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VOLUME CLV. NUMBER THREE

DETROIT, JULY 17, 1920

CURRENT COMMENT

The Farm in the Balance

SOME thousands of country-bred young men have just graduated from the high schools of the state, and are weighing, if they have not already decided, the momentous question of a life career. A proportionate few of these young men have a strong natural bent or inclination toward some special life work and will pursue the object of this inherent ambition with a tenacity which will insure success. A far larger number will, if history repeats itself, play the part of the opportunist by choosing a present occupation in some easily attainable and immediately remunerative line of work.

This tendency to follow the line of least resistance in our industrial life is far more general than most of us appreciate. We are largely creatures of accident. Even strong predilections are subordinated to the pressure of circumstances, or are repressed to take advantage of what seems to be a good opportunity to make an immediate or early improvement in our financial condition. More generally than otherwise, the anticipated benefits fall short of anything like complete realization, and there is continued disappointment over a monotonous existence and a vain longing for "what might have been."

Too few young men approach the all-important problem of choosing a career with an eye to the attainments of a more or less distant future. Quite naturally the problems of the present are first and most thoroughly considered. As a result many young men have left the farm for other employment at a time when the future is exceedingly bright for the progressive farmer. The country bred young men who are just now engaged in the consideration of the momentous problem of choosing a career would do well to consider this outlook, while weighing the farm in the balance with a high industrial wage. And if they take counsel with older men and men in other lines of business as well, the decision reached is likely to be one of greater wisdom.

In weighing the farm against other careers, present difficulties of farm management, particularly the shortage of farm labor, are likely to be placed in the balance against the farm, instead of in its favor. A little thought should, however, convince the young man who is considering this question that this very handicap is certain to react in favor of the farmer who sticks to his job and makes the most of the present situation. Shortage of

farm labor means lessened production along some lines. It also means increased urban consumption. Together these factors mean remunerative prices for farm products.

Economists of the business school believe implicitly in the ultimate influence of the old law of supply and demand. They believe that prices for food stuffs must rise to a relatively higher scale of comparative values, which will enable the farmer to successfully compete with the manufacturer for needed labor, and which will return the farmer and his family a more adequate labor income.

The country bred young men who are up against the great problem of choosing a career would do well to consider these economic facts before deciding against farming as a career.

Great Lakes to Sea Waterway

NEXT WEEK an important meeting will be held in Detroit in the Great Lakes St. Lawrence Tidewater Congress, at which at least one-third of the states will be represented. The program will touch on the varied aspects of this great project, from the standpoints of science, transportation, manufacturing, marketing and statesmanship. But in one respect, the opinions voiced at this Congress will be alike, in that they will voice approval of this vast project as a joint undertaking of the United States and Canada.

This project has been a dream of progressive thinkers for many years, and was looked on as such by the average man of practical affairs. But the war has given many of these conservative, practical men a new vision of the feasibility of great undertakings, while the transportation and fuel difficulties growing out of the war have made the possibility of ocean ports on the Great Lakes and millions of available horsepower which the scheme might develop seem more attractive possibilities.

This Congress, which was called upon the invitation of the Detroit Board of Commerce, will be of great educational value in bringing to the attention of the people of this state the advantages to be derived from the development of this project and some knowledge of its practicability. Our readers will be interested in the deliberations of this Congress, which will be held on July 22 to 24, inclusive, some of the important phases of which will be reported in these columns.

Forestry Policy Needed

NOT MANY years ago this state boasted of the finest forests in the land and the business of turning the trees into products useful to man constituted one of her chief industries. But now things have changed. Practically all of the great forests are gone; the old improvised lumber camps are moved to other parts, the sawmills are scattered, and the secondary wood manufacturing plants are rapidly going out to where raw material is more plentiful.

Everyone knows that the work of deforesting the state was carried on with unwarranted waste, and it is the opinion of thinking men that if a sensible policy had been inaugurated while the virgin forests yet stood, the commonwealth would have contributed as much to the advancement of the nation as it has and still left its people with a great inheritance of natural forest resources—resources which would have been of untold value today. As maladies seem necessary to teach us the lesson of sanitation, and conflagrations the value of fire prevention, so perhaps the wrecking of Michigan's forests was necessary to impress upon us the importance of the

woodlot, the need of a state forest policy and a feeling of individual responsibility and opportunity in this connection that will give to succeeding generations the advantage of having a liberal and even supply of forest products.

