail, rain, wind and electrical storm swept over the city.

Three persons were drowned when a gasoline launch capsized in the Detroit river above Belle Isle on the morning of the 13th.

The Chicago street car employees have gone on strike, demanding higher wages from their employers. The strike directly affects 14,500 men.



## Farm Notes

### Spraying Potatoes for Blight.

Please give me a little information about spraying potatoes for blight and bugs.

Tuscola Co.

T. H. W.

The common method of spraying potatoes for blight is with Bordeaux mixture. In the writer's experience in the making of Bordeaux mixture for spraying potatoes, stock solutions have been used, which is the most convenient method.

The copper sulphate should be dissolved in water by suspending it in a coarse sack in a barrel containing the water; as the solution is heavier than the water it will settle to the bottom. One gallon of water will dissolve three pounds of copper sulphate, which makes what is known as a saturated solution. From this stock mixture can be measured sufficient to make the proper strength when mixing each batch. The lime is then slaked and made into a paste, in which form it will keep indefinitely. We have always used a rather strong mixture containing six pounds of copper sulphate to 40 gallons of water.

In mixing it is better to test each batch to insure that plenty of lime is used to prevent burning of the vines. A simple test is easily applied by purchasing 10 cents worth of ferrocyanide of potassium (yellow prussiate of potash,) and dissolving same in water. Put this in a bottle and label it "Poison."

When mixing a batch of the Bordeaux in the sprayer, partially fill the barrel or tank with water, then add the copper sulphate solution, then put in sufficient lime to neutralize same, which will require not less than three pounds of lime to four of copper sulphate. Usually, equal amounts are used, and in most cases four pounds of copper sulphate is used, making a 4:4:40 mixture. Add water to fill the tank and stir thoroughly, then dip out a small portion of the mixture and drop into it a few drops of the test solution. If no change in color is noted the content of lime is sufficient. If the test solution changes the color to a reddish brown, it shows there is not enough lime.

In some tests made last year by Mr. Jackson Voorhees, of Oakland county, it was demonstrated that a copper sulphate solution of proper dilution could be safely used without the addition of lime in spraying potatoes for blight and with excellent results. The result of his experiments was published in the Michigan Farmer of October 17, 1914. By making tests of these solutions of various strengths, he demonstrated that he could safely use a solution of one pound of copper sulphate to 25 gallons of water with which he sprayed his crop eight times with entire protection from blight, the crop growing until digging time and making a yield of 250 bushels per acre.

Where three sprayings only were made in another field, only a limited damage occurred from blight and the crop made 125 bushels per acre as compared with 75 bushels per acre in a nearby field which was not sprayed at all and which was badly affected with blight.

He figured that this method of spraying saved one-half the expense of labor on account of the absence of nozzle clogging and the added labor required in mixing the regular Bordeaux mixture, to say nothing of the added cost of material for same. This would seem to be an important discovery and one which it will pay potato growers well to experiment with on their own account in a small way at first until they become satisfied that similar results will obtain with the variety of potatoes which they are growing.

It is, of course, possible that one year's experience is not conclusive as to the strength of copper sulphate

solution which it is safe to use without lime. This has been the experience of peach growers who use copper sulphate solution for peach leaf curl. A given strength which has been found to work with entire satisfaction one year will damage the foliage another season. This may not obtain at all with potatoes, but several years' experience will be a safer guide than the results secured in a single year. The amount of solution put on a given area depending upon the fineness of the spray will also be a factor which should be considered in this connection.

Spraying for blight is a preventive measure and not a remedy, and for this season spraying should be commenced as soon as the vines are six to eight inches high, and should continue at frequent intervals until all danger of damage to the crop is passed.

Where bugs are prevalent, poison may be added to the spray solution used for blight. Where Paris green is used it has been found more satisfactory to proportion the amount used to the area of ground covered rather than to the amount of solution applied, since some will spray more liberally than others. One pound of Paris green per acre is considered sufficient by the best authorities. For early sprayings where the vines are smaller, about one-half pound of Paris green to 50 gallons of the mixture (or four pounds of arsenate of lead where this insecticide is used instead of Paris green) will be sufficient.

While it has been demonstrated that these amounts of arsenical poisons are safe to use in connection with Bordeaux mixture, there is a possibility that there would be danger of foliage burning if used in combination with copper sulphate solution alone. This is a point which should be determined by careful experimentation before such an application is made to an entire crop.

### Liming the Soil for Alfalfa.

I have 20 acres of pretty badly worn-out land, ten of this I shall seed to cowpeas early in June, plowing the same under in August and at once seeding to rye and vetch. In June, 1916, I shall plow under again and seed to alfalfa. I want to lime this land and wish you would kindly tell me when is the best time to do so, what kind of lime to use and the quantity. Also, I have another 10 acres that I am now putting into pea beans, but wish to get in alfalfa as soon as possible; what would you advise doing this fall and next spring so that I can seed this to alfalfa the same time as the piece mentioned above, that is, June 1916? Or would I better pursue the same method as on the first piece and so not seed the alfalfa until 1917?

Van Buren Co.

SUBSCRIBER.

Better results would be obtained by liming this soil when fitting the same for the first green manure crop this spring. Where ground limestone is used, considerable time is required for its favorable action upon the soil, particularly where it is used in only moderate quantities; that is why the pioneers in the use of lime for alfalfa advocated such heavy applications of ground limestone.

The kind of lime which should be used will depend somewhat upon the distance which same must be hauled and its cost. Other things being equal the writer would favor the use of ground limestone at the rate of about two tons per acre where it can be applied a year previous to the time when the alfalfa will be sown. If the alfalfa is to be sown at once then hydrated lime or some other form of caustic lime will be preferable, as it will act at once and thus produce better results in the securing of a successful inoculation of the young plants with the bacteria peculiar to alfalfa.

Two years ago this summer the writer seeded a field to alfalfa, using an application of ground limestone just before sowing. Lacking enough to cover the field, it was finished out with hydrated lime. On the portion

where hydrated lime was used an excellent crop of alfalfa was produced last year. On the balance of the field inoculation was imperfect and it did not produce well. This spring, however, no difference can be noted in the appearance of the portion, on which ground limestone was used and that on which hydrated lime was used. Another plot on this same field which had had ground limestone applied several years previous, produced a still better growth than where the hydrated lime was applied.

Not more than half the quantity of hydrated lime should be used where it is substituted for ground limestone and the writer has had success by using only a few hundred pounds per acre, although half a ton would be a small enough application.

The same facts would apply to the preparation of bean ground for alfalfa. If it is in fairly good condition an application of ground limestone this spring when the soil is being fitted for beans would be advisable, and would, we believe, prove beneficial to the bean crop as well.

### Seeding Alfalfa.

Have a piece of ground on which I wish to sow alfalfa. Had potatoes on the ground last year and plowed it last fall; have kept it well worked this spring but on account of so much rain have been unable to sow the alfalfa. Would you advise sowing now, with or without a nurse crop, or waiting until July or August?

Cass Co.

G. W. C.

From the writer's experience and observation, there is no best time to sow alfalfa so long as it is sown when soil and weather conditions are right for the early germination of the seed and a rapid growth of young plants. It should not, however, be sown later than August 1 for best results, in this state. We have about 50 acres of alfalfa, most of which was sown in July without any nurse crop, although one piece was seeded with excellent success in corn at the last cultivation. This year we have sown another field, sowing same in May with a light seeding of oats and with every present indication of securing an excellent stand. Where alfalfa is sown on freshly plowed ground in the spring, it is probably better to use a light seeding of oats or barley as a nurse crop to keep back the weeds until the alfalfa occupies the ground. Where this is not done, it is a good plan to sow clover with the alfalfa, as this will occupy the ground more fully the first year and have something of the same result. On fall plowed ground or land which is worked over several times during the growing season before the seed is sown, the weeds will be pretty well killed out and the nurse crop may be used or not, as thought advisable.

### Soy Beans with Ensilage Corn.

In a recent issue of the Michigan Farmer there was an article written by Colon Lillie about soy beans. He told about drilling them in the same row with the corn when they were to be used for filling the silo. Now, I wish to ask about how many beans it will take to the acre? I expect to check my corn in and then put the soy beans in with the drill attachment on the planter. What kind of soy beans does Mr. Lillie recommend? I had thought of using the mammoth yellow Sojas. I thought this kind would bind up better with the bundles of corn.

Genesee Co.

M. J. S.

If the corn is planted in checks so it can be cultivated both ways, I would not drill the soy beans, as this would prevent cross cultivating. The beans in this case could be planted in hills close to the corn hills and with a hand-planter. If, however, cross cultivating is not especially desired, then the way mentioned would be feasible. In any or all cases one-half to three-quarters of a bushel of seed is sufficient. The late varieties have smaller seeds and do not require quite as much seed as the early varieties.

The mammoth yellow will be all right for silage. It will mature sufficiently for silage purposes if the corn has sufficient time to properly mature.

## MICHIGAN'S UNDEVELOPED AGRICULTURAL POSSIBILITIES.

(Continued from first page).

The pine lands—and some of these are very good agricultural lands—must be stumped to give equal facilities for crop growing, but the development of power devices for the accomplishment of this work has greatly cheapened the cost in recent years.

Of the last class of lands named, i. e., swamp lands which may be reclaimed by drainage, Michigan has, according to a recent estimate of the bureau of statistics, an area amounting to 4,400,000 acres. While the development of this class of land is more expensive than is that of the cut-over lands, a very valuable and productive soil is the reward for such development work. This area is probably as great as the area of any western state which may be reclaimed by irrigation, and its improvement on the whole would be far less costly. This kind of development is, however, better suited to co-operative enterprises than to individual effort in the great majority of cases.

In considering the undeveloped agricultural possibilities of Michigan, the average man is too prone to limit his vision to the northern counties of the lower peninsula, forgetting the great agricultural empire lying above the Straits, in large areas of which are to be found a most productive of soils and a climate which permits the growing of a large variety of agricultural staples.

### The Best of Opportunities in Michigan.

Taken as a whole, Michigan certainly affords the young men within her borders far better opportunities to get a profitable start in agriculture than any of the newer states. If they have a liking for fruit growing, there are better opportunities within her borders than anywhere else in the country, since her climate is tempered by more than 1,600 miles of lake shore and soils are available which are peculiarly adapted to the production of a wide variety of fruits. Likewise her position as to markets for this class of products is better than that of any other state, when the proximity to large centers of population and unusual transportation facilities are considered. If inclined to live stock production or dairying, equally unexcelled opportunities are open to the young men who would avail themselves of them in the undeveloped agricultural sections of Michigan. If general farming is favored, the variety of special cash crops which may be grown with profit is greater than in any other section of the country which might be selected. If capital is limited, lands may be purchased at a lower price than those of similar quality in any other section which can be compared to Michigan from the standpoint of location and natural advantages.

Last, but not least, viewed merely from the standpoint of a place where "life is worth the living," our Michigan advantages are just as great. Her people are educated and cultured. Her farmers are better organized socially and in a business way than those of almost any other state. Michigan's undeveloped agricultural possibilities are apparently much better recognized and appreciated by the farmers of other states than by Michigan's own sons. Each year the farmers of neighboring states are locating here by thousands, selling their high-priced lands and investing in Michigan farms for themselves and their families. Our own people would do well to emulate them by carefully investigating the undeveloped possibilities of Michigan before looking for outside opportunities for investment in farm lands.

(The thirty-third of 52 special articles to be published in consecutive issues).



# There is only one Warning BLIZZARD Ensilage Cutter

Many farmers are under the impression that all cutters of the blower type are Blizzards.

Just the other day a farmer was heard to say, "Yes, I am going to buy a Blizzard Cutter, and it will be a Dick's Blizzard." Don't you make this error. There is only one Blizzard Ensilage Cutter—it was the original blower cutter—forty years' experience back of it—has been in successful use fifteen years. The name Blizzard is stamped in large letters on the case of each machine.

You are sure of biggest value for your money in a

## BLIZZARD Ensilage Cutter

It is wonderfully simple, strong, safe. The fly-wheel of the Blizzard carries both cutting knives and elevating fans. It is built extra strong in every respect—tested at the factory under double the speed of actual service—proved unusually safe through years of service.

The Blizzard is the ideal machine for the farmer. So simple to run a twelve-year-old boy can do it. Your regular farm engine runs it slick as grease. Eats up the corn fast as you can feed—self-feed table makes fast feeding easy—never cuts anything but evenly—tosses the cut corn to the top of highest silos with ease—many in use after fifteen years' use—repair expense small—all wearing parts easily replaceable.

Write for new catalog

Tells all about the construction, power needed, capacity, economy of the Blizzard. Shows the new improvements. Write today. Ask name of your dealer, if you don't know.

The Jos. Dick Mfg. Co.

Box 24  
Canton, Ohio



**The ACRE-AN-HOUR Sifter**  
Beats every hand implement for killing Potato, Melon Bugs, Cabbage Worms, etc. Applies Plaster, Lime, etc., mixed with Paris Green or Arsenate of Lead. Regulates to cover big or little plants, also to apply any quantity of any kind of manufactured dry insecticides. Will operate as fast as desired. Better, easier and faster than any \$5, \$10 or \$15 spray pump. Insist on your dealer showing you this wonderful little implement. Prepaid, 75c. Agents wanted. Circulars. **ACRE-AN-HOUR SIFTER CO.** Dept. E, Poughkeepsie, N. Y.

The "Berlin Quart"



The White Basket

That secures highest prices for your fruit. Write for B15 catalog showing our complete line and secure your baskets and crates at WINTER DISCOUNTS.

The Berlin Fruit Box Co.  
Berlin Heights, Ohio.

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

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You should get the highest grade of limestone manufactured. Buy it upon the basis of analysis. We manufacture the highest grade pulverized limestone sold in Michigan. Let us prove it. Ask for sample and analysis. **CAMPBELL STONE CO., Indian River, Mich.**

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### WHITE SWEET \$1.00 CLOVER 6 Per Bu.

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### SEED BEANS

Personally selected from within thirty miles of Str. of Macinaw. Larger yield, mature earlier, and we saw the pods. Send money order E. Judson, Durand, Mich. Price \$4.00. Money refunded if not satisfactory.

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Paris Green Arsenate of Lead  
Guaranteed Waterproof

Costs no more waterproofed; and goes farther. One spraying usually sufficient for an entire season. Not washed off by rain.

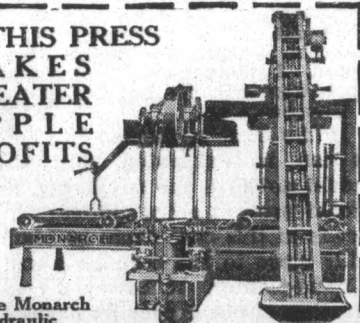
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is suitable for both individual and merchant service. With it you can work up all the culls into profitable cider. Our celebrated high pressure design, combined with minute accuracy in construction, produces maximum quantity of juice from the apples with low operating expense.

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**A. B. PARQUEAR CO. Ltd., Box 112, York, Penna.** We also manufacture Engines, Saw Mills, Thrashers, Potato Diggers, Grain Drills, Cultivators.

### Thinning Fruit Trees

**R**EGARDLESS of the frost damage to fruit trees in various parts of the state, there will be many orchards which will need thinning. Most of those which need it will not get it because the fruit grower caring for the orchard does not realize the value of thinning or understand its principle or believes that it is not a paying proposition.

Nature's object in the production of fruits is to produce seed in order to reproduce its kind. The fleshy part of the fruit is put there for protective purposes and is also so seasoned that it will be liked by animal or human being. This palatability and food value of the flesh is designed by nature to assist in the distribution of the seed.

#### Quality and Quantity Counts.

Man's object in growing fruit is entirely different than that of nature. He wants perfection in the flesh and appearance of the fruit and is really endeavoring to eliminate the seed. Under natural conditions fruits would usually be small, but by selection we have made them large and fleshy. Nature is wasteful in this method; she produces a much larger number of seed than she expects to grow. The object of the modern fruit grower is to limit the amount of fruits borne by a tree and increase their size. In doing that he gets the same number of barrels of fruit from the tree, and being larger he gets a better price for them because the consumer is not buying as many cores and seeds, but

now and thus take one more step toward more perfect Michigan apples?

#### TROUBLE DEPARTMENT.

##### White Grub.

A lot of the plants in my newly set strawberry patch are dying. I pulled one up the other day and most of the roots were gone.

Ionia Co.

L. C. H.

There is no doubt but what the white grub is the cause of your strawberry plants dying. These grubs work under the ground entirely and one grub will often follow a row of newly set plants and destroy quite a number of them before it is noticed.

Your soil is probably of a light loose nature and dries off quite quickly after a rain. The grub cannot work to advantage in naturally moist soils which are packed or in soils of a clayey nature. It is more prevalent in sandy loamy soils.

It is unfortunate that there is no remedy for this pest. The best one can do is to dig after the grubs. When a plant that is cut off is found one should try all the plants both ways from that plant until the last one at each end is found. The grub will be found somewhere near either of these end plants. This is an unending job if one has a large patch and the grub infestation is great.

Preventative measures are to plant the strawberry on the more moist and heavier soils, fall plowing the places where a new patch is to be put and giving the chickens access to it, and if the ground is to be manured use only manure made after the first of



Thinning a Necessary Operation for Successful Peach Growing.

more edible material and therefore less waste in a barrel or basket of large fruit than one of small fruit.

By limiting the number of fruits on a tree we help to conserve the vitality of the tree as nothing takes the vitality of a tree as much as the ripening of the seed. In encouraging the tree to bear moderate crops we encourage them to bear each year, or at least to form fruit buds each year for a crop. **Thinning Peaches and Plums thought Essential.**

There is no doubt in the minds of peach and plum growers as to the value of thinning. The results of thinning are so plainly evident in these fruits that it is considered one of the most important factors in peach and plum growing. The thinning of apples though, is not universally recognized as being an essential operation. In the apple districts of the west thinning is considered necessary because they realize the value of having a uniform grade of apples. In fact, they do a great deal of their fruit grading on the trees by thinning. As soon as we learn the value and profit of properly packing a uniform grade of apples we will consider thinning an essential. Repeated tests by experiment stations have shown without doubt that thinning is profitable and encourages annual bearing.

The buying public will become more discriminating in the kind and quality of fruit they buy and eventually we will be forced to use all of the methods which go toward producing a more perfect product. Eventually Michigan apple growers will thin. Why not

August as other manure is likely to contain grub eggs. Hogs are fond of the grub and will root them up and eat them in large numbers if given an opportunity.

The winged form of the white grub is the common May beetle or June bug. This bug lays the egg in the soil or manure and it takes about two years for the grub to fully develop. At the end of the second season the grub forms its cocoon or pupal shell about a foot below the surface of the soil, and the next spring appears as a beetle. The grubs which are now doing the damage are starting their second year.

##### Onion Maggots.

We are raising multiplier onions and are greatly troubled with onion maggots. Please advise us what to do to eradicate the pest.

Indiana.

J. F. F.

We regret to say that there is no practical means of controlling this insect. Onions should be planted each season in fields as far removed from the previous season's planting as possible. In small fields the carbolic acid emulsion may be used. This is made by dissolving one pound of hard soap in one-half gallon of boiling water and then adding a pint of crude carbolic acid. It should be immediately and thoroughly churned by pumping it back on itself with a bucket pump until a smooth emulsion is formed. For use one part of this stock solution should be used with 50 parts of water. Liberal amounts of tobacco dust along the rows will also act as a fair deterrent.



## Growing the Young Stock

ONE of the principal reasons why so many farmers contend that there is no money in live stock is because they fail to appreciate the importance of growing the young stock properly. A young animal requires a very considerable amount of feed to simply keep up the life processes, and if a suitable growth is to be made it must be secured by additional feed above the amount required to simply support the functions and processes of life. Too many farmers fail to appreciate the importance of making this process of growth a continuous one. Too often the ration is adjusted to the supply of grain or forage rather than to the economic needs of the young animal.

Just a few days ago the writer, with another farmer, was looking at two bunches of colts belonging to different farmers but running in adjoining pastures. The colts in one lot were fat and sleek and had made a remarkably good growth for their age. They were normally and symmetrically developed and gave every promise of growing into useful and valuable horses. The colts in the other field showed evidences of an insufficient winter ration. Their dull, dead, winter coats were shedding, and the bright, sleek new hair which showed in patches where shedding had been most complete added to the appearance of gaining thrift induced by the liberal supply of nutri-

the very start, to the end that maximum gains may be produced at a minimum of cost, while the unavoidable charge of a considerable portion of the ration fed for the support of life and its functions is reduced to the lowest practical point by pushing the animal to a desirable state of maturity at as early an age as possible.

This does not necessarily mean an expensive method of feeding; indeed, it is quite the opposite, since the judicious feeder who keeps his market stock growing in this desirable manner from the start to a finished state will actually expend less feed as well as less labor in the production of that finished product than will the man who skimps the stock during their period of development on the theory of simply growing a frame for the purpose of fattening later, and then pushes this fattening process as rapidly as possible at the finish, generally upon an unbalanced ration which involves the unavoidable waste of food nutrients which the animal will be unable to assimilate because of the poorly balanced ration which is fed.

