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VOLUME CLVIX NUMBER NINE

DETROIT, AUGUST 26, 1922

CURRENT COMMENT

THE MICHIGAN FARMER SAYS

Dry weather is a test good farming need not fear.

It sometimes pays to let folks know we are around but it is not necessary to stir up the dust to do it.

"Cleanliness is next to Godliness." It is also essential to goodness in dairy products.

Often a good growing of a crop is spoiled by a poor harvesting and marketing of it.

During these ninety-in-the-shade days let's not forget that inspiration and perspiration are both essential to the real enjoyment of life.

Someone has said that the shortest way to a man's pocket-book is through his stomach, which leads us to suggest that the shortest way to dairy profits is through the cows stomach.

The Railroad Situation

While there is still a general feeling of optimism regarding the early settlement of the difficulty, there is a growing realization of the fact that we may be confronted with a serious breaking down of railroad transportation if not a complete tieup of transportation facilities before the conflict is over. President Harding's message to congress, following the failure of his efforts to effect a present settlement of the controversy by personal mediation, is not particularly reassuring, in that it is an appeal to public sentiment rather than to congress, which he does not expect to undertake remedial legislation during the present session. This disposes of the likelihood of present government interference unless made absolutely necessary by an extreme emergency.

It is entirely probable that this may be the wisest possible present course of action looking toward a definite settlement of the issues involved which, in the long run, is preferable to a temporary truce. This program promises that the public will be fully advised regarding the facts and principles involved in the controversy, thus facilitating an intelligent crystallization of public sentiment regarding them which will be highly advanta-

geous if national legislation of a more or less drastic character is found to be ultimately necessary to protect the public interest in such controversies. In the absence of a preponderant expression of public sentiment along this line, congress cannot be expected to enact legislation which will wisely and adequately cope with this and like situations at a time when a large number of its members are in the midst of a campaign for re-election. This would not be in accord with human nature, which is just as constant a factor in congress as it is on the farms or in the shops. And it is absolutely essential that any legislation looking toward the permanent settlement of industrial conflicts arising in the operation of public utilities or essential industries be absolutely fair to all concerned, including workmen, investors in the industries and the general public. The American public believes in just this kind of fair play. Railroad executives and railroad workmen are aware of this fact, and we believe that the knowledge that all the facts in the case are to be put up to the American public for discussion and decision as to a fair play program will hasten the likelihood of compromise on both sides and make for an earlier settlement of the present dispute than would any other course.

In another column of this issue under the title, "The Farmer and Strikes," will be found some facts and figures given by Secretary of Agriculture Wallace in a talk before the Farm Bureau at Leesburg, Va., last week, which every Michigan Farmer reader should carefully study, as having an important bearing on the situation. In addressing delegates and members of the Michigan Potato Growers' Exchange, at Cadillac last week, President David Friday, of M. A. C., who is an economist of international repute, declared emphatically that railroad rates must come down to a point which will involve, in his opinion, a reduction in railroad wages of approximately \$500,000,000 per annum.

It is perfectly natural for people of every class to resist any substantial reduction of their income, and perfectly right so long as such resistance does not react to the detriment of the country and all its people. Also, it is to the advantage of business in general and farmers in particular to have industrial wages maintained at a point which will enable workmen to maintain a high standard of living and maximum consumption of foodstuffs, but there is of necessity an economic balance which must be maintained between wages and prices and it is obviously impossible for deflation to be effected in one industry, as it has been in agriculture, and not ultimately in all others. In the end, fair American public sentiment will take care of that if it has the facts upon which to base its conclusions. The Michigan Farmer will strive to acquaint its readers with the relevant facts in an impartial manner and to the best of its ability, to the end that their judgment may be fair and just.

It is a matter for congratulation to Michigan farmers in the present emergency that they have such a diversified production and such excellent home markets, which will reduce their possible loss to a minimum whatever the outcome of the present railroad trouble may be.

For Home Con- sumption

A FACT most noticeable to a traveller in our fair state is that there is plenty of Michigan fruit in the orchards, but when we enter the cities we find western fruit on our fruit stands and in our hotels. Perhaps the reason for this is that

the western fruit goes through definite and well established channels of trade which have been developed by a highly organized marketing system. This undoubtedly makes it easier and more convenient for distributors to get western fruit than that grown nearly at their door. And it is with the distributor that the retailers and hotels deal.

However, Mr. John A. Doelle, state commissioner of agriculture, has done a very good thing when he made a plea to the hotel keepers of this state for Michigan fruit on Michigan tables.

His letter to them told of the high quality Michigan grown Bing cherry, the tasty early sweet apples and the goodness of Yellow Transparents and Red Astrachans, which are equal, if not better, than those which could be obtained elsewhere. He thought it was the duty of all of us to consume home products provided they were just as good and just as cheap as others. And he offered to tell these hotelkeepers where they could easily get dependable Michigan fruit of high quality.

And may we add that we, as Michiganders, can do no better to help advertise these great Michigan products than to make it easy for Michigan hotelkeepers and retailers to get our fruit. Some concerted effort ought to be made to place Michigan products on Michigan tables so that our visitors may sample what we grow.

The Farm Fuel Situation

IT is now apparent that there may be some delay in securing needed coal to finish the threshing and do the big job of silo filling which is just ahead in this state. State Fuel Administrator Potter advises that in pursuance of the plan outlined in our last issue he took with him to Washington several orders for threshing coal made out on the federal forms and accompanied by proper bank guaranty for payment. When these were presented to Federal Fuel Administrator Spencer he returned them with the statement that, "The grain will not spoil in the stack." Mr. Potter states, however, that the state fuel administration is continuing its efforts to obtain this coal as promptly as possible and that Washington has assured them that their request will be considered and that some action will be taken shortly. He adds that it may be two or three weeks before coal can be obtained for this purpose. This delay is most regrettable in view of the desirability of completing the grain threshing before fall rains cause heavy losses, and of the early need of coal for silo filling which is still more essential, but our readers may be assured that everything possible will be done from this end of the line to satisfy this essential need.

With a partial settlement of the coal strike accomplished it would seem that the general farm fuel situation would be brighter, but the situation is still complicated by the continuation of the railroad shopmen's strike and the gradual breaking down of railway transportation service from this cause, and the availability of coal at the mines will not relieve the situation unless it can be delivered to distant users. The federal fuel administration is confronted with the necessity of facilitating the rapid movement of coal to the northwest before the close of lake navigation to obviate otherwise unavoidable suffering in that section during the coming winter, hence we can expect only our absolutely minimum needs to be supplied for the present. It is to be hoped, however, that when the fuel administration machinery is once gotten into good working order these needs may be met with a minimum of delay. In

the meantime Michigan farmers should plan on a supplementary fuel supply from woodlots as far as practicable as a safety-first measure.

The Value of Thoroughness

THE recent tour of fruit men in the western part of the state impressed many valuable lessons, but chief among them was the value of thoroughness.

Very often when several fruit men get together the value of this or that spray material is the topic of discussion. Some favor lime sulphur as a summer fungicide, while others have discarded it in favor of Bordeaux mixture. Still others think there is nothing like dusting.

On this tour the results of all of these sprays were evident, and as far as one could see the results with one were as good as with the other. But there were object lessons which clearly denoted that the method of application had much more to do with the results than the material applied. Where the application was careless the results were unsatisfactory, but where thorough work was done, the fruit was clean and in good marketable shape.

If the fruit growers who were on this trip observed this demonstration of thoroughness and will impress it upon their fellow fruit men the tour will have been worth while alone for the lesson of thoroughness it impressed.

Sweatin' vs. Perspirin'

SEEIN' as I have got considerable experience lately with sweatin', I think I kin spare a few drops of sweat writin' on the subject.

Sweatin' is a grand and glorious thing 'cause its the best way of keepin' cool when you're hot. If Nature wasn't wise and didn't lubricate us with sweat we'd burn up when we got hot and maybe we'd have to get our engine "pulled" in the hospital, which is the human garage, and have all our cylinders reground.

Now, sweatin' and perspirin' is two different things. Sweatin' is the result of endeavor, but perspirin' is the

result of indolence. Perspirin' is what those do what's got no other occupashun than tryin' to keep cool.



We farmers sweat, but most city folks perspire while they's got

the assistance of electric fans and iced lemonade and other intoxicatin' drinks, in their endeavor to keep cool. Now I know the difference between sweatin' and perspirin' 'cause I sweat on week days but I perspire on Sundays when I listen to Squire Jones' declamashuns on such a cool subject as "The Value of Immershun."

Now, perspirin' is a hard thing to do 'cause most folks try so hard not to do it. There's lots of folks what use stuff to keep them from perspirin' so they don't get their clothes soiled, and there's many woin folks what is more concerned over keepin' the shine off their nose than on their shoes.

Seems like some famous man said somethin' about earnin' your bread by the sweat of your brow. We farmers are livin' up to his qualificashuns, ain't we? And we're proud of it, only we don't like to likewise earn the livin' for the fellow what is perspirin' over tryin' to make his big dividends look like losses on his income tax blank.

Sophie just asked me what I was sweatin' about, and I said "Sweat." She didn't know I was writin' this.

HY SYCKLE.

The Control of Wheat Stinking Smut

Copper Dusts Have Proven Valuable in Checking this Serious Trouble

By G. H. Coons, *Plant Pathologist, M. A. C.*

EACH year stinking smut or bunt of wheat causes enormous damage. On an average the loss to Michigan farmers amounts to 5% of the crop. Stinking smut causes loss in many ways. It lessens the crop and spoils its quality. When it is present the farmer gets for a bushel of wheat about half the market price. Few elevators or manufacturing places are equipped with devices to clean such smutty wheat, so that the crop is only salable for chicken feed. When smutted grain is mixed in with a carload of otherwise clean wheat, the bad spoils the grade of the good—and the whole carload suffers. The federal grades sharply discriminate against the smutty product.

A prominent grain buyer, who handles many cars of Michigan wheat, speaking before Michigan farmers, stated that control of stinking smut was the most important thing to establish Michigan's position in producing wheat, and he gave instance after instance to show how all Michigan wheat suffers because of the presence here and there of smut in our ship-

reproducing the smut. A trace of smut one year, distributed in the dust at threshing time, liberally coats the wheat kernels. The spores lodge in the groove, and on the germ of the wheat, and thus fairly clean seed one year may become badly smutted the next.

When wheat is planted the smut gets in as the grain sprouts. This smut can only enter the tender sprout

as it pushes out from the grain. The bulk of the infection occurs before the sprouts are three-quarters of an inch long. This period and this only is the danger time for the wheat. Every farmer has noticed that some years are worse smut years than others. A bad smut year for winter wheat is one when the fall is cold and wet and the grain sprouts slowly. This gives the smut splendid opportunity to get in.

Time of planting is important. Very late planted wheat meets bad growing weather for wheat, which, however, is good growing weather for smut. Hence smut is usually worse with late plantings. With spring wheat the later plantings usually meet faster growing periods hence the reverse condition holds. There is no mystery about the matter. Outside the grain there is a parasite growing when the grain sprouts and developing as the grain grows. If it can grow to or be washed to the tender sprout it enters and the stalk becomes diseased.

The subsequent story of the smut is interesting. Once inside the grain the smut grows as the grain grows, keeping pace with the progress of the developing shoot. The microscope reveals the threads of the fungus, in the affected stalks, but outwardly there is no visible sign. When the wheat stools, the smut grows out into the new shoots so that usually all heads produced from one smutted grain are smutted. The exception comes when by some rare condition the wheat in its growth outstrips the parasite and accordingly we sometimes find wheat with a stalk or two clean and the rest smutted or we may find a head, half smutted and half sound.

The smut gives no evidence of its presence until the wheat heads and grain begins to form, and then the hidden enemy takes possession of the kernel and makes smut powder instead of grain. This powder distributed by the thresher is ready again to infect next years' crop and repeat the story over and over to the disadvantage of the farmer.

The Control of Stinking Smut

Since stinking smut is carried to the field in the grain, and gets in only in the short period when grain sprouts are merging, a method which will kill the smut on the grain without injury

A "Home" Farm Crop Show

WITH larger offerings and a more representative premium list interest of Michigan farmers in the Farm Crops Division of the Michigan State Fair is on the up grade and going stronger every day.

All over the state farmers are tuning up the old fanning mill and pre-

ment in Michigan. These growers of pedigreed seed find the biggest market for their product right here in Michigan where its adaptability and productivity are known. They recognize in a properly conducted show at the State Fair an excellent opportunity to display this seed to thousands of Michigan farmers and already numbers of them are getting their seed in shape to make a real showing.

Besides the competitive grain and seed entries a feature of the crops show at the State Fair this year will be the competition between counties showing both a wall and table display of their farm products. These exhibits are by county-wide organizations such as the Grange, Farmers' Clubs, or County Farm Bureau, and space is available for 18 of them to get into the running. Last year Ingham came out ahead but Tuscola, Hillsdale, Saginaw and others made her travel some. This year they are at it again each vowing to outdo the other, and the competition should be a worthy one.

To stimulate good exhibits and aid growers in preparation of their entries, the Farm Crops Department of



Many Smut Balls Break at Threshing Time

ments. Stinking smut is a serious disease in another way. It makes threshing a very disagreeable process and many threshermen refuse to handle a crop that is so infested. Taking it all in all, stinking smut annually costs the state of Michigan from one to two million dollars—a sum larger than is used to run the Michigan Agricultural College.

What Is Stinking Smut?

The sooty grain of stinking smut with its vile, fishy odor is well known and dreaded on every Michigan farm. Stinking smut is a fungous disease. In the field, when the grain is in the milk stage, the smutted stalks can be detected by their peculiar gray-green color and by the slightly greater spread of the spikelets. But the sure test is to shell out the grain which, when stinking smut has taken possession, consists only of the swollen distorted hull. This puffy grain instead of being filled with starchy "milk" as in the normal kernel, is filled with a black smut powder. This black mass consists of the fungous spores.

The Cause of the Disease

Since control of stinking smut depends upon our knowledge of the life history of the fungus it is necessary that the farmer understand this life story perfectly. The puffy grain of stinking smut dries as the grain matures and becomes a light smut ball, filled with spores. The light walls of many of these balls are easily broken in threshing and the wheat becomes dusted with the smut powder. Some of the smut balls do not break until the grain is drilled and as will be seen this is the most dangerous time of all.

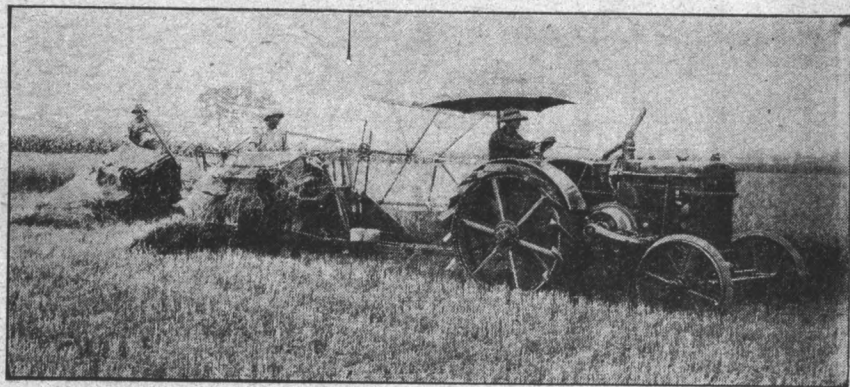
A smut ball under the microscope is seen to teem with smut spores. A single smut ball has been estimated to contain 500,000 spores, each one capable under the right conditions of

paring to "tell the world" where the real quality crops are grown, and some of the old-timers at the exhibit tables had better look to their laurels. As one farmer put it, "Michigan's practical growers have gone down to Chicago for three years and haven't had to take a back seat for anyone. We've neglected, however, to show our wares to the homefolks. Now that we've convinced ourselves that we can grow the real stuff we are going to let the rest of the state in on it. Besides, this winning stuff kind o' gets one's dander up and some of those silver-bronze trophies offered down at Detroit would look just as well on my clock shelf as they would lined up for some fellow whose main claim to agriculture has been that he grew just a little bit of everything so he could enter in every class in the book and get away with it."

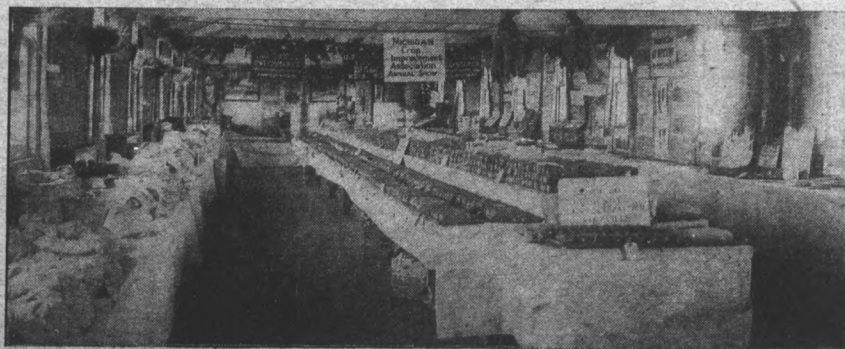
It is a fact to be reckoned with that Michigan's winners at the bigger show have nearly all been by the pure farmer type of exhibitor, the fellow that actually was growing quantities of the seed and used the show as an advertising side line rather than a source of revenue. Much of this has been due to the work of the Michigan Crop Improvement Association in furthering the pedigreed seed move-

the Michigan Agricultural College has prepared a circular containing timely suggestions on cleaning the different grains and information as to what is good and bad in a seed sample. These along with Extension Bulletin No. 22 on "Effective Crops Exhibits" may be secured from the Secretary of the Michigan Crop Improvement Association, East Lansing, Michigan.

H. C. RATHER



What Per Cent of Smut Do You Harvest With Your Wheat?



A Typical Michigan Farm Crop Exhibit

to germination of the grain will prevent smut. In the early days the farmers washed the grain and got fair control. Some used brine and reduced smut slightly. Then pickling grain in copper sulphate or bluestone solution was introduced with good success in smut control, but with bad effects on germination.

Finally formaldehyde was discovered to have value for treating grain and farmers were advised to soak wheat in weak formaldehyde solution made with one pint of formaldehyde in forty gallons of water, skimming off the smut balls which rise to the top. This gives perfect control, even when the smuttiest of wheat is treated. If the treated grain is dried and planted at once it gives along with this perfect control of smut little injury to germination.

This treatment has its drawbacks. The grain when soaked is hard to plant, and is troublesome to dry. If it

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Potato Men Hold Annual Meeting

Past Season's Business and Plans for the Future Discussed

THE fourth annual meeting of the Michigan Potato Growers' Exchange, held at Cadillac, Mich., on Aug. 16-17, brought together some 300 delegates, managers and members of the local exchanges throughout northern and western Michigan. The first day's program was one of education and entertainment.

C. L. Brody, manager of the Michigan State Farm Bureau, was the first speaker at the opening session. He stated that the commodity exchange was essentially a sectional proposition, and in the belief that the members of the potato exchange would find the state-wide viewpoint of interest, he outlined the past year's program of the Michigan State Farm Bureau in the affiliation of commodity exchanges with that central organization. He reported satisfactory progress in the affiliation of four commodity exchanges with the Farm Bureau, including the potato exchange, the elevator exchange, the livestock exchange and the milk producers' association. He outlined the present plan of organization of the State Farm Bureau, which is controlled by seven directors elected at large from the county farm bureau units and one director selected by each of the affiliated commodity exchanges. He regards strong local control of commodity exchanges an essential requirement in the building of a sound organization from the ground up and outlined the work of the past year in putting a strong foundation under the state organization and in putting its house in order by substantial reductions in expenses, the centralization of accounting, needed "housecleaning," etc. He regards the

answer to the farmers' problems to lie in organization and co-operation to be promoted and perfected by finding the right men to direct them along lines of service to the membership rather than profit to the organization.

President Curtis of the Potato Growers' Exchange spoke forcefully of the necessity of analyzing character in the selection of men to manage co-operative enterprises and congratulated the Farm Bureau on its selection of a manager.

Hale Tenant, of M. A. C., who did the initial work which resulted in the organization of the Potato Growers' Exchange, emphasized organization as the substantial basis upon which the farmer must rely to protect himself and to realize the earnings to which he and his family are entitled. He pointed to the organization of the elevator exchange as a substantial achievement and noted as an important co-operative development plan for the early establishments of livestock commission houses in the Detroit and Buffalo markets under the auspices of the Live Stock Exchange. He then outlined the plan of organization of the national service organization now known as the Federated Fruit Growers, which has resulted from the work of the committee of twenty-one appointed some two years ago to work out plans for a national selling or service organization which might serve fruit and vegetable growers' co-operative organizations throughout the country on an economic basis by the establishment of a national service with representatives in leading markets throughout the country. As a basis for such a service plans have

been completed to take over the organization of the North American Fruit Exchange on Jan. 1, 1923. It is estimated that a volume of 25,000 to 30,000 cars is required to maintain such a national service on an economic basis. It is hoped to start the Federated Fruit Growers' organization with a volume of 50,000 cars in sight, including the product of the northwestern apple growers, peach growers, raisin growers, walnut growers, potato growers, etc. The plan contemplates a grower controlled organization, with local sales managers who will use the machinery of the national service organization, which plan it is believed will prove both economically successful and satisfactory to the commodity organizations using it, since it will be conducted on a scale which will make it possible to secure the services of the very best men in the trade.

J. W. Weston, potato specialist at M. A. C., discussed potato growers' problems, especially the prevalence of leaf hoppers which cause tip burn and the threatened loss from late blight which has been reported in some sections of Michigan and other potato states. Spraying with home-made Bordeaux mixture will control these pests. The spray must be applied to the under sides of the leaves with a high pressure sprayer to control the leaf hopper, but application to the top surface will be fairly efficient in the control of blight, even the sprinkling of the surface with a broom or wisp of hay as an emergency method. Mr. Weston also spoke of the importance of proper ventilation of potato warehouses for keeping the tubers in good

condition with minimum loss. The plan advocated will be further noted in future issues of the Michigan Farmer.

President Friday, of M. A. C., was late in arriving owing to a delayed train, and an adjournment was taken to await his arrival. At this session he spoke of his program to make the Agricultural College of greater service to the farmers of the state, through the extension of practical aid in the selection of poultry, dairy cows and seed for more economical production in the growing of more alfalfa, etc. This program contemplates the addition of \$50,000,000 per year to the net income of the farmers of the state within the next four or five years which can easily be made possible through the co-operation of the farmers individually and through their group organizations.