Federal Crop Report

GENERALLY speaking, staple crops showed improvement during the month of June, according to the figures just compiled by the Crop Reporting Board of the Bureau of Crop Estimates.

Wheat—The total production of wheat is now placed at 809,000,000 bu. as against 781,000,000 bu. a month earlier, 941,000,000 bu. as the final estimate for 1919, and a five year average from 1914-1918 of 822,000,000 bu. The estimates of the winter wheat crop are now 518,000,000 bu., which is nearly 200,000,000 less than last year's crop and nearly 50,000,000 less than for the five years noted above. Michigan's crop is figured at 13,451,000 bu. as against 19,285,000 bu. for 1919, and a five year average of 15,253,000 bu.

Corn—The acreage of this crop is reported as one and a half per cent above that of a year ago, and the condition of July 1st as about 1 per cent better than the average condition for the past ten years. From these facts the Bureau figures a crop of 2,779,000,000 bu. for the United States, which is 19,000,000 bu. greater than the average for 1914-1918, and 150,000,000 bu. less than last year's crop. The prospects in Michigan are for a production of 6,500,000 bu. more than for the average of the five years ending 1918, but about 8,000,000 bu. less than were produced in 1919.

Oats—While the acreage of this crop is a little shy of the total for 1919, the prospective production is estimated at 1,322,000,000 bu., as compared with 1,248,000,000 bu. for 1919, and an average production for the five years 1914-1918 of 1,415,000,000 bu. The outlook for the crop in Michigan is somewhat brighter than a year ago, the present prospects being for a 47,371,000 bu. crop as compared with 36,875,000 bu. a year ago. The five year average, however, from 1914-1918 is 55,964,000 bu.

Barley—There is scarcely no change in the acreage devoted to this crop as compared with the crop of 1919, and the condition is a fraction better, according to the figures of the crop correspondents. Present prospects are for a 193,000,000 bu. crop. The five year average is 215,000,000 bu.

Rye—Farmers reduced the amount of ground devoted to rye production, and the prospective crop of 82,000,000 bu. is therefore about 6,000,000 short of last year's bumper crop, but far in excess of the five year average, which is 59,900,000 bu.

Potatoes—Earlier in the season it was feared that the high cost of seed would greatly curtail the acreage devoted to white potatoes. The figures of the Bureau indicate a decrease of about 4 per cent compared with 1919. The condition of the crop on July 1 was enough better, however, to overcome the deficiency and give promise of a yield of 388,000,000 bu., as compared with 358,000,000 bu. for 1919, and 383,000,000 bu. for the five year average of 1914-1918.

Hay—Substantially the same acreage is given over to this crop as obtained a year earlier. The estimated tonnage is now 84,800,000 as compared with 91,300,000 tons a year earlier and 81,400,000 tons the five year average.

Apples—The prospective commercial apple crop is 30,200,000 barrels, as compared with 26,200,000 barrels a year ago. The condition of this crop has shown some decline in the past month, due to a heavy June fall.

Peaches—The present crop of 45,

200,000 bu. is 5,000,000 bu. less than that of last year, and 2,000,000 bu. below the five year average.

News of the Week

Wednesday, July 7.

GREAT BRITAIN sends ultimatum to Turks who violate peace terms by attacking territory occupied by the British on the sea of Marmora and hindering the landing of troops.—Polish forces between the Beresina and Pripiet rivers are defeated along the entire front by the Russian Bolsheviks.—The referendum in Eupen and Malmédy, former German states, shows but 200 registered protests against their occupation by Belgium.

Thursday, July 8.

WHILE the United States lifts trade restrictions on Soviet Russia, shipments of goods must be made at the sender's risk and the government will not issue passports nor forward mail.—Revenues of railroads in the United States show a gain of \$20,000,000 for the first quarter of 1920.—Negotiations are on for direct cable connections between Germany and the United States.—Several minor revolts against the present Mexican government are reported to be of a local character only.—Trading in wheat futures will be resumed in this country on July 15th.—Ten persons are killed and thirty injured in a powder factory explosion at Vongnes, France.