### Breed vs. Feed.

It pays, of course, to produce well-bred animals, but breeding is no more important than feeding in the economy of live stock production, and an animal which will not pay for a liberal ration will be a source of loss rather than profit, no matter how it may be



Early Gains Are Cheap Gains on Well Fed Young Animals.

tious feed afforded by the flush spring pasture. But these colts did not show the same symmetry of form which characterized the other lot, all of which had been kept in a thrifty and rapidly growing condition at all seasons of the year. While equally well bred, it is a safe prediction that the poorly kept lot of colts will not develop into as useful or as valuable horses as those which had been judiciously fed from the start.

### Early Gains Are Cheap Gains.

What is true of these colts is just as true of any kind of young stock, whether it be calves or lambs or pigs. The young animal which has been properly fed from the start for the purpose of inducing a rapid and symmetrical growth will at all times retain a covering of flesh which makes for smooth, symmetrical and well developed appearance. Animals of this kind will be a source of pride and gratification to their owners instead of a cause for humiliation and excuse, but this is not the only nor the chief reason for the liberal feeding of young animals to produce a rapid and constant growth. Trials at many experiment stations have proven beyond any question of doubt that the gains on young animals are more cheaply made than those on older animals, regardless of their respective weights. For this reason it is good economy in the growing of market stock as well as in the production of utility animals like colts or dairy calves, to feed liberally of a well balanced ration from

fed. The man who grows common stock generally admires the sleek, young animals produced by his neighbor who is in the pure-bred stock business, but is quite prone to say that he could not afford to feed as his neighbor does because he has just common stock. While it may be true that the ordinary farmer would be unwise to feed as liberally as the man who is engaged in the production of show animals, yet there is no question but that it will pay him to feed sufficiently well to produce market stock of a quality and finish which will bring a price upon the market which will yield him a maximum profit on the feeding operation. It is true that the last few pounds of finish on the show animals are expensive, but this is no excuse for the marketing of young animals so lacking in finish as to not only disappoint the consumer as to quality, but because of the low price which this lack of quality compels the owner to take to make the feeding venture a losing game instead of a source of profit.

Not only the live stock breeder, but the professional feeder as well, has learned these lessons long ago, but a very considerable percentage of general farmers who produce live stock as a side line have not given these facts the thought and attention which they merit. A general awakening on this subject would bring about a vast improvement in the average quality of live stock which finds its way to our large markets.

## WON

How scientific experience is sweeping aside lubricating guesswork

To Automobile Owners:

MANY a motor car has gone to the scrap heap through ignorance of lubricating oils and lubrication. Today, leading authorities in the motor world recognize correct lubrication as the most important single factor in efficient motor car maintenance.

"Oils with no carbon"—"All oils are alike"—and other unsound theories are losing ground.

Mileage per gallon is now watched—rather than price per gallon.

Today the skillful automobilist knows that low fuel and maintenance bills measure his ability as an operator.

He takes pride in the "wear" he secures from his oil—in the silent and steady power which it yields—in his freedom from repair and carbon troubles.

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. For information, kindly address any inquiry to our nearest office.



**Mobil oils**

A grade for each type of motor

There will always be some motorists who maintain their cars in a haphazard way. Probably they will always furnish a market for low grade, inefficient oils.

But among motorists who recognize the dangers of inefficient lubrication our Chart of Automobile Recommendations has now become a standard guide.

In this Chart the careful motorist finds specified for his car, the grade of Gargoyle Mobiloils whose quality is beyond question and whose body is scientifically correct for his motor.

If your car is not listed, a complete Chart will be sent you on request.

The pleasures experienced in the use of this oil are: (1) Freedom from repair troubles; (2) Silence of operation; (3) Abundance of power.

The economies are: (1) Low gasoline consumption; (2) Low oil consumption; (3) Low repair bills; (4) Longest life to motor; (5) Greatest second hand value.

The four grades of Gargoyle Mobiloils for gasoline motor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"  
Gargoyle Mobiloil "B"  
Gargoyle Mobiloil "E"  
Gargoyle Mobiloil "Arctic"

### CORRECT AUTOMOBILE LUBRICATION

Explanation: In the chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A". "Arctic" means Gargoyle Mobiloil "Arctic." The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

MODEL OF CARS	1911	1912	1913	1914	1915
Abbott Detroit.....	A	Arc	A	Arc	Arc
American.....	A	Arc	A	Arc	Arc
Apperson.....	Arc	Arc	Arc	Arc	Arc
Auburn (4 cyl).....	A	A	A	A	A
" (6 cyl).....	A	A	A	A	A
Avery.....	A	E	A	A	A
" (Model C) 1 Ton	A	A	A	A	A
Buick.....	A	Arc	A	Arc	Arc
Cadillac.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl).....	A	A	A	A	A
Case.....	A	A	A	A	A
Chalmers.....	A	Arc	Arc	A	Arc
Chandler.....	A	Arc	Arc	A	Arc
Chase (air).....	B	B	B	B	B
" (water).....	A	A	A	A	A
Chevrolet.....	A	Arc	Arc	Arc	Arc
Cole.....	A	Arc	Arc	Arc	Arc
Detroit.....	A	A	A	A	A
" (8 cyl).....	A	A	A	A	A
Dodge.....	A	A	A	A	A
E. M. F.....	Arc	Arc	Arc	Arc	Arc
Emule.....	A	A	A	A	A
Flanders.....	E	E	Arc	Arc	Arc
" (6 cyl).....	A	A	A	A	A
Ford.....	E	E	E	E	E
Franklin.....	A	Arc	A	Arc	A
" Com'l.....	B	A	A	A	A
Grant.....	A	A	A	A	A
Haynes.....	A	A	A	A	A
Hudson.....	A	Arc	A	Arc	Arc
Hupmobile.....	A	A	A	A	A
" (Model 20).....	A	A	A	A	A
I. H. C. (air).....	A	A	A	A	A
" (water).....	A	A	A	A	A
International.....	B	B	A	A	A
Interstate.....	A	A	A	A	A
Jackson.....	A	Arc	A	Arc	Arc
Jeffery.....	A	A	A	A	A
" Com'l.....	Arc	Arc	Arc	Arc	Arc
King.....	A	E	A	E	A
" (8 cyl).....	A	A	A	A	A
Kissel-Kar.....	A	Arc	A	Arc	Arc
" Com'l.....	A	A	A	A	A
" Model 48.....	A	A	A	A	A
Krit.....	A	A	A	A	A
Lozier.....	Arc	Arc	Arc	Arc	Arc
Marion.....	A	E	A	A	A
Marmont.....	A	Arc	A	Arc	Arc
Maxwell.....	Arc	Arc	Arc	Arc	Arc
Metz.....	B	Arc	A	Arc	A
Mitchell.....	A	Arc	A	Arc	A

MODEL OF CARS	1911	1912	1913	1914	1915
Moline.....	A	Arc	A	Arc	Arc
" Knight.....	A	A	A	A	A
Moon (4 cyl).....	Arc	Arc	Arc	Arc	Arc
" (6 cyl).....	A	A	A	A	A
National.....	A	A	A	A	A
Oakland.....	A	Arc	A	Arc	Arc
Oldsmobile.....	A	Arc	A	Arc	Arc
Overland.....	Arc	Arc	Arc	Arc	Arc
Packard.....	Arc	Arc	Arc	Arc	Arc
Paige.....	A	A	E	A	A
" (6 cyl).....	A	A	A	A	A
Pathfinder.....	A	A	A	A	A
Premier.....	A	A	A	A	A
Rambler.....	A	Arc	Arc	Arc	Arc
Regal.....	A	Arc	Arc	Arc	Arc
Reo.....	A	Arc	A	Arc	Arc
Saxon.....	A	Arc	A	Arc	Arc
Studebaker.....	A	Arc	Arc	Arc	Arc
Stutz.....	A	Arc	Arc	Arc	Arc
Vette (4 cyl).....	A	A	A	A	A
" (6 cyl).....	A	A	A	A	A
White.....	Arc	Arc	Arc	Arc	Arc
Winton.....	Arc	Arc	Arc	Arc	Arc

Model of Tractor	1911	1912	1913	1914	1915
Aultman-Taylor (4 cyl. horizontal).....	A	Arc	A	Arc	Arc
Avery.....	B	A	A	A	A
Best.....	B	A	A	A	A
Big Four (20).....	A	A	A	A	A
Bull.....	A	A	A	A	A
Butler (Model A1).....	A	A	A	A	A
Holt Caterpillar.....	A	A	A	A	A
C. O. D. (2 cyl. horizontal).....	A	Arc	A	Arc	Arc
Denning (Models B & C).....	A	A	A	A	A
Eagle.....	A	A	A	A	A
E. B. Farm.....	A	Arc	A	Arc	Arc
Emerson Brantingham (Model B-Big 20).....	A	A	A	A	A
Fairbanks Morse.....	A	Arc	A	Arc	Arc
Farquhar.....	A	A	A	A	A
Flour City.....	A	A	A	A	A
Gray.....	A	A	A	A	A
Hackney Auto Plow.....	A	A	A	A	A

Model of Tractor	1911	1912	1913	1914	1915
Hart Parr.....	B	A	A	A	A
Ileer (2 cyl. horizontal).....	A	Arc	A	Arc	Arc
I. H. C.....	A	A	A	A	A
Imperial (40).....	B	A	A	A	A
Lambert (Model X).....	A	A	A	A	A
Leader (Heavy Duty).....	A	A	A	A	A
Lion.....	A	A	A	A	A
M. & M.....	A	A	A	A	A
Nichols & Shepard (2 cyl. horizontal).....	A	Arc	A	Arc	Arc
Ohio.....	A	A	A	A	A
Reeves (40).....	A	A	A	A	A
Rumely.....	A	A	A	A	A
Russell.....	A	A	A	A	A
Simplex.....	A	A	A	A	A
" (4 cyl. horizontal).....	A	Arc	A	Arc	Arc
Strite.....	A	A	A	A	A
Twin City.....	A	A	A	A	A
Universal.....	A	A	A	A	A
Walls (Type D).....	A	A	A	A	A

### Stationary and Portable Engines

Your oil must meet the heat conditions in your engine. Many oils thin out too much in the cylinders. Three troubles result: (1) Compression escapes and power is lost. (2) The cylinder walls are exposed to friction. (3) Excess carbon is deposited. The oils specified below will prove efficient.

**Water-cooled engines**—Use Gargoyle Mobiloil "A" in summer; use Gargoyle Mobiloil "Arctic" in winter. **Air-cooled engines**—Use Gargoyle Mobiloil "B" the year 'round.

### Tractors

The design of your engine must determine the correct oil. Send for booklet containing Gargoyle Mobiloils Chart of Recommendations for tractors.

**Mobilubricant**—In the patented Handy Package. The correct grease for transmissions, differentials and compression cups of automobiles. The spout fits the filling plug opening of the Ford and all other cars. Mobilubricant is just the thing for farm machinery. Simply turn the key. No dirt, no waste, no trouble.

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Silo of Quality, Permanent, Built Right, Looks Right, Is Right. No Experiment, Thoroughly Tested, Guaranteed. One Cost, Only Cost, No Up-Keep. Prices and Terms Reasonable. Agents wanted. Free Catalog.  
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Silo Bldg., Portland, Ind.  
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**ROSE COMB BROWN LEGHORN EGGS** from Mad. F. winners. \$1.00 per setting. \$5.00 per 100. M. Pekin ducks \$1.00 per setting. **CLAUDIA BETTS, Hillsdale, Michigan.**

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

**SILVER Laced Golden and White Wyandotte Eggs** for hatching. Ten cents each or \$3 for \$2.50. I pay parcel post charges. **C. W. BROWNING, Portland, Michigan.**

**BARRED ROCKS.** Parks 200-Egg strain. A strain with Egg records to 271 eggs a year. \$1.50 per 15. Delivered by Parcel Post. Fred Astling, Constantine, Mich.

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**Chicks:** We ship thousands, different Varieties, prices right, order now for spring delivery, free booklet. Freeport Hatchery, Box 12, Freeport, Mich.

**Lillie Farmstead**—S. C. Barred P. Rocks, R. C. Rhode Island Reds and S. C. White Leghorns Eggs for sale, \$1 for 15, \$1.50 for 24, \$2.10 for 50. Colon C. Lillie, Coopersville, Mich.

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First prize winners at Chicago, Cincinnati, Indianapolis, etc.  
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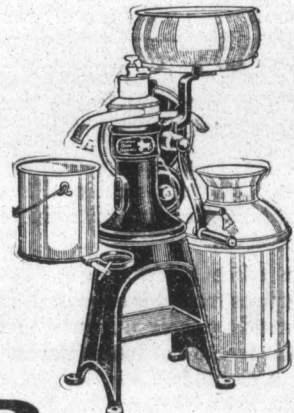
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# Poultry and Bees.

## BEE-KEEPING FOR THE GENERAL FARMER.

(Continued from last week.)

If you have colonies without queen cells started, at the time of dividing, cut out one medium length capped queen cell from those colonies having more than one, place this in a cell protector, and give to the colony that has none started.

After you have a queen cell for every colony, destroy all queen cells, but one, in those old colonies having more than one. Try to leave a queen cell that is of good shape and medium length, rather destroy those queen cells that are very short or extra long and slim. In about three weeks you should examine these colonies carefully and make sure they have laying queens.

If there is no sign of a queen and you do not want to buy one, give the queenless colony a frame from your best colony, containing eggs and they will raise another queen. Examine again in three weeks to see if there eggs or larvae present, if there are you will know your colony has a queen. When a colony raises a young queen at this time of the year, if it is

have the sections as clean as possible. With the extracted honey, do not extract it till thoroughly ripe, then strain it carefully and put it up in fresh clean receptacles of the size you can sell most readily.

Do not sell your honey below market price, ask a fair price and if you have the quality, there is seldom any bother to dispose of the crop. Never sell honey to your neighbors, in small quantities, for the same price that you charge the storekeeper. One is retail, while the storekeeper should have a fair margin of profit; remember, he has to sell again.

The problem of disease is a serious one. Every bee-keeper should have on hand, bulletins describing the symptoms and treatment of disease so that if any suspicious brood is seen, he may look up the illustrations of the disease and make a better diagnosis. Be sure that you know healthy brood by its appearance, then you will have less difficulty in observing any disease that may break out.

Queenlessness, either in the spring or fall entails serious loss; examine your colonies now and then to see that the queen is doing good work.



Provide Shade-boards if Natural Shade is not Available.

given sufficient super room, it will seldom swarm until the main flow is over, if at all.

Do not be satisfied after you have given one or two supers but examine in about a week and if they are commencing to cap the center rows of sections, place another super beneath the first one, repeat this as often as necessary and when the first one is all capped, take it off to prevent the bees propolis and staining the beautiful white capped sections. Towards the end of the honey flow place the empty supers on top rather than below, then your bees will finish the partially completed sections first. This will avoid so many uncompleted sections at the close of the season. Save all the sections which are drawn out but not filled, these will serve as bait sections the following season and their use will entice the bees into the supers more readily than if you have no baits in the supers.

Bee-keepers sometimes make the bees very cross when they take honey off without the use of a bee escape, the bees are brushed, smoked and jarred until some of them resent the treatment and turn on the bee-man. To avoid all this disturbance have a number of boards containing bee escapes and by using these you will have no difficulty in taking off the honey free from bees and at the same time the folks around the house will not have to keep indoors as they do sometimes after the honey has been removed.

When you have removed your sections or extracted your honey, put it on the market in a clean appetizing condition. In the case of sections, scrape off all the spare propolis and

If, at any time, you notice that the bees from any one hive are not working as they should, or the colony appears to have but a few bees, then look in and find the trouble.

Ingham Co. F. E. MILLEN.

## FEED FOR YOUNG TURKEYS.

What is the best feed for young turkeys? Which is best to raise them with, turkeys or hens?

Allegan Co. Mrs. C. A. J.

One of the best feeds for young poult is coarsely ground corn mixed with either sweet or sour milk, or the corn might be baked in a cake and then moistened with milk before feeding. One should determine as to whether he wishes to use sweet or sour milk and then continue to use the kind decided upon as it is not advisable to change from one to the other. This moistened ground corn is gradually mixed with corn meal until they receive clear corn meal when they are about eight weeks old.

It is considered advisable by most all authorities to use turkey hens for hatching. The period of incubation for the turkey egg is longer than that for the hen's egg, therefore if the eggs were placed under a hen she might not stay on them until they were hatched, and as the hens only cover six or seven turkey eggs, while the turkey hen covers 12 to 15, it would naturally seem advisable to use the turkey hen.

A good turkey hen will usually lay more eggs than she can comfortably cover; it is therefore advisable to gather the eggs as they are laid and when the hen desires to set give her 12 or 15 of the last laid eggs.



## Dairy.

CONDUCTED BY COLON C. LILLIE.

### REPORT OF GRAND RAPIDS COW-TESTING ASSOCIATION.

I am glad to report that the Grand Rapids Cow-testing Association has completed another year's work. This association is next to the oldest organization of its kind in America and is still carrying on good work. It is composed of dairy herds in and around Grand Rapids, Michigan, and on electric lines leading from that city. The association, being spread over a large territory, does not get the benefit of buying grain in carload lots that it would get were it confined to a smaller area.

The farmers and dairymen who have stayed in the association and taken the advice of the tester, has been able to offer them in regards economical feeding, culling out poor cows and by watching the monthly records of each individual cow, are well satisfied and wish to continue the work, as the testing of each indi-

pure-bred Jerseys, 35 grade Jerseys, 25 pure-bred Holsteins, 45 grade Holsteins, three pure-bred Guernseys, three grade Guernseys, and nine grade Durhams.

Another year's work is now started and a good start is being made for records for the coming year. Our best producing cow of last year has been tested for two months' work for the coming year, making 150 pounds of fat for the two months at a profit of \$30.09. We also have a Guernsey heifer, Rose of Holmedene, age one year and nine months, owned by R. A. Holmes, which produced, according to the association monthly test, 955 pounds of milk, testing 6.1 per cent, making 58.2 pounds of fat, or 68.4 pounds of 85 per cent butter in one month. Figuring butter-fat at 30 cents per pound would make the value of the product \$17.46. We figure pasture at \$2.00 per month and feed at the current market price, this heifer's rations cost \$3.88, leaving a net profit of \$13.58, or \$4.50 returns for \$1.00 invested. The heifer has access to a June grass pasture and is fed the following grain ration daily: One pound of corn meal, one pound of ground oats, one pound of cottonseed meal, and one pound of bran. Mr. Holmes is a young Kent county farmer, has



A Good Sire is one of the Important Factors of Successful Dairying.

vidual cow has shown them which ones are paying a good profit and which are fed at a loss.

Last year's work was completed on April 1, with 200 cows on the books for the entire year. Several cows were withdrawn before their year was complete on account of the tuberculin test. The 200 cows produced 1,238,325 pounds of milk containing 55,165.8 pounds of butter-fat averaging test being 4.45 per cent. Figuring the butter-fat at 30 cents, the value would be \$16,549.74. This brings the average milk production of each individual to 6,191.6 pounds, containing 275.8 pounds of fat per cow. We realize that this is not a large yield, but owing to the fact that we have about 50 heifers in the association, it is not a bad record.

The average cost of production of one pound of fat was 18.8 cents and for 100 pounds of milk, 97.3 cents.

The highest producing cow in the association was a registered Jersey, Great Edison's Polly, owned by M. H. Edison. She gave 7,939 pounds of milk, testing 6.45 per cent, producing 512.4 pounds of butter-fat or 602.8 lbs. of 85 per cent butter, and realized a profit of \$89.59 above cost of feed. This cow was dry during two months of the testing period. Mr. Edison's herd of pure-bred Jerseys was also the highest yielding herd in the association, averaging 7,136.9 pounds of milk testing 6.27 per cent and making 4,467 pounds of fat. This herd made an average profit per cow of \$74.18, \$2.16 for every \$1.00 expended for feed. The average age of the herd was four years.

Of the 200 cows in the association they are divided as follows: Eighty

only seven head of pure-bred Guernseys, and is not yet doing advanced registry work, although planning to in the near future. D. R. EDGERLY.

### STOPPING THE SUCKING HABIT.

How can I break a heifer from sucking herself. She has only been doing this for two weeks while in the pasture or barnyard. She does not leave enough milk to feed the calf. H. J.

Get what is called a calf weaner at the hardware store. It is fastened in the nose in same way as a bull ring and has long sharp brads on it. When she goes back to suck, these brads are thrust into her udder and flank and she suddenly thinks she does not wish to suck. After many attempts they will almost invariably give the habit up. This weaner does not prevent the cow from eating either in the stable or in the pasture.

### HOW TO DRY UP COWS.

I have two cows too old to winter again. One fresh, the other due soon. How can I dry them up so as to sell them off from the grass this fall? Gladwin Co. C. W. E. F.

I asked a butcher once how he dried up cows that he bought, and he said is to it, I guess. His cows usually were not fresh, but cows that had passed the flush of the period of lactation. All he did was to turn them out into a pasture and not go near them. He told me he never had a cow injured by this treatment. I expect C. W. E. F. wishes to milk these cows for a time till the flush is over and then dry them off. Do as this butcher did.