The Annual Banquet

On Wednesday evening the delegates and members were banqueted at the Elk's Temple. J. D. Robinson, manager of the exchange at Levering, sounded a note of optimism as toastmaster of the occasion, and asserted that co-operation has succeeded.

President Friday, of M. A. C., spoke on the "Future of Prices." He stated that present agricultural prices are about 135 per cent of pre-war prices, while other commodity prices average about 165 per cent of pre-war prices. There must be a leveling of these prices and the economic question involved is whether farm prices will advance to a higher level, or commodity prices fall to meet agricultural prices. He believes the latter will occur, for

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LATE AGRICULTURAL NEWS

CONSERVING COAL AT M. A. C.

A diminishing supply of coal on hand at the college has led President Friday of M. A. C. to issue orders restricting the burning of electric lights and the promiscuous running of drinking fountains and faucets. The library will be open only between the hours of 8 and 4 each day. Night work throughout the college is to be discontinued except in the barns, dairy building and such departments as are engaged in experiments that cannot be discontinued.—H.

FARMERS PURCHASE ELEVATOR.

INCREASED business of the Charlevoix Farmers' Co-operative Association obliged the members to acquire additional equipment. This was provided through the purchase of an old line elevator and right of way facilities on the Pere Marquette at a cost of eight thousand dollars. ●

VOTES TO PLACE POTASH ON FREE LIST.

By a vote of 66 to 1 the Senate eliminated from the House bill the graduated duties on potash for a period of five years, leaving potash on the free list, and the \$9,500,000 bounty upon potash produced in this country was rejected. White arsenic was restored to the free list.

GRAPE ROT PUTS IN APPEARANCE

REPORTS are to the effect that grape rot is present in some of the vineyards of the Lawton district.

Fruit growers are busy spraying in an effort to prevent the spread of the disease. Many are going through their vineyards and picking off rotted fruit, hoping in this way to stay the spread and to economize in time when harvesting. This year's crop is a bumper one.

COLLEGE FAIR EXHIBIT

SERVICE of the Michigan Agricultural College to farmers of the state will be presented in unusually complete form at the Michigan State Fair at Detroit early in September, through a general educational exhibit occupying 300 feet of space in the main Agricultural Building, an exhibit of 10 prize horses, two carloads of carefully chosen beef cattle and a special poultry exhibit.

The part to be played by the college at the fair is under the general direction of E. B. Hill, assistant to the dean of agriculture. Ideas to be stressed, according to Hill, will be the value of alfalfa, the use of lime and phosphoric acid as fertilizer, reforestation, barberry eradication, fertilization and spraying of fruit trees, and food and nutrition from the standpoint of home economics. Other exhibits will show the work of the farm mechanics, entomology, animal husbandry, poultry and dairy husbandry departments and the engineering division. Boys' and girls' club work will be given a prominent place.

The horse exhibit includes several of the animals that won high honors at the state fair last year, as well as several that have not been shown be-

fore. Besides the Michigan State Fair, this group will be shown at the Ohio State Fair, the Jackson County Fair, the West Michigan State Fair at Grand Rapids and the International Livestock Show at Chicago. The beef cattle exhibit consists of the animals that will be sent to the International later.

INCREASE IN ALFALFA ACREAGE

MORE than 275,000 additional acres of alfalfa are being planted in Michigan this year, according to estimates by Prof. J. F. Cox, head of the M. A. C. farm crops department, based on the amount of seed sold. This apparently unprecedented increase is the result of the special campaign carried on during the last 12 months by the crops department.

Farmers estimate that the value of land is increased from 20 to 40 per cent by the successful growing of alfalfa, says Prof. Cox. The addition of 250,000 acres of alfalfa will increase the value of land in the state by \$2,500,000. An extra ton of hay per acre above other hay crops, worth from \$10 to \$15, which can be expected from alfalfa, will add from \$2,500,000 to \$3,500,000 to the annual farm income.

"The dividends from alfalfa are cumulative," declares Prof. Cox. "Hence further returns in the way of more livestock, more economical feeding, and increased crop yields per acre following alfalfa can be expected. Certainly the extensive planting of alfalfa, sweet clover and clover is the logical thing under Michigan conditions. The season has been unusually successful

from the standpoint of timely rains and a very large percentage of the new acreage will stick. It can also be expected that a marked increase will be made during July and August in the area seeded."

About one-fourth of the alfalfa seed sold was handled by the seed department of the Michigan State Farm Bureau. J. W. Nicholson, manager, reported the sale of 776,798 pounds of northern grown seed up to July 1. Of this, 248,798 pounds was Grimm alfalfa from Idaho or North Dakota.—H.

TO HELP RASPBERRY INDUSTRY

STEPS to bring the declining raspberry industry of Michigan back to its former high place will be taken by federal and state authorities following a survey made recently in Berrien and Van Buren counties, in which it was found that the decrease in production is due to unsatisfactory cultural conditions and to the prevalence of several diseases.

Plans formulated by the authorities, according to Prof. Roy E. Marshall of the M. A. C. horticultural department, call for: first, an increase in the number of inspectors and more rigid inspection by the state department of agriculture; second, acquainting the raspberry growers with the importance of better cultural and fertilization practices and with the serious nature of the several diseases by means of field meetings; and third, organizing the raspberry interests so they may be in a position to certify plantings which are disease free and true to variety, much after the fashion of the potato producers.

Successful Round-Up in U.P.

President Friday Tells of M. A. C. Plans to Further Agricultural Progress.—By L. A. Chase

THE annual farmers' round-up held at the Michigan Agricultural College Experiment Station at Chatham, August 11, was highly successful. More than 2,000 farmers with a few city people from Marquette attended. The weather was ideal and everybody had a good time. There was a program of sports, including a tug-of-war, speech-making, eats, contests and demonstrations; while the grand finale was staged in a field across the road from the station buildings, when President David Friday, of the Michigan Agricultural College, at 4 p. m., pressed the button which exploded simultaneously charges of dynamite under nearly 200 stumps, covering two acres of land, and sent them sky high with a deafening report. A considerable number of representatives of the Agricultural College came up to be present at the round-up.

President Friday, after a tour of inspection of the station, gave utterance to his views on the existing agricultural situation and stated his plans for the work of the college, particularly with reference to the Upper Peninsula Experiment Station. His speech was delivered from a platform in the grove close to the station buildings to a large and interested audience of farmers and townspeople. As this was his first appearance before an Upper Peninsula assemblage of farmers, President Friday let his hearers know at the outset, that he was himself from the race of dirt farmers, having been born some 46 years ago on a farm near Benton Harbor. He believed, he said, that the experience of his mother, left a widow on this farm in 1886, with a family of five young children, demonstrated that a living, and a good living, could be made off the land, if farmers used good judgment, as well as labor, in their agriculture. He said he considered the problem of production still topmost in importance and that if farmers had the right things to sell a market would be found for them.

With regard to the work of the Michigan Agricultural College, President Friday compared his problem with that of the manufacturing industry.

There are 550,000 persons employed in 8,300 factories in Michigan, and the average output of each factory amounts to \$190,000 in value. There are 360,000 farmers on 196,000 farms in Michigan. The average output per Michigan farm in 1919 was \$1,600. It is too big a problem for the Agricultural College to attempt to reach every individual farmer, and the small output from each farm makes it impossible for the farmer to employ experts on every farm. The new discoveries and new methods in agriculture must be got to the farmer by the state using every means that is available. To promote the work of the Agricultural College, he said, he is going to ask the legislature of 1923 for two million dollars, which would amount to only an average of \$10 for each farm in the state.

He gave assurances to his hearers that the Upper Peninsula Experiment Station could have all the funds that were required to do its work efficiently—a statement which was warmly applauded. More land was to be cleared at the station, he said, and alluded to the fact that when such a clearing took place recently, the oats raised on the new ground the first year paid the entire cost of clearing it. He also announced that the College will soon distribute a special bulletin relating to the Upper Peninsula.

President Friday stated that he had

a five-year plan of development for the work of the college which he predicted would, if carried out, increase the income of Michigan farmers by \$50,000,000 a year. Thus, by culling out all non-laying hens, and keeping only the best layers, an enormous increase in the egg production of the state could be effected, and he hoped, next year, to start a campaign with experts from the college, which would eliminate every non-paying pullet in the state. This would not be so difficult, he said, since an expert at sight can very quickly pick out the worthless pullets. Since there are ten million pullets in Michigan, this is a job



President Friday of M. A. C.

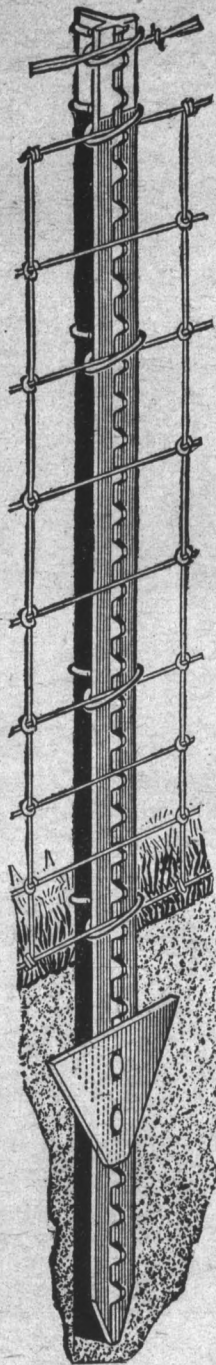
that is well worth putting over. It is entirely possible to raise the average output of eggs per hen from six and one-half dozens (as at present) to ten dozens. In the same way, the average milk output should be increased from 3,600 pounds per year to 6,000 pounds. It was not a question of increasing the total output so as to flood the market, but of eliminating high cost animals and reducing expenses thereby. This was the way to get ahead, since he prophesied, agricultural prices will not advance. The world situation is such that low prices are sure to continue, he said. President Friday warned farmers not to get into debt.

President Friday thought the farmers could more efficiently deal with the problem of marketing than the state, but he stated that the Agricultural College would study city markets to learn how the farmers can meet their requirements. He thought the Upper Peninsula should raise a larger proportion of its food requirements, and suggested the production of baby beef as suitable to this section.

Prof. O. E. Reed, who also spoke, pointed out the great possibilities of cheese production as seen in Wisconsin, when there was a standardized product of recognized quality. He thought the Upper Peninsula had not sufficiently attended to this subject.

Dean R. S. Shaw, of the Agricultural College, pointed out that the lands of the Chatham Experiment Station had increased from 120 in 1908 to 789 acres in 1922, and stated that one hundred acres are to be cleared this summer. The buildings at the station are now worth \$50,000. Dean Shaw also gave assurances that the Experiment station would receive ample financial support so that it can have the best experts at the service of the farmers of the northern section of the state. It was important, he added, that the station and its workers should get in close touch with the farmers.

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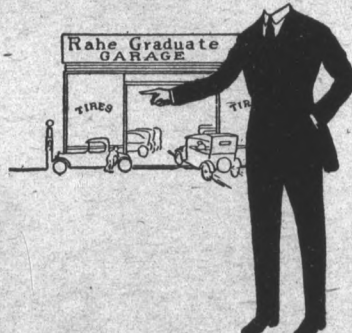
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PROPERTY IN JOINT DEED

In Michigan, how is property, real and personal, settled where there is a joint deed when father or mother dies? There are children of age and minors.—A. S. W.

Property held by husband and wife by entirety all goes to the survivor and when the survivor dies descends to the heirs of the survivor or passes to his devisees as if it had never been held by entirety.—Rood.

RIGHT BY APPEAL

In Michigan, if there was reason to believe that the rulings and orders of a Judge of Probate for a county was unjust, what recourse and to what power can the person appeal for higher consideration that believes that an injustice has been done, willfully or unwillingly?—G. W. T.

The right of appeal from the decisions of the Probate Judge is purely statutory and exists only in the cases provided for by statute. In some cases there is no appeal. In others there is an appeal to the Circuit Court.—Rood.

BUFFALO BUR

Enclosed in box you will find a weed, which I am anxious to find out what it is. It is the second that I have found. It looks as if it would be a pest.—H. K.

The plant is solanum rostratum, Buffalo Bur. It is very frequently present in chicken feed, since the latter often consists of the screenings from mills and elevators. The weed is an annual one, i. e.—lives but one season. It is native to Kansas, Nebraska, Colorado and adjacent portions of the Great Plains. It was the original food plant of the Colorado potato beetle, more commonly known as the "potato bug." When the closely related potato began to be cultivated in the region where the Buffalo Bur is native the beetles promptly began to attack the potato also and followed it back until in a few years they had reached the Atlantic Coast.—Bessey.

LIABILITY ON NOTE

Am I obliged to pay a note given to me to a certain company? I foresaw later that it would fail, so I went to the bank and forbade the payment of it. When the note fell due I was not notified so I thought the matter at an end. Recently I received a notice from an attorney that unless the note was paid in 15 days he would commence action against me. The company was declared bankrupt in January, so how can they collect when they have nothing to give in return. Is it not getting money by fraud?—W. J. B.

The maker is liable on the note without any demand at maturity and if he fails to pay may be sued for it. The bankruptcy of the payee has nothing to do with the liability.—Rood.

UNPRODUCTIVE SWAMP LAND

Would like advice in regard to a piece of swamp. It has always raised large crops until the last four or five years. About all it will grow now is sorrel and a small fuzzy grass and smart weed. I plowed it last summer after cutting hay and kept it worked all fall. I plowed it again this spring and planted it to corn about the first of June, but the corn is not doing anything. What is the trouble?—E. E.

Swampy or marsh land is very apt to be deficient in lime, and, therefore, becomes acid after being cropped for a short time. Many plants will not grow in a thrifty manner in sour or acid soil. From your letter I suspect your land is acid, and if so, the only thing that can be done to benefit it is

to apply lime. Not less than one ton of ground limestone per acre should be used. The sooner this is applied the better. Lime should be applied on the surface of the soil and harrowed in, not plowed down.

Again, swampy or muck land is usually deficient in phosphoric acid, and many times in potash. The available supply of these two essential plant foods is soon depleted on this kind of land, when it is cropped. Here again the only remedy is to purchase these two mineral elements of plant food.

If you will lime the land and then when you plant a crop use two-hundred to five-hundred pounds of phosphate and potash fertilizer, I feel sure it will again become productive.

INCOME TAX

I lived in Canada for some time. I left a year ago. While there I made out income tax returns for 1920, and was not charged for same until a short time ago. My husband died here a month ago and what money we had is all tied up here. Can the Canadian government force me to pay, or should I agree to pay?—Mrs. F. Y.

Presumably the Canadian Government will hold you according to the return made, ability to enforce payment being dependent upon the property within reach of the Canadian Government.—J. R. R.

BIG RETURNS FROM A CHERRY ORCHARD IN ALPENA

A GREAT deal has been written this year about the great cherry crop of some of the northern counties of Michigan, and actual returns from individual orchards are now coming in to the astonishment of fruit growers in other parts of the state. As an illustration of this a report comes from Alpena county that Charles R. Henry, one of the few enthusiasts in fruit growing who are blazing the way for others, and who with his sons own a cherry orchard, picked and marketed more than 2,200 bushels of cherries from their 24-acre orchard. They received from \$4.50 to \$5 per 24-quart crate for the fruit.

A part of this orchard was planted 12 years ago, and the remainder seven years ago, and all is in bearing. The gross return for the year was nearly \$15,000. From 100 to 150 pickers are employed in the orchard during the picking season of four or five weeks, and the fruit is nearly all shipped to Detroit.

CABBAGE WORMS

Please give some advice for destroying cabbage worms. We have tried ashes and this doubled the amount of worms.—C. J.

We advise the use of arsenate of lead mixed with hydrated lime at the rate of one part of the dry powdered poison to four or five of the lime. This to be dusted on before the cabbage begin to head out. After heads are well formed I would use hellebore in the same proportion and in the same manner. The advantage of the hellebore is that it loses its poisonous nature rather quickly and is therefore much safer to use on the cabbage.

If one were sure that all the outer leaves were to be removed in every case, as is not done when cabbage is fed to stock, then I presume the arsenate of lead would be safe, but often times an accessive amount of the poison is applied and the leaves are not all removed, which makes it dangerous to eat.—Pettit.

RADIO DEVELOPS RAPIDLY.

THAT radio is more than a passing fad is shown by figures given by W. D. Terrell, chief of the radio division of the Department of Commerce. Permits for broadcasting now total 400, and applications are coming in at the rate of 70 a month. More than a million receiving sets are now in use in this country.

Mr. Terrell says the radio is increasing rapidly in the rural districts, and is having a noticeable effect in making the country home more attractive to the young people.

AUTO HELPS IN DELIVERING MAIL ON RURAL ROUTES.

THE Post Office department called attention to the efficiency of the automobile as a means of delivering mail on the rural routes. The volume of mail is increasing and the routes of the rural carriers are becoming so lengthened that it is difficult for the carrier to make his daily rounds by horse vehicle.

REFUTES CHARGES THAT DUTY WOULD HAMPER SALE OF WOOLENS.

IN view of the controversy in the Senate as to the bearing the duty on raw wool would have on the price of clothing, Senator Willis, of Ohio, had printed in the record the statement of the Wool Marketing department of the American Farm Bureau Federation, in which it was shown that it requires 9.8 pounds of grease wool to manufacture cloth for an all-wool suit of clothes, which at 20 cents, the average price received by growers for 20,000,000 pounds of 1921 pooled wools, would be \$1.96, the total amount received by the grower for wool required to manufacture a choice suit, providing only virgin wool is used; that the total value of the 1921 domestic clip amounts to only \$56,400,000, and the estimated value of the 1922 clip of 260,000,000 pounds at 33 cents after the tariff has been in effect for over one year, would only be \$85,800,000, being a convincing denial of the claim that the wool tariff would be responsible for \$150,000,000 to \$361,000,000 increase in clothing values when the total amount of money received by the wool growers for their clip is less than half of the estimated increase to the consumer by reason of the tariff, as set forth in the clothing manufacturers' propaganda.

GOOD RETURNS.

HERE is one from Beulah. The four-acre Montmorency cherry orchards owned by Ward Reynolds produced twenty tons of cherries having a value of \$2,800. The orchard was inspected by T. A. Farrand, extension specialist and secretary of the Michigan Horticultural Society, and pronounced to be one of the finest crops he had inspected this year.

ASKS AMERICA TO CANCEL WAR DEBT.

THE proposal of the British and French governments that the United States cancel the \$11,000,000,000 war debt the allies owe this country does not meet with favor in Washington. There will be no cancellation so long as the present administration is in control of our government policies. Senator Capper has pointed out that such cancellation would mean a gift of \$100 from every man, woman and child in America, and Senator Borah declares that "there is nothing to be gained by our cancelling this debt, or any part of it, if the gigantic military and armament programs in Europe are to continue."

Don't stop feeding either chicks or laying hens this summer. It is the worst mistake a poultryman can make, say specialists on the subject, and it never pays.

How did your neighbor's last bargain tire turn out

PROBABLY you know at least one car-owner who is always on the look-out for the cheapest tires he can find. He likes to get them by mail or at a sale or at some place where they have big red bargain signs over the door.

It would be fine if he could get "the edge" in every tire trade.

But the dealer can't afford to let him have it.

Even if a man saw any slight percentage in tire shopping at all—it disappeared when the "Usco" brought the price down.

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Our Glazed Tile Silos are built of absolutely moisture-proof glazed tile—positively weather tight. Blocks have three dead air spaces—resist heat, cold, moisture, vermin. Need no paint or repairs. Will not warp, decay nor blow down.

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There's a noticeable feeling of lightness and comfort after such a meal.

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You didn't get the crop you expected. Couldn't be the manure—it had plenty. It's a hundred-to-one bet it needs agricultural

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Perhaps the soil has become sour or all leached out. Most soil should be treated with limestone every four years at least. Resolve now to limestone your land. Let us send you booklet and our low prices.

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The Farmer and Strikes

The Farmers' Wages Compared with Others

By H. C. Wallace, Sec. of Agriculture

IN the course of a talk before the Farm Bureau at Leesburg, Virginia, Monday afternoon, Secretary of Agriculture Wallace said:

"It is worth while to compare wages in the organized industries with the wages received by the farmer, as represented in the price he gets for the things he grows. The value of income, whether it be in the form of wages or of money received for sales of products, is represented not in dollars and cents but in what that income will buy by its purchasing power.

"Take the average wage received by the coal miner for mining a ton of coal. In 1913 this wage per ton would buy 1.1 bushels of corn in Iowa; in 1921 it would buy 2.5 bushels of corn in Iowa. In 1913 the ton wage would buy .7 of a bushel of wheat in North Dakota; in 1921 .9 of a bushel. In 1913 it would buy 4.7 pounds of cotton in Texas; in 1921 8.5 pounds. In 1913 7 pounds of hog in Nebraska; in 1921 14 pounds. In 1913 .8 of a bushel of potatoes in New York; in 1921 1.2 bushel. In 1913 11 pounds of sheep in Wyoming; in 1921 18 pounds. In 1913 1.6 bushel of oats in Illinois; in 1921 3.1 bushels. In 1913 2.4 pounds of butter in Missouri; in 1921 3.2 pounds.

"Taking the average yearly earnings of railroad employees, we find that in 1913 the yearly wage would buy 1,492 bushels of corn in Iowa, and in 1921 4,112 bushels. It would buy 1,028 bushels of wheat in North Dakota in 1913; in 1921 1,466 bushels. In 1913 it would buy 6,449 pounds of cotton in Texas; and in 1921 13,934 pounds. It would buy in 1913 102 hundredweight of hogs in Nebraska; and in 1921 237 hundredweight. It would buy 148 hundredweight of sheep in Wyoming in 1913; and in 1921 296 hundredweight. In 1913 it would buy 1,087 bushels of potatoes in New York; in 1921 1,916 bushels. In 1913 2,174 bushels of oats in Illinois; in 1921 5,109 bushels. In 1913 3,309 pounds of butter in Missouri; in 1921 5,285 pounds.