Friday, July 9.

THE government crop report shows an increase of 28,000,000 bushels in the country's wheat crop, as compared with the estimates of a month earlier.—Argentine corn is being offered in New York.—Leaders of a new third political party are making ready for their convention to be held at Chicago.—President Wilson is preparing the call for the first meeting of the Assembly of the League of Nations to be held at either Geneva or Brussels in November.—The exportation of wheat from Argentina is to be limited to 500,000 tons.

Saturday, July 10.

GREAT BRITAIN and France make a formal plea for military aid for Poland, whose troops are retreating before the Russians on the 400 mile battle front between the Dvina and Bug rivers.—Switzerland completes treaty with Germany, whereby she secures her supply of coal.—Brigadier General Hines is appointed head of the Inland and Coastwise Waterways Service to assist in developing inland water routes and lines.—Francisco Villa guarantees that if his conditions are accepted by the present Mexican government he will co-operate to make Chihuahua the safest state in the Republic.—A former Chinese cabinet member is reported to be advancing with a considerable army thirty miles south of Peking.

Sunday, July 11.

EXPERTS declare that if trade is resumed with Russia it will have to be conducted through the co-operative societies of the Soviet nation, which societies have a membership of 20,000,000 persons.—Greek troops invade Brussa, the ancient capital of the Ottomans.—The revolts in Mexico are reported to be due to the action of military men who were discharged because of participating in grafts against the government.—Hail storms do considerable damage to crops in Iowa.

Monday, July 12.

IF the Poles consent to retire within the natural frontiers of Poland, the Allies promise to give them all possible assistance in the event of their being attacked by the Bolsheviks, according to an announcement made at the Spa conference.—Germany's plan for payment of reparations meets the approval of the Allies and wins leniency which undoubtedly will result in a co-operative effort to rebuild both allied and central power nations of Europe.—Former Empress Eugénie of France, wife of Napoleon Third, dies in England at the age of 94.—Greek troops clash with Italians while pursuing Turkish Nationalists to the northwest of Kidin.

Tuesday, July 13.

ALLIES demand that Germany deliver to them 2,000,000 tons of coal monthly.—Governor Clement of Vermont refuses to call a special session of the legislature to act on the federal amendment for woman suffrage.—After losing many battles the Poles reverse the tables and defeat the Bolshevik forces fighting in the Pripiet region.

Potato Spraying In 1920

By Dr. G. H. Coons, Michigan Agricultural College

IN a former article in the Michigan Farmer, the potato seed situation of this peculiar year was discussed, and the plea made for treating the high-priced seed so that a stand might be assured and scab prevented. In the argument advanced, the change in rating that the potato crop had attained, because of its changed place in the great markets, was pointed out and it was urged that this crop be no longer a "fill in," quick-money crop, but could now be looked upon as a fixed asset to the farmer's business. It seemed, therefore, right that a high investment and high-yielding crop should be given high-class treatment.

If these arguments were valid in the question of seed preparation and treatment they are doubly so in the matter of proper handling of the crop after it comes above the ground. At the time this article appears the situation is simply this—will the farmer win or lose on the late potato yield this year? Upon the decision either to care for or neglect the potato plants after they come above the ground depends upon the crop.

Is it to be a clean crop or a blighted, insect-eaten one?

It is not proposed to argue the case further. The farmer's crop is his own and to him comes the responsibility of care. It can be shown, however, without any difficulty, that the solution of the problem in increasing production does not lie after all in securing phenomenal varieties and the like, but rather the solution rests in the greater conservation of the crop we already have in our fields. I shall assume, then, that this article is to be read by men who are open-minded on the spraying proposition and who are ready to accept the evidence, and then ask what is the best practice to be adopted.