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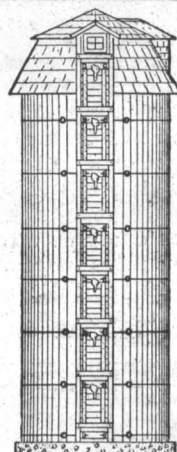
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## Practical Science.

### THE DEVELOPMENT OF THE FLOUR INDUSTRY.

BY FLOYD W. ROBISON.

The chemist has been very closely associated with the development of the flour industry in this country and it has probably reached its highest degree of perfection in the United States although much very careful investigational work, particularly with reference to flour adapted for commercial bakers, has been pursued by certain noted analysts in Great Britain. No doubt the reason for the great development of the flour industry in the United States has been through the growing demand in this country for a special type of flour. Mill owners and flour merchants as well as bakers have become convinced that much information can be given them by the chemist, not information, perhaps, regarding the technical manufacture of a particular type of flour but information of value determined from an analysis of the wheat which data becomes of interest to them later in the standardizing of their flour. The miller is very vitally interested in the uniformity of his product, and second only to the integrity of the product itself must come the uniformity of that product. The miller is interested in having a flour which will, when placed in the hands of his consumers, act in a like way from day to day.

#### Flour Gets the Blame.

The flour consumer is a very particular and discriminating buyer and many times the flour bought must take the blame for faulty management and, in the baking, for faulty baking. Poor workmanship is laid generally at the door of the flour and like making a determination by difference in a chemical laboratory, it unconsciously gathers to itself all of the criticisms which are derived from the various other ingredients which go with it to make the loaf of bread.

#### The Chemist Has Banished the "Rule of Thumb."

It is within the province of the laboratory to determine first of all the quantity of any given sample of wheat available for flour. It is also within the province of the laboratory to determine from a sample of wheat submitted what amounts of the different commercial grades of flour can be expected from that wheat. In this way there is no guess work about what the miller buys. One carload of wheat will yield an entirely different type of flour products from that of another. The percentage of patent flour is higher in one wheat than in another and the possible number of loaves per barrel of flour is greater in one flour than in another. It is possible in the laboratory by the examination of two adequate samples of wheat from different cars to advise the miller in advance exactly what commercial products he can make from the milling of those wheats. He can figure in advance on this system just how much high-grade patent flour he can make, or he can tell how much straight flour he can make, and how much clear, or how much long patent, as the case may be. Knowing these things, uniformity, the aim of all millers, is within his reach.

#### The By-product Must be Controlled.

There are many by-products in the milling of wheat which go to make up, generally speaking, commercial feeding stuffs for the feeding of domestic animals. These the law compels to be brought out under rigid guaranty and the miller is wise if he keeps strict laboratory control of his by-products to protect himself from an unconscious or an unwilling even misbranding of the product itself. Of late, the chemist has been called upon to sim-

ulate to as high degree as he possibly can the conditions in flour which are reached by storage. The storing of flour accomplishes a great deal for it. Just what these changes are, which are produced during the normal aging of flour, we do not know in total. One of the changes is the reduction of the coloring matter. The flour becomes whiter at the same time it becomes mellow and behaves in a manner which makes it in demand among bakers over freshly milled stock. Chemists have therefore devised artificial aging processes.

#### Artificial Aging Has Meant Mostly Bleaching.

The processes up to date have been almost wholly concerned with removing the most noticeable factor affected by the process of aging, i. e., the color, and there are certain artificial bleaching processes in use for this purpose. The one most commonly exploited is perhaps the so-called Alsop process which provides for the bleaching of flour by spraying the flour between the poles of an electric current which is called the flaming arc. It has been established, we believe, clearly, that in this process certain of the oxides of nitrogen are produced from the air by the electricity, which oxides of nitrogen seem to produce this bleaching effect. Besides this process there is the chlorine process. One of the best tests to ascertain if a flour has been bleached, or at least extensively bleached, is to shake a quantity of the flour up in a tall cylinder with about an equal volume of gasoline and allow the flour to subside. The gasoline on top will be colored yellow if the flour has not been extensively bleached but the gasoline extract will be practically colorless. The artificial bleaching as conducted by many millers and particularly by some of the advocates of the bleaching process is a procedure of very questionable expediency. We fail to see wherein it has improved the product from the consumer's point of view and we believe it has been pointing the milling fraternity in the wrong direction.

Chemistry in the main, however, has been of very great value to the miller, and if the laboratory is allowed a proper latitude, it can determine in a very certain way the great value of the chemist to the flour industry.

#### LONGEVITY OF SOME COMMON SEEDS.

A report of some Canadian experiments gives results of germination tests of seeds of timothy, red clover, and alsike clover, that had been stored for ten years, and of oats that had been stored 13 years. For timothy it was found that the average germination of the 25 samples one year after harvest was 95 per cent; five years after, the average was 90 per cent; after that, however, a steady loss of vitality was shown, although at the end of 10 years an average germination of 54 per cent was still shown. It is interesting to note that, contrary to general opinion, the timothy seed retained its vitality somewhat better than either red clover or alsike. For red clover the average germination of 24 samples one year after harvest was 97 per cent, while 10 years after, only 44 per cent was capable of germination. For alsike clover the average germination of 24 samples one year after harvest was 93 per cent, and 10 years after, 45 per cent, or a loss of 48 per cent during that period.

For oats the average of the 180 samples when first tested was 95 per cent, while the average of 156 samples when 10 years old, was still 95 per cent.



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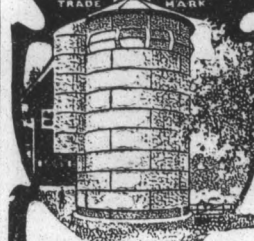
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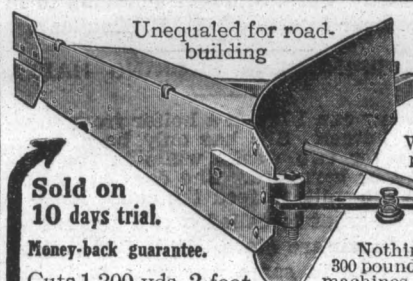
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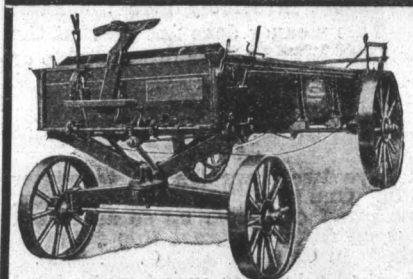
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# Magazine Section

LITERATURE  
POETRY  
HISTORY and  
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**MICHIGAN FARMER**  
AND *LIVE STOCK*  
PUBLISHED WEEKLY  
*JOURNAL*  
ESTABLISHED 1843.

The FARM BOY  
and GIRL  
SCIENTIFIC and  
MECHANICAL

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

## Successful Negro Farmers

By DANIEL LEATHERMAN

IT may not be very widely known that in Calvin township, Cass county, in southern Michigan, is a colony of very successful Negro farmers, the first settlers having located there long before the Civil war abolished Negro slavery in this country. Michigan was at that time still for the most part a vast forest. The colored people were fortunate in getting possession of thousands of acres of the hardwood timber land which abounded in the locality. For years they had some thing like a monopoly of the hard fire wood markets in the cities surrounding the colony, farming the cleared-up land during the summer, and hauling wood and saw-logs to market during the winter.

The timber has now about all disappeared, however, and one sees everywhere fine, up-to-date dwellings—either brick or frame—while no better barns can be found anywhere, being in most cases large and commodious enough to house all the grain and hay grown, besides all the stock. A thrifty appearance is evident on all sides, and to one not acquainted with the facts it is hard to believe the inhabitants originated beneath African skies.

The writer recently made several trips through this Negro section and has learned that any white man who comes into contact with the colored people there, is always treated with marked hospitality and respect. They are not adverse to discuss the latest and best methods of farm practice, being readers of the farm journals, even outshining many of their white neighbors in skill as farmers. Formerly general farming was the rule, but of late years this has given way largely to dairying. It is a common sight to see numbers of milk wagons, many in charge of the wife or oldest daughter, going to the creamery loaded with milk or cream. Silos are numerous, and in the pasture fields may be seen fine herds of cattle. The automobile is also greatly in evidence in the colony, and we have repeatedly met entire families on their way to Edwardsburg or Cassopolis to do their trading.

Aside from an agricultural point of view, this settlement is also interesting from a historical standpoint. The first settlers were slaves on the plantation of Henry Clay, the renowned Kentucky statesman. Clay, believing that the Negro, if thrown on his own

resources, could be made to take care of himself, liberated his slaves, and bought lands in Ohio where he took them and set them up in farming. But homesickness for their old master caused them to sell their stock and

other property, and walk back to Kentucky. Clay then sold the Ohio lands and purchased a tract in Calvin township, Cass county, Michigan, where he took them, and where they and their children have since remained.

## The Ambitious Crow

By  
Aunt Quillia

(Story for Children)

A pet crow who had made himself obnoxious to all the barnyard fowls as well as to the other denizens of the farm once conceived the idea of acting as patrol for the premises.

This important office had, for years, been filled by an intelligent and responsible Collie who saw that none of the home stock escaped their enclosures and that no tramp came within.

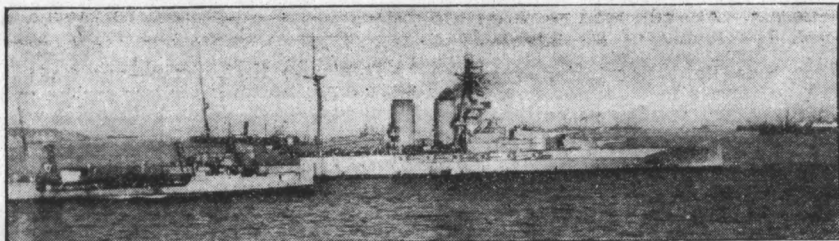
However, the crow began scheming for this position of trust and although Macgregor—or Mack, as he was familiarly called—was still as competent as ever, Jake began undermining him by suggesting that he was too old for the place.

"You know very well," he said to a handsome cock, whom, for the sake of his influence, he buttonholed more frequently than anyone else, "you know very well that Mack is in his dotage.

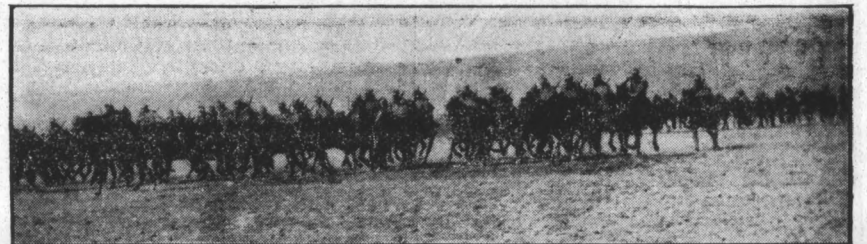
His eyesight is failing and his hearing nearly gone. Besides that he never had any dignity but trotted around wagging his tail and fawning on all who deigned to notice him in a manner that stamped him as a weak, docile creature, with neither determination nor authority. All must admit that my step is stately and my bearing imperious. As I went the rounds of the place all would recognize that, at last, this farmstead had a guardian both competent and commanding."

Lost in contemplating the honors that awaited him Jake forgot his past and reckoned too confidently on a loyal constituency. He failed to attach any weight to the fact that it had been his custom to pilfer every glittering thing on the place, even to madam's spoons and spectacles and Missy's shining beads. He also forgot his old delight in tweaking Tabby's tail

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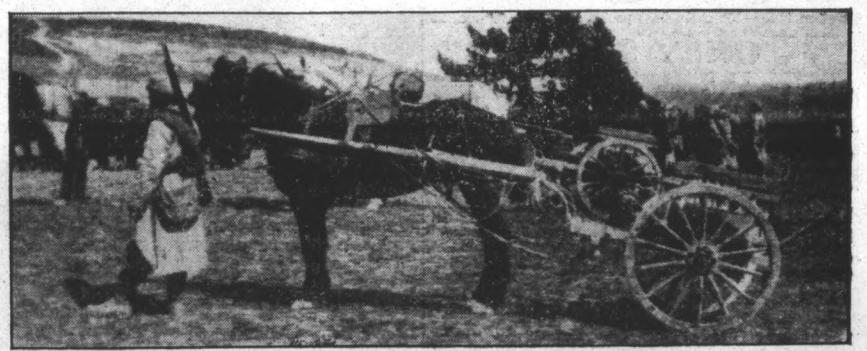
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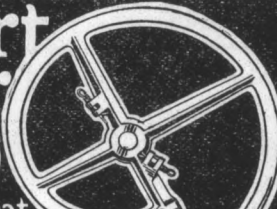
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and ears and pouncing suddenly on the back of a high-strung nervous colt who was forced to give him a free ride over the pasture before he could shake him off.

But his companions remembered, and so when the day came for them to express their opinions at the polls much to Jake's chagrin he found that not a single vote had been cast in his favor.

Blacker than ever with wrath, he demanded the cause of his defeat. At first no one seemed inclined to explain, but as the silence grew oppressive Squire Doodle-doo arose and said: "I think the trouble with our friend may be found in the words I heard a poultry buyer quote the other day: 'Politicians whose future is behind them frequently find their past before them'"

## THE RED MIST.

By RANDALL PARRISH.

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### CHAPTER XI.

#### What we Overheard.

I COULD feel the trembling of her body, and for an instant my brain seemed to reel with dizziness. The danger confronting us was not so much mine as hers; my uniform might possibly save me, or, at least, prevent my suffering from anything more unpleasant than capture, but there was no such hope for the girl. These men were not soldiers but desperadoes, the scum of the hills, and they had come actuated by one object only—the possession of Major Harwood's daughter. What the real purpose of the Cowans might be I could not even conjecture, but this night raid was, beyond all doubt, a part of that same foul plot which had involved the cowardly murder of the father. That had been the work of the elder Cowan, and now had come the turn of the son. Here was the culmination of the feud between the two families, the blood-anger which had smoldered for years, finally to find fit expression in this outrage under the guise of war. With the Major dead, and his only child married to Anse Cowan—whether by force, or otherwise—the account would be closed. Once legally this villain's wife all her inheritance would be in his control. That must be the object, the vile, cowardly purpose, which had brought him, and his murderous crew to this lonely house through the storm. He expected to surprise the girl alone, and unprotected; in the canting preacher Nichols he had a tool fitted to do his bidding, yet even under such conditions he dare not venture on the deed unaccompanied. He had to bring a gang of cut-throats along with him—a dozen men to overcome the resistance of a frail girl. That very fact stamped him for what he was—a sneaking cur, afraid of his contemplated crime. True; yet this did not necessarily mean that he would prove any the less dangerous. His very sense of cowardice might render him the more desperate, while the number of his supporters, and their jeers at any failure on his part, would drive him to greater atrocity. All this flashed over me in the single moment we stood there, hesitating, confused, all our plans for escape instantly shattered. I had no thought but to fight—to fight desperately, protecting this girl's honor with my life. I knew of no escape, no means by which we might find a way out of the toils in which we were caught—we must meet them here at the stair head, in the dark, and defend ourselves to the last extremity. Death, even, was far preferable to falling alive into their hands. I felt instinctively that it would be her choice. She had uttered no sound, no cry after that first startled exclamation. Suddenly her hands grasped mine in which I gripped the revolver.

"Do not shoot—not yet!" she whispered, the sound of her words barely audible. "Wait; there is one chance still that we may deceive them."

"A way leading out? You mean a secret passage?"

"No, but a spot where we might hide, and be overlooked. I am sure none of these men know this house; Anse Cowan has never been inside of it, and most of the ruffians with him are from beyond the mountains. If they do not find us here when they search, they will believe we have escaped."

"They will discover the preacher," I protested, yet with a faint throb of hope. "He will be heard from presently, and they will learn the truth from him."

"All he knows—yes; but that is not much. He cannot be sure that we have not had time in which to get safely away. The two of us cannot defend both these stairs," she urged, "and our only hope is in hiding. Come now, while we have time—there they are, battering at the parlor door. They will be in the hall next, and it will be too late."

She drew me back, and I yielded to the grasp of her hand. The darkness

was intense, but she moved swiftly and surely, as though knowing intimately every inch of the way; her fingers touching mine were warm and firm, no longer trembling. Action had brought back her courage, and I felt my own heart beat stronger in response. Anything was better than hopeless waiting—any chance, any desperate effort. The door in front crashed, and an oath rumbled upward; to the rear a light flashed, its reflection reddening the stair. Aided by its distant flicker we raced back down the upper hall to where it narrowed. A ladder stood there leading upward to a small scuttle above. Instantly my mind grasped her plan—the attic. If we could attain the attic unseen, drawing the ladder up after us and lowering the cover over the hole, our presence in the house might remain unsuspected. It was a low, flat roof; the space above must be small, and, unless the fellows knew of this ladder and opening, the place would probably never be observed in the course of their hasty search of the rooms. Even at the worst our opportunity for defense would be better up above than in that open hallway.

"I see what you mean," I said swiftly. "Go up first, Miss Noreen—hurry. Is the ladder fastened to the floor?"

"By a single small nail in each support; only enough to hold it firm. It was kept here in case of fire."

"Yes, I see; I can kick it loose easily. Don't delay; those fellows will be up the stairs in a moment more, and they are bringing a light with them. Here, let me help you."

She crept through the narrow scuttlehole, her supple, slender body finding easy passage. With two blows of my boot I loosened the supports, freeing them from the floors, and mounted recklessly. Already men were on the stairs, the gleam of an approaching light reflecting along the side-walls. There was light flooring above, and sufficient space in which to move freely, although I could see nothing, not even the breathless girl at my side. Together we grasped the upper rungs, and drew up the ladder, sliding it in behind us on the floor. The scuttle cover was on hinges, and I clamped it down securely into place. Fortunately it slipped over the edge of the hole noiselessly, but the thin center board had warped slightly, leaving a little space, through which stole a tiny gleam of light, growing brighter as the searchers below advanced along the hall. It was no more than a narrow bar outlined on the roof overhead, and yielding us an indistinct glimpse of each other's faces, as we lay there pressed closely together in silent suspense. I stretched forward, endeavoring to peer down through the narrow crack, but was baffled by its smallness. Only the steadiness of the light, the voices, and the varied noises below, gave us information of what occurred. Yet these served to reveal clearly enough the progress of the searching party, and the conclusions to which they arrived. They possessed more than one lamp, because a light continued to burn steadily in the hall while the fellows were busily exploring the rooms on either side. We could distinguish the opening and closing of doors, and the sound of voices calling to others on the floor below. Once some fellow, apparently just beneath us, ripped out an oath.

"Well, now, Jack, do you suppose Nichols has dared play such a durned trick on me and squealed to the girl?"

"Hanged if I know," was the sullen reply. "But it don't look like thar was a soul in the house."

"Yer right it don't, but I can't believe he ever had the nerve to do such a d—n trick."

I felt her hand touch mine softly, and bent my head until her lips were at my ear.

"That was Anse Cowan," she whispered. "I recognize that voice. What do you suppose they will do now?"

The one fear in my heart was that in the fierce anger of disappointment they might fire the house, but I could not frighten her by giving utterance

to the suspicion. My fingers tightened their grip; the men below had moved on, their voices grumbling along the hall.

"They will discover the preacher presently," I said, endeavoring to make my words as reassuring as possible. "I only wonder they have overlooked him so long; I supposed he would make an outcry."

"Perhaps he is afraid," she commented. "I have heard that Anse Cowan has a horrible temper, and when things go wrong acts like a crazed man—Nichols may dread facing his anger, and hope to escape discovery by remaining still."

"That may be true; the fellow is chicken-hearted enough from what I saw of him, but no less a villain. They will find him, however, for, from the sounds, they are prying into every nook and cranny. I heard them breaking down one door which must have been locked—there! they are battering in another now! They are old hands at this game, and this is not the first house they have looted. When they do find the preacher he will tell everything he knows, as fast as he can talk."

She drew in her breath sharply, and sat up. The movement was noiseless, but in the instant of intense silence which followed, we heard below us the sudden sound of struggle, a muffled voice calling for mercy, the shuffling of feet, and the noise of a body being hauled forward across the floor. Then someone ran along the hall, passing just beneath us.

"What have you found, Kelly?" It was Anse's voice roaring out the question. "Ah! the old fox dug out of his hole, hey! Now see here, you canting old hypocrite. Just what kind of a trick is it you are playing on me? Stand him up there boys, against that rail. Stop your howling, or I'll smash you one in the face. Where did you find the fool, Jack?"

"Locked in a closet yonder; looks like it might be the girl's room."

"Locked in?"

"He sure was, an' no key. We had to bust in the door ter git at him."

"He had locked himself thar?"

"I reckon not; leastwise thar want no key thar, an' none in his pocket. The darn fool is too skeered ter talk yet."

"Well, I'll make him, er else thar'll be a dead preacher in 'bout a minute. I reckon as how I'll do as much skeering as anyone. Now, Nichols, ye see thet! Whut the devil wus yer doing in thet closet?"

"They—they done put me thar, Anse."

"They! What do yer mean? Wus thar anyone yere along with ther girl?"

Nichols voice sounded as though he was being choked, his reply being gasped out.