In 1913 the freight revenue per ton mile received by the railroads would buy 1.4 bushels of corn in Iowa; in 1921 this revenue per ton mile would buy 3.1 bushels of corn in Iowa. In 1913 1 bushel of wheat in North Dakota; in 1921 1.1 bushel. In 1913 6.1 pounds of cotton in Texas; in 1921 10.5 pounds. In 1913 10 pounds of hogs in Nebraska; in 1921 18 pounds. In 1913 1 bushel of potatoes in New York; in 1921 1.5 bushel. In 1913 14 pounds of sheep in Wyoming; in 1921 22 pounds. In 1913 2.1 bushels of oats in Illinois; in 1921 3.9 bushels. In 1913 3.1 pounds of butter in Missouri; in 1921 4 pounds.

In 1913 the price of a ton of coal f. o. b. the mine would buy 2.4 bushels of corn in Iowa; in 1921 6.2 bushels; in July 1922 9.3 bushels. It would buy in 1913 1.7 bushels of wheat in North Dakota; in 1921 2.2 bushels; in July 1922 4.4 bushels. In 1913 it would buy 10.4 pounds of cotton in Texas; in 1921 21.1 pounds; in July 1922 22.9 pounds. In 1913 16 pounds of hogs in Nebraska; in 1921 36 pounds; in July 1922 53 pounds. In 1913 1.8 bushel of potatoes in New York; in 1921 2.9 bushels; in July 1922 4.7 bushels. In 1913 24 pounds of sheep in Wyoming; in 1921 45 pounds; in July 1922 70 pounds. In 1913 3.5 bushels of oats in Illinois; in 1921 7.7 bushels; in July 1922 14.2 bushels. In 1913 5.4 pounds of butter in Missouri; in 1921 8 pounds; in July 1922 16.1 pounds.

In fairness it should be noted that before the corn, wheat, hogs, sheep, cotton, butter, or other farm products

get to the consumer's table, a good deal has been added to the price the farmer receives. This margin between the farmer and the consumer has considerably increased during the past eight years, but it is also fair to note that a good deal of this increase has been due to the increase in the wages paid the people who handle these products. What these figures show is that the wages of the farmer, as represented by the prices paid for his crops, are lower than his wages were before the war, measured in purchasing power, while the wages of the workman, and especially in organized industries, are considerably higher than they were before the war, whether measured in dollars and cents or in purchasing power. The purchasing power of the wages of the railway employee in 1921 was 51 per cent greater than in 1913. The purchasing power of the wages of the coal miner in 1921 was 30 per cent greater than in 1913. The purchasing power of the farm hand who works for wages in 1921 was 4 per cent less than 1913, while the purchasing power of the farmer himself was, on an average, from 25 to 45 per cent less than in 1913.

In short, the farmers of the country, numbering almost one-third of our entire population, have borne altogether the heaviest burden of deflation. They have endeavored to get relief by all lawful means. They have appealed to the administration, to Congress and to every other agency which they thought might be able to help them, but while making these efforts to avoid their heavy losses they have not struck. They have not created disorders. They have kept on producing and in the face of extraordinarily low prices have this year grown one of the largest crops in our entire history. The farmer believes in law and order. He believes in government. He believes in fairness between man and man. He believes in working hard and producing efficiently.

If other groups would do as the farmer has done, our economic troubles would soon be over. Prices would soon be adjusted to their normal relationships. There would be work for everybody and at just wages.

But there are too many people who seem to be thinking only of themselves and how they can profit at the expense of the community at large, and especially at the expense of the farmer. The farmer is sick and tired of this sort of business. He is disgusted with these recurring disputes between capital and labor especially as connected with the essential industries. He sees no reason why such disputes cannot and should not be settled in an orderly and lawful way and without the interruptions of service which cost him so dearly.

The farmer recognizes his obligation to produce food, for people must eat to live. He demands that both the owners of the coal mines and the coal miners recognize their equal obligation to produce coal, and he demands that the management of the railroads and the railroad workmen recognize also their equal obligation to keep trains moving, for unless the food he produces is moved promptly to market the people will starve.

If the various groups in this country are determined to prey upon one another and abandon law and order for strong arm methods, the farmer can take care of himself. He can reduce his production to his own needs. He can follow the example of some others

(Continued on page 211)

Francisco Farm Notes

By P. P. Pope

ESSENTIALS OF A GOOD WHEAT STAND

THE cow kicked me over this morning and spilled all the milk. What did I say? Well, never mind. No use crying over spilled milk, so I am nursing the bruise made by that — cow and trying to think of something to say that will bear publication. Think it better be about the wheat crop. We have always grown wheat in the rotation on Francisco Farm, not always with the best of success, but with considerable satisfaction in recent years.



tion in recent years.

Back in the fall of 1907 we had our faith shaken in the old standard variety of wheat that we had been growing by yields in the neighborhood much larger than ours. We obtained seed from one of the best of these fields and the following season harvested 34 bu. per acre, a yield nearly a third greater than we had ever produced before. This convinced us of the importance of securing seed of high yielding habit, and led to the making of a careful tabulation of past results. The following is a summary of the information secured for the years 1902 to 1907 inclusive:

Total number acres.....108
Yield per acre.....16.8 bu.
Cost per acre.....\$11.88
Value per acre at harvest time.. 13.38
Profit per acre..... 1.50
Value of fertility removed..... 3.05

The natural deduction was that we had been giving away the fertility of our soil at the rate of \$1.55 per acre annually, or putting it another way that in order to make a profit on our labor and investment of \$162.00 over the six year period, we had withdrawn the life of our soil to the extent of \$329.40.

In contrast to this six year average the one good crop had given us a net return of \$14.92 at a cost in fertility removed of \$7.22. We concluded that from then on it must be a good crop with us or none at all insofar as the things within our control could influence the crop. Two different winters since the severe weather has practically killed the crop and the land been replanted to oats. And two other years, this one included, the yield has been low due to seasonal conditions. The other years the yield has ranged from slightly under 30 bu. to 38 bu. per acre. What are the chief causes for the good yields? Briefly these:

Early Plowing.

If we are plowing a stubble ground for wheat we like to do so at the earliest possible opportunity. Early plowing liberates plant food which is necessary for growing large crops of wheat, and the earlier it can be done the better the results.

Firm Seed Bed

The ground is then rolled and harrowed alternately until a fine, thoroughly fitted seed bed is prepared, so firm that the horses feet will not sink into the soil more than an inch or two while drilling. Where wheat follows beans we often start fitting the seed bed before the beans are removed from the field. Usually a couple harrowings with the spring tooth harrow is sufficient.

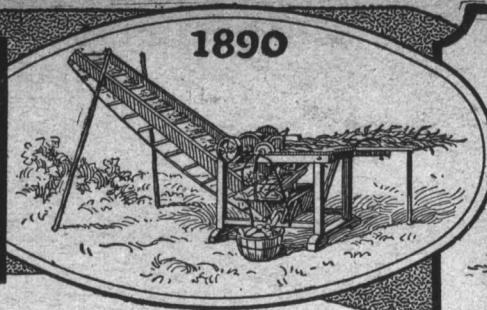
Available Fertility

Wheat likes lots of readily available plant food. Barnyard manure is

(Continued on page 202)



1889



1890



1894

AUGUST ROSENTHAL INVENTOR
W. H. ROSENTHALCARL ROSENTHAL
GUSTAV H. ROSENTHALDRAWINGS
from ACTUAL
PHOTOGRAPHS

A Farmer Boy's Dream Come True

IT was 33 years ago—in 1889. For seven years, August Rosenthal had labored on a machine that would husk corn automatically. Plow-horse "Prince" was hitched to the pole, and in a shaky voice the young farmer boy inventor said "Giddap". "Prince" moved forward. It was the biggest moment in the life of the Rosenthal family of Reedsburg, Wisconsin. Biggest because the machine was successful—corn flowed into the hopper and came out cleanly husked.

The reason why this pioneer in the corn husker and shredder business is today the leader, is best told by the picture-story here. Farm-bred, every member of the Rosenthal organization has guarded against letting business gain interfere with giving the farmers the utmost in value. That is why Rosenthal Corn Huskers and Shredders are lighter running, do cleaner and faster work and are guaranteed for one year from date of purchase.

Sold on Trial—
You Take No Risk.

Write at once for details of our proposition and name of nearest dealer. Completely illustrated 48-page catalog in colors describing complete line of four sizes of Corn Huskers and Shredders. 6 H. P. and up. Also three sizes of Ensilage Cutters. Useful souvenir FREE.

Do Your Own Shredding

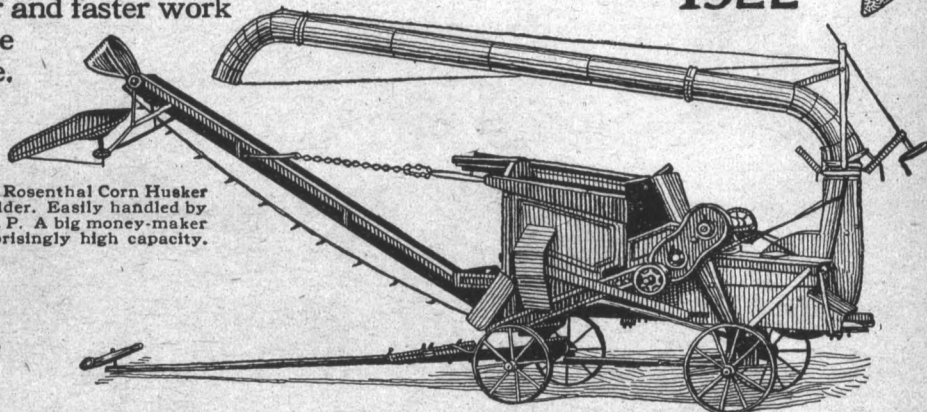
Most economical and satisfactory way of handling your corn crop. Supplies roughage which every farmer realizes is now essential to a balanced dairy ration.

Do custom work, too. Many Rosenthal owners pay for the cost of their machine in a single season out of the profits. Supplies a comfortable clear-profit income for years.

E. I. Bradford of Belding, Mich., Says:

"I purchased one of your Special 4 Roll Husker and Shredders last fall and am more than pleased with it. It husks the corn clean and leaves the fodder in fine shape. The neighbors that saw it run thought it was a wonder, it done so much work and done it good— E. I. BRADFORD, Belding, Mich.

1922



Special 4 Rosenthal Corn Husker and Shredder. Easily handled by 10 to 15 H. P. A big money-maker with surprisingly high capacity.

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Money Milling Flour

One of the best paying and most dignified businesses you can get in, or put your boy in now, is flour milling. On a comparatively small investment, and without any previous milling experience you can own and run the wonderful "Midget" Marvel Mill and make good money from the start.

"Midget" Marvel

Self-Contained Roller Flour Mill

Saves the high freights on wheat out and flour and feed in. "The first eight months I made a net profit of over \$8000," says A. H. Ling, Jetmore, Kan.; "My profits from the 'Midget' Marvel average right around \$40 per day," Chas. M. McKinney, Cooper, Tex. "Was \$6000 in debt when I bought my 25 barrel 'Midget,' and the little mill pulled me clean out of the hole long before I bought my 40 barrel mill from you," says M. A. Kamm, Oxford, Mich.

Capacities: 15, 25, 50 and 100 barrels of as fine roller patent flour a day as any mill can make. Write for free book "The Story of a Wonderful Flour Mill," trial offer, terms, etc.

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2222-2228 Trust Building, Owensboro, Ky.

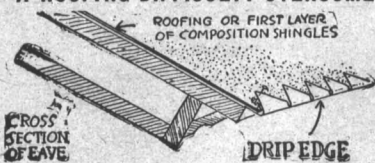
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Albion steel and wood mills are quiet and powerful. One-third the working parts of any other mill. Only man Piman bearing subject to wear. This is oilless, and easily replaceable. Covers by dependable weight without springs. Fits any 4-post steel tower. Why not shorten your chore hours now with a good Windmill? This is your chance—F. O. B. Albion. Erect it yourself. Ask your dealer, or write direct to Union Steel Products Co. Ltd. No. 328 N. Berrien Street, ALBION, MICHIGAN, U. S. A.

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RURAL HEALTH

By Dr. C. H. Lerrigo

STAY IN BED

A subscriber, who is just getting back to health after a long illness, tells me that he has lost weeks and weeks of time because he hurried back to work too soon after an attack of "flu." He thinks people should be warned against this folly.

The moral is that you cannot hurry nature in her work of tissue building. When you have suffered a destructive illness, in which there has been waste of tissue, the part of wisdom is to rest quietly in bed until repair has been accomplished. You may manage to fool yourself into the idea that you are ready for work, long before the time has really occurred, and you may work up the "pep" that will send you back to your work, but do not think that there will be nothing to pay. It is not certain that you will be thrown back to your bed in a hurry, as was this man. But a worse thing may befall you. You may manage to keep on with your daily tasks, though performing them at a big disadvantage, and meantime, while you are congratulating yourself on how well you are defying nature, there is some organ of your body that is carrying a double burden and beginning to give way under it.

Quite frequently this overtaxed organ is the heart. A few months or perhaps years later some doctor tells you that you have a "heart murmur." You don't see how this can be, because you have always had such a strong heart; and it never enters your head that perhaps you did not treat your heart exactly fair when you placed all that extra load upon it in getting back to work so much too early. But that was the time when your heart began to go, and the fact that you thought that you were pulling the thing off so successfully at that time is now little consolation.

Parents should be especially careful of young children who have had measles, scarlet fever, diphtheria, influenza or typhoid fever, to make very sure that they have made a complete recovery before resuming their usual occupations. Under no conditions should they be allowed to jump right into the old strain, but it should always be insisted that play and work be taken up gradually. In a general way, the same rule applies to adults. Take time to get well, and resume your occupations gradually.

FRANCISCO FARM NOTES

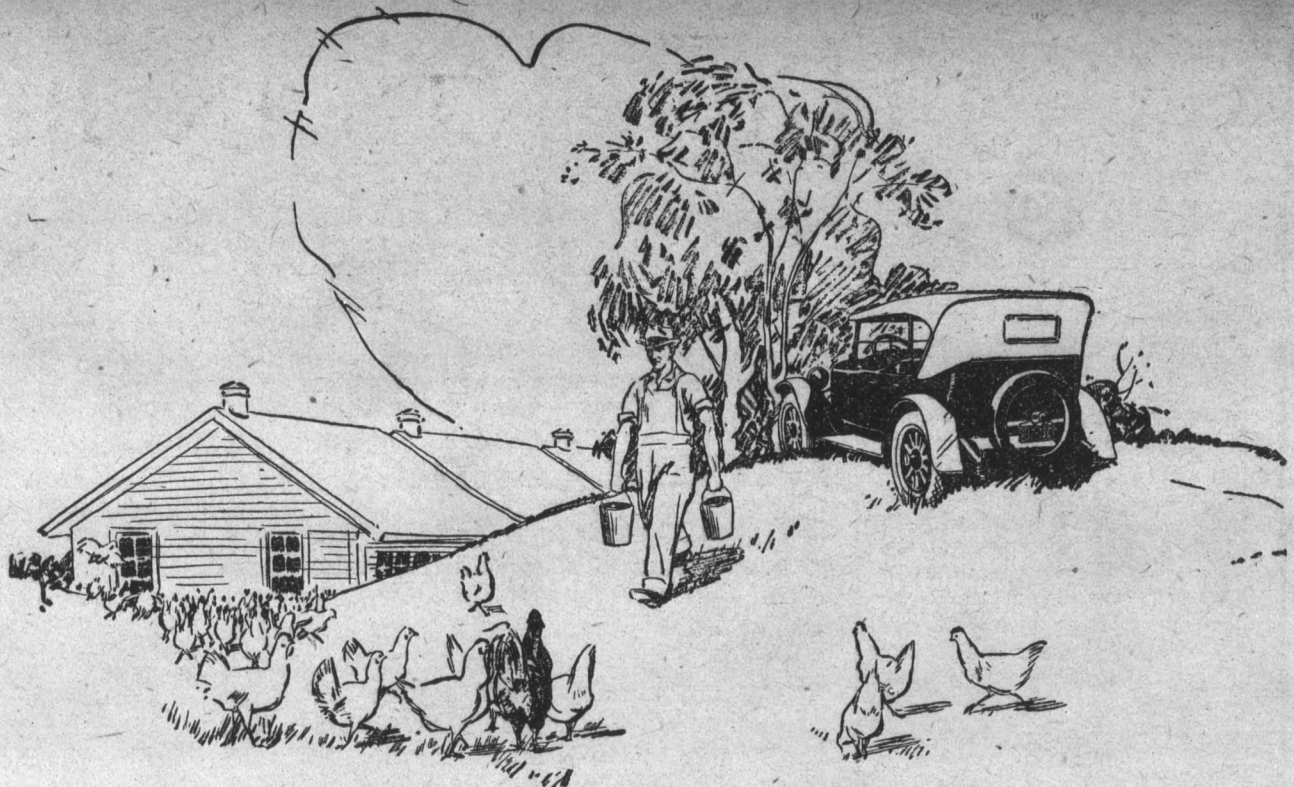
(Continued from page 201)

good but we like it best on the new seeding or for the cultivated crops, so what we can spare for the wheat goes on the higher spots and is valued chiefly for winter protection. We use 200 lbs or more of a good complete commercial fertilizer. No doubt the greatest profit comes from the phosphorus, but we like a little nitrogen to give the crop a good kick off, and we are convinced that a little potash pays.

Good Seed

Nothing but the best of seed from a variety that has been tried and proved is good enough. It must be thoroughly cleaned and graded, treated to kill the smut germs, and sown at the rate of two bushels per acre. Sept. 15th to 20th are the sowing dates in our territory. Observation of these practices has insured for us an annual yield practically double the average for the country.

Upon the permanence of American agriculture depends the permanence of America. Don't wear out the soil which has been intrusted to your care.



You may pay more for the Hupmobile than for a lighter, smaller car—but you are money in pocket at the end of the year.

Farmers who buy the Hupmobile, after a period of motor car experience, find the Hupmobile is a better business proposition.

Its savings for them—its actual earnings—more than offset the larger outlay in the beginning.

Such an investment, when it can be made, is good business.

Simply because the Hupmobile is such an investment, its numbers on the farms of America are increasing year by year.

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Touring Car, \$1150; Roadster, \$1150; Roadster-Coupe, \$1335; Coupe, \$1635; Sedan, \$1785. Cord tires on all models. Prices F. O. B. Detroit—Revenue Tax extra

Hupp Motor Car Corporation, Detroit, Michigan

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Many coffee names sound similar to Lighthouse—all coffees look about the same as Lighthouse—but when it comes to taste, oh! what a difference!
Only in round, tin cans with a picture of a lighthouse on the white label do you get genuine Lighthouse Coffee. Remember these guides to coffee satisfaction—say L-I-G-H-T-H-O-U-S-E distinctly to your neighborhood grocer—and after you've tried it you'll never forget its delicious flavor.

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The Michigan State Sanatorium is the first hospital in Michigan to offer a short course in nursing. Under the new State law governing the registration of nurses, graduates are entitled to registration as trained attendants. Applicants must have completed the eighth grade, and be 18 years of age. Course opens September 1, 1922. Apply to Superintendent of Nurses, M. S. B., Howell, Michigan.

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114 Acres Near Jackson
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30 Acres corn, 3 acres potatoes, 18 acres hay, oats, 200 poultry, turkeys, full equipment included; income last year \$5795; in good neighborhood, pleasant surroundings, 75 acres tillage; 30-cow pasture; 121 apples, pears, plums, cherries, peaches, grapes, berries; splendid 2-room house, gas lights; two 47-ft. barns, 60-ft. poultry house, garage, windmill, outbuildings; owner unable operate, \$14,200 takes it all, only \$3000 needed. Geo. D. Wickwire, Strout Farm Agency, 806 2nd St., Jackson, Mich.

WANTED To hear from owner of land for sale.
O. K. HAWLEY, Baldwin, Wisconsin

224 Acres With All Crops
10 Cattle; 2500 Cords Wood

To sell for big prices this coal-short winter, and if taken now horses, 14 sheep, hogs, poultry, lumber, implements, sugar outfit included; good neighborhood, stores, schools, churches; machine-worked fields; about 100,000 ft. timber besides wood to more than pay for all; 150 apple trees, fine 2-story 7-room house, 2 barns, poultry house, granary; age forces quick sale, \$4950 takes all, only \$1500 needed; for travelling directions see page 278, Big Bargain Catalog, FREE, Strout Farm Agency, 814 BO Ford Bldg., Detroit, Mich.

practically all cleared. Well fenced 40 Acres, with woven wire, good orchard, fine modern 8-room house, basement barn, 40x60, with addition 30x40, basement under all, buildings valued at \$5000, good clay loam land, part level, part rolling, 4 miles out of town, state award gravel road, short distance to school. Price \$2500, \$1500 down. Balance payable to suit yourself. Write
W. F. UMPHREY, Evart, Mich.

FOR ALE, Farms and unimproved land \$12 to \$100 per acre. 5 to 2000 acre tracts in Central Mich., best of soil and locations, let me know your farm wants.
J. H. STRANG, Lakeview, Mich.

For Sale, 120 acres of good loamy soil all under cultivation. Well drained, well fenced, large barns and silo, tool shed, large frame house, water in barn and house. For more particulars write Mrs. BRUCE WILSON, Marlette, Mich.

One of Michigan's best, A-1 soil, 200 acres 180 cleared. House modern to minute, 66x30 barn, silo, Elevator, feed mill, good location. Sacrifice \$25,000. Easy terms. Frank Cain, Grant, Mich.

40 ACRE truck farm, young team, 4 head cattle, poultry, tools and crops, 4 room house, 2 acres timber, fruit, \$3,000, part cash. E. S. MARTIN, R. 4, Leslie, Mich.

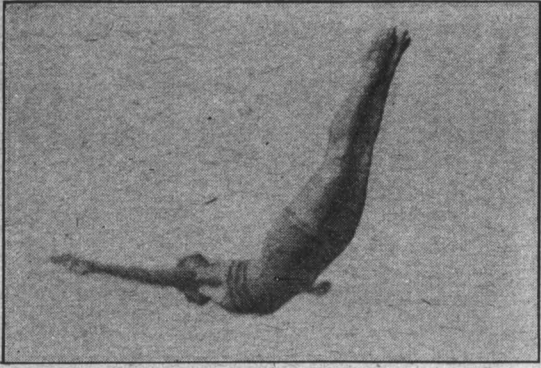
FARM HELP

Wanted man to work on equipped 200 A. farm, under livestock share lease. Beef cattle, hogs, and sheep. STEEN FREEMAN, Wamsley, O.

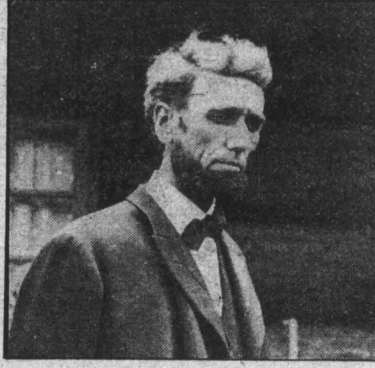
Wanted Experienced married dairyman with \$1000, to take half interest in dairy. Land, tools and horses furnished. Write Box 53, Otter Lake, Mich.

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WORLD EVENTS IN PICTURES



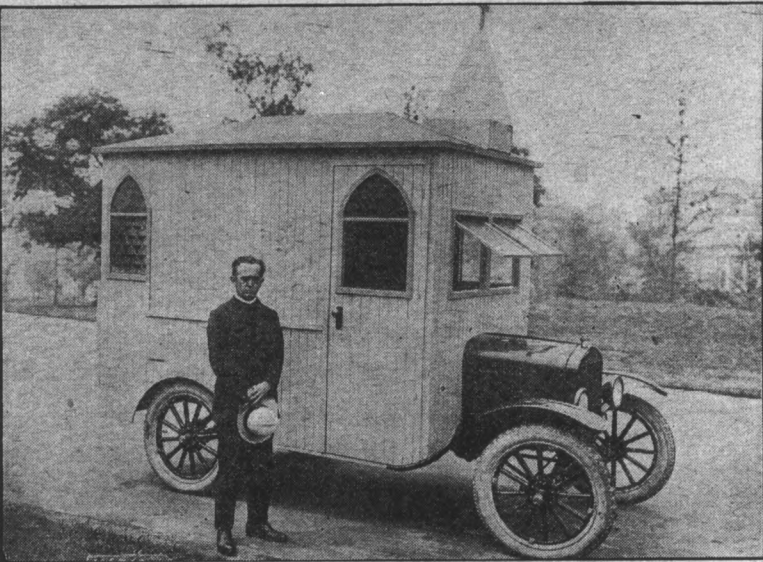
Ethelda Bleibtrey, amateur swimming champion, doing the swan dive at Lake Hopatcong, N. J.



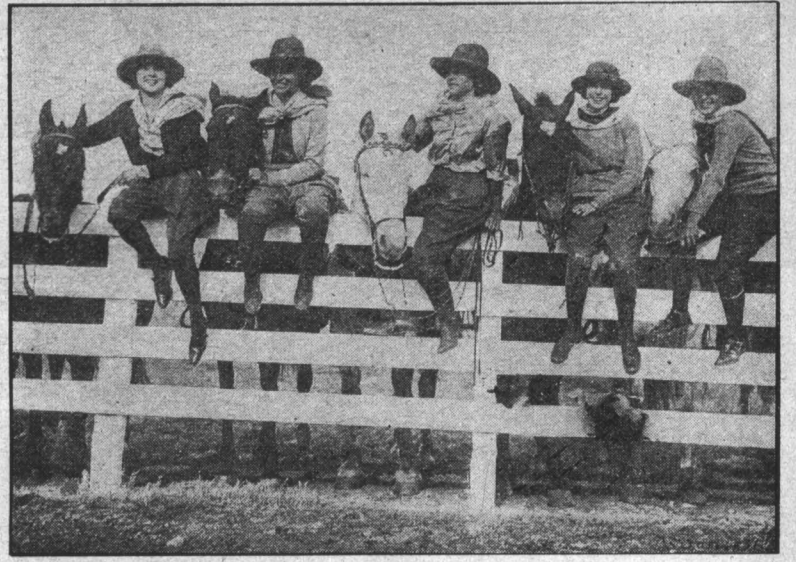
You know who this man, Judge Chas. E. Bull, of Reno, Nevada, looks like.



Sir Hall Cain conferring with Richard Dix, film star, about the picturization of "The Christian."



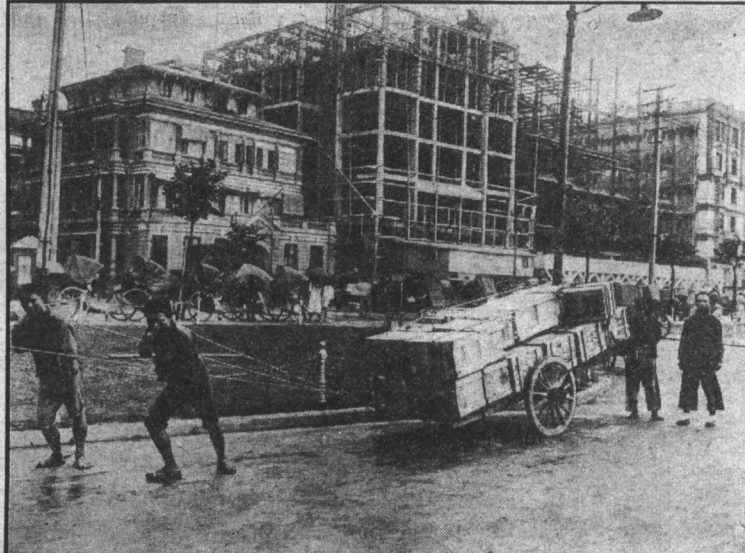
Rev. Brandford Clark, poet, painter and preacher, is equipped to obey the scriptural injunction "Go ye into the highways." Mrs. Clark plays the organ in his traveling chapel.



Five queens of the saddle ready for the annual rodeo at Salinas, California. These girls are real rough riders and know how to take the "bumps" without complaint.



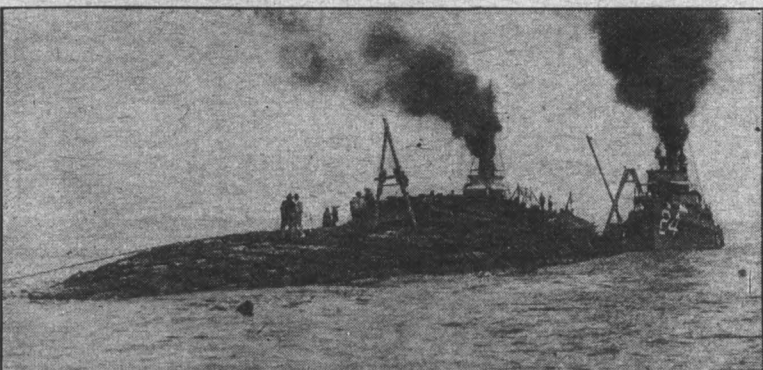
Carl Fromhagen, national aquaplane champion, doing one of his stunts, at Coronado Tent City, California.



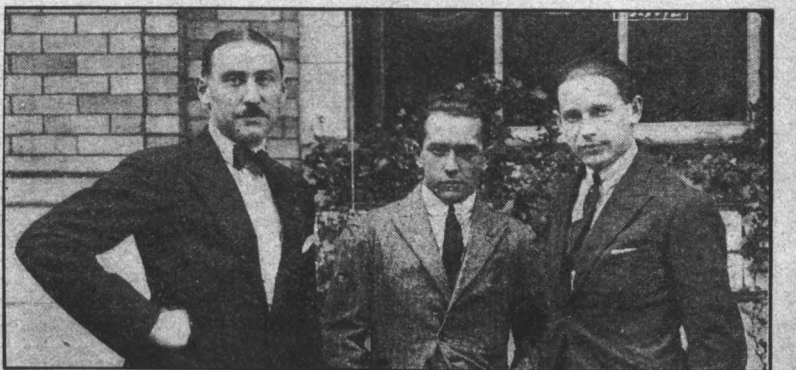
Chinese coolies in Shanghai hauling the largest consignment of bibles ever made in the history of the American bible society's work in China.



Miss Vivian Simpkins, bobbed haired Indian maiden, a member of wealthiest tribe in the world.



The world's largest raft, 900 feet long, containing 5,000,000 feet of logs, completes its thousand mile voyage by sea from Columbia River, Oregon, to San Diego, California.



The French tennis team arrives in New York for matches with the Australian team. The winners will play the American holders of the famous Davis cup.

THE CROSS-CUT —By Courtney Ryley Cooper

Copyright, 1921, By Little, Brown & Company

"Please!" Robert Fairchild had reached her and was holding forth his hand. She looked up in half surprise, then demurred.

"But I don't know these old dances." "Neither do I—or any other, for that matter," he confessed with sudden boldness. "But does that make any difference? Please!"

She glanced quickly toward the door. Maurice Rodaine was still talking, and Fairchild saw a little gleam come into her eyes—the gleam that shows when a woman decides to make some one pay for rudeness. Again he begged:

"Won't you—and then we'll forget. I—I couldn't take my payment in money!"

She eyed him quickly and saw the smile on his lips. From the platform the caller voiced another entreaty:

"One more couple. Ain't there no lady an' gent that's going to fill out this here dance? One more couple—one more couple!"

Fairchild's hand was still extended. Again Anita Richmond glanced toward the door, chuckled to herself while Fairchild watched the dimples that the merriment caused, and then—Fairchild forgot the fact that he was wearing hobnailed shoes and that his clothes were worn and old. He was going forward to take his place on the dance floor, and she was beside him!

Some way, as through a haze, he saw her. Some way he realized that now and then his hand touched hers, and that once, as they whirled about the room, in obedience to the monarch on the fiddler's rostrum, his arm was about her waist, and her head touching his shoulder. It made little difference whether the dance calls were obeyed after that. Fairchild was making up for all the years he had plodded, all the years in which he had known nothing but a slow, grubbing life, living them all again and rightly, in the few swift moments of a dance.

The music ended, and laughing they returned to the side of the hall. Out of the haze he heard words, and knew indistinctly that they were his own:

"Will—will you dance with me again tonight?"

"Selfish!" she chided.

"But will you?"

For just a moment her eyes grew serious.

"Did you ever realize that we've never been introduced?"

Fairchild was finding more conversation than he ever believed possible.

"No—but I realize that I don't care—if you'll forgive it. I—believe that I'm a gentleman."

"So do I—or I wouldn't have

danced with you."

"Then please—"

"Pardon me." She had laid a hand on his arm for just a moment, then hurried away. Fairchild saw that she was approaching young Rodaine, scowling in the background. That person shot an angry remark at her as she approached and followed it with streaming sentences. Fairchild knew the reason. Jealousy! Couples returning from the dance floor jostled against him, but he did not move. He was waiting—waiting for the outcome

less you teach me." Fairchild pleaded, as they made their way to the center of the floor. "I'll—"

"Don't work on my sympathies!"

"But it's the truth. I never will."

"S'lute yo' podners!" The dance was on. And while the music squealed from the rostrum, while the swaying forms some way made the rounds according to the caller's viewpoint of an old-time dance, Anita Richmond evidently "thought about it." When the next dance came, they went again on the floor together, Robert Fairchild

and stare in surprise. There had come a shout from the doorway, booming, commanding:

"Ands up, everybody! And quick about it!"

Some one laughed and jabbed his hands into the air. Another, quickly sensing a staged surprise, followed the example. It was just the finishing touch necessary—the old-time hold-up of the old-time dance. The "bandit" strode forward.

"Out from be'ind that bar! Drop that gun!" he commanded of the white-aproned attendant. "Out from that roulette wheel. Everybody line up! Quick—and there ain't no time for foolin'."

Chattering and laughing, they obeyed, the sheriff, his star gleaming, standing out in front of them all, shivering in mock fright, his hands higher than any one's. The bandit, both revolvers leveled, stepped forward a foot or so, and again ordered speed. Fairchild, standing with his hands in the air, looked down toward Anita, standing beside him.

"Isn't it exciting," she exclaimed. "Just like a regular hold-up! I wonder who the bandit is. He certainly looks the part, doesn't he?"

And Fairchild agreed that he did. A bandanna handkerchief was wrapped about his head, concealing his hair and ears. A mask was over his eyes, supplemented by another bandanna, which, beginning at the bridge of his nose, flowed over his chin, cutting off all possible chance of recognition. Only a second more he waited, then with a wave of the guns, shouted his command:

"All right, everybody! I'm a decent fellow. Don't want much, but I want it quick! This 'ere's for the relief of widders and orphans. Make it sudden. Each one of you gents step out to the center of the room and leave five dollars. And step back when you've put it there. Ladies stay where you're at!"

Again a laugh. Fairchild turned to his companion, as she nudged him. "There, it's your turn."

Out to the center of the floor went Fairchild, the rest of the victims laughing and chiding him. Back he came in mock fear, his hands in the air. On down the line went the contributing men. Then the bandit rushed forward, gathered up the bills and gold pieces, shoved them in his pockets, and whirled toward the door.

"The purpose of this 'ere will be in the paper tomorrow," he announced. "And don't you follow me to find out! Back there!"

That Game of Quoits

By M. A. Cromlich

I hev seen them city fellers playin' golf out on the links, An' it looked like you could larn the game in four an' twenty winks; An' I've seen the gals in sweaters playin' tennis on the lawn, An' others playin' croquet till their slowness made you yawn. In fact, a game of baseball seems to me to be quite tame, When compared with one excitin' an' real good old-fashioned game, Played by Squire Riggsby an', perhaps, a dozen more— Yes, a game of quoits with horseshoes in the back of Peter's store!

When the first warm wind of springtime came a-sighin' through the grove,

An' it got too warm for checkers in the back of Peter's store, "Pegleg" Smith an' Grandpap Saunders hung their coats up in a tree,

Banked the clay, an' druv the pegs home just as true as they cud be; Searched aroun' the whole blamed county for old horseshoes, rusty red

(Even stole ol' Peter's horseshoe that was hangin' overhead), Started playin' after dinner with Pap Spruceby keepin' score, In a game of quoits with horseshoes in the back of Peter's store!

Through the spring an' through the summer till the late fall came aroun',

An' the frost was on the pumkin an' the snow was on the groun', You could find the same old codgers pitchin' horseshoes every day, Controversin' an' contestin' every game that they would play; Squire Cole would fume an' argue till his face was like a beet, An' his claims would get the other's feelin's up to fever heat, Till you'd think there'd be a riot, but 'twas fun an' nothin' more, In that game of quoits with horseshoes in the back of Peter's store!

of the quarrel—and in a moment it came. Anita Richmond turned swiftly, her dark eyes ablaze, her pretty lips set and firm. She looked anxiously about her, sighted Fairchild, and then started toward him, while he advanced to meet her.

"I've reconsidered," was her brief announcement. "I'll dance the next one with you."

"And the next after that?"

Again: "Selfish!"

But Fairchild did not appear to hear.

"And the next and the next and the next!" he urged as the caller issued his inevitable invitations for couples. Anita smiled.

"Maybe—I'll think about it."

"I'll never know how to dance, un-

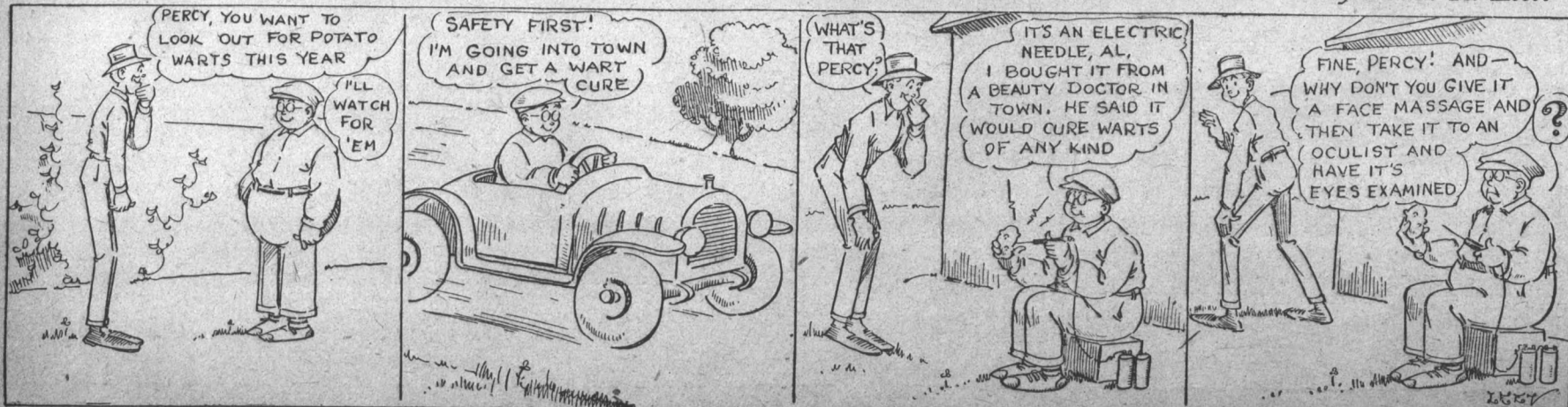
and the brown-eyed girl whom he suddenly realized he loved, without reasoning the past or the future, without caring whom she might be or what her plans might contain; a man out of prison lives by impulse, and Fairchild was but lately released.

A third dance and a fourth, while in the intervals Fairchild's eyes sought out the sulky, sullen form of Maurice Rodaine, flattened against the wall, eyes evil, mouth a straight line, and the blackness of hate discoloring his face. It was as so much wine to Fairchild; he felt himself really young for the first time in his life. And as the music started again, he once more turned to his companion.

Only, however, to halt and whirl

AL ACRES—Al Urges Percy to Wartify the Potatoes.

—By Frank R. Leet.



Two or three laughing men had started forward, among them a fiddler, who had joined the line, and who now rushed out in flaunting bravery, brandishing his violin as though to brain the intruder. Again the command:

"Back there—get back!"

Then the crowd recoiled. Flashes had come from the masked man's guns, the popping of electric light globes above and the showering of glass testifying to the fact that they had contained something more than mere wadding. Somewhat dazed, the fiddler continued his rush, suddenly to crumple and fall, while men milled and women screamed. A door slammed, the lock clicked, and the crowd rushed for the windows. The hold-up had been real after all,—instead of a planned, joking affair. On the floor the fiddler lay gasping—and bleeding. And the bandit was gone.

All in a moment the dance hall seemed to have gone mad. Men were rushing about and shouting; panic-stricken women clawed at one another and fought their way toward a freedom they could not gain. Windows crashed as forms hurtled against them; screams sounded. Hurriedly, as the crowd massed thicker, Fairchild raised the small form of Anita in his arms and carried her to a chair, far at one side.

"It's all right now," he said, calming her. "Everything's over—look, they're helping the fiddler to his feet. Maybe he's not badly hurt. Everything's all right—"

And then he straightened. A man had unlocked the door from the outside and had rushed into the dance hall, excited, shouting. It was Maurice Rodaine.

"I know who it was," he almost screamed. "I got a good look at him—jumped out of the window and almost headed him off. He took off his mask outside—and I saw him."

"You saw him—?" A hundred voices shouted the question at once.

"Yes." Then Maurice Rodaine nodded straight toward Robert Fairchild. "The light was good, and I got a straight look at him. He was that fellow's partner—a Cornishman—they call Harry!"

(Continued next week)

THE FRIENDLESS MAN

THE man who doesn't make friends isn't worth his salt. Man is a social animal. He needs friends to talk to—and to listen to. They are the solace of his leisure hours. They are his confidants in his time of trouble. Without them he might as well be an outcast on a desert island.

Make all the friends you can. At best you will make but a few, for there will be but a few men who will take you at your own value, and have enough interests in common with you to be really your friends.

But never use friendship as a means of advancement. Put business on a business basis.

Never make the mistake of depending on a friend in a business relationship. Often your friend can and will help you. But that sort of help is not the help you want.

Sooner or later, if you are going to get anywhere, you will discover that you must depend on yourself, and yourself alone.

Interest yourself in what friends are doing, and interest them in what you are doing. Spend your leisure with them. Enjoy their comradeship. But never depend on them. Friendship was not meant for a ladder by which to climb to higher places in the world. It is too sacred for that.—M. Meredith.

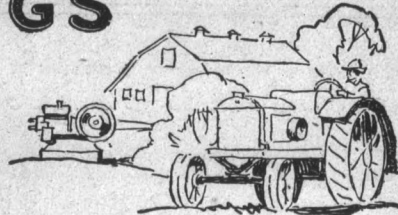
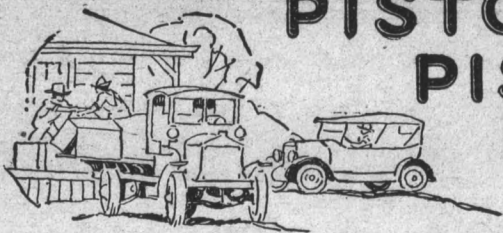
Nothing great was ever accomplished without enthusiasm.—Emerson.

McQUAY-NORRIS

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PISTONS

PINS



Is your gas power machinery wasting money that could be saved by installing them?

Every motor—whether it is your automobile, tractor, truck, engine or pump—has three vital units. They are the piston rings, pistons and pins. It's the condition of these three units which determines the motor's power and economy.

If they are worn, full power and economical operation in that motor are impossible.

Wear in these three units many times causes farmers to sacrifice a good car or tractor or engine, when, if they had renewed them, the machine would have given satisfaction for a long time more.

When you realize the load these three units

carry, it's easy to understand why they wear. They have to seal the combustion chamber, withstand the force of every explosion and the stopping and starting of the pistons as they shoot up and down their cylinders. It is not strange that they wear and when they do the motor gets noisy and wasteful. It frequently causes sacrifice of a good car or tractor that would have given much longer satisfactory service if these worn parts had been replaced. Send for our Free Booklet, "To Have and to Hold Power," which explains the whole subject of motor wear and its correction.

ADDRESS DEPT. AE.

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Pistons and Pins

McQuay-Norris Wainwright Pistons and Pins—gray iron pistons as light in weight as safety permits—specially designed for replacements—available in standard sizes and over-sizes—also in semi-finished form 75 thousandths over-size—pins of special hardened steel, ground to exceptional accuracy.

\$125 LEAK-PROOF—an exclusive two-piece design preventing loss of gas and compression. Gives equal pressure at all points on cylinder walls. For all piston grooves except top, which should have Superoyl. Each ring packed in a parchment container.

\$100 Superoyl—Keeps lubricating oil out of combustion chamber. Collects excess oil on each down stroke of piston and empties on each up stroke, which ordinary grooved rings cannot do. Each ring packed in a parchment container.