"Don't do thet, Anse—my God! I ain't done nothing fer yer ter be mad at—I—I just couldn't help bein' whar I wus—let me 'lone a minute, an' I'll tell yer all 'bout it."

"Go on then—who wus yere beside the girl when yer cum?"

"A Yankee leftenant, a cavalryman I reckon from ther yaller stripes on his legs."

"A Yank! Did yer hear the fellar's name?"

"D—n if I'm sure; he's a right good sized man, an' not bad lookin'. Pears to me, now I think of it, she called him Raymond."

There was a gasping sound as though Anse's hand had closed again heavily on the fellow's throat.

"Raymond! I reckon yer lyin' ter me, Parson. Yer heard tell o' thet fellar over in camp, an' ther name stuck. 'Twon't be healthy fer yer ter play no game yere."

"I ain't, Anse. Quit a chokin' me. I never heard tell o' no Yank named Raymond afore. Be thar one 'round yere?"

"Wall, thar wus, but I don't reckon thar is now," doubtfully. "Last I heerd tell o' him he wus over in Fayette a ridin' like hell fer Charleston. Monte's band picked him up, an' he didn't find this kentry none too healthy fer his line o' business, which was recruitin'—whut's that, Kelly?"

"Better let ther preacher tell his story, Anse. We're losin' a lot o' time; I reckon thar must a bin some kind o' male critter yere 'taint likely ther girl locked him up alone, an' it don't make no odds whut the Yank's name wus, nohow."

"Go on, Nichols; whut happened? Tell us the whole of it, but make it short."

The preacher drew in a long breath, evidently relieved to have the pressure of Anse's murderous fingers removed from his throat. He sputtered a bit as he began to speak, and there were muffled words we could not distinguish. Occasionally someone of his auditors interrupted with an oath, or exclamation. He spoke faster as he proceeded, as though feeling less fear, and eager to have the task over. Only



once or twice did Cowan interject a brief question.

"I came yere as you told me to, but I must hev' rode faster than was expected, fer no one was yere when I got ter the house. It was stormin' all ther way, an' I wus plum wet through, an' plastered with mud. The hoss was fit ter drap, fer I thought maybe I'd be late, an' we'd cum a kitin'. Thar warn't nary lize in ther shebank exceptin' upstairs on the west side, an' I reckoned as how that mout likely be ther gal's room. I went clar 'round ter make sure, but thar warn't no oth-er glimmer anywhere. Didn't strike me I had nuthin' ter be afeerd of, with nobody but the young gal at home. I reckoned as how she'd know me, and wouldn't likely make no fuss, afore I could explain how I cum thar, an' I sure wanted ter git inside outer thet cold rain. I didn't know how long it might be 'fore you fellers come. Wall, when I crept up on the front piazza, the first thing I see was a winder smashed in, an' I got through thar, an' across the room to ther door leadin' inter the hall, afore I saw eny signs of enybody. Then I glimpsed a light in the room opposite, an' seed the girl sittin' in front o' ther fireplace. I didn't know thar was a soul else in the house, an' thet fire looked so good, I just up an' stepped inter the room afore I thought. Then I see this yere Yank a sittin' at the table eatin'."

"He was in uniform?"

"Sure; wet and muddy as if he hedn't bin inside long either, an' he didn't leave me no time fer ter back out. He hed me covered almost 'fore I see him; but the gal jumped up an' told him who I wus, an' he put back the pistol, an' sat thar while she questioned me right smart."

"Well, what did you tell her?"

"Only 'bout her father being dead at furst. Thet I heerd about it at Lewisburg, an' hed felt it my duty ter bring her the news. I reckon if she hed bin thar alone we'd a got 'long fine tergether, but thet Yankee leftenant wus too smart ter be fooled so easy. I reckon he knew more'n he let on, fer ther furst thing I knew he wus questioning me like a blame lawyer, an' a shovin' a gun in my face ter make me answer."

"You d-n coward! What did you tell?"

"Honest, Anse, I don't jest know; but I reckon I did spit it most out, fer he'd a killed me if I hadn't."

"Do you mean to say you told them I was comin' yere tonight, an' goin' fer ter make the girl marry me—you whinin' cur?"

"How could I help it, Anse? I reckon if thet feller hed a pistol et your head you'd a did some talkin'. Maybe he's a recruitin' officer, but he ain't no sorter man ter fool with onct he gits mad."

"Well, I'd sure like fer ter know who he is. He can't be the feller what got away from Monte, fer he lit out fer Charleston. How did this yere feller git yere—on horseback?"

"I didn't git sight o' no hoss; thar wus only one four-legged critter in ther barn, an' I reckon as how the girl must hev' rode thet."

"Say, Anse," broke in the voice of Kelly, "I'll bet this Yank is the one that wus with Fox, an' got away. He'd hed time 'nough fer ter git this fer on fut."

"But whut does he call hisself Raymond fer?"

"D-n if I know—maybe he jest heerd tell of the other feller, an' thought as how he'd git 'long easier under thet name."

"Well, I reckon it won't make much difference whut the cuss' name is if ever I git my hands on him," growled Anse savagely. "Go on, Nichols; how did yer git locked up?"

"I thought as how thar was a chance ter break away, an' ther Yank an' me we fit like a couple o' wild cats. I reckon maybe I'd a licked ther cuss, if the gal hadn't stole up behin' an' hit me with some crockery. The next thing I know'd they'd dragged me up stairs yere, shoved me inter that thar closet an' locked ther door."

"What became of them?"

"Skipped out, I reckon. I never seen nuthin' more ov' 'em."

Anse must have completely lost his temper, for there was the sound of a blow, and the noise of a falling body, feet shuffling as the others drew back. Then a moment of silence.

"Pick the ol' fool up," said a voice. "Throw him back into the room thar. Maybe he'll hev sum sense when he wakes up. Kelly, take Jim with yer, an' see if thet hoss is in ther stable yet. If them two left on fut, they ain't gone fur in this storm. Enyhow thar's one thing sure—they ain't a hidin' up yere. Cum on, boys, let's take another look 'round down below."

We heard their feet on the stairs, and the light, which had streamed up through the crack in the scuttel, faded away, leaving us in utter darkness.

## CHAPTER XII.

## The Recognition.

ALTHOUGH fully satisfied that all the ruffians had left the upper floor, with the exception of the unconscious Nichols, for a few moments neither of us ventured to speak or move. What would the fellows do when they discovered the lady's horse still in the stable? Would they decide we had hastily fled on foot, and scatter widely in search of some trace? There was little hope of their finding any trail to follow in the storm raging without, but they might very reasonably expect to overhaul fugitives on foot by a thorough scouring of nearby roads and fields. Lewisburg alone promised shelter and protection, and there was only one road leading to Lewisburg. Beyond doubt Cowan would send men spurring in that direction, and others probably to scour the adjacent fields as thoroughly as possible in the darkness. But in the meanwhile what should we do, was there any possibility of escape by descending, or would it be safer to remain where we were until the return of daylight? I could reach up, and feel the rafters of the roof overhead, and now, in the silence, hear the steady downpour of the rain. Our position was far from being a pleasant one, and I could not drive from my mind a haunting fear lest those villains fire the house when finally convinced of our escape. There was, to my mind, no reason why Anse Cowan should refrain from such an act of vandalism. No doubt either he or old Ned had had a hand in the earlier visit to the place, and if there was then anything in the house they desired to obtain possession of it had been attained. Of course, he might be induced to spare the property from fire in the expectation that it would some time belong to him; this vague hope, no doubt, underlay the whole affair—the search for papers, the murder of the Major, the present effort to forcibly marry the daughter. All these things formed part of a well-concocted plan, through which the Cowans expected to acquire possession of Harwood's property. The war, and the consequent demoralization of the neighborhood, had given them an opportunity for revenge they were not slow to seize. Hate, the desire for vengeance, the brutal passions engendered by a feud, found ample opportunity now for full expression. Lawlessness ruled supreme in all that section between the Green Briar and the Alleghenies. Of course, it would not always be so—the end of the war would bring a return to normal conditions, but with Harwood dead, his private papers in their possession, his only daughter legally married to Anse, the Cowans would be entrenched beyond any legal attack. What they took with the strong hand, they could hold.

This was the state of affairs as I began to understand them now, piecing this and that together, lying there in the darkness, listening for some sound of guidance from below. I could hear the soft breathing of the girl at my side, but she did not speak or move. She had overheard all that was said; she must also realize fully the object of these men, and the desperation of our position. Would she continue to trust me, to believe in my purpose, or had the words of betrayal spoken by Anse Cowan and Kelly left a sting of suspicion behind? If they had, would I dare to confess the truth, fully reveal my identity, and thus leave the fate of my secret mission in her hands? Her sympathies must naturally be with the Union forces; she would see the issues from the viewpoint of her father. That would have nothing to do with these banditti, but later might greatly interfere with the work to which I had been assigned. I had two duties to perform—to the army, and to this helpless girl; which was paramount if by any chance they clashed? I could not answer, but I did comprehend which came first—I must save Noreen Harwood from the merciless clutch of Anse Cowan. I must remain with her loyally, until she was safe in the protection of her friends. Possibly I could accomplish this, and still retain my secret. She might not have heard, might not have clearly understood what the men said. Their denial that I could be recruiting officer Raymond might not awaken her suspicion at all. She might have been too intent on her own danger to give that a second thought, or have it make the slightest impression on her mind. At least that was the theory on which I must proceed—that she trusted me fully, and would do exactly as I advised.

"Is there any other way out of here, Miss Noreen?" I asked, scarcely above a whisper, "any opening leading to the roof?"

"I have never seen one, though often up here when I was a child."

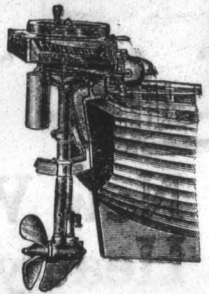
(To be continued.)

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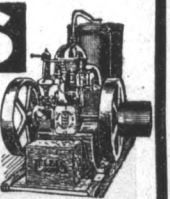
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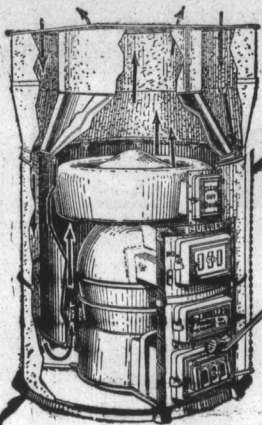
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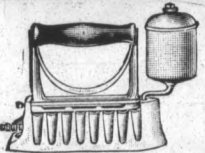
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## Woman and Her Needs At Home and Elsewhere

### Physical Laws as Related to Conscience

**M**ICHIGAN has just been stirred by one of the most brutal and uncalled for murders ever committed within the state. A murder so revolting that the entire populace is not only willing but anxious to accept the theory that the woman who committed it was driven insane through physical suffering. Racking headaches and bodily discomforts must have upset the reason, or she could never have done so fiendish a thing.

I have no desire to dwell upon the gruesome subject, only to use it to illustrate the too little recognized fact that man is largely animal, and that most of our moods which we term spiritual or temperamental can usually be traced to a cause wholly physical. Physicians recognize the fact, but the laity, as a rule, are not yet far enough advanced to grasp it.

You can notice it plainly in infancy and childhood. The child who is physically sound and properly cared for is not cross nor bad. If the baby is properly fed and dry and warm it is happy. If the growing boy and girl are in good health, sensibly clad, turned out of doors for fresh air and sunshine, and put to bed with the chickens, they are perfectly happy and not afflicted with moods. Mischievous they may be, and will be if they are normal, but cross and downright bad, never. The child who is moody and fretful, revengeful and sullen is not in perfect physical condition. He is suffering, somehow, perhaps he himself does not know how, and as a natural consequence he wants to make someone else as miserable as he is himself.

The rule follows us through life. If you stop to think about it you always feel charitable and good-tempered when you are physically comfortable.

You never feel like saying an unkind thing when you are warm and rested and enjoying a perfectly cooked dinner of your favorite foods. Then life looks rosy and your troubles are forgotten. Your animal wants are satisfied and you are happy, as near happy as anyone ever gets here below, and you don't bother much about things spiritual. Things mundane are all-sufficient. But when you are physically exhausted, tired in brain and body, wet, cold, hungry and sleepy, then life seems too grievous to be borne and you ponder morosely over the state of your soul.

We have made many mistakes in life through not recognizing the large part that the animal side of our natures plays in life. We have blamed all our "glooms" and bad tempers on our spiritual state and done penance for things which we could hardly control so long as we disregarded the physical laws which brought about our mental state. In other words, many of the things we called sins were not of themselves sins, but merely the result of a deeper sin against our bodies.

If, when we get into fits of mental depression, or in a passion where we feel like killing our best friend and end by wounding her with our unkind acts or speech, we would shut ourselves up in our rooms and investigate our physical natures we would probably arrive at the root of the evil. We would see that our mental upheaval was the result of overwork, lack of sleep, a too heavy dinner, lack of the right sort of foods, too much sweet, or perhaps too much stimulant. It might even be that the mental depression

followed a particularly gay time, and we are suffering the reaction of a too long continued round of dances and parties. Whatever the cause, if we are honest, we can almost invariably trace our bad moods to the breaking of some physical law rather than to the breaking of what we are pleased to term spiritual laws.

When we come to understand this fact thoroughly and live accordingly, there will be marked improvement in

our health and dispositions. For with the observing of physical laws will come an improved physical condition and, as a consequence, a healthier mental tone. Instead of brooding over the state of our souls it would be much more to the point to investigate the conditions of our bodies; to learn the laws of health and then to observe them. Regular hours for sleeping and eating properly cooked simple foods, daily bathing and daily outdoor exercise would go far towards improving the moral tone of most households.

DEBORAH.

### Making a Rag Carpet

By BESSIE L. PUTNAM

**R**UGS are more popular than carpets at the present time, and some of the favorites are made in the old rag carpet way. If one six feet by nine is wanted, it can be easily made by having two strips a yard wide woven, making the middle part of some solid color, and with a stripe in a harmonizing scheme near the ends, finishing with a few inches of the ground color. By using white warp one will find the colors softened, and as the strips are laid side by side instead of being sewed together, they are easily washed when they become soiled.

While there are cheap dyes for cotton, some of the old-fashioned folks prefer the fast colors of a generation ago, some of which are almost as bright when the carpet is worn out as when the coloring was first done. To color a bright and permanent yellow on cotton, requires two pounds of lead and one pound of bichromate of potash for eight pounds of rags. Dip in the sugar of lead dye first, and then in the potash solution, repeating the process until the proper shade is reached.

Bright Orange on Cotton.—Color as above directed for yellow, and then dip the rags in a strong solution of lime water. A softer orange may be obtained by running the rags alternately through copperas water and lime water.

Light Blue on Cotton.—For six pounds of rags take four ounces of copperas, four ounces of prussiate of potash, one ounce of oil of vitriol. Boil the rags in soft copperas water. Take them out and drain them. Make a new solution of the potash and, when warm, put in the vitriol and then the rags. Boil half an hour, rinse out and dry.

Green on Cotton.—Dye the rags a light blue as above, and then color in the yellow dye, repeating the dipping until they are of desired shade.

In using any of the above dyes care must be taken to rinse the goods thoroughly before they are dyed to insure perfect cleanliness, and even greater care must be used to rinse them well after coloring, as the dyes will otherwise be liable to rot the rags.

Brown on Cotton.—A beautiful brown for either cotton or woolen is secured by using two pounds of cutch, two ounces of alum, and three ounces of bichromate of potash. Dissolve the cutch and alum in boiling water and steep the goods two hours. Wring out and run them through the potash solution. The above will color ten pounds of goods.

Then there was olive green oak bark dye, secured by dipping the rags first in alum water and then in a decoction of oak bark. The brown for wool or silk is secured with walnut

shucks brightened with alum. Horse-chestnut peels also give a brown color. A mordant of muriate of tin turns it to bronze, and sugar of lead, a reddish brown shade.

Always use soft water in coloring if possible, using about four gallons of water to one pound of goods.

Cotton rags will give better service than wool, and by all means avoid mixing the two together. The wool is thicker, and bound to wear a hole in the warp at the point where it appears. Cut the rags fine, not more than half an inch wide for calico, and thicker cloths proportionately narrower. A pound and a quarter may be allowed for a yard, though this will over-run if the rags are fine. In weaving for rugs, have a few inches of space left between each breadth in the weaving, and tie the ends for a fringe in rug effect. First stitch along each end on the machine to give strength and prevent a tendency to ravel.

If a clouded effect is desired in the border this can be secured by tying the skeins of rags with a stout band of cloth from one to three inches wide at two or three points in the skein before it is dipped into the dye. The band must be tight enough to prevent the dye from taking effect at these points.

### SOME TESTED RECIPES.

I have tested these and found them excellent so will pass them on, hoping they may help someone else.

#### Three-hour Bread.

Twelve large potatoes, boil and mash fine, one quart boiling water, one quart cold water. Scald three large tablespoons of flour in one cup of boiling water. Add three tablespoons each of salt and sugar and add to potatoes and water. When luke warm add a cupful of good yeast, or two yeast cakes, when light put in a cool place. Use one pint of this yeast to a loaf of bread, using no other wetting. Mix soft and make small loaves, leaving lots of room to rise. Put into pans at once. When light, bake as usual.

#### Molasses Cake.

One-half cup sugar, one-half cup of molasses, one-half cup cream, one-half cup buttermilk, one-half teaspoonful each of cinnamon and cloves, one teaspoonful each of lemon, soda and baking powder. Put the baking powder in the flour and dissolve the soda in a little water. Two cups of flour.

#### Plain Chocolate Icing.

One that will stick to the cake and not to your fingers. Put into a shallow pan four tablespoonfuls of scraped chocolate, and place it where it will melt gradually, but not scorch. When melted, stir in three tablespoonfuls of milk or cream, and one of water; mix



all well together, and add one scant teacupful of sugar. Boil about five minutes and while hot and when the cakes are nearly cold, spread evenly over the surface.

#### Frosting Without Eggs.

An excellent frosting may be made without eggs or gelatine, which will keep longer, and cut more easily, causing no breakage or crumbling, and withal is very economical. One cup of granulated sugar, dampened with one-fourth cup of milk, or five tablespoonfuls. Place on the fire in a suitable dish, and stir until it boils, let boil for five minutes without stirring. Remove from the fire, set the dish in another of cold water and add flavoring. While it is cooling, stir or beat it constantly, and it will become a thick, creamy frosting.

#### Parker House Corn Rolls.

Sift together one and a quarter cupfuls of white flour, three-quarters of a cup of corn meal, four teaspoons of baking powder, one-half teaspoon of salt, one tablespoon of sugar, chop in two tablespoons of butter. Add one beaten egg to one-half cupful of milk, and turn into the dry ingredients, making a soft dough that can be handled. Add more milk if necessary. Turn on a floured board, toss lightly and roll out to a thickness of about one-half inch. Cut with a biscuit cutter, put bit of butter in center of each round and fold as for Parker House rolls. Brush tops with milk and bake 15 minutes in quick oven.—Mrs. P. A. S.

#### TO TEST FOR COLOR FASTNESS.

Before making colored materials into house dresses, children's clothing or garments requiring much laundering and receiving much hard wear, they should be tested for fastness to washing and to light.

#### To Test for Fastness to Washing.

If the color is solid or there is little or no white, the sample should be plaited with a strip of white material. Make a strong soap solution. Heat this until it is warm but not hot. Rub and squeeze the materials in this for about ten minutes. Rinse in cold water, let it lie in water fifteen minutes, wring out and dry. If the color of the material is not changed, the water not colored and the strip of white not stained, one may be reasonably sure that the color is fast to washing. For a more severe test add some washing powder to the soap solution.

#### To Test for Fastness to Light.

Expose a piece of material, in a wet and dry condition, to the strong sunlight for a week. This exposure is not long enough to insure absolute fastness, but if the material does not show signs of fading in this length of time, it is pretty safe to use.—Colorado Agricultural College.

#### HOME QUERIES.

Household Editor:—What can I do for linoleum that the flowers have worn off, as it shows the dust? I have had it only a year.—Subscriber.

The only thing I can suggest is to varnish the linoleum. A linoleum which is varnished every spring should last five or ten years. It is better to buy inlaid linoleum as the pattern is stamped through and can not wear off.

#### A Twenty-cent Fireless Cooker.

Household Editor:—Can you give directions for making a fireless cooker?—Mrs. R. A. G. K.

Take a candy bucket, line it with asbestos tacked fast to the wood. Fill the bottom of the bucket with a five-inch thickness of wet excelsior, packed down as hard as you can pack it. Smooth the top side of the pack with a flat piece of wood. Then take a flat-bottomed kettle or a big stew pan, place it upon the excelsior, and pack wet excelsior solidly all around it. Pack the excelsior around the container until it reaches up to the top of it.

Then set the candy pail out in the sun and let the excelsior dry thoroughly. When the excelsior has dried you can then remove the vessel from the center of the bucket, and you will find that it had moulded a neat little nest there. Take a flour sack, stuff it with wet excelsior, and shape it to fill the top of the pail, leaving room for the lid. Then let the top packing dry thoroughly. When you have finished your work you will have a very serviceable fireless cooker. Start a dish of food to cooking, then remove it to the excelsior affair and let it finish cooking by shutting in all of the heat it holds when you take it from the stove. A very good fireless cooker can be made for about 20 cents. If you want a bigger fireless cooker make one from a butter firkin or the half of a rain barrel. Or use two butter firkins if you need them.