50c JIFFY - GRIP—a one-piece ring. Non-butting joint, which can be fitted closer than ordinary step cut—velvet finish—quick seating. "Seats in a jiffy." To keep them clean and free from rust, each ring is packed in an individual glassine envelope.

Snap—of the highest grade. Raised above the average by McQuay-Norris manufacturing methods. Their use insures all the satisfaction possible for you to get from a plain snap ring. They are packed twelve rings to the carton and rolled in waxed paper.



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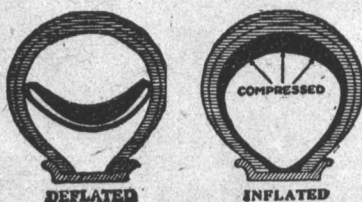
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Michigan Farmer Pattern Service



No. 3505.—Child's Short Clothes Set. Cut in four sizes: six months to one year, 2, 3 and 4 years. A one-year size will require 1 1/4 yards for the dress, 1 1/2 yards for the petticoat, and 5/8-yard for the drawers, of 36-inch material. Price 12c.

No. 3503.—Boys' Suit. Cut in five sizes, 3, 4, 5, 6 and 7 years. A four-year size will require two yards of 44-inch material. Price 12c.



4053—Misses' Dress. Cut in 3 sizes: 16, 18 and 20 years. An 18 year size requires 5 1/4 yards of 32 inch material. If collars and puffs are made of con-

trasting material 7/8 yard of 40 inch material will be required. The width of the skirt at the foot is 2 3/4 yards. Price 12c.

4052—Ladies' Dress. Cut in 7 sizes: 36, 38, 40, 42, 44, 46 and 48 inches bust measure. A 38 inch size requires 5 yards of 40 inch material. The width at the foot with plaits extended is a little more than two yards. Price 12c.



No. 3522—3509.—Ladies' Costume. Blouse 3522 cut in six sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. Skirt 3509 cut in seven sizes, 24, 26, 28, 30, 32, 34 and 36 inches waist measure. To make this model for a medium size, will require 6 3/4 yards of 44-inch material. The width of the skirt at the foot is 2 3/4 yards, with plaits extended. Two separate patterns 12c for each pattern.

No. 3499.—Misses' Dress. Cut in three sizes, 16, 18 and 20 years. An 18-year size will require 3 3/4 yards of 44-inch material. The width of the skirt at the foot is about 1 1/2 yards. Price 12c.

Send all orders to

The Michigan Farmer,

Detroit, Mich.

Our Boys' and Girls' Department

Washtenaw Young Folks Enjoy Camp

Only Farm Bureau Boys and Girls Camp in Michigan Again Proves Successful

By Mrs. Ila Leonard

THE boys and girls interested in club work of Washtenaw County, were well represented at their camp, held from July 31 to August 12, at Silver Lake, in the northern part of the county about 18 miles from Ann Arbor. Some 50 boys took possession of the camp the first week and approximately the same number of girls arrived to enjoy the second week.

Splendid programs were arranged, and special instruction during forenoon and afternoon periods was rendered in such a way as to be thoroughly enjoyed by all.

The boys were instructed in rope tying and nature study by E. J. Mel-



The Washtenaw Girls Said "Come On In, the Water's Fine!"

in first aid and care of the sick, given by a Red Cross nurse who also attended skillfully to the aches and pains of the entire camp. The lake and surrounding country offered splendid opportunity for wood-craft, nature study, hiking and photography, some of which appear on this page.

Eats, the all-important feature of camp life, was ably supervised by Mrs. Biederman. Many could go home and tell what the little boy of the second grade told his teacher. He was asked to construct a sentence containing "gruesome." After giving it a few minutes of serious consideration, he replies, "Harold went to the Farm Bureau camp at Silver Lake and when he came home mother said he had grew some." With the good eats coupled with hearty appetites all seemed to add to their avoirdupois.

One of the most interesting features of each day was the evening programs consisting of camp fire stunts and talks by the members, moving pictures and short Camp Fire talks by

first year it was financed by the county banks, each bank subscribing its pro rata share according to its banking resources. It became so strongly backed by parents of club members

that it very soon came under the direction of the Farm Bureau. With the co-operation of rural schools, county school commissioners and teachers as local leaders, it has been possible to organize clubs in all parts of the county.

Last year Washtenaw County boasted 27 clubs with a total of 271 members. With the advent of spring, Mr. Watt was chosen as County Club Leader and his splendid efforts and untiring energy for four months has brought the grand total up to 67 clubs with 540 members enrolled.

Projects emphasizing poultry, pigs, calves, corn, canning, gardens and garment making have accomplished much in the way of instructing future farmers and farmerettes.



Who Is Afraid of Snakes, Anyhow?

len, Boy Scout Executive, assisted by Harold Lepard, Scout Leader, both of Ann Arbor. R. A. Turner, State Boy and Girl Club Leader, assisted by Nevils Pearson, made the boys forget they ever had to hoe beans when he taught them some new games, songs and a few pointers in handicraft. Prof. H. H. Bartlett, Dept. of Botany, University of Michigan, told the boys something about field identification of plants and trees and H. S. Osler, County Agricultural Agent, gave them some practical hints in rope splicing and grain judging.

Athletic activities consisted of baseball, basket ball, volley ball, quoits and occasionally a feature event during the week. Athletic champions from the different clubs defended their laurels against all members.

The girls received special instruction in sewing, basketry and enameling. This instruction was under the leadership of Miss Vasold, Assistant State Club Leader, assisted by Miss Sharpe, M. A. C. Senior, and the local club leaders (some of them school-ma'ams). Prof. Hankinson, Ypsilanti Normal, gave the girls some information on field study and identification of birds. A special feature of each instruction period was a demonstration

some noted speakers. They were also well attended and much enjoyed by the parents.

Camp week seems to come as a climax of the year's club work and is much looked forward to by all attending. The anticipation of this annual good time puts zest into the season's farm work. Brothers and sisters of club members below club age look forward to the time when they can go to camp. It brings together boys and girls who are energetic and ambitious and ready to make the most out of every opportunity.

Club work was organized in Washtenaw County four years ago. The

Dear Uncle Frank:

I have never written to you before so I thought I would write you a little letter.

I am 15 years old and graduated from the eighth grade this year.

We live on an 80-acre farm.

There is quite a nice country around here and there aren't many hills.

We have electric lights in house, barn and nearly all our buildings. We also have the electric washer and it certainly helps a great deal in the washing. Your niece, Helen E. Miller.

Our Letter Box

THIS letter box will be where the boys and girls can express their views, tell of themselves and things about the farm, or ask advice. The most interesting letters each week will appear here. Address your letters to me.—Uncle Frank.

and music. When I grow up I wish to be a cartoonist and a music teacher.

I wish some of the boys and girls my age would write me, as I would enjoy very much to hear from boys or girls from different parts of the state.

My folks are going to auto to Belray, Florida, this fall. We are going to Grand Rapids first to visit relatives, and from there across to Washington, D. C., and from there on down the Atlantic coast line road to Belray. I think it will be a nice trip, don't you? Sincerely, Gay Vance, Turner, Mich.



The Boys Learned to Splice Rope and Make Halters While the Girls Did Enameling, Sewing and Basketry

Pewamo, Mich., R. F. D. No. 1.

You are fortunate to live in such ideal country conditions. Write me some more of these little letters.

Dear Uncle Frank:

I have read so many boys and girls letters in the Michigan Farmer, that I thought I would try my luck and write also.

I am a girl, 13 years of age. I have black bobbed hair, dark brown eyes, quite a dark complexion, and am 60 inches tall. I am small for my age.

I live on a farm of 40 acres. We have quite a few chickens, two horses, some pigs and three large ducks.

I have a grandmother and aunt in town. I go to visit often.

I have talent in drawing, painting

That trip of yours will be a dandy. Don't forget to write us about it. Write again when you can, Gay.

Dear Uncle Frank:

I enjoy reading the letters in the Michigan Farmer very much and would like to be a cousin to the many boys and girls who write to you.

I live on a farm of 160 acres of which 60 acres are woods. The little creek which crosses it makes it very pretty.

I have a brother, Laurence, with whom I have grand times. I am 14 years old and a Junior in the Owosso high school. I like all active games very much. I have another Uncle Frank besides you.

We have kittens, cats, calves, a pig and a lamb for pets.

I like the farm and enjoy it very much. I hope this letter is not too long.

Am sending a composition on the work I like the best and why. Your niece, Dorothy Girdwood, Henderson, Mich.

It is fine you have such good times with your brother, so often brothers and sisters are not chummy. Say "Hello" to your other Uncle Frank for me.



Flag Raising and Forty-five Beauties Who Attended Farm Bureau Camp at Silver Lake

Snap-Shot Contest

I RECEIVED many interesting rural scenes in our snap shot contest, which indicated that the boys and girls know how to take pictures. However, many interesting pictures could not be considered in the final selection as they were not clear enough for reproduction in our paper. It is necessary to have a clear and well defined picture in order to make a good cut which is used in printing the picture in the paper.

The following are the ones who sent the pictures which were selected as the five best in our Snap Shot contest, announced in the August 12th issue. Their pictures will be reproduced in our issue of September 2:

Hubert Fogelson, Freeport, Mich.
Harold Fisk, Clinton, Mich., R. R. 1.
Howard Sherman, Edwardsburg, Mich.

Mary Dodge, Romeo, Mich., R. R. 1.
Ruth Defoe, Yale, Mich., R. R. 5.

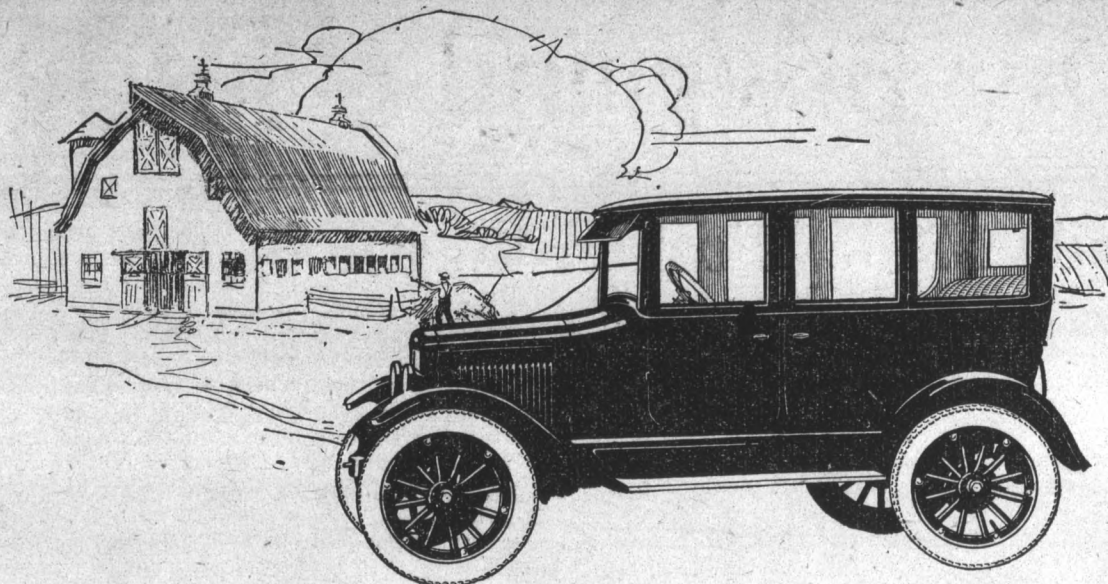
U. P. ROUND-UP WINNERS

IRON County took the major portion of the awards in boys and girls stock-judging contest at the Farmers' Round-up, held at Chatham, August 11, the teams winning the sheep and poultry prizes. Other counties of the

Sweat Contest

Inasmuch as we have had some real hot weather, I believe it would be appropriate to have a contest on The Thing That Made Me Sweat the Most This Summer. This may have been such work as pitching hay, baking bread, or some exciting experience. For the five best letters on this subject, of not more than 100 words in length, we will give prizes of \$1.00 each. Address all your letters to Uncle Frank, Michigan Farmer, Detroit, Michigan.

Upper Peninsula represented at this round-up were Chippewa, Luce, Schoolcraft, Delta, Menominee, Dickinson, Gogebic and Houghton. There were 174 club members enrolled at the round-up, which included 23 club-leaders and extension workers. There were present 60 girls and 91 boys. In the poultry judging contest, Grant Gallup, of Gaastra, took first place, winning a pen of chickens, awarded by the Experiment Station. Individual honors in the poultry contest were awarded to Thomas Bomaster, of Gaastra; Rose Mayers, of Gabley, and Albert Hoholik, of Manistique, and Lawrence Banenick, of Manistique. Individual honors in the livestock contest went to Andrew Waite, of Iron County, and Francis Pellitier, of Luce County. Their winnings were respectively a pedigreed calf and pig. The list of points made by each county in the livestock contest is as follows: Iron, 1,534; Luce, 1,388; Baraga, 1,407; Dickinson, 1,397; Houghton, 1,374; Schoolcraft, 1,360; Gogebic, 1,336. Harry Monroe, of Schoolcraft County, made the greatest number of points in the dairy judging contests. Here the rating by counties is as follows: Schoolcraft, 919; Iron, 912; Gogebic, 850; Dickinson, 763; Luce, 668; Baraga, 550 (Baraga entered two contestants only); Delta, 237 (Delta had one contestant only). Iron County won first place in the canning demonstration, while Luce and Menominee took second and third respectively. The first place in the potato demonstration was taken by Schoolcraft County, while Houghton and Menominee were in second and third places.



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Every riding and driving convenience is yours in this beautiful car. It comes completely equipped with electric starter, lights, battery, demountable rims and regular three-speed transmission.

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Paid Claims to Aug. 1st \$1,120,758.23

The Citizens' Mutual Automobile Insurance Company of Howell, Michigan, has had a remarkable growth for seven years and has paid over ten thousand claims, a total of \$1,120,758.23, since organization. For seven months of 1922, up to August 1, it has paid \$154,207.45 and has assets of \$243,280.32, an increase in assets in one year of \$63,283.57.

The company was the first of the mutuals in the field and has had the pick of the careful automobile owners. With its trained adjusters, attorneys and officers, it has been able to handle in a satisfactory manner the complicated claims resulting from automobile accidents. The ten thousand policy holders who have been paid claims during the past seven years are its best recommendation.

The rates covering fire, theft and liability in the country districts are as follows:

Ford touring	\$ 9.60	Buick Four.....	\$10.50
Dodge	10.50	Buick Light Six	11.10

Other cars in proportion

Collision insurance \$2.00 per hundred

Accidents will happen. Insure today and prepare.

See local agent or write

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Gentlemen:—Enclosed find \$..... for which send me Michigan Farmer and publications in Club Offer No..... each for one year.

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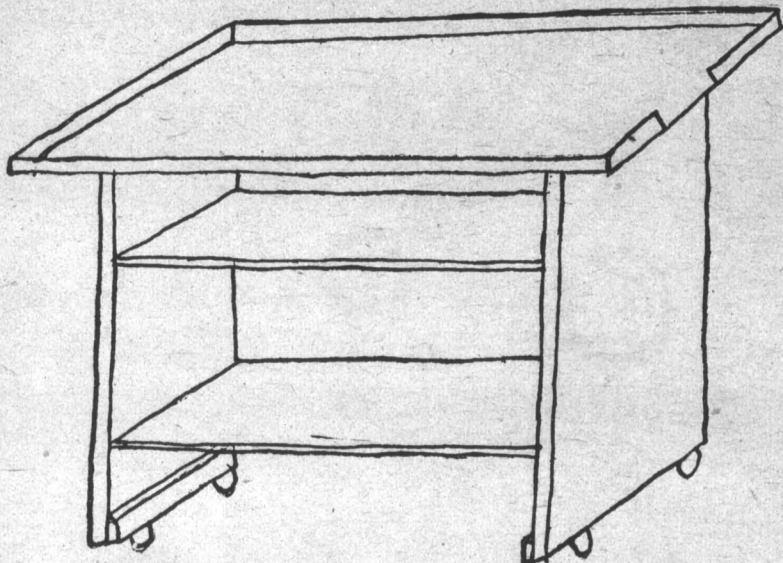
Woman's Interests



Easily Made Kitchen Wagon

ONE of the most satisfactory labor savers, because a step saver, to the housekeeper is the kitchen wagon. Tea wagon, its more aristocratic sister is called, when it is used to roll the "makings" for an afternoon tea into the living room or out on the porch these hot summer days. But when

After the table is set the dessert may be arranged on the wagon and wheeled to the mistress' side. At serving time dishes are easily stacked on the shelves beneath and the dessert passed without anyone leaving the table. It is the work only of a few minutes to finish clearing away, and



home-made, and for practical utility, it is known as the kitchen wagon.

The one illustrated is designed by Prof. Musselman, of the Farm Mechanics department of the Michigan Agricultural college. It is of a convenient size to slip through doorways, the top is 18 inches by 32 inches and the two shelves below give plenty of room to carry everything needed for the table into the dining room at one time. There is one-quarter inch by one inch strip around top and space at one end to remove crumbs.

The dishes may be wheeled to the kitchen altogether.

The efficient housekeeper finds the kitchen wagon useful in many ways. The day's baking is wheeled to the pantry in one load, canned fruit stored without a number of trips, and in many other ways it makes itself a handy helper.

Working designs for making the wagon may be secured by writing the farm mechanics department, or the extension department of the Michigan Agricultural College.

Household Service

I have been watching your pattern department to find a suit pattern. I have 3½ yards of 60-in. material and would like the skirt 2½ yards at bottom and the jacket plain with braid or button trimming. I have a 42-inch bust measure and I believe it pays to put a little more cloth in skirt, as the tight ones wear out so quickly. If you have any pattern for this fall, please send me my size.—Mrs. F. A. D.

Realizing your desire to have a suit pattern as soon as possible, I have chosen one which I trust will be satisfactory and ordered same to be sent direct to you. As we do not have patterns in stock at this office, the same has been ordered from New York and will arrive at your address in a few days.

There are no patterns in our catalog for fall which contain both jacket and skirt in one, so I am sending you the two separate patterns which will combine nicely.

I agree with you as to the width of your skirt. It must be of sufficient width so that it will not lose its shape. In the event that this pattern is not full enough to suit you, by laying it off fold, it can easily be made larger.

Please advise me the amount of salt to be used to a pound of butter.—Mrs. G. F.

The amount of salt required for a pound of milk-fat depends greatly upon the individual taste as well as the market. However, the average, I be-

lieve, would be one and one-half ounces of salt to a pound of milk-fat. This amount should be well worked into and evenly distributed through the butter. If the salt is dry and hard, or cold, and dissolves slowly, it may be well to place it in a container and just cover it with water a few degrees higher than that in which the butter was washed. Let stand for a few hours and the salt will be softened and warmed. It can be quickly dissolved and distributed through the butter.

"Modesty"

MODESTY, chastity and present day fashions, these seem to be the popular topic of conversation, also magazines articles nowadays. Fact is, I can't remember when they weren't the favorite theme for a certain class of people.

To my mind it doesn't matter so much what a girl has or has not on her back, as it does on her mind.

If you remember rightly, Mother Eve never thought of her nakedness until she had sinned. (We won't mention Adam. Women have become so used to taking the blame they would feel lost without it).

There is no reason for a sixteen-year-old girl to blush because she is dressed in a comfortable manner. Of course,

there is such a thing as carrying anything too far, for instance, criticizing the clothes of four and five-year-old children.

In what better way could a little girl be dressed than in bloomer suits fastened above the knee? And why not half-hose? Is there any reason why a little girl should have black stockings, (I suppose to be modest they should be black), drawn over the knees to make them sweat and feel uncomfortable?

And why not low necks and short sleeves? Why should they be ashamed of their dimpled elbows and shoulders?

If any one was caught causing their dog to be as uncomfortable as the little girl of fifteen or twenty years ago was, they would be arrested for cruelty to dumb animals. It's a wonder to me those little girls ever found out they had any bodies. Their mothers did the best they could to turn them into clothes racks.

If modesty is a God-given instinct, all good and well, false modesty isn't. There is no need to tell a child to be a lady. Children are children, whether they are boys or girls. If we answer their questions truthfully and teach them the truth of life when they first

ask for it, instead of putting them off until they seek information elsewhere, they will be a good deal better off.

The modern mother is learning her daughter, and son, also, what real motherhood is. She is not afraid to explain to them the way of life in a way their young minds can understand and respect.

If the grandmothers and fault finders who wear long sleeves and mufflers all summer, (and complain continually of the heat), and a skirt so long it trails the ground, for fear some one will know that the good Lord gave her two legs, were half as pure-minded as the flapper in her peek-a-boo waist and rolled stockings, there would be less gossip and scandal going on and all would be happier.

There are no more girls going to the bad than there were fifty years ago. People have a way of forgetting what happened when they were young, and holding some young persons mis-step up for the public to view and comment on.

If we start out with good in our minds and look for the good in our girls instead of the bad, (so we can talk about it), we won't see so very much to hurt us.—Mrs. L. K.

Dresses for School Days

Father's worn-out trousers challenges you to recognize them in this little suit for Sonny. The waist may be made of big sister's worn-out linen dress; and when made with the kimono sleeve, it is simple and makes a good play suit for the first days of school. This pattern number 4063 is cut in four sizes, 4, 6, 8 and 10 years.

What little lassie would not be happy to say "Good morning" to her new teacher in this attractive little frock? With its simplicity of design, it becomes the miss from 6 to 12 years. The pattern No. 4056 is cut in four sizes, 6, 8, 10 and 12 years. A 10-year

is the up-to-date Fall and Winter book of fashions, showing color plates and containing 500 designs of ladies', misses and children's patterns, points



for the needle and a concise and comprehensive article on dressmaking. Send all orders to Pattern Department, Michigan Farmer, Detroit, Mich.

WATERPROOF MITTS

The five or ten-cent cotton mitts which are so largely bought by workmen may be waterproofed by dipping them in melted paraffine; or, if a thinner coat is preferred and only on the palm of the mitts, melted paraffine may be brushed over their surface. For handling damp bricks, for working with plaster, or cement, paraffine mitts are far superior to the original. Women will find them valuable when scrubbing floors, setting out plants, etc. Leather gloves for use by farmers in hauling damp corn fodder or any material that is wet, may be waterproofed in the same way. The coating of paraffine may be renewed as often as the surface needs it. Mitts and gloves—even boots for ditchers—treated with paraffine lasts longer, because the water can do them little damage. The comfort the wearer experiences by using waterproofed mitts or gloves far outweighs the bother of melting and applying the paraffine.—M. A. C.

size requires three yards of 40-inch material.

This little miss feels just as happy as she looks in this gayly flowered chinty frock as she skips off for the first day of school. This pattern, number 4060, may be obtained in four sizes, 4, 6, 8, 10 years. A 10-year size requires 3¼ yards of 32-inch material.

When one is older—12 or more—this long-waisted dainty frock with two pockets made of striped percale, bright gingham, cotton ratine or homespun will bolster ones self confidence amazingly. The pattern is number 4055, cut in three sizes, 12, 14 and 16 years. A 14-year-old size requires four yards of 32-inch material. The width of the skirt at the foot is 2¼ yards.

These patterns are all 12 cents, as

Does It Pay to Pray?

Our Weekly Sermon—By N. A. McCune

THE first impulse that Nehemiah had, when faced by a difficult situation, was to pray. "And I fasted and prayed before the God of heaven." There is a striking contrast in the manner with which men meet trouble, in the lives of David and Saul. When David was in a tight place, not



knowing what way to turn, he turned toward God. "And David was greatly distressed; for the people spake of stoning him, because the soul of all the people was grieved, every man for his sons and for his daughters: but David strengthened himself in Jehovah his God." David became the greatest of all Hebrew sovereigns, and the greatest of Hebrew poets. Contrast Saul. When confronted with the prospect of a battle, he turned, not to God, but to a necromancer. The following day, when hard pressed by the enemy, he committed suicide.

The subject of prayer has received a great deal of study of recent years. The result is, that prayer is more highly thought of than ever. It is more and more emphasized in the preaching of the church. Here are a few lines from a little book called "The New Life." (It would make a fine little Christmas present, or a birthday present. It is by Dr. Samuel McComb.) "Now it is prayer that arms the will to beat down temptation, or to concentrate its forces on the accomplishment of some forbidding task. This statement is supported by abundant testimony. Here is one which I quote from a private letter written by a New England physician to his nephew. He says: 'I stand here in my front yard and talk with God, when I feel like it, or when I am on the road anywhere, silently or audibly. He is just over back of a leaning pine you may remember to have seen directly across the road from our door. I can't see Him, but I can feel His presence just as I feel yours, or your Dad's, or Aunt May's presence, or my mother's presence; and the thought and feeling that I have of God or of my mother or of Aunt May or of your beautiful mother, is one of peace and grace and faith, of beauty, of love and confidence. Cultivate the habit of prayer. Pray to the Great Spirit every time you start out to do anything that you know will test your powers. Pray at any time and everywhere. I say to the Great Spirit, for that is the name I love best for God, whenever I feel I am up against it and weakening, or likely to prove not my best self in some trying situation: 'Help me out, Great Spirit, will you? I am a poor fellow; I have not cultivated my gifts as I should have done; I lack strength of character in many ways; help me out, dear Great Spirit.' And just in proportion as I am in earnest and have faith, my prayer is answered—sometimes not at all and sometimes so fully that I feel a flood of light and beauty, of love and devotion, pouring in upon me.' Then the author adds: "Other things being equal, the praying man is more efficient physically, mentally, spiritually, than the non-praying man."

The following incident is taken from the life of the late Henry Clay Trumbull, for many years editor of the Sunday School Times. When the famous Centennial Exhibition was to be opened in 1875, in Philadelphia, it was proposed to keep it open on Sundays. Trumbull was on the Commis-

sion, and he was determined if possible to prevent the opening of the great fair on Sunday. The day before the vote was to be taken, an old friend of Trumbull said to him, "I want you to pray tonight for God's help in this contest." While talking, an earnest worker for Sunday opening came up and said, "We've got you this time; it's no use. You'll find out tomorrow." That night when Doctor Trumbull tried to pray on this matter it seemed as he could not. His words seemed to come back to him. Some way a conviction laid hold of him that everything was all right, and that God was working. The next morning his old friend, Doctor Peltz, said he had had the same sort of an experience. They were confident that God had taken the matter in hand. The Commission met that day, and before the meeting, Dr. Peltz said to Trumbull, "There is a remarkable change here since last night. They are not nearly as sure of carrying their point as they were."

The meeting was long and intense. Feeling on both sides was acute. It was recognized that on the one side was the fight for the American Sabbath, over against a great opportunity for money-making. One man twitted another with being a Puritan, and another taunted him with being a Universalist, and of not believing in hell. "You'll have a hell here, if you open those gates on Sundays," was the response. There were loud calls for "Question!"

At this moment a man from Nevada arose. He said, "Mr. President, before the question is put I wish to say a word. I feel like a returned prodigal and I want to make a confession. More than 20 years ago I went out from an eastern home to the far west. I have lived since then beyond the Rockies, where we hardly have a Sabbath, and where other than the best moral influences are all about us. But as I have listened here this afternoon, old memories have come back to me." His voice choked, and he had to stop. "All these truths," he continued, "were familiar to me long ago, and it seems to me again today that I hear them repeated as I used to listen to them from the lips of my sainted mother, as, every evening I knelt by her side in prayer. I want to give my vote in favor of observing the Christian Sabbath."

The effect of this speech was overwhelming. Men who previously had talked for Sunday opening were convinced that they were wrong, and made haste to state that they were for Sunday closing of the exhibition. The vote stood: twenty-seven for closing, nine for opening. "And so," says Trumbull, "the question was settled right. God led the leaders. God be praised for the result!" Other incidents occurred in his life, almost as striking as this, in relation to prayer.

The question is often asked, what about unanswered prayer? There is a good answer to that question. God may not answer the prayer, but He answers the prayerer. He answers the one who prays. When you say "No," to your child, that is an answer to the prayer he made to you.

SUNDAY SCHOOL LESSON FOR AUGUST 27

SUBJECT:—Nehemiah's Prayer.

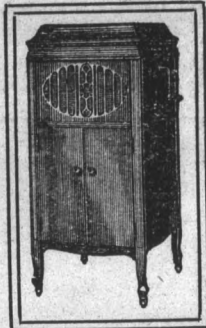
LESSON:—Neh. 1:1-11.

GOLDEN TEXT:—The supplication of a righteous man availeth much in its working. James 5:16.

Feeds can be mixed in lots of several hundred pounds by shoveling back and forth on a tight floor.

Why Not Have Your Entertainment at Home

A Brunswick Phonograph



and a choice collection of up-to-date Brunswick Records will do more to make your home attractive during the long Fall and Winter evenings than anything you can possibly think of.

Do you know that by keeping in touch with The Brunswick Shop in Detroit that we can at a slight expense, furnish you with the very latest records—just as well as if it were possible for you to visit us each day?

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and we will send you a handsome new book of designs—and will also tell you how simple and easy it is to have the very best music in your home.

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Visit our Exhibit at The Michigan State Fair—and take home some interesting souvenirs with you.



After dad has gone to work—the children have been dressed, breakfasted and hustled off to school—and the morning's house cleaning has been done—make yourself a fresh cup of Lighthouse Coffee.

LIGHTHOUSE COFFEE

THE MICHIGAN FARMER PATTERN SERVICE



3307—Ladies' House Dress. Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 will require 5 1/4 yards of 36 inch material. The material. Price 12c.

width of the skirt at the foot is 17 1/2 yard. Price 12c.

4066—Ladies' House Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38 inch size requires 5 3/4 yards of 32 inch material. The width of the skirt at the foot is 2 1/2 yards. Price 12c.

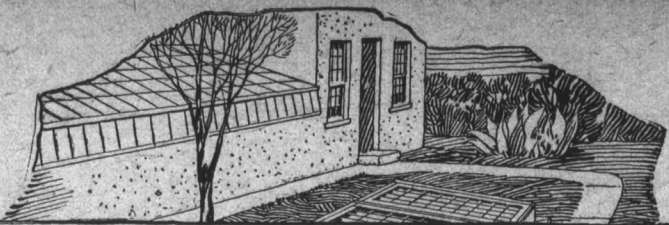


4041—Ladies' "Over" Blouse. Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. A 38 inch size requires 2 3/4 yards of 32 inch material. Collar and cuffs of contrasting material require 3/4 yard 40 inches wide. Price 12c.

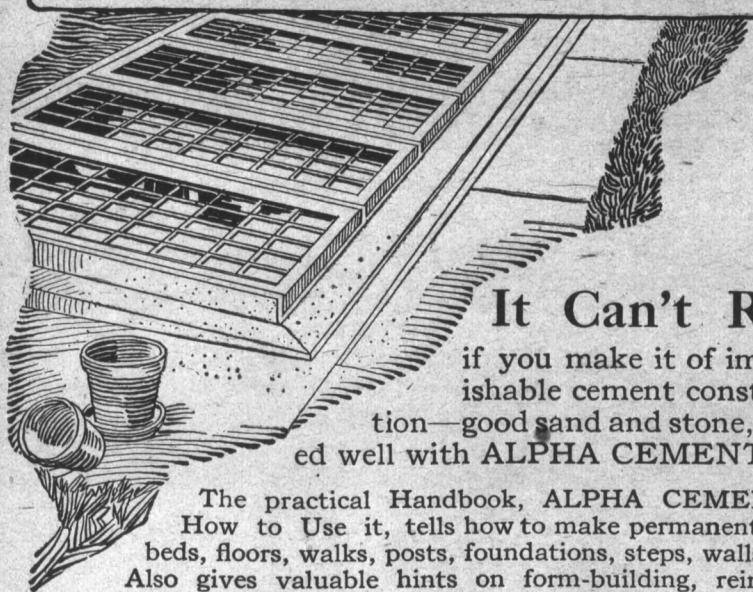
4045—Ladies' Negligee and Cap. Cut in 4 sizes: Small, 34-36; medium, 38-40; large, 42-44; extra large, 46-48 inches bust measure. A medium size requires 2 5/8 yards of 32 inch material. The cap alone requires 1/2 yard. Price 12c.

4042—Child's Play Suit. Cut in 4 sizes: 2, 4, 6 and 8 years. A 4 year size requires 3 1/2 yards of 32 inch material. To trim as illustrated requires 5/8 yard of contrasting material 32 inches wide. Price 12c.

3326—Childs Rompers. Cut in 5 sizes: 1, 2, 3, 4 and 5 years. A 4 year size will require 3 3/4 yards of 27 inch material. Price 12c.



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if you make it of imperishable cement construction—good sand and stone, mixed well with **ALPHA CEMENT**.

The practical Handbook, **ALPHA CEMENT**—How to Use it, tells how to make permanent hot-beds, floors, walks, posts, foundations, steps, walls, etc. Also gives valuable hints on form-building, reinforcing, waterproofing, etc.

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SPECIAL OFFER IN PULLETS

We have an offer of Pullets that I know you will appreciate. There are yet left of the early hatched Pullets—

400 S. C. White Leghorns and
300 S. C. Superior English White Leghorns

Also limited number of Barred Rocks, Buff and
White Orpingtons, S. C. Reds.

These are now nearly 4 months old; large, well grown birds that should begin to lay in four or five weeks from the time you will get them. The Pullets will still be sold at the 3 months price, and at this price they are a genuine bargain. See price list in our publication, *Home-Steak Farms for July*; or we will send you a copy.

If you want Pullets that will begin to lay in September, or the first of October let us send you some of these Leghorns. If you start them in right and if you keep them up to the best, they will give you enough eggs by January 1 to pay for themselves.

These 4 months Pullets at the 3 months price are a genuine bargain; if you are planning for laying Hens this fall and winter, you should buy some of these birds.

It will be necessary to order now: at 5 months the Pullets will be of laying age, when the price must be raised.

I am giving you a good chance to buy them now at the 3 months bargain price. We guarantee the Pullets to be entirely satisfactory. Your order will be filled promptly—while the Pullets last.

State Farms Association

E. A. SEE, Manager

201 Chase Block,

Kalamazoo, Mich.

POULTRY

Barred Rock Cockerels

Parks' 200-egg strain. From stock from Parks' best pedigree pens. Vigorous, early hatched birds \$3 each. R. G. KIRBY, Route 1, East Lansing, Mich.



JUST-RITE LOOK!
Baby Chicks

A Hatch
Every Week
All Year

NABOB HATCHERY,

POSTAGE PAID, 95¢ live arrival guaranteed. MONTH'S FEED FREE with each order 40 Breeds chicks, 4 breeds ducklings, select and exhibition grades. Catalog free, stamps appreciated. Sept. 15, Gambier, O.

Barred Rocks egg contest winners, eggs from strain with records to 250 a year. \$2.00 per setting prepaid by P. P. Circular free. FRED ASTLING, Constantine, Mich.

Single Comb Buff Leghorn

Early hatched cks. Willard Webster, Bath, Mich.

S. C. Anconas and S. C. White Leghorn
yearling hens at bargain prices.
Write your wants.

M. D. Wyngarden, Zeeland, Mich.

Farm Poultry

POULTRY CULLING A SUCCESS.

HERE is evidence that poultry culling is on a sound basis in Indiana. Last year there were 1,339,825 hens handled in the various counties of that state by poultry demonstrators. From this number 269,751 hens were culled out. The authorities report from present indications that this demonstration achievement will be exceeded this year. It would seem, therefore, that farmers generally are convinced that the experts can pick out from the flock the poor producing birds.

FIGHT LICE AND MITES

NO poultry-keeper, either upon a large or small scale, can expect a profit from his operations if his flock and his poultry house are infested with lice and mites. Both are easily brought upon perfectly clean premises, possibly by the introduction of fowls purchased elsewhere. Sparrows are frequent spreaders of these pests.

Lice may be readily controlled by providing a good dust bath and by the use of blue ointment or one of the many lice powders that are on the market. The control of mites, however, is not so simple. Unlike the hen louse these are not, as a rule, found upon the fowl; neither are they killed by dusting. They are found usually in cracks around the roosts and nests and will be readily detected upon examination of these parts. At night, when the fowls are on the roosts, these mites may be seen issuing from cracks and running along the roosts.

The only method of control is thorough cleaning and disinfecting of the premises. Remove all droppings, litter and nesting material, scrape and sweep out every particle of dirt, and give the house a thorough soaking with a good strong disinfectant, forcing it by means of a spray pump into all cracks.

Whether mites are known to be present or not, the roosting and nesting quarters should be treated weekly during the summer, since the mites breed very rapidly.

Ordinary coal oil will kill mites but as it evaporates quickly its effects are not lasting. A good disinfectant mixture may be made at small expense by adding crude carbolic to the kerosene, about a quart to a gallon of the latter, or by adding one of coal tar disinfectants.—E. W. G.

FEEDING CULL BEANS

Are cooked cull beans fit food for laying hens? I tried it last spring and some died very sudden, but was not sure that was the cause.—Mrs. S. F.

Boiled cull beans are sometimes fed to poultry with good results although precautions should be taken to feed no spoiled beans. At the same time I believe it is best to give the balanced dry mash and part of the scratch grain in the litter. Then the beans can be worked into the ration by using them for occasional feeds. I do not think that the beans caused the loss of the hens unless some of the beans were in bad condition.

SODIUM FLUORIDE

In the Michigan Farmer, on July 29th, C. J. Ferguson had an article on

"Hot Weather Hints for Poultrymen" and I would like to ask how to treat a flock of hens with sodium fluoride to prevent lice. Also please tell me what is the substitute for milk in feeding poultry?—Mrs. J. N.

Sodium fluoride is applied by the "pinch method." That means a pinch of the powder is dusted in the feathers near the skin under the vent and the same amount placed in the feathers of the head, neck, back, breast and under each wing. About seven pinches of the powder will protect the hen from lice. A pound of the powder will treat about one hundred hens. It can be applied over a large paper to save any that might be wasted.

The substitutes for milk in feeding poultry are beef scrap, fish scrap, high grade tankage or dried buttermilk.

PROBABLY LIVER TROUBLE

Have lost some hens. Their combs turn dark and their legs and feet white, get poor and are dumpish for a few days and then die. What can I do for same?—F. C. H.

In cases of liver trouble the comb of a bird usually turns very dark. The bird will not eat and becomes emaciated and soon dies. It may be caused by heavy feeding or a general breakdown, the cause of which might be difficult to determine. Such troubles can usually be prevented by the use of a balanced ration and plenty of litter and range where the birds can exercise. Perform a postmortem on hens that die and an observation of the internal organs may locate a more definite cause for the losses.

HENS CHOKE

We have trouble with our hens by making a squawking noise. They keep getting worse, making the noise oftener until their heads turn black and they just gasp for breath.—F. C. M.

The hens show symptoms of choking due to some foreign material which has become lodged in the throat. Sometimes the bird's mouth can be opened and the obstacle removed. Again the obstruction may be too far down. When a hen dies under such conditions it pays to perform a postmortem and note the condition of the internal organs. This often helps to locate the trouble and prevent further losses.

PROTECT BOTTOM OF BEE HIVES

BEE keepers have learned that the loss of heat through the bottoms of bee hives during the winter time, is very rapid. This is contrary to the usual belief. The practice has been to insulate the top and sides of the hives but not the bottoms. Tests were recently made by government experts and from these tests it was made clear that leaving any part of the hive without insulation makes the escape of heat at that point easy. While dead air spaces form the usual method of insulation, it is the opinion of the government experts that the bee keeper had better increase the size of these spaces to four or even six inches in width and then fill with some cheap insulating material like sawdust.

Says Sam: A fellow too old to learn is too old to live.



Dairy Farming

WHAT THE COW TESTERS FIND

The August summary for 18 Cow Testing Associations in Michigan brings out the fact that many Michigan cows are now at a low milk producing rate due to either extreme shortage of pasture or going dry for fall freshening.

Supplements to pasture will pay. Even though the cow is dry a short pasture may not entirely maintain her. Hence small additions of hay, especially legume hay or grain mixtures will help greatly for future efficient milk production. Some farmers will always say that there's no money in keeping the cows. There is very little profitable money in keeping poor cows. Just because milk or butterfat is not bringing a 1919 price does not indicate that efficient cows, averaging a good flow of milk over the year, are a non-paying proposition.

Mr. C. M. Stewart has a herd of registered Holsteins at Paw Paw, Mich., which have averaged in the South Van Buren Cow Testing Association year 428.9 pounds of butterfat per cow. Other men like Mr. E. C. Hawks, with a grade Guernsey, milked over 7,813 pounds of milk, and Mr. Roy Fowler, in the same association with a Registered Jersey making 451.7 pounds butterfat, point out the fact that a good herd average requires good breeding blood, liberal feeding methods and care, which will bring profitable results in the dairy herd under 1922 conditions.

Mr. George C. Knight was the cow tester in the South Van Buren County Cow Testing Association.

Comparing the production in June with July we find the following differences:

Month	No. of Cows	Monthly Average	
		All Cows	Butterfat
June.....	3,410	726.7	28.99
July.....	3,752.....	627.2	26.87

Difference..... 99.5 2.12

The 3,752 cows reported for the month of July milked considerably less each day than during the previous month, approximately 100 pounds less during the month.

A number of cow testers report that cows are being dried off for fall freshening. This is certainly the time to have them go dry and fall of the year is certainly the best freshening time.

The pure bred sire situation is improving each month in each association. Kalamazoo Cow Testing Association has been 100% P. B. Sires since October, 1921. Wayland in Allegan county, Wayne, Livingston and Lapeer are 100%.—A. C. BALTZER.

THE CAUSE OF ROPY MILK

THE Dairy Extension Specialist of the South Dakota College, Horace M. Jones, says that ropy milk is caused by an organism usually occurring in stale water. These bacteria may gain access to the milk through rinsing utensils in water from a tank, or they may adhere to the bodies of the cows as they wade through stagnant pools and later drop into the milk pails.

Many people have misunderstood this trouble and have disposed of certain cows thinking they were the cause of it. But rinsing the utensils in clear fresh water and steaming, scalding or sunning them will prevent most of the trouble. Washing the cows' flanks and udders in a mild disinfectant before milking should eliminate the remainder of it.

Most of this trouble occurs at this time of the year and will cause a thickening of the milk in a few hours so that it may be drawn out in long threads. The milk may be entirely sweet, yet present this thick ropery appearance.

CLINTON COUNTY FARMERS TAKE LIVESTOCK TOUR

OVER two-hundred livestock breeders of Clinton County recently took an auto tour to different stock

Isn't It Funny?

The following letter was received from subscriber X. Y. Z. We print it because it expresses a thought which we have not received from any other subscriber:

"Beg pardon, but please allow me to ask you to do away with Hy Syckle and the Al Acres nonsense in your paper. It is not interesting, amusing, instructive or funny. 'It does make me tired.' Please drop it.—X. Y. Z., Oakland County, Mich."

We have received hundreds of letters favorable to these two features, but this is the first unfavorable one. To get a better idea of the thoughts of our readers we would like definite expressions of opinion from as many readers as possible as to whether this "nonsense" is worth while. Please address your opinions to the Fun Editor, Michigan Farmer, Detroit, Mich.

farms of the county. Most of these were Shorthorn breeders, but they were accompanied by members of the boys' pig club, and the Duroc Breeders' Association. The tour commenced at Fowler and worked to the northeast section of the county. The farms of prominent breeders of all kinds of livestock were visited. One of the features of the day was a colt show at the farm of W. G. Anderson, which was held under the direction of those interested in breeding Belgian horses. At noon a dandy dinner and entertainment was furnished by the Ladies' Aid of the Lowe Church, and in the evening the tour was ended by a dinner given by the St. Johns Chamber of Commerce. At this dinner many prominent farmers and city people gave addresses. The entire day was pronounced a success and the evening program greatly fostered the get-together spirit between farmers and business men.

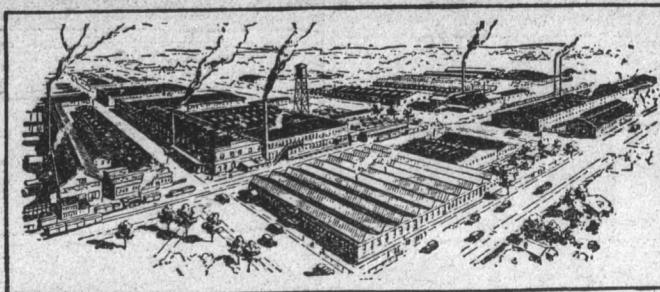
FARMER AND STRIKES

(Continued from page 200)

and refuse to sell what he produces. But he does not believe in that sort of thing. He knows that such a policy would bring about in this great Republic exactly the same sort of conditions that exist in Russia.