Household Editor:—Will someone give a recipe for dandelion wine?—Mrs. D. D. B.

Cover two quarts of the blossoms with four quarts of water and let stand 24 hours. Put on back of range and let stand 24 hours. Take off, stand till cool, strain, add two and one-half pounds of sugar, one-half of yeast cake, two lemons, sliced, one handful of raisins and two oranges, sliced. Cover with cheesecloth and let stand two weeks. Then pour off carefully, strain through clean cloth and bottle.

#### MICHIGAN FARMER PATTERNS.

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No. 9909—Child's Rompers. Cut in four sizes, 2, 4, 6 and 8 years. It requires 2 3/4 yards of 36-inch material for a four-year size.

No. 1285—Girls' Dress. Cut in four sizes, 4, 6, 8 and 10 years. It requires 1 3/4 yards of 27-inch material for the guimpe, and 3 3/4 yards for the dress, for a six-year size.

The above patterns will be mailed to any address by the Fashion Department of the Michigan Farmer, on receipt of ten cents. Please be careful to give correct pattern number and size when ordering.



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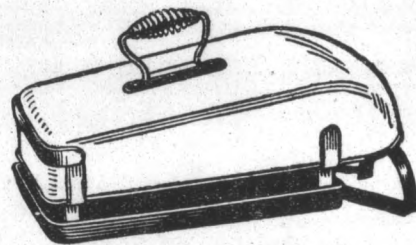
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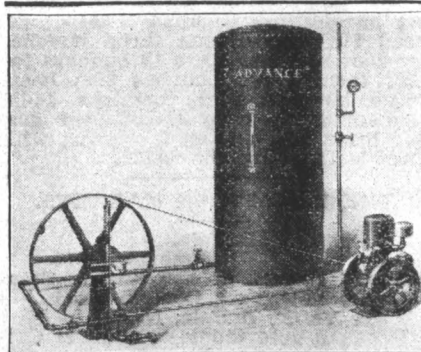
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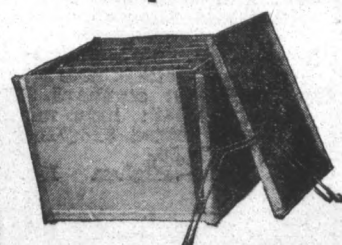
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# Markets.

## WEATHER FORECAST.

Weekly weather forecast for week beginning Wednesday, June 16, for the region of the Great Lakes: Showers in the upper lake region Wednesday and Thursday and again on Monday, with temperatures slightly above the seasonal average.

## GRAINS AND SEEDS.

June 15, 1915.

**Wheat.**—This market has continued on the decline throughout the past week. There has been very little foreign buying and domestic crop reports have greatly increased the hopes for the largest wheat crop ever harvested in this country. Many dealers, however, seem to have the idea that there will yet be a boom in cash prices by reason of a heavy outside demand. It seems apparent, however, that the early and heavy crop will make the efforts of the bulls to hold prices up a difficult matter. Farmers are not delivering at present prices, so receipts are small. The flour market, however, is improving, and mills are increasing their output. The visible supply last week showed a decrease of 3,363,000 bushels. One year ago No. 2 red wheat was quoted at 92½¢ per bushel. Quotations are as follows:

	No. 2	No. 1	July
Wednesday	1.24	1.21	1.08½
Thursday	1.22	1.19	1.06
Friday	1.20	1.17	1.07
Saturday	1.21	1.18	1.08
Monday	1.20	1.17	1.06
Tuesday	1.17	1.14	1.03

Chicago.—July wheat \$1.02½; Sept. \$1 per bushel.

**Corn.**—Corn has been advancing, notwithstanding the depression in wheat. Crop prospects are largely responsible for the improvement in quotations. In many districts which include our best corn sections, the plant is not doing well and there is a great deal of replanting. Holders of the cereal are not inclined to sell. Visible supply decreased 1,737,000 bushels. Quotations for the week are:

	No. 3	No. 3	July
	Mixed.	Yellow.	
Wednesday	72	73	
Thursday	72½	73½	
Friday	74	75	
Saturday	74	75	
Monday	76	77	
Tuesday	76	77	

Chicago.—July corn 73.3c; Sept. 72.4 c per bushel.

**Oats.**—While the oat crop is promising, which, with the decline in wheat, would temporarily have caused a similar falling off in oat values, a good foreign demand at seaboard has tended to strengthen the bulls and helped maintain quotations. Crop conditions are generally favorable. One year ago standard oats were quoted at 43c per bushel. Visible supply decreased 2,689,000 bushels. Quotations are as follows:

	Standard.	No. 3	July
Wednesday	51½	51	
Thursday	50½	50	
Friday	50½	50	
Saturday	50½	50	
Monday	51	50½	
Tuesday	51	50½	

Chicago.—July oats 44.5c; Sept. 39.1c per bushel.

**Rye.**—Market is lifeless at \$1.14 per bushel for cash No. 2, last week's price.

**Beans.**—Market lifeless; 5c lower. Detroit quotations: Cash \$3.05; July \$3.10. Chicago trade is quiet and steady. Pea beans, hand-picked choice, quoted at \$3.18@3.25; common \$3@3.15; red kidneys \$3.25@3.65. At Greenville farmers are getting \$2.80 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; seconds \$6.90; straight \$6.30; spring patent \$7.10; rye flour \$6.50.

**Feed.**—In 100-lb. sacks, jobbing lots are: Bran \$25; standard middlings \$29; fine middlings \$32; cracked corn \$33; corn and oat chop \$30 per ton.

**Hay.**—Market is higher. Carlots on the track at Detroit are: No. 1 timothy \$18.50@19; standard \$17.50@18; No. 2, \$16.50@17; light mixed \$17.50@18; No. 1 mixed \$16@16.50; No. 1 clover \$14@14.50.

New York.—Higher. No. 1, \$24; No. 2, \$23.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—Market is firm with no change in prices. Extra creamery 27c; firsts 26c; dairy 21c; packing stock 18½c.

**Elgin.**—Market steady at unchanged prices. Quotation for the week is 27c per pound.

**Chicago.**—Prices for better grades are ½c lower. Receipts are heavy and holders anxious to sell. Good demand for under grades. Extra creamery 27c; extra firsts 26@26½c; firsts 25@25½c; seconds 23@24½c; packing stock 20c.

**Poultry.**—Market is well supplied and prices on hens and broilers are lower. Live.—Broilers 25@26c; hens 14; ducks 17@17½c; geese 10@11c.

**Chicago.**—Market easy; trading is fair. Spring chickens lower. Fowls, good weights 13c; spring chickens, 2 lbs. and up, 22@23c per lb; 1 lb. to 1½ lbs. 20c; small 18c; ducks 13c; young ducks 1½@2 lbs. 15@18c; geese 8@9c; guinea hens \$2.75@3 per dozen.

**Eggs.**—Liberal receipts caused a decline of ½c. Market is easy. Fresh stock sells at 18c per dozen.

**Chicago.**—The market is ruling firm at unchanged prices. Offerings large and demand fair. Miscellaneous lots, cases included, 16@17½c; ordinary firsts 16@16½c; firsts 17½@17½c.

**Veal.**—Quoted steady at 11½@12c for fancy, and 10@11c for common.

## FRUITS AND VEGETABLES.

**Strawberries.**—In good demand and scarce. Michigan fruit slow in arriving. Michigan 16-qt. cases sell for \$2 @2.25.

**Chicago.**—Michigan berries in fair supply and good demand. Michigan 16-qt. cases, dark color \$1.50@2; light color \$1.25@1.60.

**Potatoes.**—Market easy with prices lower. Quoted at 38@40c per bushel in sacks. At Chicago the market is oversupplied and weak. Prices are lower. Michigan white in bulk are quoted at 35@43c per bushel. At Greenville potatoes are selling at 15c per bushel.

## WOOL.

**Boston.**—An improvement in the woolen goods trade has given dealers a more optimistic view of the market situation, and while at the present time there seems to be considerable wool in sight, prices are holding very firm. Growers feel that wool is valuable property and they are holding to get their figures. In the fleece states the majority of reports indicate that farmers are now getting 30c and better for their stock. Michigan unwashed delaine is quoted at 26@27c; do. combing 29@34c; do. clothing 24@30c.

## GRAND RAPIDS.

Eggs are worth 16½@17c; dairy butter 20@21c, at the opening of the week, or a shade weaker than last week. Home-grown strawberries are still slow in arriving and prices Monday had the wide range of \$1.75@2.50 per crate. Early berries will not be much of a crop but the later ones promise well. Greenville, the well-known potato market, went to pieces last week, with prices down to 15c. Potatoes are selling around 40c in this market. Wheat is off to \$1.10 and other grains range as follows: Oats 58c; corn 76c; beans \$2.75.

## DETROIT EASTERN MARKET.

There were fairly liberal offerings of seasonable products at the eastern market Tuesday morning. Strawberries are now very much in evidence, with quotations ranging from \$3.75@4 for 24-qt. case. Potatoes 60@65c per bu; lettuce, common 15@40c; do. head 50@75c; onions three bunches for 25c; radishes 10 to 12 bunches for 25c; turnips two bunches 25c; beets three bunches 25c; tomatoes 14-lb. baskets \$2.25; eggs 23@25c per dozen; loose hay coming in slowly, with most loads going above \$20.

## THE LIVE STOCK MARKETS.

### Buffalo.

June 14, 1915.

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

Receipts here today as follows: Cattle 190 cars; hogs 100 d. d.; sheep and lambs 8 d. d.; calves 1800 head.

With 190 cars of cattle on our market here today and 17,000 reported in Chicago, our market on the good dry-fed cattle was from barely steady with last Monday to, in some instances, 10 @15c lower, but the general average of the market on the good dry-fed cattle was only about 10c below last Monday. Cattle that have been to grass, especially the cow and heifer stuff, sold just about 25@40c per cwt. below last Monday, and our advice is to our shippers in the country to buy all the cattle that are out to grass from 35@50c per cwt. below strictly dry-fed cattle, as this class of cattle is bound to sell still lower in the near future, consequently they should be bought that much lower in the country to al-

low any margin on the market here. The market was slow and at the close there are a few loads of cattle left unsold.

We had a moderate supply of hogs here today, footing up a total of about 100 double decks, and while demand was good, trade was slow and 10@15c lower on all but pig weights, everything outside of extreme heavies and coarse kind selling at \$8.05; roughs \$6.50@6.75; stags \$5@5.50; coarse and heavy ends selling way down around \$7.50, with something fairly good up to \$7.75. Market closed steady and about everything sold.

The market was active today on lambs and sheep, with prices steady with the close of last week; most of the choice handy yearling lambs selling at \$10.50. Look for steady prices last of week with moderate receipts.

We quote: Spring lambs \$11@12.50; cull to fair \$6@10.50; yearlings lambs \$10@10.50; bucks \$3.50@4.50; handy ewes \$5.50@5.75; heavy do. \$4.50@4.75; wethers \$6.50@6.75; cull sheep \$3@4.50; veals, choice to extra \$9.75 @10; fair to good \$8@9.50; heavy calves \$5@7; our advice to shippers is to be careful on calves weighing 200 lbs. and over, as they have to be sold about \$1@1.50 per cwt. below the tops.

### Chicago.

Cattle receipts Monday 18,000, with the market showing an easy tone. Native beef steers sold at \$6.75@9.40; calves \$7.25@10.

Sheep and lambs receipts Monday were 16,000. The market is weak with sheep quoted at \$5.90@6.75; lambs \$7.50@10; spring lambs \$7.50@11.

Monday's hog receipts 35,000. The market is weak, with the bulk of sales from \$7.30@7.50; light hogs \$7.30@7.65; heavy \$6.90@7.45.

Cattle were in active general demand last week. Fat lots were higher, but commoner lots sold lower. By Wednesday most of the steers were selling at \$8.25@9.25, the best heavy steers going at \$9.15@9.40; choicer yearlings brought \$9.25@9.50. The common to fair class of thin steers sold at \$7@8.50 and inferior steers all the way down to \$6.30@6.75. A medium class of steers brought \$8.60@8.80; good steers \$8.85@9.15; good yearling steers \$8.75@9.20; ordinary yearlings marketed prematurely \$7.50 @8. Butcher cows and heifers were in excellent demand at \$5.30@9, and mixed yearling steers and heifers found an outlet at \$8.25@9.45. Distillery-fed cattle sold at \$8.25@8.90 for steers and \$7.65 for bulls. Cutters sold at \$4.65@5.25, canners at \$3.25@4.60 and bulls at \$5@7.75, with prime little yearling bulls at \$8. Calves were in active demand on the basis of \$5@10.50 for coarse heavy to prime light vealers, with good receipts from the dairy districts. The market was not a satisfactory one for grassy steers that weighed less than 900 lbs. The best beef cows brought \$7.50@8. The week's close showed prime beefs at about 10@15c higher and grassy lots 25@40c lower than a week earlier. The week's receipts were largely in the free division.

Hogs were in active demand last week. Eastern shippers were moderate buyers. After prime hogs had advanced to \$7.90, the market weakened, and Saturday's sales of hogs were at \$7@7.75, pigs selling at \$5.50@7.50, mainly at \$6.50 and over. A week earlier hogs brought \$7.10@7.75.

Spring lambs declined sharply early last week along with shorn fed lambs, with good rallies later, the receipts continuing of meager proportions. Shorn Colorado lambs reached a new high record by selling at \$10.85. Shorn flocks closed as follows: Lambs \$6.50 @10.85; wethers \$6@7; ewes \$3@6; bucks \$4@5. Spring lambs closed at \$7@11.60 after bringing \$12. Washington-fed lambs, the first of the season, sold at \$8.60@8.75.

Army horses sold at \$135@200 last week, while farm horses went at \$100 @140; farm mares \$145@180; heavy chunks \$195@240, with a few pairs sold at \$450@475. Drafters of good quality sold at \$235@265, and the best offerings were valued up to \$280.

## LIVE STOCK NEWS.

A. P. Fletcher, of Iowa, was on the Chicago market recently with a shipment of three cars of cattle and a car of hogs. Two cars of the cattle were of his own feeding, there being among them 19 head which averaged 1303 lbs. in weight and sold for \$8.95 per 100 lbs. On the 18th day of last January they averaged 940 lbs., and since then they made gains of more than three pounds per day. Twenty-five steers and heifers averaged 852 pounds and brought \$9. These calves averaged 451 pounds when they were put on feed on January 18, and they showed gains of over three pounds daily. Mr. Fletcher is one of the largest stock shippers and among the best stock feeders in his locality.

Fattening hogs on buttermilk is car-

ried on successfully in quite a number of instances in localities where there are creameries, and among those who succeed is L. T. Martiny, of Chippewa Falls, Wis., who a short time ago marketed a shipment of hogs in Chicago. He has a large farm near the creamery and keeps all the time from 300 to 500 hogs, having a contract running for five years for the entire output of buttermilk, which amounts to about four tons a day. In connection with the buttermilk he is in the habit of feeding salvage grains from self-feeders, according to the "Iowa method," which was originated and demonstrated at the Iowa Experiment Station. Rapid gains are made by this method of feeding, and Mr. Martiny says he has put on as much as 100 lbs. per head on thin sows in 30 days.

Western hog packing operations continue on a large scale, and in a recent week 610,000 were packed, comparing with 502,000 for the corresponding week a year ago.

Trebor Young, of Indiana, showed up in the Chicago market recently with a double deck of sheep and lambs. One deck of fat western lambs sold for \$10.60 per cwt., their average weight being 82 pounds. The lambs were purchased in Chicago as feeders about the middle of last October at \$6.50, when their average weight was 40 lbs. They clipped 5½ lbs. of wool per head. This was Mr. Young's first attempt at fattening lambs for the market, and the gains made, together with the price obtained, shows his skill as a feeder.

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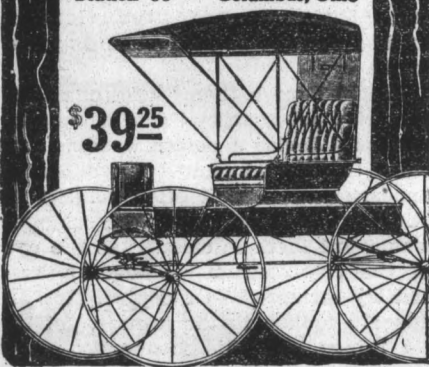
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The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

## DETROIT LIVE STOCK MARKETS.

### Thursday's Market.

June 10, 1915.

### Cattle.

Receipts 1780. The market opened at the local stock yards with another heavy supply of cattle on sale and in this department undoubtedly the worst market of the season. Wednesday night more than half the receipts were still unsold. The market on dry-fed good grades was 10@15c lower, on bulls 25@50c lower, and on all grades of grassers 35@60c lower, and extremely dull. There was no opening for stockers or feeders and the matter of letting them go back to the country is to be determined by H. H. Haliday, head of the State Live Stock Sanitary Commission, Tuesday next. Had they been open for the purpose this week it certainly would have been a wonderful help, as the countryman wants them badly, having plenty of grass feed. The close Thursday was very dull and 25c lower than on Wednesday.

Roe Com. Co. sold Newton B. Co. 3 butchers av 817 at \$6, 2 cows av 930 at \$6, 11 steers av 835 at \$7.50; to Bresnahan 1 bull wgh 1810 at \$6.50; to Bresnahan 9 butchers av 770 at \$6.50, 2 do av 590 at \$6.25, 2 bulls av 535 at \$5.25; to Hammond, S. & Co. 4 do av 525 at \$5; to Mason B. Co. 7 butchers av 988 at \$7.10, 2 bulls av 1010 at \$6, 1 bull wgh 940 at \$5.25, 1 cow wgh 1220 at \$4.50.

Best dry-fed steers \$8.25@8.50; best handy-weight dry-fed butcher steers \$8@8.25; mixed steers and heifers, dry-fed, \$7.75@8.25; best grassers \$7.25@7.75; handy weight grassers \$6.75@7.25; best cows \$5.75@6; butcher cows \$5@5.50; common cows \$4@5; canners \$3@4; best heavy bulls \$6@6.25; bologna bulls \$5.50@6; light grassers \$6@6.50.

### Veal Calves.

Receipts 864. The veal calf trade was about the same as last week, a few of the best bringing \$10 but the bulk of sales were at \$9.50@9.75 for choice and \$7@8.50 for common and medium.

Sandel, S. B. & G. sold Buck & S. 3 av 200 at \$9.50, 4 av 175 at \$9.50; to Sullivan P. Co. 2 av 160 at \$7.50, 7 av 180 at \$9.50, 2 av 120 at \$7.50, 1 wgh 270 at \$8; to Rattowsky 10 av 153 at \$9; to Goose 10 av 143 at \$9, 5 av 180 at \$10; to Mich. B. Co. 20 av 170 at \$9.50; to Rattowsky 13 av 135 at \$9, 4 av 145 at \$10, 3 av 170 at \$9.50; to Goose 10 av 151 at \$9.

### Sheep and Lambs.

Receipts 557. The supply of sheep and lambs was very small and outside of spring lambs the quality was common. Prices averaged about the same as last week; heavy fat sheep and common lambs were hard sellers and not wanted. Best lambs \$9.50; fair do. \$6.50@9; light to common lambs \$4.50@5.50; spg lambs \$10@11.50; fair to good sheep \$4@4.50; culls and common \$2@3.

Bishop, B. & H. sold Sullivan P. Co. 17 lambs av 73 at \$9.50, 2 sheep av 90 at \$4.50; to Thompson Bros. 14 spring lambs av 55 at \$10.50; to Hammond, S. & Co. 2 do av 55 at \$10.50, 2 sheep av 160 at \$4.50, 5 yearlings av 138 at \$7, 20 spg lambs av 53 at \$10.50, 6 sheep av 84 at \$5; to Thompson Bros. 14 yearlings av 75 at \$7; to Hammond, S. & Co. 8 spg lambs av 65 at \$11.50.

### Hogs.

Receipts 7597. The hog trade was generally steady; while none had been sold up to noon the prospects look \$7.75@7.80.

### Friday's Market.

June 11, 1915.

### Cattle.

Receipts this week 2256; last week 1959; market steady at Thursday's decline. Best dry-fed steers \$8.25@8.50; best handy weight dry-fed butcher steers \$8@8.25; mixed steers and heifers, dry-fed \$7.50@8; best grassers \$7@7.25; light butchers (grassers) \$6.50@7; best cows \$5.50@6; butcher cows \$5@5.50; common cows \$4@4.75; canners \$2.50@4; best heavy bulls \$5.75@6; bologna bulls \$5.25@5.50; light grassers \$5.75@6.

### Veal Calves.

Receipts this week 1125; last week 1229; market steady. Best \$9.50; others \$7@9.

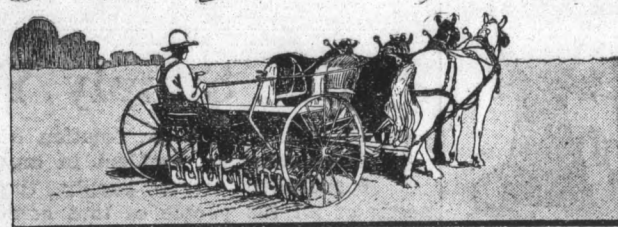
### Sheep and Lambs.

Receipts this week 1098; last week 2027; market dull. Best lambs \$9.50@9.60; fair lambs \$8@9 light to common lambs \$4.50@5.50; spring lambs \$10@11.50; fair to good sheep \$4@4.50; culls and common \$2@3.

### Hogs.

Receipts this week 10,100; last week 14,039; market 5c lower; all grades \$7.70

# John Deere Implements



## Van Brunt Single Disc Grain Drills

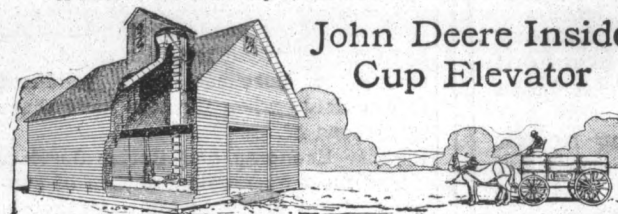
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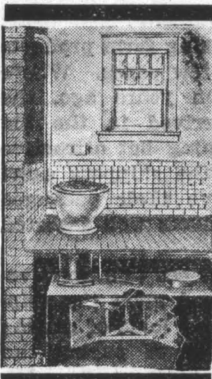
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Where the porcelain insulator in your spark plugs must endure the terrific force of the explosions in your cylinders, Champions have an asbestos cushioned copper gasket—(A-A in illustration.)

This is just one reason why Champions are sold under such a sweeping guarantee.

**The Champion Guarantee**  
Complete satisfaction to the user—free repair, replacement or money back.



**Champion**  
TOLEDO MADE FOR THE WHOLE WORLD'S TRADE.

**X for Ford Cars**  
is installed as factory equipment on all new Ford Cars and has been since 1911.

When replacing spark plugs in your Ford Car, make sure that you get Champion "X" plugs.

**X Special 75c**  
1/2-inch  
75% of all American-made automobile stationary and traction gasoline motors are delivered new, equipped with Champion Spark Plug.

See your dealer or write direct to us.  
**Champion Spark Plug Co.,**  
506 Avondale Avenue, Toledo, Ohio

**The PERFECT CORN HARVESTER**

**Sold Direct \$1950** JUST THE THING for SHOCK or SILO CUTTING



Works in any kind of soil. Cuts stalks—doesn't pull like other cutters. Absolutely no danger.

**Cuts Four to Seven Acres a Day** with one man and one horse. Here is what one farmer says:  
Napoleon, Ohio, Feb. 2, 1915  
Gentlemen: I received my corn harvester last September and used it all through corn cutting, am perfectly satisfied with it as it does all you say and more too.  
Yours truly, C. F. Delph.

**SOLD DIRECT TO THE FARMER**  
Send for booklet and circulars telling all about this labor-saving machine; also containing testimonials of many users. Send for this circular matter today.

**LOVE MANUFACTURING COMPANY**  
Dept. 5  
Lincoln, Illinois



**20 H. P. \$750**

**BUYS 30 H. P. \$850**

**The Bates Steel Mule**

One man drives both tractor and implement. Works on any soil all the year round. 4 Cylinder Motor. Hardened Gears, Hyatt Roller Bearings.

**CULTIVATES CORN**  
and other crops. Takes the horses place for every farm operation. Uses your present implements. Hundreds in use.

**JOLIET OIL TRACTOR CO., 115 Benton St., Joliet, Ill.**

**LIGHTNING RODS**  
6¢ per foot. Best quality soft copper cable made. Buy direct. Freight prepaid. C. O. D. and 30 days trial. Satisfaction guaranteed. Complete installing directions. Valuable catalog free.  
Robinson & Seidel Co., Box 25, Washingtonville, Pa.

**BINDER TWINE** 7½c lb. Fully guaranteed. Farmer agents wanted. Sample and catalog free. Theo Burt & Sons, Melrose, Ohio.

# Farm Commerce.

## First Supply Your Neighbors

THE first step in the solution of the marketing problem in any community is to supply the needs of all the people of that community. At first it would seem absurd to bring a matter of this kind to our attention, but a careful inquiry has demonstrated beyond a doubt that there is opportunity for enlarging the sales of farm products in almost every local section of our state.

### Local Reciprocity.

It is not uncommon to find retailers in many of the smaller towns who are selling products that have been obtained from large distributing centers, while at the same time these same products of equal or superior quality are produced in exportable quantities in the immediate neighborhood of the city or village. Local merchants who frequently criticize the farmers of their communities for purchasing from the mail order houses should make a little introspection to determine if it is less loyal for the farmers to purchase from outsiders goods that merchants have for sale than it is for these merchants to purchase farm products from outside when farmers have them to dispose of.

### Greater Economy and Better Service.

The most economical source of supply of farm products for a market is from the farms immediately surrounding the center of population. If the goods grown there are shipped to a large distributing center and then re-shipped to the retailer of the small place, the consumer must be charged for transportation both ways besides the commissions that are exacted by the extra middlemen through whose hands the products go. Not only that, but by reason of the handling, the products have deteriorated and are less valuable notwithstanding the fact that they cost the consumer more than they should if handled properly.

Besides being able to get these goods to the consumer at a lower cost, the farmers of the local community should be in a position to give the merchants of their town the very best

service in supplying the products they need for retailing. Every farmer should have two or three grocerymen on his list with whom he keeps in touch by telephone or otherwise, to learn their wants and the prices they can pay for the goods he has for sale. Granges, Farmers' Clubs and other farmer organizations, and especially co-operative selling associations, should see to it first that their home towns are properly supplied with the products they grow or handle.

### An Excellent Example.

Along this line it is interesting to note what the Grand Traverse Fruit and Produce Exchange is doing. In investigating the markets of northern Michigan it was found by a systematic canvass that there are a large number of places where the people have never been well supplied with the products grown in that section of Michigan. Many of these places cannot handle carload lots and were therefore disregarded by the selling associations, with the result that there existed an actual hungering for good fruit. This Exchange is planning to meet the conditions as they are now known, and will see that neighbors are, first of all, supplied with the "fruit with flavor." In working this territory carefully the Exchange will be able to broaden its market considerably and the fruit so disposed of will be placed into the hands of the consumer with the least possible expense for transportation.

The conditions discovered in northern Michigan are to be found in perhaps a greater or lesser degree in every local community of our state. It is the business of the farmers in these communities to learn what is needed in the way of supplies and how they can satisfy the needs. In working out local problems of this nature farmers are certain to learn many valuable lessons in marketing, and the knowledge thus gained ought to assist in solving the more difficult problems connected with the distribution of farm products in outside territory.

## Getting More Dollars for the Crops

By B. H. ALBEE

MUCH improvement has been made in packing farm products in the past few years. Where fifteen, or even ten years ago, the packages which arrived in the big markets were anything but attractive now at least half the shippers exert some effort to have their packages right and their products well assorted and graded.

In numerous instances this improvement has been forced upon the shippers by the inexorable logic of getting their goods back, or of paying the freight upon their shipments in addition to sending the products. In other instances the grower and shipper have discovered that higher prices lie in that direction.

### Information Sought.

Grading and packing was taken up by organizations of growers and shippers. They sent men to study the markets. They became familiar with what buyers actually want in products and packages and they are now in a position to supply them. The parcel post, with its opportunity for dealing direct, has been another influence. Altogether the work has progressed rapidly and the farmers are reaping the benefit of the instruction.

But the need for still further improvement is great. The grower and

shipper who feels that he has learned all, is yet to discover much that will interest him and help him in his work. Merchandising is the hard part of farm work and if the products are not properly prepared the sale is made that much more difficult. It is all an endless chain and the man who understands this and does his best in preparation, is likely to receive more liberal returns than the one who is indifferent, or who believes that careful preparation for market is nonsense.

### Where Need is Greatest.

Perishable products suffer the most from lack of care in grading and packing. Just now vegetables are sorely in need of this attention, for fruits seem to have been given considerable thought. Perhaps this is because they seem more perishable and growers have seen the necessity of packing them properly, else they spoil in transit, or are so badly bruised that they sell at a low figure. If the same thing is applied to vegetables the improvement will be sufficient to increase profits materially.

### Don't Get a Bad Reputation.

Potatoes, for instance, come in bags, and the sorting process is poorly done. A receiver in one of the large markets had a carload come in not long

ago, and it was necessary to sort every bag before they could be offered to the city retailer, or consumer. The city buyer wants uniform size. He doesn't care particularly for large ones, but whether small or large, he wants them uniform. And when all sizes are put in together the receiver has to sort them. This results in smaller returns to the shipper. Maybe in some instances he figures that it would have cost him as much to sort them at home as the receiver took out for doing the work, but beyond that he gained a reputation among receivers of sending unsorted stock. It is not a good reputation to get and may prove expensive in the long run.

Potatoes are important and many improvements in shipping could be made easily. It doesn't cost much to grade them by size, which makes them far more attractive and greatly increases the chances of bringing a good price on the market.

### Appearance Should Not be Overlooked.

The city buyer works solely by eye. Country shippers should never forget this very important fact. What the quality may be as determined by taste and other features does not matter so much, but appearance is the arbiter in buying, and the shipper should appeal to the eye.

Should I wash them? asks one shipper. Not necessarily, but if some genius could devise a potato washing machine that would remove the offensive appearing earth that often persists in clinging to them and the shipper would put them in clean bags the eye of the city consumer would be irresistibly attracted. Of course, this all appears foolish to the grower, yet little things like this frequently make the difference between a high price and a low one. Just at present when there is so much discussion over potatoes and their quality these little matters are of considerable moment.

### Careful Work is Not without Reward.

Where are the neat little purple top turnips which were formerly so plentiful? The city dealer that succeeds in finding them is fortunate. It seems as though they have about disappeared from the fields. Yet here was a turnip which satisfied everybody because it was tasty, not too large, and relatively inexpensive to buy, even at retail. It was smooth and clean and always appeared well. As much cannot be said for all turnips since some of them are shipped with earth clinging to their roots and they are piled, crate or barrel, any old way. They arrive in more or less unattractive shape and they sell accordingly.

But you say that it is impossible to make turnips attractive. Maybe it is impossible to make them look like peaches, but they can be made far more attractive than they are, with very little additional labor. This makes a little more trouble at the shipping end, but brings considerably larger returns at the receiving end. One balances the other, or more, and the reputation for furnishing good stock will become valuable as you continue to patronize a market.

### The Kind of Cabbage Wanted.

Cabbages.—Did you ever see them when they come in barrels and arrive all wilted, broken and discolored from the effects of the pounding they have received while in transit? Nothing artistic about a cabbage, it is true, but it sells better if it, at least, looks firm and smooth and doesn't have bits of crushed and wilted leaves hanging down in every direction when it is picked up. Ever see how the buyers will pick over a pile of them and select the smooth, firm ones, without the wilted leaves? If you have not you have lost an important object lesson. It would be helpful to you in preparing them for market in the future.

Of course, it is hard to make cabbage look well, but when they come in



crates packed tight they arrive in fairly good condition, much better than the other way, and they sell for more. It is well to cultivate a market for cabbages, even. They can be sold profitably under favorable circumstances, but if the necessary work connected with marketing them is indifferently done it is no more than should be expected that they sell for low prices, or even return a loss.

The truth is, that each article must be packed and shipped in the way that will land it in market in merchantable condition. If it is not the situation that develops will be anything but satisfactory. Low prices and difficulty in obtaining a commission man to handle them are but two of the evil influences which flow from such carelessness.

And it won't cost you a whole lot more to make them right. Why not try it? Make up your mind that you will learn the proper method of packing and shipping. Acquire an understanding of the market and what it wants and then send your products in that way. You are entitled to the better prices if you follow the modern methods of obtaining it. If, however, you refuse to accept what has been told you over and over again and continue to send out your goods without reference to the sentiment of the buyer, then you must expect your returns will be small.

### Crop and Market Notes.

#### Michigan.

Shiawassee Co., June 7.—Weather cool and dry. Very little rain for the past two weeks. Corn planting under way, a number of fields yet to plant. They say crop promises a fair yield. Some fields, however, are very poor. Wheat is coming along in fair shape although in need of rain. Rye looking well. Bean sowing begun; late potato planting is now under way. Fruit prospects are fair, however, damage was done by the late frost. Wool is about all sold. Wheat \$1.23; corn 72c; barley \$1.25 per cwt; potatoes 30c; eggs 18c; live stock of all kinds in a healthy condition.

#### Ohio.

Guernsey Co., June 8.—Wheat and rye are filling out and filling fine. Oats and meadows are making a rapid growth. There is about the average acreage of corn, grain and meadows. Owing to wet weather, weeds are making a vigorous growth on corn ground. There will be a good peach crop but apples will be light and cherries will be an average crop. There is considerable apple blight this year. Most farmers sprayed after blossoms dropped. There was the average crop of wool, with the price about 30c. The wholesale price of milk is around \$1.25 per cwt.; butter-fat 15c; butter 18c; eggs 18c; corn \$1.10; hay \$20.

Sandusky Co., June 8.—May was cold and dry and June has been very wet. A good part of the corn had to be replanted, due to poor seed, and cold weather also damage by worms. Wheat in good condition, oats very rank. The hay crop will be short. Some spring seeding dead owing to cold weather. The average acreage of potatoes and cabbage will be planted. Fruit prospects are good, though strawberries were somewhat damaged by frost. Wool was a good clip and is bringing 30c. Butter 23c; eggs 17c; corn \$1.03 per cwt.

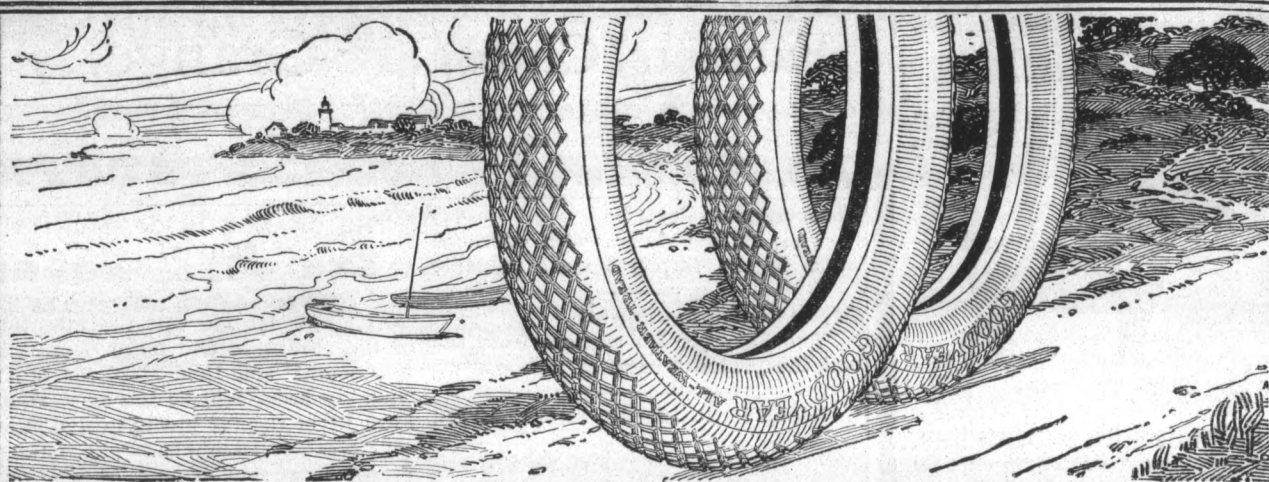
#### Indiana.

Wayne Co., June 8.—All crops are doing well, as we are having plenty of rain. Prospects for wheat and oats are the best in years. Meadows and pastures in good condition. The first crop of alfalfa has been cut with a good yield, but owing to rains some was lost. Corn is being cultivated the first time. There is a good prospect for apples; but not many peaches or plums. Not much spraying done. The wool crop was very good and has all been sold at 30c. Eggs 16c; chickens 12c; hogs \$7.25; corn 75¢@80c; hay \$16 per ton.

#### New York.

Orleans Co., June 9.—Grains and meadows fine but need rain. About the usual amount of corn planted, and a larger acreage of beans. Potatoes about the same as last year. Reports of fruit conditions are conflicting, some reporting damage by frost, but on account of cold weather in blossoming time, fruit did not fertilize well, though it is thought there will be a fair crop of apples. Spraying this year was very thorough.

The city of Jackson is transforming a large farm recently bequeathed to the incorporation, into a playground.



Goodyear Passes Goodyear

## \$500,000 Better Yet Users Pay \$5,000,000 Less

### Note these amazing facts:

Goodyear tires, as built this year, will cost us \$500,000 more than if built like 1914 Goodyears.

That's because of improvements.

Yet this year's output will cost our users some five million dollars less than if sold at 1914 prices.

That's because of a big price reduction, made February 1st. It was our third in two years, totaling 45 per cent.

### Why Better Tires?

You ask why we add that half-million dollars in face of such reductions.

We have always added every betterment our experts could discover. And we spend on research \$100,000 yearly just to seek improvements out.

Goodyears may pass Goodyears, but we make sure that no rival ever can.

### What Extras Cost

Goodyear Fortified  
Tires embody many ex-

tras. Five of them are features found in no other tire that's built. Others are found in but few.

Based on current output, those extras this year will cost us \$1,635,000.

That is, if we omitted our exclusive features, which all others do omit—

And other protections which most makers omit—

We could probably add to our profits this year more than 1½ million dollars.

### But What of You?

But Goodyear users would pay. Those extras save our users many times the cost to us.

In those extras lies the reason why Goodyear outsells any other tire. And in that mammoth output lies the reason for the value that we give.

Think of these things when other tires are offered. Each Goodyear extra means a saving to you. Any dealer, if you ask him, can supply you Goodyear tires. (2413)

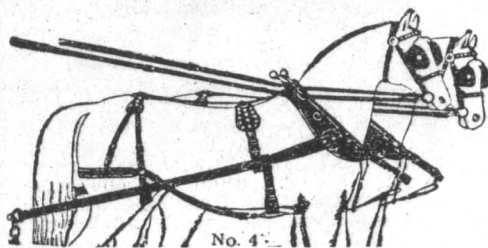
**GOOD YEAR**  
AKRON, OHIO  
**Fortified Tires**

Fortified Against

- Rim-Cuts—by our No-Rim-Cut feature.
- Blowouts—by our "On-Air" cure.
- Loose Treads—by many rubber rivets.
- Insecurity—by 126 braided piano wires.
- Punctures and Skidding—by our double-thick All-Weather tread.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

Makers of Goodyear "Tire Saver" Accessories; also Goodyear "Wing" Carriage Tires and other Types



## HARNESS HORSE COLLARS

Ask Your dealer for the Label

Made and Warranted by

## ARMSTRONG & GRAHAM

WHOLESALE ONLY.

DETROIT.

ESTABLISHED 1880.

**Eli HAY BALERS**

More bales per hour. Fast, big feed—won't choke. Dense, uniform bales that pack better and bring higher prices. Many exclusive construction advantages. Must be seen to be appreciated. L. J. Campbell, Caldwell, Kans., writes: "The most perfect baler I ever saw." You'll agree. 40 styles and sizes. WRITE FOR LATEST CATALOG and tell us what you bale. We'll recommend best machine for you.

COLLINS FLOW COMPANY, 1117 Hampshire Street, Quincy, Ill.

**HAY COCK COVERS**

Made from special 8 oz. duck—sizes about 3 1/2 x 5 ft. to 5 x 5 ft.—larger sizes and stack covers at correspondingly low prices. Send 50c in stamps for sample cover.

Cow and horse blankets, Dr. Nary Udder Protector, wagon and machine covers, tents, awnings, etc.

Fond du Lac Awning & Tent Co. Dept. 56 • Fond du Lac, Wis.

**\$27 PER 100**  
FOR SMALL SIZE

**B\$1 FARM TOOL NOW!**

The Neverslip Wire & Fence Stretcher The Standard for Years Parcel Post to your door. Ask dealer or send The Warren Specialty Manufacturing Company, Warren, Ohio.

**The Grand Rapids VETERINARY COLLEGE**

Offers a three years Course in Veterinary Science. Complying with all the requirements of the U. S. Bureau of Animal Industry. Established 1897. Incorporated under State law. Governed by Board of Trustees. Write for Free Catalog.

152 Louis St., Grand Rapids, Michigan.

**BEE HIVES, SECTIONS, BERRY BASKETS AND**

Comb Foundations, Smokers, etc. 16 QUART CRATES. Both wood and paper baskets. Send for catalog A. Thorough 200 waxlined paper baskets post-bred Italian bees and queens, paid in 1st and 2nd zones for \$1. Ask for catalog B. Ask for catalog C.

W. H. HUNT & SON, Box 525, LANSING, MICH.

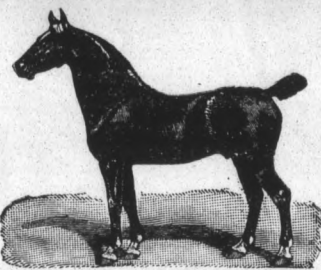
**LEARN AUCTIONEERING** at World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught in 5 weeks. Write today for free catalog.