The farmer calls upon capital and labor to cease their petty bickerings and resume production, trusting to American institutions and the American sense of fair play to see that justice is done to both of them.

Raise what you feed and feed what you raise.



Forty Acres of Faith and Works

If I could have my wish, every man and woman who is thinking of buying a motor car for use on a farm would spend a day in Jackson seeing how the Earl is manufactured in our three great plants.

You would not have to know all about high-grade materials and production methods to see where the Earl gets the endurance, economy, beauty and flexible power which make it the most comfortable, dependable and economical motor car sold at the moderate price of \$1095.

From the huge hammers forging crank shafts and forty other units out of five kinds of white-hot steel—through acres of automatic machines—to the paint shop with its sixteen finishing operations—your factory tour would impress Earl quality and craftsmanship on you at every step.

Backing up the car's striking beauty, astonishing road performance and economy, this visible, built-in quality and durability are responsible for the enthusiasm of Earl owners and the overwhelming demand which has kept the factory working three shifts of men in many departments.

The Earl is on display in some near-by city. If you can't come to Jackson, go in and size it up. Ride in it. Take the wheel yourself. I know it is the kind of motor car you can afford to own and drive. Write me for an illustrated catalogue and the name of the nearest Earl dealer.

EARL Motor Cars
BETTER LOOKING—BETTER BUILT

Touring Car, \$1095
Cabriolet, \$1395
Custom Roadster, \$1485



Brougham, \$1795
Sedan, \$1795
All prices f. o. b. Jackson

EARL MOTORS, INC., JACKSON, MICHIGAN

POULTRY

Sold PULLETS Out

This space belongs to Simon Harkema and Sons. Breeders of American-English Strain of S. C. W. Leghorns.

Chicks, Pullets and Breeding Cockerels in season. Sold out for season of 1922.

Simon Harkema and Sons,
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Pullets Cockerels Pullets

Barred Rocks From Proven Layers
Laying contest winners. Records 213 to 257. Write for catalogue.

G. CABALL,
R. 4, Hudsonville, Mich.

PULLETS & COCKERELS

Now Three Months Old
WHITE LEGHORNS AND MOTTLED ANCONAS
Also Black Leghorns, Brown Leghorns, Buff Leghorns, Black Minorcas, R. C. Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Silver Wyandottes, White Wyandottes. WE HATCH eggs from Hogenized flocks on free range on separate farms. Where our chicks are raised.
Send for Price List.

CRESCENT EGG COMPANY
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S. C. White Leghorns
Cocks and Cockerels
RALPH S. TOTTEN, Pittsford, Mich.

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from trap-nested stock 230-264 egg strain. Never offered before under \$5.00. For quick sale \$3.00 delivered. E. E. VANTINE, Twin Lake Farm, Pontiac, Michigan.

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Additional Poultry Ads. on Page 215

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JOHN ENDICOTT, Proprietor

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Reg. and high grade Holstein cows and heifers due to
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Central Mich. Shorthorn Breeders' Assn.
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Write M. E. MILLER, Sec'y, Greenville, Mich.

For Sale: Thoroughbred Shorthorn bull Duch-
ess strain. Bates breeding, thirteen
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Stinking Smut of Wheat

(Continued from page 195)

molds, sprouts or freezes it is injured. It sows unevenly and often gives a poor stand. If held more than a short time, the formaldehyde spoils the germination.

Many farmers simply sprinkle the grain with the weak formaldehyde solution. This works almost as well as the soak and skim method provided the grain is fanned before treatment to remove smut balls.

But a study of conditions on Michi-
gan farms showed that farmers in general, are not using either of these methods to control smut. The methods are good, safe, if properly applied, but too cumbersome to be popular.

In 1918 the farmers of Kent County tested extensively the so-called "dry formaldehyde" treatment which has become so popular with oats for smut treatment. In this method the concentrated formaldehyde is diluted about four times with water and sprayed on as the grain is shoveled over and over. In the hands of any farmer who was careful and who followed directions, this method with fairly clean wheat gave satisfactory control of smut. The treatment had no bad effect on germination if the grain was sown at once, but if the wheat was held, disastrous effects on germination were had. In the hands of the careless farmer, who did not follow directions, who applied five times the required amount of formaldehyde, who left the grain covered too long, who held the grain for some days before planting, the method did not work. Moreover the smut control was not so good with badly smutted grain, although it was satisfactory with the ordinary run of seed wheat.

The situation then in Michigan is something like this. There are three ways to treat wheat, all of which will work if worked right, but the fact is that either from fear of injury, lack of time or indifference to the great loss from smut, wheat growers as a rule do not treat wheat at all for smut.

A New Method Devised

In 1917 Darnell Smith, an investiga-
tor in Australia, discovered a method of preventing smut by dusting grain with copper carbonate dust. This dusting gave control of smut with no injury to germination. Independently at the Michigan Experiment Station in 1919, a similar treatment, using dehydrated copper sulphate dust, was tried. This dust gave perfect control of smut, but there were bad effects on germination. Mackie and Briggs of the U. S. Department of Agriculture in 1920 discovered how to use the copper sulphate dust and get rid of the injury to germination. By mixing the dehydrated copper sulphate with hy-
drated lime, equal parts, and using two ounces of this dust on a bushel of grain, perfect control was obtained and no bad effects on germination re-
sulted. Tests were made of this method in 1920 at the Michigan station but the experiment yielded no results due to absence of smut. There were no bad effects on stands, even from using 16 ounces of dust to the bushel.

We are now able to report the re-
sults of the 1922 tests. The smuttiest winter wheat we could find—grain that was simply black with smut and containing smut balls in abundance—was given various treatments. There were abundant checks of untreated grain. The results are given in the following table. The plots used were 5 drill rows, 10 rods in length, all planted side by side, the same day.

Some Smut Treatment Results

Untreated 51. %
Formaldehyde, "Dry Treatment" 3. %

Formaldehyde, "Sprinkling Method" 0.
Formaldehyde, "Soak and Skim Method" 0.5%
Copper Carbonate, 2 oz. per bushel 1.4%
Copper Sulphate (Dehydrated) and Lime (Hydrated) 2 oz. per bushel 4. %

In the meantime Lambert and Bailey reported in 1921, results of a successful test of the method in Min-
nesota and Stephens and Woolman in Oregon reported no bad effects on germination, but give no report on smut control. In the spring of 1922, a large planting, using various treat-
ments of spring wheat, was made at the college, but unfortunately for the test, no smut developed in either the treated or untreated plots. There was with the treatment no bad effects on germination.

It is my opinion that the tests in Michigan and other states made so far show that with the various copper dusts we have a simple, safe and easy method to treat wheat for stinking smut.

With extremely smutty grain—worse than any farmer would plant, smut has been reduced remarkably. I confidently believe that with ordinary seed grain the dust method will re-
duce the smut to a mere trace. I ad-
vise, therefore, every farmer to test the dust method, using 2 oz. per bushel. This amount of dust is about two heaping tablespoonfuls.

The method should be tried experi-
mentally. Until it has been given years of trial, under varying conditions, we will not be able to determine its true value.

How the Dust Is Applied

In our experiments, when using small quantities, we simply shook the grain in a jar with the requisite amount of powder. For large scale treatments we have tumbled the grain in a tumbling churn. Fairly good dusting can be obtained by using a tub and after sprinkling on the dust, stir-
ring with a spade until the grain is thoroughly coated. The amount sug-
gested, 2 oz. to a bushel, is enough to give every kernel a coating of pro-
tective dust. Any method such as pouring from one milk can to another, tumbling about in a barrel or mixing in some special machine, fashioned like a cement mixer will work. The idea is simply to coat the grain with dust.

The treatment can be given any time before planting—so long as the chem-
icals are dry, they are inert. There is no soaking of the grain to contend with. When the grain is planted and becomes soaked with water then the copper sulphate and the lime make a sort of Bordeaux on the grain and this kills the smut. The copper carbonate acts similarly.

We have not yet had success in treating oats and barley by this method and are not advising it to re-
place the formaldehyde treatment with these grains.

Stinking smut is a serious, wasting disease on Michigan farms and should be controlled. The formaldehyde treatment is not generally used and is not popular with farmers for use with wheat. The dust method, as yet in the experimental stage, is being sug-
gested. This paper presents the evi-
dence so far as now available so that farmers may begin to test this method and determine its availability and prac-
ticability for their use.

A good cement floor in a henhouse is economical, durable, ratproof, easy to clean, dry, and sanitary. It costs a little something, but is worth a lot more.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscribers. Letters should state fully the history and symptoms of each case and give name and address of the writer. Initials only are published. When a reply by mail is requested the service becomes private practice and \$1 must be enclosed.

Failure to Come in Heat—Partial Loss of Power—Heifer calved on April 7th recovered nicely, but has failed to come in heat. About a year ago my collie dog commenced to have rather poor use of his hindquarters. Is very stiff when he gets up, but after a time warms out of it somewhat. What can be done for him? A. G. S., Galien, Mich.—Give cow one dram ground nux vomica, one dram ground capsicum, one dram ginger in feed twice daily. Yohimbine is the best drug to give her, but rather expensive. Give your dog good care, keep bowels open and he will perhaps remain in about his present condition.

Opening on Side of Teat—Heifer fresh for first time has opening on side of one teat. I. E. G., Kalkasha, Mich.—It is impractical to operate on her until she is dried. If your veterinarian decides to do the work now, a teat tube or spring dilator may be worn to drain off the milk and prevent distention and reopening of the orifice. I believe it good practice to wait until cow goes dry, then operate.

Cow Holds Up Milk—I have a cow which is inclined to hold up her milk, but she is in good health. R. B., Belding, Mich.—It is not easy to understand why a cow should hold up her milk; however this habit is sometimes overcome, by keeping the cow quiet for 30 minutes before milking, kind treatment, gentle milking, suppression of noise, allowing her to eat food while you milk is worth a trial, and the same milk who is acquainted with her will get best results.

Nasal Catarrh—My cat acts as if he had a severe cold affecting his head. He sneezes quite a bit, breathes loud, has some discharge from eyes and nose. C. G., Camden, Mich.—Dissolve a teaspoonful of boric acid in one-half pint of water, apply to eyes three times a day. Dissolve a teaspoonful of bicarbonate of soda in a tea-cup of water—dip nose and face into this solution three times a day.

Lame Cow—I have a fine Jersey cow who suddenly went lame in her right fore leg. I have examined the hoof but failed to find a cause of her lameness. She has a calf eight days old. She is not sick, has good appetite, but I would like to know what to do for her? D. M., Marine City, Mich.—First, make a diagnosis, then prescribe a remedy; always locate lameness, then commence treatment. Give cow rest, nature may effect a cure, if not, you may be able to locate the ailment and assist nature in effecting a cure.

Colic—I have an orphan lamb which I am raising on cows milk. She has had three sick spells, during this sickness she stretches and lowers belly so much that she almost touches the ground, then she rolls over on back, and soon has poor use of hindquarters. I forgot to say, she bloats. G. P. L., White Cloud, Mich.—Usually the ewes milk is rich, therefore you make a mistake in feeding separator milk. Feed whole milk from your best cow, and don't forget the importance of keeping feeding utensils clean. Keep bowels open by giving olive oil.

Loss of Vision—What ails my hens? Several of them have gone blind. They are pure bred Brown Leghorns and laying hens. They seem to lose their sight slowly, not suddenly, soon grow thin, and linger few days, then die. Their eyes look bright and natural. Is it anything that will be likely to spread through the flock? H. R. B., Chelsea, Mich.—Loss of vision is sometimes due to an anemic condition of the brain, or it may be the result of a watery effusion or hemorrhage; however I am at a loss to know the cause of your birds going blind. Perhaps they pick up poison. You fail to give many symptoms of disease. Have your veterinarian make a careful examination of a sick bird, also of one after death.

Dairy Question—I have a Jersey heifer 14 months old due to soon freshen. Had I better continue to milk, or dry her at once? When shall I breed her? G. L. D., Elwell, Mich.—If she is of good size, has well developed udder and good feeder, milk her for four or five months. Breed her right away, but don't forget the importance of generous feeding and good care.



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Bad Axe,
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5 Bulls
20 Females (Many with calves by side.)

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The Sale Managers will be glad to mail you catalog and full particulars. Write now. Address

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Milking Shorthorns of best Bates breeding, bulls, cows and heifers for sale.
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Shorthorns for sale. ENTIRE herd just passed State Tuberculosis test.
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Don't you want a good Shorthorn, priced in keeping with the times?
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Milking Shorthorns Bull calves for sale. Also 2 cows.
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For Sale: Thoroughbred Durocs: Brookwaterstrain gilts bred to son of Panama Special 55th for September, October farrow, spring pigs of both sexes.
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Spring pigs by Walt's Orion, First Sr. Yearling
Detroit, Jackson, Gd. Rapids and Saginaw 1919
Phillips Bros., Riga, Mich.

Sows & Gilts

bred for July, Aug. and Sept. farrow for sale at reasonable prices. Also a few high class spring and fall boars ready for service and one 2 yrs. old boar, a grandson of Panama Special, at a bargain if you can use him. We guarantee satisfaction. Write for prices and description or better come and see them. Visitors always welcome. Sows bred for spring farrow all sold.

Thos. Underhill & Son, Salem, Mich.

Collinsdale Duroc Farm, Lyons, Mich., R. 1.
Greatest Blood Lines in Duroc Hogs

Herd Boars by Great Orion Sensation, Pathfinder, Duration and Great Wonder I Am. Now have for sale three yearling boars by Wolverine Sensation. For sale at all times, sows, gilts or boars registered. Sold under a positive guarantee and worth the money. Write for prices.

L. A. BURHANS, OWNER

You Want One of the best Duroc sows obtainable. We have them for sale. Fall gilts and tried sows. Our herd boar headed 2nd prize aged herd at 1921 Illinois State Fair. **MICHIGANA FARM,** Kalamazoo County, Pavilion, Mich.

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a great offering of bred Duroc sows and gilts March 4th. They are mostly bred to Orion Giant Col., son of Ohio Grand Champion. Get on mailing list for catalog.
W. C. TAYLOR, Milan, Mich.

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A well kept herd, best of blood lines, with size and breeding qualities, stock of all ages for sale at reasonable prices.
W. E. BARTLEY, Alma, Mich.

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CAREY U. EDMONDS, Hastings, Mich

Pure-Bred Duroc Jersey Hogs: we usually have good boars and sows of all ages for sale. Reasonable prices. Larro Research Farm, Box A, North End, Detroit, Mich.

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all sold. Have two spring boars left at a reasonable price. Will book orders for April & May Pigs.
ALBERT EBERSOLE, Plymouth, Mich

Duroc Jerseys heavy boned, low down type breeding stock for sale.
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Duroc Jersey Bred sows and gilts bred for Aug. and Sept. farrow. A few choice ready for service boars. Shipped on approval. Satisfaction guaranteed.
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Oakwood Farm offers choice gilts of Orion Cherry King and Walt's Top Col. breeding bred to Pathfinder Orion for Aug. and Sept. farrow.
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We offer a real herd header in Brown's Prince Orion 159149. Type and breeding all that could be desired. All stock immune. Priced to sell.

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The prize winner kind from the best prize winner bloodlines. Early developers, ready for market at six months old. I have started more breeders on the road to success than any man living. I want to place one hog in each community to advertise my herd. Write for agency and my plan.
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Big Type Chester White March boars. Sired by Model's Giant and Hill's Big Buster. Out of granddaughters of Alfalfa Wonder.
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ALBERT NEWMAN, R. 4, Marlette, Mich.

O. I. C. December Gilts From Big Type Wonder's Dick. Bred to farrow in Oct. by Silver Horde, extra good young pig direct from Silver's. Booking orders for spring pigs.
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O. I. C. Bred gilts all sold. Orders booked for spring pigs.
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O. I. C. Bred sows all sold. Booking orders for spring pigs.
H. W. MANN, Dansville, Mich.

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O. I. C's Spring Pigs. Good ones. Write
G. N. DeMERELL, East Lansing, Mich.

L. T. P. C. Boars ready for service also gilts, bred sows out of best of blood lines. They are right, so is the price. Nuf sed.
M. M. PATRICK, Grand Ledge, Mich.

L. T. P. C. Fall Boars

at bargain prices. Fall gilts open or with breeding privilege. Write or see them.
A. A. FELDKAMP, R. 2, Manchester, Mich.

Big Type Poland China Spring boars at \$15 each. Sired by Clansman Buster and Hovers Liberator. Also gilts bred for Sept. farrow at \$40 each. All stock shipped on approval. Come and see them or write.
DORUS HOVER, Akron, Mich.

For 30 years we have been breeding Big Type Poland China hogs on the same farm. We have sold over 100 head each year for the last 15 years for breeding purposes. There's a reason! The farmer has found our kind very profitable. We now offer 25 sows and gilts bred for summer farrow \$30-\$50.
JNO. C. BUTLER, Portland, Mich.

LARGE TYPE POLANDCHINAS

Boars and gilts for sale from one of the best herds in Mich. Sired by B's Clansman Mich. 1921 Grand Champion. Alasha, M and W's Orange and Daddy Long Legs 2nd. Give us a visit and look them over if not write to N. F. BORNOR, Parma, Mich.

L. T. P. C. Gilts bred for Spring litters all sold. Am offering very choice Summer Gilts bred for June and July litters also Fall Boars and Spring Pigs. Clyde Fisher, R. 3, St. Louis, Mich.

Francisco Farm Poland Chinas

Big, stretchy Spring Boars as good as grow. Pairs and Trios not akin. Can spare two or three of our good herd sows bred for Sept.

P. P. POPE, Mt. Pleasant, Mich.

L.T.P.C. \$15, \$20 & \$25

Spring pigs with real breeding at the above prices. We are also offering a few choice fall gilts bred for summer farrow. Hart & Cline. Address F. T. HART, St. Louis, Mich.

LARGE TYPE P. C.

Largest in Mich. Pig ready to ship, why not order from the herd that has given so many their start in the hog business, the kind that makes good, they have quality as well as size.

W. E. LIVINGSTON, Parma, Mich.

Big Type Polands We have a fine bunch of spring pigs representing the best blood lines and all cholera immune. We raise them to sell. If in need of a real herd boar prospect, come over. Visitors are always welcome.
WESLEY HILL, Ionia, Mich.

Big Type P. C. some very choice boars double immune, out 100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Big Type P. C. Boar Pigs. Sows and Fall Gilts bred for Sept. to Big Bob Mastodon and Peter A. Pan, son of 1075 Boar. C. E. Garnant, Eaton Rapids, Mich.

Additional Stock Ads. on Page 215

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, Aug. 22

Wheat

Detroit—No. 2 red, \$1.08; No. 2 mixed and No. 2 white, \$1.06.
Chicago—No. 2 red, \$1.02@1.03; No. 2 hard, \$1.03@1.04; September at \$1.02½.
Toledo—Cash, \$1.10½; September at \$1.09.

Corn

Detroit—Cash No. 2, 70c; No. 3 yellow, 69c.
Chicago—No. 2 mixed, 62½@62½c; No. 2 yellow, 62½@63½c.

Oats

Detroit—Cash No. 2 white, 38c for old and 36c for new; No. 3, 33c for new.
Chicago—No. 2 white, 32½@34½c; No. 3 white, 31½@31¾c.

Beans

Detroit—Immediate and prompt shipment, \$8; September, \$5.75 per cwt.
New York—Michigan and New York red kidney, \$8.75@8.80.

Chicago—Michigan choice, hand-picked, \$9@9.15; red kidneys at \$8.75@9.

Rye

Detroit—Cash No. 3, 73c.
Chicago—69¼@69½c.
Toledo—74c.

Seeds

Detroit—Prime red clover cash at \$10; alsike, \$10; timothy, \$2.75.
Toledo—Prime red clover at \$10; alsike, \$9.85; timothy, \$2.60.

Feeds

Detroit—Bran at \$24; standard middlings, \$26; fine middlings, \$30; cracked corn, \$32; coarse cornmeal at \$29; chop, \$24.50 per ton in 100-lb sacks.

Hay

Detroit—No. 1 timothy at \$17@18; standard and light mixed, \$16@17; No. 2 timothy, \$16@17; No. 1 clover, \$15@16; rye straw, \$12.50@13; wheat and oat straw, \$11.50@12 per ton in car lots.

Fruit

Chicago—Pears, Early Clapps, \$1.00 @1.25 a bu; peaches, Elberta \$2@2.25 bu; plums, per 16-qt. case, \$1.00; blackberries, per 16-qt. case, \$3.00; huckleberries, per 16-qt. case, \$2.00; blueberries, 16-qt. case, \$4.00; black grapes, baskets, 5@5½ lbs, 20@25c; apples, Duchess, \$1.50@2.00 per bbl; Wealthies, \$3.00@3.50 per bbl.

WHEAT

In spite of apparent obstacles, receipts of wheat at primary markets last week were the largest for the corresponding week with but two exceptions in a dozen years and about 40 per cent above the average. Cars were stored in the southwest before threshing started otherwise the movement would not have been so heavy. Most of these cars have now been used so that lighter receipts from that section are probable.

Canadian wheat will be a factor in the market in a few weeks. That country is the principal competitor of the United States for the export trade and Canada's surplus is even larger than our own.

The delay in buying at present means a more concentrated demand later, but Europe apparently is acting on the theory that their own import needs for wheat are no more urgent than the necessity of exporting countries to find a market for their surpluses.

CORN

Hot dry weather over the corn belt caused more or less damage during the past week, but scattered rains have occurred in the last day or two and the loss may not amount to more than the normal deterioration during August.

Corn prices advanced as a result of dry weather damage reports and also because of a strong demand for cash corn. In spite of heavy receipts the visible supply at terminals has shrunk rapidly recently and still more of it has been sold for early distribution. In the nine months ending August 1, about 35 per cent more corn has disappeared from commercial channels into domestic consumption or gone for export than in the corresponding period of the past ten years.

OATS

In the first three weeks of the new

oats crop year receipts of oats at primary markets fell nearly 20 per cent below the ten-year average for the corresponding period. The extremely low price is anything but attractive and there are reports of replacing oats with wheat in the rotation.

The commercial distribution of oats in the year ending August 1 was 219,461,000 bushels compared with a ten-year average disappearance of 255,403,000 bushels.