**JONES' NAT'L SCHOOL OF AUCTIONEERING:** 28 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

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



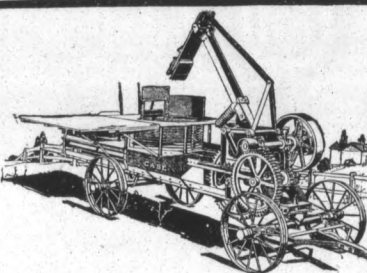
Warranted to Give Satisfaction.

**Gombault's  
Caustic Balsam****Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeny, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
Warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

**Bale Faster—Last Longer**

Users generally admit that a CASE Baler  
takes hay faster than they can feed it—and  
with minimum power. Only 6 to 10 Brake h.p.  
required to operate. Two Sizes—14 x 18 inches  
(3½ to 5 tons) and 17 x 22 inches (4 to 6 tons  
per hour). No other presses are so well made  
and strong. They outlast the next best by  
years. Built as carefully as the largest and  
most expensive CASE Tractors. But their me-  
chanical perfection costs you nothing extra.

**CASE  
Baling Presses**

Simplest to handle. Safest to work with.  
Can't be choked or jammed. No chance for  
accident. Operate with 2 less men than others  
—with CASE Hay Fork attachment.  
Case Sweep Power Baler is ideal for home  
use. 3 men and 2 horses bale up to 2½ tons  
per hour. Think of that. Start when the hay  
is ready. Don't wait for the machine crew.  
Mail a postcard for new Baling Press Cata-  
log and prices.

J. I. Case Threshing Machine Co., Inc.  
Dept. 815, Racine, Wis. (303)**EDWARDS  
METAL SHINGLES**

Users who have tried both wood and Ed-  
wards Metal Shingles say the latter are 'way  
best. Easier to lay, last 5 times as long. Weather-  
proof and expense-proof. Always in place. Made  
tight and fast by Edwards Interlocking Device  
and "Tightcote" process.

**Save On That Roof NOW**

Prices on all Galvanized materials have advanced.  
Order NOW at our present low prices. Give  
size of roof. Everything  
made so easy you can  
lay your own roof with  
hammer and nails. Ask  
for famous bargain  
book No. 687. Save on  
that roof by writing  
N.O.W.  
The Edwards Mfg. Co.  
617-667 Lock St.  
Cincinnati, Ohio

**Red Head  
(Res. U. S. Pat. Off.)  
Spark Plugs****75¢**

WHEN life de-  
pends on a  
spark, Red Heads  
are always the  
choice. They're  
sure-firing and  
guaranteed forever.  
Sizes to fit all motors.  
Ask your dealer or  
direct. 75c.

EMIL GROSSMAN  
MFG. CO., INC.  
Bush Terminal  
Model Factory 20  
Brooklyn, N. Y.  
U.S.A.**Red Head****Pump, Grind, Saw**

Double Gearing Steel, bronze bearing  
OILLESS WIND MILLS  
No oil, no climbing towers.  
Made for Hard Use. Feed  
Grinders, Steel Tanks. Wood  
Wheel Wind Mills. 2½ to 20 H.  
P. Fuel Saving Engines.  
Perkins Wind Mill & Engine Company  
Est. 1880. Catalogs free.  
135 Main St. Mishawaka, Ind.

135 Main St. Mishawaka, Ind.

**Farmers' Clubs**

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

**Associational Motto:**

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

**Associational Sentiment:**

"The Farmer: He garners from the  
soil the primal wealth of nations."

**FARMERS' CLUBS IN MINNESOTA.**

(Continued from last week.)

The leading farm papers have as-  
sisted in promoting these Clubs dur-  
ing the year. Model programs have  
been provided, Club news has been  
published, and some have sent repre-  
sentatives to visit and address Club  
meetings. By their interest in these  
organizations and the publicity given  
their work, these farm papers have  
done much to popularize and extend  
the Club benefits.

County agents, high schools with  
agricultural instructors, consolidated  
schools, county superintendents, and  
rural school teachers are assisting in  
the promotion of these Clubs, and find  
them of great service in furthering  
education in their immediate commu-  
nities. It has been quite popular for  
the agricultural instructors to orga-  
nize as many Clubs as possible in their  
several counties. Some of these men  
have already organized twenty Clubs  
which they visit and help as opportu-  
nity offers.

The State Department of Public In-  
struction has approved the organiza-  
tion of these Clubs because of their  
educational value.

This union of effort by the schools  
and the Farmers' Clubs is bringing  
about a closer relation between the  
country people and the residents of  
the villages and towns. It is not an  
uncommon thing for the village peo-  
ple to attend these Clubs in the coun-  
try, and for the country Club mem-  
bers to visit the gatherings of high  
schools.

Numerous instances might be cited  
of the benefits derived from these  
Farmers' Clubs. Statistics show an  
average of twenty-three families to  
each Club. To bring together several  
times a year members of twenty-three  
different families in a community for  
social, educational, and business pur-  
poses is of itself no small attainment,  
but to multiply this by about nine  
hundred brings results whose value is  
hard to estimate. Yet this is what  
the Farmers' Clubs have done in this  
state. The social life of the country  
has been immensely enriched by them.  
Naturally the people have been drawn  
closer together and the spirit of fel-  
lowship has been emphasized. Where  
a Farmers' Club has prospered, the  
community is no longer one of indi-  
viduals but of homes joined together  
by common ties.

When you have your Club meeting  
you should remember that there are  
about 900 Farmers' Clubs meeting  
every month. For 900 Clubs to meet  
each month, at least 30 must meet  
each week-day. Thus, each week-day  
about 2,250 people are brought to-  
gether in 30 different groups. When  
900 Clubs meet in a month, about  
70,000 people are brought together in  
900 groups. This is surely a move-  
ment worth while.

While nearly 100,000 people are di-  
rectly associated with the Farmers'  
Club movement in Minnesota, there  
might be just ten times as many Clubs  
if the million farm folks in the state  
were to become members. There are  
in the state more than 8,000 rural  
school districts in each one of which  
there should be a Farmers' Club.

(To be continued.)

**Grange.**

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

**THE GRANGE IN COMMUNITY  
SERVICE.**

(Continued from last week.)

And now let me call the attention  
of the reader to one more Grange in  
this county and then stop, for other-  
wise my letter will be too long. South  
Ford River Grange meets twelve miles  
southwest of Escanaba. This Grange  
is not large but is one of the very  
best in Delta county. The membership  
is principally Scandinavian. They get  
their mail by R. F. D. from Bark river,  
and so are not out of the world by a  
long way.

Nearly everyone in the community  
belongs to the Grange. They own  
their own hall, and have a convenient  
shed for horses near by. Close to the  
hall is the schoolhouse, and where one  
of the best schools in this county is in  
operation. George Jensen is Worthy  
Master of Ford River Grange. He is  
also master of the Delta Pomona. Bro.  
Jensen is demonstrating the worth of  
the right sort of rural leadership. He  
is officer on the school board, master  
of the Grange, and superintendent of  
the Sunday school.

Co-operating with him, the good peo-  
ple of the community are building for  
the future, strongly and well, through  
these three great institutions.

In a future number of this paper,  
which is now taken largely at each  
point I have mentioned, I shall tell  
more of the Grange in Delta county.  
But enough for now. W. F. TAYLOR.

**AMONG THE LIVE GRANGES.**

Charlotte Grange held its regular  
meeting Wednesday evening, June 2,  
and despite the threatening weather  
there was a good attendance. It was  
decided that the ladies should hold a  
clean-up June 11, at which time the  
halls will be cleaned and arranged  
and things put in shape for the formal  
opening of the new hall which will be  
held about the end of June or begin-  
ning of July. This will be an all-day  
affair and dinner will be served. The  
new hall is rapidly nearing comple-  
tion and the matter of seats and fur-  
nishings is now occupying the minds  
of the members and the executive  
committee which has direct charge.  
The program consisted of piano solos  
by the Misses Iva Schneckenberger  
and Lois Amspacher, both of which  
were well received; a recitation by lit-  
tle Miss Stillwell and a paper by Mrs.  
Clarence Kiplinger. Some discussion  
was indulged on the question as to  
how far the Grange members should  
be politicians and some good argu-  
ments were advanced, the consensus  
of opinion seeming to indicate that  
the members thought the members  
should all be politicians but not par-  
tisans. "Hash" was better than it  
seemed. It consisted of articles on  
potatoes, by Mrs. Hayes Peter; meat,  
by Mrs. E. H. Sott, Miss Bessie  
Granger and Mrs. Willard Upright.

Peach Plains Grange met recently at  
the home of Mrs. E. Stone, and the  
meeting was largely attended, several  
visitors being present. A committee  
was appointed to draft resolutions of  
respect upon the death of Worthy  
Master George Warber. The Grange  
installed Overseer Frank Rank as  
worthy master, in Bro. Warber's place  
and elected and installed as overseer  
Chas. McCarthy. The lecture hour pro-  
gram was in the nature of Memorial  
Day exercises, and consisted of the  
following: Recitation, "Surprising  
Eliza," by Arthur Stone; recitation,  
"Decoration Day," Chas. Borck; song,  
"Star Spangled Banner," by the entire  
Grange; recitation, "The Soldier's  
Flag," by R. McCarthy; recitation,  
"Emblems of Memorial Day," by Em-  
ily Borck, Henrietta Borck and Mar-  
garet Borck; song, "The Palms," by  
Katherine McCarthy; reading, "Plow-  
ing the Field for Corn, George Borck;  
song, "Marching Through Georgia," by  
entire Grange. Then there were sev-  
eral songs rendered by the Glee Club.

**COMING EVENTS.**

Wayne County Pomona will meet  
with Willow and West Road Granges,  
Saturday, June 26, at Willow Grange  
Hall.

**How to Prevent  
Hog Diseases**

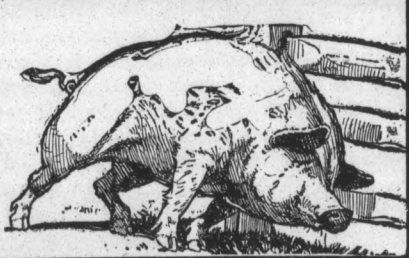
The one sure, easy and cheapest method of  
preventing hog diseases is to keep the pens,  
premises and troughs clean, disinfected and  
free from foul odors. Animals can't thrive  
their best in filthy surroundings. The most  
dependable preparation the farmer or hog  
raiser can use is

**Dr. Hess Dip and  
Disinfectant**

It is made from the formula prescribed by Dr.  
Gilbert Hess (M. D., D. V. S.), himself a suc-  
cessful stock and hog raiser. This scientific  
remedy and preventive is a germicide, deodor-  
izer and disinfectant. It is always uniform in  
strength—therefore reliable and safe. Dr. Hess  
Dip and Disinfectant kills lice, destroys odors  
and disease germs. Dip your hogs with this  
preparation—use it in the hog wallow—it's fine  
for cleaning stables, pens, drains, troughs,  
sinks, garbage cans, etc. One gallon dip  
makes 70 gallons solution. Sold in pint bottles,  
quart and gallon cans; also in barrels.

Send for valuable Dip Book.  
If your dealer can't supply you, write

DR. HESS &amp; CLARK, Ashland, Ohio

**Get A Money Making****SANDWICH  
Hay Press**

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

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Baling Records**

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

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—"Tons Tell"—packed from cover to cover with valuable  
hay baling facts. Show in actual figures the big profits you  
can make with a Sandwich Press. A postal brings a copy  
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Box 514, Council Bluffs, Ia. Box 514, Kansas City, Mo.**Be Sure To Write Tonight!****Cooper Dip  
ONE DIPPING  
KILLS ALL TICKS**

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Used on 250 million sheep annually. Increases  
quantity and quality of wool. Improves appear-  
ance and condition of flock. If dealer can't sup-  
ply you send \$1.75 for \$2 packet. Specially illus-  
trated booklet on "Ticks," sent free for asking; a  
post card brings it. Address

WM. COOPER & NEPHEWS,  
126 W. Huron St. Chicago, Ill.**Good Bye Mr. Louse!**

No more dipping or  
spraying. Keep your  
herd healthy and free from  
vermin and parasites with a  
National Automatic  
HOG OILER

Works like magic. Strong, durable  
and simple. Can't get out of order.  
Price only \$7.50. Thirty days' trial.  
Satisfaction or money back. If your  
dealer will not supply you do not  
accept a substitute but write to  
National Factories, Inc. Dept. S, Richmond, Ind.

**"Worm Destruction"**  
tells how to destroy worms in  
Hogs, Sheep and Horses  
and is sent free on request.  
WM. COOPER & NEPHEWS  
126 W. Huron Street, Chicago, Ill.



## BREEDERS' DIRECTORY.

## CATTLE.

## Aberdeen-Angus Bulls.

We are offering 12 extra good bulls, among them prize-winners at the Michigan State Fair 1914. Some of them by Black Monarch 3rd, Grand Champion Bull of the State 1914. Others by the Great Sir Blackbird, sire of prize-winners, ages from 9 to 20 months old. Prices from \$100 to \$250 each. Come and look them over; they will please you. U. L. Clark, Hunters Creek, Mich. Sidney Smith, Manager.

## ABERDEEN-ANGUS

HERD ESTABLISHED IN 1900. TROJAN-ERICAS and BLACKBIRDS only. A few young bulls and cows for sale. Also breeders of Percheron, Hackney and Saddle Horses. WOODCOTE STOCK FARM, Ionia, Mich.

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.

Four Registered Aberdeen Angus Bulls, from ten to seventeen months old. Prices reasonable. GEO. HATHAWAY & SON, Ovid, Michigan.

WANTED—Best Aberdeen Angus Bull that one hundred dollars will buy. Give age, weight and send copy of pedigree. Carl Bartlett, Lawton, Mich.

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

MILO D. CAMPBELL CHAS. J. ANGEVINE

BEACH FARM  
GUERNSEYS

Combine the blood of the following great producing sires and dams:

Masher Sequel	57 A. R. Daughters
Galaxy's Sequel	37 A. R. "
Glenwood Boy of Haddon	26 A. R. "
May Rose King	21 A. R. "
Dairymaid of Pinehurst	910 lbs. fat
Dolly Bloom	836 "
Imp. Ichnon Daisy	714 "
Selma of Pinehurst	762 "
Stanford's Princess	725 "

Bulls for sale only.  
A Dairy Show Every Day.  
CAMPBELL & ANGEVINE, Coldwater, Mich.

Purebred Guernseys. 2-year-old bull from A. R. stock, good individual, not registered, 1200 lbs. Beef price. Also registered females and bred heifers. G. A. Wigent, Watervliet, Mich.

For Sale—Registered GUERNSEY COWS, HEIFERS AND BULLS of choice breeding. H. W. WIGENT, Lansing, Mich.

REGISTERED GUERNSEY BULL CALVES for sale cheap at Windermere Farm, Watervliet, Mich. May Rose breeding. Address, J. K. BLANCHFORD, Auditorium Tower, Chicago, Ill.

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

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

GUERNSEYS—Write for prices and particulars. 2 bulls 1 year old. Several bull calves, all from A. R. cows and cows on test. Geo. N. Crawford, Holton, Mich.

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

HEREFORD; Three bull calves and one two year old. ALLEN BROS., Paw Paw, Michigan.

Do You Want A Bull?  
Ready For Service.

From a grand daughter of The King of the Pontiacs. Sired by a bull that is more than a half brother to the Champion Holstein Cow of the World, and whose dam is a 30 lb. 6 1/2 % fat daughter of Pontiac Aggie Korndyke who has more 30 lb. daughters than any other living bull. If you do write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

ESPANORE FARM,  
LANSING, MICHIGAN.

Home of the great Holstein Bull "PLEDGE SPOFFORD CALAMITY PAUL" with 33 A. R. O. daughters, including a 5-year-old with a 35-pound record. Others from 20 to 32 pounds.

FOR SALE—A Bull Calf sired by this Great Bull. CHASE S. OSBORN, ADAM E. FERGUSON, Owners.

## HOLSTEINS FOR SALE

- 5 Good Bulls, ready for service.
- 10 Very Choice Bull Calves.
- 2 Two-year-old Heifers, bred.
- 1 Six-year-old grand-daughter of King Segis, due in December.

L. E. CONNELL, Fayette, Ohio.

## HATCH HERD

## YPSILANTI, MICHIGAN

Registered Holstein-Friesian sires, grandson's of World's greatest dairy sire, out of choice A. R. O. dams and King Pontiac Jewel Korndyke. Brother of K. P. Pontiac 1st 41.15; average record of 50 dams in his pedigree 31.25 in 7 days; average per cent of fat three nearest dams 4.37; of his own dam 4.82. Sires in first three generations already have over 600 A. R. O. daughters. A few females bred to "King". Prices reasonable.

Bigelow's Holstein Farms  
Breedsville, Michigan.

Highest Class Registered Stock For Sale.

FOR SALE—2 Registered Holstein heifers and one bull 6 months old for \$300, delivered. Bull sired by Hartog Clothilde End, 104572, whose four nearest dams' records average over 32 lbs. Fine Hill Farm, R. 6, Lakeview, Mich.

Registered Holsteins, advertised is sold to a satisfied customer. Nothing more to offer at present. W. R. READER, Howell, Mich.

## 300 DUROC JERSEY SPRING PIGS

Bred from Prize Winning Stock of Best Blood Lines.

Save Money and Express by Buying 2 to 4 Months Old Pigs NOW!

## SPECIAL PRICES ON PAIRS and TRIOS

This is an opportunity to buy from a herd where time, money and intelligent effort has not been spared to make the

## BROOKWATER BRAND OF DUROCS LEAD

Durocs of all ages for sale. Come or write for particulars.

## Swine Department

Brookwater Farm, R. 7, Ann Arbor, Michigan.

\$100 Gets 5 mo. 1/2 white grandson of Friend Hengervold De Kol & Maplecrest Pontiac Flora Hartog, 30 lbs. butter 7 days, 1232 lbs. in 1 yr. M. L. McLAULIN, Redford, Mich.

Reg. Holstein Bull calves and Heir Bull. Can supply all wants in Reg. Chester White swine. Ray B. Parham, Bronson, Mich.

FOR SALE—Holstein Bull ready for service. Mostly white, also bull calf dropped June 5th, mostly black. Price \$25. Both dams have A. R. O. records. Charles I. Cook, Box 98, Fowlerville, Mich.

REG. HOLSTEIN BULL CALVES good A. R. O. breeding and plenty of 30-lb. blood in their pedigrees. Dewey C. Pierson, Hadley, Mich.

REGISTERED Holstein bull 6 months old. Mostly white. A. R. O. dam and sire. Here is some of the best blood of the breed and a very nice individual. \$75 delivered with all papers, safe arrival guaranteed. Write for pedigree. HOBART W. FAY, Mason, Mich.

High Class HOLSTEINS My herd is headed by Smithdale Alcarra Pontiac, whose dam is the famous Alcarra Polkadot. Have few young bulls and females for sale at reasonable prices. Will buy a few heifers about 15 months, not bred, Farm 1/2 mile from court house. SETH B. HUBERT, Howell, Mich.

A Great Opportunity—A \$300 HOLSTEIN calf for \$100. Write for breeding. Also some extra grade heifers and bull calves. HILLCREST FARM, Kalamazoo, Michigan.

FOR SALE Registered Holstein Bulls ready for service, and bull calves, also females. FREEMAN J. FISHBECK, Howell, Michigan.

HOLSTEIN BULL CALVES—Don't buy until you write us. No better breeding in Michigan. Long Beach Farm, Augusta, Kalamazoo Co., Mich.

Holstein-Friesian Breeder—The best families of the breed represented. D. D. AITKEN, Flint, Michigan.

REG. HOLSTEIN BULL, yearling. Dam an A. R. O. cow. Sire a dam made 30 lbs. butter in 7 days. Sent card for price, etc. E. R. CORNELL, Howell, Michigan.

\$350 buys two yearling Holstein Heifers 1/2 white and one bull, not akin, all registered. Choice breeding. B. B. REAVEY, Akron, Michigan.

REGISTERED HOLSTEIN BULL—18 months old, A. R. O. ancestry. Priced for quick sale as I am changing breeds. FRANK DEAN, Ross, Michigan.

MICHIGAN HOME AND TRAINING SCHOOL LAPEER, MICHIGAN Breeder of High Grade Holstein Cattle. Lists and prices upon application.

HOLSTEIN CATTLE and O. I. C. SWINE ELMER E. SMITH, Redford, Michigan.

Holsteins—One herd bull, two nearest dams averaging 25.05 pounds. Five registered yearling Holstein bulls, two cows, bull calves from sire, whose two nearest dams average 34.45 pounds butter in seven days. Oldest Holstein herd in Indiana. W. C. JACKSON, 719 Rex St., South Bend, Indiana.

JERSEYS  
FOR SALE

One Bull—Two Cows—One Heifer. All registered. One cow soon to calf. A bargain at \$450 for the bunch.

NIXON FARMS, Brooklyn, Mich.

Maple Lane Register of Merit Jersey Herd. Tuberculin tested. Majesty's Wonder No. 9717 heads the herd. Bull calves for sale, also a two-year-old bull that is right. For prices and description write or come. ALVIN BALDEN, Capac, St. Clair Co., Michigan.

THE WILDWOOD JERSEY HERD Registered Jersey Cattle of Quality. Tuberculin tested. Majesty's Wonder No. 9717 heads the herd. Bull calves for sale, also a two-year-old bull that is right. For prices and description write or come. ALVIN BALDEN, Capac, St. Clair Co., Michigan.

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

Jerseys. Bulls ready for service, extra quality sired by Jacoba's Fairy Emano, No. 10711, from high producing dams. SMITH & PARKER, Howell, Mich.

JERSEYS—THE REGISTER OF MERIT KIND. BROOKWATER FARM, R. No. 7, Ann Arbor, Mich.

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

For Pleasure and Profit Get The Jersey.

FISHERTON FARM JERSEYS—Some fine grandsons of Hood Farm Pegasus 9th, from Register of Merit dams. FISHERTON FARM, Pontiac, Michigan.

## BIDWELL SHORTHORNS

For "Beef and Milk" Registered Bulls, Cows and heifers Scotch-topped roams, reds and white for sale. Farm at L. S. & M. S. Depot, also D. T. & L. S. BIDWELL STOCK FARM Box B, Tecumseh, Mich.

Shorthorns For Sale—Young bulls sired by Bright-Sultan. Also cows and heifers. W. B. McQUILLAN, Howell or Chilson, Michigan.

MILKING SHORTHORNS—Young bulls sired by a Grand May & Otis bull for sale. DAVIDSON & HALL, Tecumseh, Michigan.

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

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

Dairy Bred Shorthorns of best Bates Strains. Young bulls 7 months old for sale. Price \$100 each. J. B. HUMMEL, Mason, Mich.

HOGS.

Durocs & Victorias—Grand bunch of Gilts due March and April. Comprising the blood of Superba, Defender, Much Col., Orions and others. A few young boars. M. T. STOKY, Lowell, Mich.

FOR SALE—Berkshire hogs, both sexes and different ages. Bred gilts for fall farrowing. Poll Angus Bull calf, not registered. Price right. Chase's Stock Farm, R. 1, Marlette, Mich.

Royalton Bred Berkshires—No more bred sows. Fine service boars 1 to 3 years old. Young sows and boars born last October. Prices right. D. F. VALENTINE, Supt., Temperance, Mich.

HAMPSHIRE SWINE—Breeding stock of all age from most popular strains. Write for breeding inspection invited. Floyd Myers, R. 2, Decatur, Ind.

Hampshire Swine, the kind that wears the belt. Spring pigs and two service boars. Prices right. Papers furnished. S. C. MORT, Elsie, Mich.

WEST WINDS HAMPSHIRE SWINE. Booking orders for sow pigs immediate shipment. No males to offer. E. F. Hammond, owner, N. A. Wiss, manager, Pontiac, Mich.

Chester Whites—Gilts bred for Aug. and Sept. farrow. March pigs, either sex. F. W. ALEXANDER, Vassar, Michigan.

Big Type, O. I. C's and Chester White Swine.

400 fall pigs either sex. Special prices for the next 30 days, also bred gilts and service males and we are booking orders for spring pig, all our stock is good enough that I will ship O. O. D. and reg. free in the O. I. C. or Chester White Assn. We won, more prize than all other breeders put together, at Ill. and Wis. State Fairs. Write for Show record.

ROLLING VIEW STOCK FARM Cass City, Michigan.

O. I. C.—Spring boars all sold. We have some fine fall pigs ready to ship. JOHN BERNER & SON, Grand Ledge, Michigan.

O. I. C. Registered Pigs Write for photo and prices. J. CARL JEWETT, Mason, Michigan.

O. I. C's—Sows bred to farrow last of June and July. Prices reasonable. G. P. ANDREWS, Dansville, Michigan.

O. I. C.—Gilts bred for Aug. and Sept. farrow. Will take orders for March and April pigs. H. W. MANN, Dansville, Michigan.

O. I. C's—Spring pigs, pairs and trios, not akin, from state fair winners. AVONDALE STOCK FARM, Wayne, Mich.

O. I. C.—25 sows bred for Spring farrow. 75 Fall pigs, large and growthy. Write your wants. GLENWOOD STOCK FARM, Zeeland, Michigan.

O. I. C's—STRICTLY BIG TYPE Gilts bred for Sept. farrow and March pigs now ready to ship. Extra good ones at prices that will move them. Pairs not akin. I will be pleased to ship them O. O. D. and record them free in purchaser's name. NEWMAN'S STOCK FARM R. No. 1, Marlette, Mich.

O. I. C. SWINE—Are you on the choice bred sow to farrow the last of Aug. or first of Sept.? If you are, write me, I have them. A. J. GORDEN, R. No. 2, Dor, Michigan.

O. I. C's—Two good boars 12 months old, good last fall pigs, either sex, and this spring boars. 1/2 mile west of depot. OTTO B. SCHULZE, Nashville, Michigan.

O. I. C's—Service boars, gilts, sows, spring pigs—none better. Satisfaction guaranteed. A. H. GRAHAM, Flint, Michigan.

O. I. C. Pigs, 8 to 10 Weeks Old \$10. Pairs not akin \$18. Registered free. C. J. Thompson, Rockford, Mich.

O. I. C. PIGS farrowed in May and June. A choice brood sow 1 yr. old. Also S. C. White Leghorn eggs. Chickens and Cockerels. Satisfaction guaranteed. Bruce W. Brown, Mayville, Mich.

O. I. C. CHOICE FALL BOARS, ready for service, at bargain prices. Registry furnished. WEBER BROS., Royal Oak, Michigan.

Way Brothers Stock Farm. The home of the big bone O. I. C. Hogs. Stock for sale. Registered free. J. R. Way, Pompeli, Mich.

DUROC JERSEYS—A few fall boars and 12 bred gilts for sale. CAREY U. EDMONDS, Hastings, Michigan.

FOR SALE—Fancy bred gilts, fall males, spring pigs, of the large, smooth kind. Price to sell. JOHN MCNICOLL, Station A, R. 4, Bay City, Mich.

Capitol Herd Duroc Jersey Swine. Established 1888. C. Young boars and bred sows for sale. I pay the express. J. H. BANGHART, Lansing, Michigan.

HEAVY BONE DUROC JERSEYS FOR SALE. Some extra nice spring pigs ready to ship. M. A. BRAY, Okemos, Ingham Co., Michigan.

Duroc Jerseys. Big boned service boars; gilts for June farrow, bred to son of Volunteer, Gd. Champ. at 1912 International. F. J. Drott, R. No. 1, Monroe, Mich.

DUROC Jersey bred, gilts, bred for Aug. and Sept. farrow from leading blood lines; also a few good boars. Write for circular and prices. W. C. Taylor, Milan, Mich.

Duroc Jerseys: A few choice boars ready for service, bred from prize winning stock. Cliff Middleton, Idlewild Farm, R. F. D. No. 3, Clayton, Mich.

Duroc Jersey—March pigs either sex, sired by a son of Volunteer Champion of 3 State Fairs and Chicago Show in 1912. E. H. Morris, Monroe, Mich.

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



I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." G. S. BENJAMIN, R. No. 10, Portland, Mich.

MY OH MY!  
What an Opportunity.

Starting May 1st, we are going to give to the farmers and breeders an opportunity to get started right in the breeding industry. We are going to give you a chance to get hold of foundation stock that will give you a nucleus for one of the finest and best herds in your community. We are going to show you as we have others, that you will have greater success with our big type

POLAND CHINAS than with any other breed. We want to place at least one pig, or a pair in every community, to advertise our herd. If interested, write for our plan and prices. HILLCREST FARM, Kalamazoo, Mich.

SOLD POLANDS as far south as Miss. north and west as far as Washington. Every customer satisfied. I can satisfy you. Breeding stock for sale at all times. FRANK KRUGER, Havana, Michigan.

LONG Bodied Heavy Boned Poland China yearling L and fall boars at Bargains. B. P. Rock Eggs \$1 per 15. ROBERT NEVE, Pierson, Michigan.

BIG TYPE P. C.—Two boars old enough for service. Sired by Big Smooth Jumbo. Pigs either sex sired by Hoosier Giant 2nd. J. E. Braithwaite, Brant, Mich.

Poland Chi as, either sex, all ages. Something good at a low price. Bargains in boars ready for service. P. D. LONG, R. F. D. 8, Grand Rapids, Mich.

POLAND CHINAS of the big type. Boars ready for service. Sows bred for spring farrow. A. A. Wood & Son, Saline, Mich.

LARGE TYPE P. C.—Either sex, pairs and trios, not bred gilts. W. J. HAGELSHAW, Augusta, Mich.

Big Boned Poland Chinas. Fall gilts bred weighing from 200 to 300 lbs. ROBERT MARTIN, R. F. D. No. 7, Hastings, Mich.

Large Strain P. C. Boars ready for service and sows with fall farrow of the best breeding, to be had at bargain prices for the next 30 days, must have the room for others. H. O. SWARTZ, Schoolcraft, Michigan.

Poland China—Am booking orders for male pigs to be shipped at weaning time. G. W. HOLTON, R. No. 11, Kalamazoo, Michigan.

## FALL PIGS AT HALF PRICE

Bred from the largest strain of Poland Chinas on earth, none bigger. If you ever expect to own a registered Poland China, this is your opportunity. Get busy and order at once. Pairs and trios not akin \$15 each. J. O. BUTLER, Portland, Mich. Bell Phone.

BIG Type boars by Big Smooth Jumbo. Greatest boar in State, 748 lbs. at 17 mo. These boars are long, tall, big bone, sold at farmers prices, shipped C. C. D. Call or write. Wm. Waffie, Coldwater, Mich.

LARGE TYPE P. C.  
Largest in Michigan.

Bred gilts all sold. A few extra good fall pigs priced to move them quick. W. E. LIVINGSTON, Parma, Mich.

50 YORKSHIRES—All ages. Red Polled Cattle, Oxford Down Sheep, W. P. Rocks, I. R. Ducks, E. S. CARR, Homer, Mich.

YORKSHIRE SWINE. Boars ready for service. A gilt bred for June farrow. Weanling pigs 6-10 weeks old. GEO. S. McMULLEN, Grand Ledge, Mich.

Mulefoot Hogs—Weanling pigs, pairs not akin. Bred sows and gilts for fall farrow, two service boars. C. F. BACON, Ridgeway, Mich.

Lillie Farmstead Yorkshires. Boars ready for service. L. Gilts bred for Sept. farrow. Spring pigs, pairs and trios, not akin. Colon C. Lillie, Coopersville, Mich.

## REGISTERED YORKSHIRES

Imported Strain. Both sexes. Prices Reasonable. Hatch Herd, Ypsilanti, Michigan.

## YORKSHIRES

Bred gilts, service boars, September and October pigs. Prices reasonable. W. C. COOK, R. 42, Ada, Mich.

For Sale Yorkshire Boar Pigs—From large early farrowed and bred to increase the quality of your hogs. WATERMAN & WATERMAN, Ann Arbor, Michigan.

Registered Yorkshires—10 gilts bred for 3 fine boars. JOS. H. BREWER, Belmont, Mich.

## SHEEP.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS "The Sheepsman of the East." I sell and ship everywhere and pay express charges. Write for club offer and price list. Oxford, Shropshires and Polled-Delaines. PARSONS, Grand Ledge, Mich. R. 1.

Registered Oxford Down Sheep—Write your wants. M. F. GANSSLEY, Lennon, Michigan.

Leicesters—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berkshire swine. Elmhurst Stock Farm, Almont, Mich.

## HORSES

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

Pigeon Pony Farm—Reg. Shetland Ponies, mostly spotted, 1 spotted stallion and young stock for sale. Dr. W. T. Morrison, Pigeon, Mich.

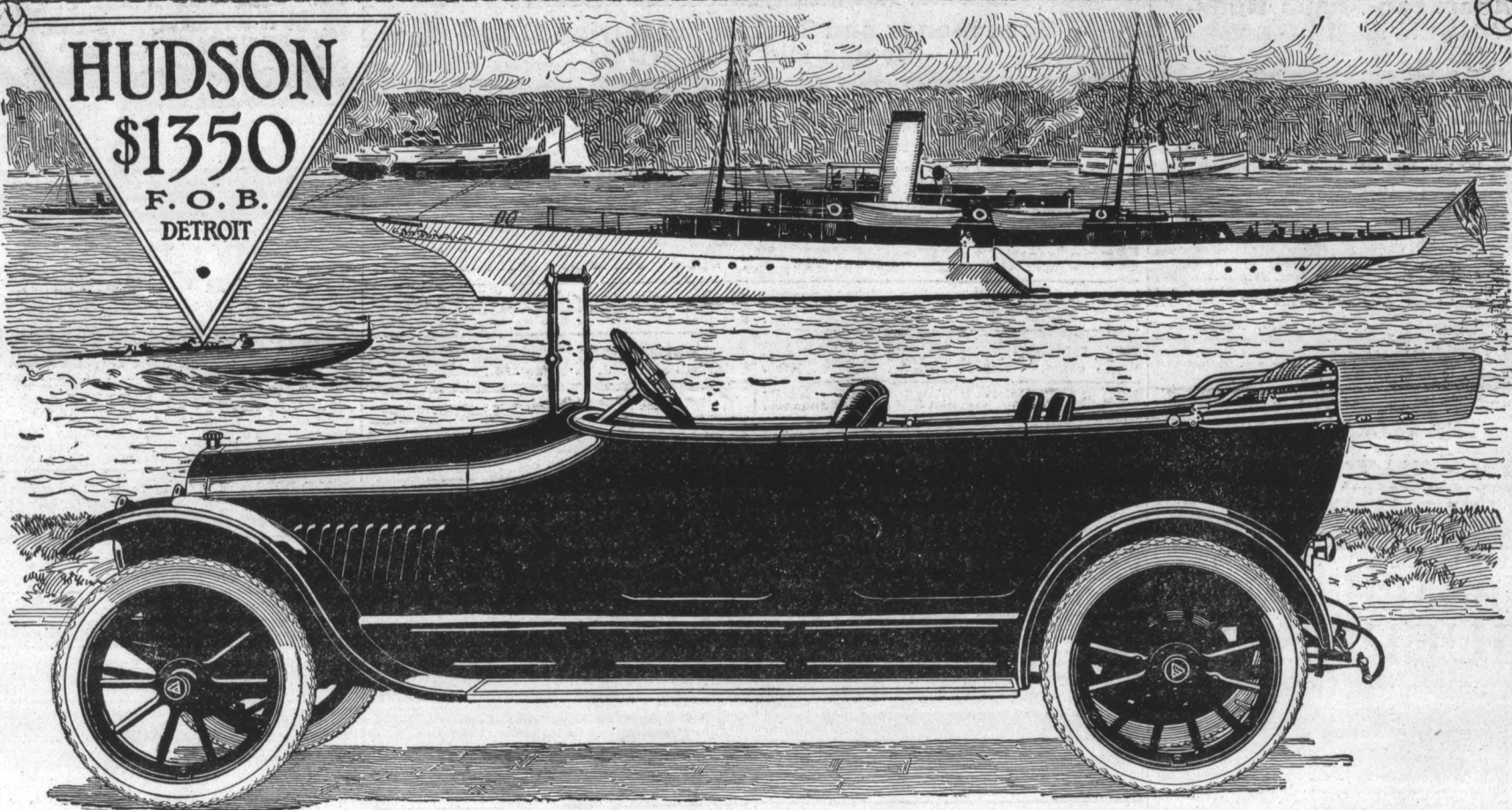
Shetland Ponies—Closing out at low prices on account of selling my farm. Registered stock. J. M. BEDDOW, Birmingham, Mich.

Let You Forget—HILL CREST FARM HOME OF THE PERCHERONS Something good always for sale. L. C. HUNT & CO., Eaton Rapids, Michigan.



**HUDSON**  
**\$1350**

F. O. B.  
DETROIT



*"The Road Cruiser"*

## Ready—the 1916 Hudson

This is to announce the 1916 HUDSON—the third model of this new-type HUDSON, which has become the most popular class car of the day.

It is 20 months since this new-type HUDSON came out at \$1750. It weighed about one-third less than average old-time Sixes. It cut tire and fuel cost in two. It had ample power, ample room for seven. It has proved itself one of the staunchest cars ever built. Despite its low price, it excelled in many ways the costly cars of that day. Its lightness was due to better materials, better designing, to refinement in place of crudity.

This HUDSON became instantly popular. It took us one year to catch up with our orders. It forced us to treble our output. Repeatedly it attained a sale of a million dollars weekly.

In the past 20 months, 15,000 men have bought it. After two seasons with it they unite in pronouncing it the ideal modern car.

Now we announce improvements, in some respects the greatest HUDSON ever made. And one at least will be the most welcome innovation of the year—the new Ever-Lustre finish.

### Now a \$1350 Price

The first price on this new type was \$1750. That was late in 1913. It startled Motordom. This was the first quality Six to sell under \$2000, and many engineers said that price was impossible on a car of HUDSON quality. And they said our lightness—under 3000 pounds—was incompatible with strength.

### Four Innovations

- 1—Yacht-Line Body
- 2—Ever-Lustre Finish
- 3—Roomier Tonneau
- 4—\$200 Reduction

But the car was a HUDSON, and HUDSON standards are high. Howard E. Coffin was the designer, and he never had made a mistake. So men flocked to this car in such numbers that our next model, with 31 improvements, could be sold for \$1550.

Now, with a trebled output, we offer another \$200 reduction. And that on a new model, vastly improved. That means \$400 reduction—23 per cent—since this new type first came out at a price pronounced impossible.

### Yacht-Line Body

And now comes the Yacht-Line body, a seven-year evolution. From straight lines we came to streamline. Now come lines so graceful and unbroken that we call them Yacht-Lines, and the car has been called "The Road Cruiser."

Even the door lines are unbroken. The tops of both the doors and the body are leather bound.

The tonneau is roomier, the rear seat is wider. Now three big people are comfortable on it. With seven in the car, nobody is crowded, and the two extra tonneau seats disappear when not wanted, doubling the tonneau room.

And now comes enameled leather upholstery

over deep curled hair—a luxury which heretofore has been confined to costlier cars.

### Ever-Lustre Finish

And now, best of all, comes a finish that stays new. We have built in our factory enormous ovens, large enough for hundreds of bodies. Now each coat of finish is forced on, then baked on. The result is a finish brilliant, deep and enduring. It resists weather, washing, rubbing, mud. You who have seen good cars quickly grow shabby will realize what this finish means.

Note that these advances come to you in a \$1350 HUDSON. And note that this HUDSON, by keeping so far ahead, is winning by thousands men who demand the best. Wherever you go you will see this new-type HUDSON driven by men of distinction, men who know cars, old, experienced motorists. And this new model will undoubtedly win 20,000 more.

Go see it now. Most HUDSON dealers have it. And this, like every new-model HUDSON, is bound to be oversold. Last summer, thousands of buyers waited weeks for their HUDSON. This summer, despite our larger output, there will be waiting for those who delay. And you won't find a car for second choice anywhere near so attractive.

**7-Passenger Phaeton or 3-Passenger**

**Roadster, \$1350, f. o. b. Detroit**

**Also a new Cabriolet, \$1650, f. o. b. Detroit**

**HUDSON MOTOR CAR COMPANY**  
DETROIT, MICHIGAN

Ask your dealer about HUDSON service. It is exceptional and extreme. It will tell you one reason why HUDSON cars give such perfect satisfaction.

**We have dealers everywhere. These are a few in your vicinity:**

#### MICHIGAN DEALERS

Ann Arbor—Ann Arbor Garage.  
Big Rapids—C. P. Judson.  
Bessemer—E. H. Ekman.  
Battle Creek—American Motor Co.  
Birmingham—Morris Levinson.  
Bay City—Peter J. Oswald.  
Chassell—Edwin E. Warner.  
Detroit—The Bemb-Robinson Co., 288 Jefferson Ave.

Dundee—McIntyre Bros.  
Durand—Durand Auto Co.  
Eagle River—R. L. Blight.  
Flint—A. A. Farnam.  
Gladstone—Holmgren Auto Co.  
Grand Rapids—Reid Auto Co.  
Greenville—E. A. Kemp & Son.  
Hillsdale—L. E. Roethlisberger.  
Iron River—Lindwall & Lindstrom.  
Ionia—Eugene Kerstetter.  
Jackson—Temple Garage Co.  
Kalamazoo—Kalamazoo Auto Sales Co.

Marquette—Superior Garage, Ltd.  
Menominee—Auto Service Co.  
Manistique—L. Yalomstein.  
Owosso—Ferris Bros. & Wolvaer.  
Plymouth—J. R. Rauch & Son.  
Port Huron—George E. Yokom.  
Saginaw—Saginaw Hudson Sales Co.  
Sault Ste. Marie—R. G. Ferguson.  
St. Johns—R. G. Clark.  
Union City—F. B. Hart.  
Whittemore—H. J. Blumenau.  
Wyandotte—A. W. Pardo.