SEEDS

No forecast has been made of clover and timothy seed production for this year but the estimate of a large acreage and high yield of hay seems to justify expectation of a heavy seed crop. The weather, until the last week, has been favorable and progress reports have been optimistic. Harvest is about to begin. Since speculators and dealers must carry the seed sold in the next few months until the big consuming demand develops next spring, trade sentiment which is now mostly bearish is an important factor in making the fall market. The price has dropped \$3 or more below the early summer level for prime red clover.

FEEDS

Prices on most feeds are steady. The northeast is buying wheat feeds as recent price levels at milling centers seem to be attractive, bran being cheaper than coarse grains on a pound basis. Oil meals are quiet at unchanged prices.

HAY

Light receipts of good quality hay are sustaining the market for the good grades, but poor hay is in excess of the demand even at a heavy discount. No. 2 timothy is quoted \$1 to \$4 below No. 1 prices. Clover and heavy clover mixed are hardest to move.

POULTRY AND EGGS

The egg market is showing more strength than at any time in several weeks. Receipts have dropped off rapidly recently although rail conditions may have been a factor which will mean an increase later on. Storage holdings are now being fed upon the market. The trend of prices is likely to be upward from this time on but any advance will be gradual owing to excessive storage stocks which must be absorbed.

Poultry handlers are expecting a big run this fall. Prices have declined recently and a further loss is probable in the next month or six weeks by which time the storing season will begin. Receipts will treble in the next three months if the usual course is followed. Since those who

Chicago—Eggs, miscellaneous, 21½@22c; dirties, 16@18c; checks, 15@17c; fresh firsts, 22½@23c; ordinary firsts, 20@21c. Live poultry: Hens, 22c; broilers, 25c; roosters, 15c; ducks, 22c; geese, 14c; turkeys, 25c.

Detroit—Eggs: Fresh candled and graded, 21@22c. Live poultry: Heavy springers, 28@30c; light springers, 23@24c; heavy hens, 22@23c; light hens, 18@19c; roosters, 15c; ducks, 18@20c; turkeys, 25c.

BEANS

The trade in this commodity has been dull and sluggish for the past ten days. Foreign white beans are hard to move unless offered at very attractive prices. Michigan whites are not quoted. Red kidneys from any source are also very slow.

BUTTER

Light receipts were the primary cause of a gain of 1 to 2 cents in butter prices last week. This is the normal period for an advance to begin as the storing season generally ends

by the middle of September and the daily additions to storage stocks are relatively small. Hot dry weather has damaged pastures and reduced production as well as lowered the average quality, while the rail situation is blamed for retarding shipments to market. Export inquiries helped the upturn along.

Prices on 92 score fresh butter were: Chicago, 34½c; New York, 36c. In Detroit fresh creamery in tubs sells for 32c.

POTATOES

In addition to large local supplies the car-lot movement of potatoes has become heavy again and markets are weak. Early Ohio are quoted at \$1 to \$1.15 per 100 pounds sacked in mid-western wholesale markets. Car-lot shipments in the week ending August 12 were 4,341 cars compared with 3,860 cars in the corresponding week last year, 3,006 cars two years ago and 2,942 cars three years ago.

APPLES

The increase in the commercial apple crop is in the barrelled apple states, which have 19,965,000 barrels compared with 7,385,000 barrels two years ago. The boxed apple shipping states have about 13,347,000 barrels compared with 13,819,000 barrels last year. Car-lot shipments of apples in the week ending August 12, were 993 cars compared with 649 cars in the corresponding week last year, 704 cars two years ago and 550 cars three years ago.

WOOL

Woolen and worsted mills are reported to have filled their requirements for the next two or three months and are buying additional supplies leisurely, but more or less steadily. Assurance of tariff protection is helping to keep the market firm. East Indian wools, which are now coming in free, will be dutiable under the proposed permanent tariff and an effort is being made to rush them in ahead of its passage.

DETROIT CITY MARKET

Even though the production on the farms is heavy, the supply on the market is only moderate. The demand is greatest for melons, plums, peaches, pears, beans and cucumbers. Duchess and Wealthy apples sell for 50c@1.25 per bu; butter beans, \$1.50@2.50 per bu; cucumbers, 50c@1.25 per bu; elderberries, \$1.00@1.50 per bu; green corn, 10@25c per doz; osage melons, \$1.00@3.00 per bu; green onions, 15@50c per doz bunches; potatoes, \$1.00@1.25 per bu; peaches, \$1.00@2.50 per bu; pears, \$1.25@2.25 per bu; plums, \$1.00@2.50 per bu.

GRAND RAPIDS

Prices on this market are as follows: Potatoes, 65@75c per bu; cabbage, 40c per bu; wax beans, 50@75c per bu; squash, 90c per bu; sweet corn, 10@20c per doz; muskmelons, \$1.25@2.10 per bu; tomatoes, 70@80c per bu; peaches, \$1.00@2.00 per bu; plums, \$1.00@1.50 per bu; pears, \$1.00@1.25 per bu; Duchess apples, 35@40c per bu.

SHEEP

Shropshires

that will win at the State Fairs. I have them for sale. A big bunch of yearling rams as usual and priced reasonably.

KOPE-KON FARMS,

S. L. Wing, Prop., Coldwater, Mich.

Registered Shropshire Sheep. Yearling rams, ram lambs, ewes and ewe lambs, also 100 head high grade Shropshire ewes. Flock established 1890. C. Lemen, Dexter, Mich.

FOR SHROPSHIRE Yearling rams. Write or call on ARMSTRONG BROS., R. 3, Fowlerville, Mich.

SHROPSHIRE RAMS Come to the farm or write Dan Booher, R. 4, Ewart, Mich.

Shropshire Rams fit to head registered or best grade flocks at right prices. C. J. THOMPSON, Rockford, Mich.

Delaine Rams, extra fine ones bred for wool and mutton. Photos free. F. H. Russell, Box 41, Wakeman, Ohio

HAMPSHIRE 30 grade breeding ewes \$300. J. R. FRANK, Calumet, Mich.

Registered Southdown Yearling and lambs. Best of breeding. G. BURTON WRIGHT, Lawrance, Mich.

Live Stock Market Service

Wednesday, Aug. 23

DETROIT

Cattle

Market steady.
Best heavy strs, dry-fed.. 8.50
Handyweight bu, dry-fed 7.25@ 8.00
Mixed strs, hfrs, dry-fed 5.50@ 6.50
Handy light bu, dry-fed.. 5.00@ 5.50
Light butchers .. 4.00@ 5.00
Best cows .. 5.00
Butcher cows .. 4.00@ 4.50
Common cows .. 2.75@ 3.00
Canners .. 2.00@ 2.75
Choice bulls .. 4.75@ 5.00
Bologna bulls .. 4.00@ 4.50
Stock bulls .. 2.50@ 3.50
Stockers .. 4.00@ 5.50
Feeder .. 5.50@ 6.25
Milkers and springers... 40.00@75.00

Veal Calves

Market steady.
Best .. \$13.00@13.50
Others .. 5.00@12.50

Sheep and Lambs

Sheep steady.
Best spring lambs.....\$12.00@12.75
Fair lambs .. 9.00@11.00
Light to common..... 6.00@ 8.00
Fair to good sheep..... 5.00@ 6.50
Culls and common..... 1.00@ 2.50
Heavy sheep .. 3.25@ 4.50

Hogs

Market 15c lower.
Mixed hogs, 220 lbs down 9.40@ 9.45
Roughs .. 6.85
Heavies, 220 lbs up..... 8.00@ 9.00
Pigs .. 8.50
Pere Marquette did not arrive until 12:30—too late for all to be sold.

CHICAGO

Hogs

Estimated receipts today 21,000; holdover 10,659. Market open and slow, fairly active, 15@25c lower. Bulk of sales, \$6.50@9.25; tops, \$9.35; heavy, 250 lbs up, \$7.50@8.90; medium, 200 to 250 lbs, \$8.50@9.25; light, 150 to 200 lbs, \$9@9.35; light lights, 120 to 150 lbs, \$8.80@9.25; heavy packing sows, 250 lbs up, \$6.50@7.25; packing sows, 200 lbs up, \$6@6.75; pigs, 130 lbs down, \$8@8.75.

Cattle

Estimated receipts today 11,000; market steady. Beef steers, medium and heavy weight 1,100 lbs up, \$10.15@10.95; do, medium and good, \$8@10.15; do, common, \$6.25@8; light weight 1,100 lbs down, good and choice, \$9@10.50; do, common and medium, \$6@9; butcher cattle, heifers, \$4.85@9; cows, \$3.65@8.15; bulls, bologna and beef, \$3.65@6.50; canners and cutters, cows and heifers, \$2.50@3.75; do, canner steers, \$3.75@4.75; veal calves, light and handyweight, \$10.75@12; feeder steers, \$5.50@8; stocker steers, \$4.75@7.50; stocker cows and heifers, \$3.50@8.50.

Sheep and Lambs

Estimated receipts today 14,000. Market steady. Lambs, 84 lbs down, \$12.25@13; do, culls and common, \$8.50@12; spring lambs, \$8.75@11; ewes, \$3.50@7.65; ewes, cull and common, \$2@4; breeding ewes, full mouths to yearlings, \$5@11.75; yearling wethers, \$11.75@12.75.

BUFFALO

Cattle

Receipts, 10 cars, slow; choice to prime shipping steers, \$9@9.75; heavy grass steers, good quality, \$8.50@9.25; light native yearlings, fancy quality, \$10.25@10.75; medium to good, \$9@9.75; best handy steers, \$8.50@8.75; handy steers and heifers, \$7@7.25; western heifers, \$6.50@7; light Michigan butchering heifers, \$6@6.50; best fat cows, \$5.50@6.25; medium to good, \$4.25@5; cutters, \$3.25@3.75; canners, \$1.50@2.50; best heavy bulls, \$4.50@5; heavy bologna bulls, \$4.25@4.50; common bulls, \$3.50@4; best feeders, \$7@8; medium feeders, \$5@6; stockers, good, \$4.50@5; light common, \$3.50@4; milkers and springers, \$80@90; common, \$25@40. Calves: Tops, \$13.50.

Hogs

Receipts, 25 cars; lower; medium, \$9.25@9.75; heavy, \$9@9.25; yorkers, \$9.75@9.90; pigs, \$8.50@9.

Sheep

Receipts, 10 cars; steady; top lambs, \$13; yearlings, \$9@10; wethers, \$7.50@8; ewes, \$5@6.50.

POTATO GROWERS MEET

(Continued from page 196)

the simple reason that agricultural prices cannot logically rise to meet commodity prices under present world conditions in view of the fact that we produce a surplus of agricultural products above our demand for domestic consumption. Europe is better supplied with agricultural products than with other commodities and can buy needed food from us only through the exchange of other products. Our farmers cannot curtail production as factories can for the reason that they are in the peculiar position of largely furnishing their own labor. They will continue to produce and must take the price which their staple products will bring in Europe. Europe cannot afford to pay big prices for our products, hence prices for our products cannot go up and prices for manufactured products must go down.

President Friday gave a most interesting explanation of the basis of his conclusions in this regard. He explained that available figures for five year periods from 1899 to the present time show that the gross value of our agricultural products at the farm and the net value of manufactured products, after the cost of materials is deducted, are almost exactly parallel for each period. This balance he regards as an economic principle and not an accident. As a consequence prices of manufacturers must come down to meet agricultural prices if a normal volume of production is to be maintained.

On the assumption that all prices will stabilize at around 125 to 130 per cent of the pre-war level, President Friday believes it is the business of M. A. C. to promote more economic production on Michigan farms by aiding Michigan farmers to produce more per unit of labor; to promote a better quality of farm products which will command a more ready market at top prices, and to promote more economic marketing organization to reduce the expense of distribution. President Friday emphasized and made clear to his audience, that it is essential to the prosperity of Michigan agriculture that through better organization we must promote a higher quality of farm products and reduce marketing costs to the minimum.

Fred Vanderhulen, of Falmouth, manager of the largest local potato exchange in the organization advocated monthly pools in the marketing of the potato crop. He believes that the people of the country can eat all of the potatoes which will be produced in the U. S. this year if they are distributed right and sold right. He favors distribution through labor organizations wherever possible.

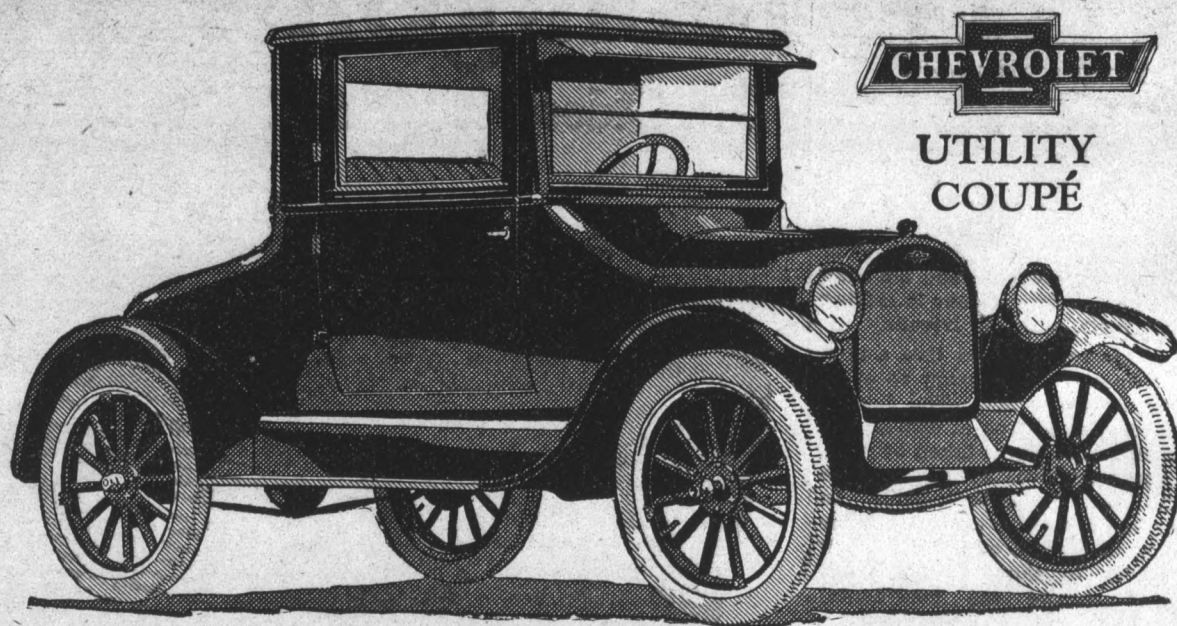
Manager Harger of the Stanwood Exchange also favored a monthly pooling plan and more frequent meetings of the managers of all local exchanges.

Judge Harris, manager of the Ellsworth Exchange touched on personal experiences in the conduct of a co-operative organization. He stated that after an experience of twelve years on the judicial bench in his county and his later experience in running a co-operative warehouse, he felt that there was a larger opportunity in the warehouse to work out public problems in the interest of his community. His vision of the co-operative movement is that it is just beginning.

H. F. Baker, of Weadock, congratulated the delegates on the success of their co-operative undertakings and advocated joining hands with consumers to eliminate the parasites who still get from twenty-five to fifty per cent of the consumer's dollar.

(Continued Next Week)

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This is the car for the country.

No new model Chevrolet has ever met with such quick success with farmers. It is just what they have long wanted—a high-grade closed car at a surprisingly low price.

Like every other Chevrolet model it offers unmatched VALUE.

The high-grade Fisher Body is practical as well as handsome. The extra large, heavy plate-glass windows afford clear vision on all four sides.

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The chassis is the Superior Chevrolet with that celebrated valve-in-head motor, which has been an important factor in giving us first place in sales of standard equipped automobiles.

No matter what car you own or think of buying, you owe it to yourself to see this all-weather Utility Coupé and COMPARE IT for value and low mileage costs.

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Effective September 1st, we are pleased to announce a reduction in our commission charge. Write us for particulars.

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MINERAL COMPOUND In use over 50 yrs.
FOR SYMPTOMS OF HEAVES
Booklet Free
\$3 Pkg. guaranteed to give satisfaction or money back. \$1 Pkg. sufficient for ordinary cases.
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SEED WHEAT

Inspected and Certified. 10-110 Turkey Red. A hardy high yielding hard red bearded winter wheat. Certification tags attached. Bags free \$1.75 bushel.
F. A. FOLLETT, Fremont, Ind.

FRUIT SHIPPERS FOR HIGHEST PRICES
Quick Returns Consign to The R. L. Richmond Co., Detroit, Est. 1893.

WANTED Two Blue Hen incubators, each 15000 capacity in good condition. Also get our price on April Hatched pullets and yearling hens, English Tom Barron White Leghorns.
Village View Poultry Farm, R. 3, Zeeland, Mich.

FOR SALE, 7,200 egg Candee Incubator. Good condition. \$80.
TYRONE POULTRY FARM, Fenton, Mich.

TOBACCO. YELLOW PRYOR, CHEWING: 5 lb., \$1.50 10 lb., \$2.75; smoking, 5 lb., \$1; 10 lb., \$1.90.
PITTMAN TOBACCO CO., Mayfield, Ky.

POULTRY

Clark's American Leghorns: yearling and two year old hens \$1.50 and \$2.00. Pullets and cockerels \$1.00 and up. Glen E. Clark, Wayland, Mich.

RHODE ISLAND WHITES win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks.
H. H. JUMP, R. 5, Jackson, Mich.

R. C. Br. Leghorns, Pekin Ducks, W. Chinese Geese, both mature and young birds. Mrs. Claudia Betts, Hillsdale, Mich.

WHITE WYANDOTTES

207 egg average. Eggs all matings, \$2.00 per 15, \$10.00 per 100 Cockerels, hens and pullets \$5.00 each.
FRANK DELONG, R. 3, Three Rivers, Mich.

Bourbon Red Turkeys We have them. Order your Birds and Eggs now.
SMITH BROS., R. 3, Augusta, Mich.

HOGS

BIG TYPE Poland Chinas, leading strains at lowest prices. Both sex, all ages, and bred sows and gilts.
G. A. BAUMGARDNER, R. 2, Middleville, Mich.

LEONARD'S B. T. P. C. Herd headed by Leonard's Liberator. Orders booked for boar pigs at weaning time. Call or write E. R. LEONARD, St. Louis, Mich.

Large Type P. C. A few spring yr. gilts bred for Aug. and Sept. farrow.
H. O. SWARTZ, Schoolcraft, Mich.

P. C. Swine. Sows and pigs, sows bred for Aug. and Sept. farrow, spring and fall boars, best of breeding, satisfaction guaranteed. R. W. Mills, Saline, Mich.

Walnut Alley, Big Type, Poland China, the kind that makes good. Boars and gilts ready to go. A. D. GREGORY, R. 3, Ionia, Mich.

Lone Maple Farm L. T. P. C. March Boars and gilts ready. Prices reasonable, stock as represented. F. R. Davis & Son, R. 3, Beiding, Mich.

Hampshires book your order for spring boar pigs now. A few gilts, now ready for summer farrow. JOHN W. SYNDER, R. 4, St. Johns, Mich.

Alcain Farm Tamworths. The long red bacon hog. Choice spring pigs of either sex for sale. Also a few yearling sows bred to farrow in Aug. and Sept. Everything registered and priced right.
W. F. ALLEN, R. 2, Clinton, Mich.

HORSES

BELGIAN DRAFT HORSES

See our Exhibit of Belgian Draft Horses at the Michigan State Fair. We have the largest and best herd in the world to select from. Good Draft Horses are the best and cheapest power on the farm. Brood mares that raise colts and do your work can not be beat by any other power. Buy the right kind of horses just once and you will have power to sell. We have some real bargains in brood mares. Owens Sugar Company's PRAIRIE FARM, Albia, Michigan.

Mention The Michigan Farmer When Writing Advertisers

Radio Department

Conducted by Stuart Seeley

TRANSMITTING SETS

SO far this column has been devoted entirely to receiving sets, but at this time of the year many young enthusiasts are at work constructing parts for their sets so that they may be all ready for the clear cold nights of the winter, and the chief joy of radio for the amateur is talking back and forth with his friends.

It must be remembered that a government license is necessary to operate a transmitting set. The license is, however, issued free of charge and the examination may be taken by mail, if the applicant lives at any distance from the Radio Inspector's office. In order to be licensed to transmit either by radio, telegraph or telephone, it is necessary to show that you can send and receive the continental Morse code at a speed of not less than ten words per minute. The examination consists of several questions pertaining to actual operation and the radio laws of the United States.

There are two types of transmitting sets: spark transmitters and C. W. (continuous wave) transmitters. The former may be used only for telegraphic work, but the latter may be used for either telephone or telegraph communication. As far as cost is concerned, one is about as expensive as the other, except that for very short distance work (two or three miles) a spark transmitter may be assembled from odds and ends that should cost almost nothing.

As the name implies, the spark transmitter is one which sets up the waves in the ether by means of high voltage sparks. Therefore most pieces of apparatus, except a high tension magneto which produces electrical sparks, may be converted into a telegraph transmitter. A Ford spark coil gives excellent results and has been known to have a record distance of forty and fifty miles. A medical coil will give some results, although it is usually of rather too small dimensions to work any distance.

It is required by law that every amateur spark transmitter be tuned to sharp 200 meters by means of an inductively coupled "oscillation transformer." This is nothing more than two coils of eight or ten turns apiece of very large wire, one placed inside of the other.

A transmitting set which may be counted on to have a range of ten miles can be constructed from the following parts: Ford spark coil, telegraph key, set of dry cells or a storage battery, one used 8"x10" photographer's plate, two pieces of tin foil 6"x8", two double binding posts and forty feet of No. 4 B. E. S. copper wire.

Soak the photographer's plate in hot water and rub with the fingers until all of the emulsion is off, then clean and dry it. Glue or shellac the two pieces of tin foil, one on either side so that there is a one inch margin left all around. Fasten the plate in an upright position in a wooden rack of some sort with spring clips to make contact with the tin foil on each side.

Screw the two binding posts into a block of wood about three inches apart. Pass a nail through the hole of each so that the heads come very nearly together. This serves as a spark gap.

There are several methods of constructing the oscillation transformer. It may be made flat (pancake style), or in the shape of two helical coils, one inside of the other. The latter method is preferable as long as wire is to be used. It is best to look at the pictures of several different types in the catalogs of radio supplies and build the one that would be easiest for you.

If a Ford coil is used, it is necessary to solder clips onto the contact points of the coil so that wires may be connected to them.

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