Spraying potatoes is no new thing. It is no untested thing. Evidence as to its merits exists in every potato-growing state in the Union, and the records are of the most satisfying sort. In Vermont over twenty-five years of tests are available for study. In New York, which parallels Michigan conditions in many ways, twenty years of trials have accumulated. Year after year in Michigan similar work has been carried on. And from all these sources the story is the same. At the Vermont Station, to quote the words of Bulletin No. 159:

"Bordeaux mixture, even in years like 1910, when no blight occurred, increases the yield of the plants to which it is applied. This increased yield is always sufficient to pay for the cost of spraying operations. Spraying is to be regarded as an insurance that pays for itself. If the blights are prevalent, the potatoes, if thoroughly sprayed, are insured against loss therefrom; if the season is a dry one and no disease occurs, still the crop will be enough larger to pay all the costs of spraying. The careful potato sprayer wins either way, no matter what the weather or disease conditions."

Again at the New York Station ten years of spraying give the following conclusions in New York (Geneva) Bulletin No. 349:

"In the so-called ten-year experiments the ten-year average increase in yield is as follows:

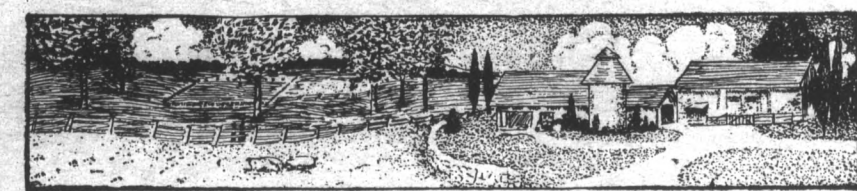
At Geneva, three sprayings, sixty-nine bushels per acre.

At Geneva, five to seven sprayings, 97.5 bushels per acre.

At Riverhead, three sprayings, twenty-five bushels per acre.

At Riverhead, five to seven sprayings, 45.7 bushels per acre.

In the farmer's business ex-



periments, (six to fifteen each year), the nine-year averages are as follows: Increase in yield, 36.1 bushels per acre.

Total expense of spraying, \$4.74 per acre.

Net profit from spraying, \$14.43 per acre.

In two hundred and five volunteer experiments, covering seven years, the average increase in yield was 54.3 bushels per acre.

These experiments demonstrate, beyond a doubt, that the spraying of potatoes is highly profitable in New York."

Michigan figures for 1905 showed a gain of 39.5 bushels per acre of the sprayed over the unsprayed. In 1911 in a test on the college grounds the unsprayed portion yielded eighty bushels per acre, and the sprayed one hundred and nineteen bushels per acre.

BUT for the best Michigan figures available we must turn to the experience of that veteran potato expert, Hon. Jason Woodman, of Paw Paw, who has been growing bumper crops of sprayed potatoes for more than twenty years and he states that we may confidently expect gains in yield from spraying to more than repay the cost year in and year out.

But these are figures and facts of a few years' back; interest always lies in the matter now at hand. And even in this, data that are convincing are not lacking, for spraying in Michigan continues to be profitable. In 1915 sprayed fields gave one hundred and fifty bushels of high-grade potatoes, while an unsprayed strip gave around one hundred bushels of low-grade tubers.

In other tests the sprayed outyielded the unsprayed more than one hundred per cent. In New York in 1918, spraying showed an increase of around twenty-eight bushels to the acre in eight or ten counties and a net profit of \$34. Ten years' results in Minnesota show an average increase of fifty-four bushels per acre. This recent experience teaches the same lesson as the figures in the classic examples, namely, that year in and year out spraying is a practice which increases the potato crop more than enough to pay for itself.

Right here is the place to sound a word of warning. Potato spraying is not the keystone of the potato struc-

ture. It will not turn poor, low-grade, mixed seed into fancy stock. It will not kill weeds, nor will it take the place of drainage and cultivation. It is the finishing block that completes a properly put up building. It will not make a depauperate, starved vine yield enormously, but it will take a well-fed, well-cared-for plant and make it do its best! It will show little results on the stunted crop, but it will take the yield of one hundred and fifty bushels to the acre and make it more nearly two hundred. And if the season is right, it will take the two-hundred-and-fifty-bushel field and make it yield three hundred, yes, even four hundred bushels to the acre. It is the spur which drives the potato over the top for a bumper yield.

It is not a hard matter to show that in agriculture the low-yielding crop about breaks even with the cost of production, and that it is the excess of yield over the average which gives the farmer a bank account. General production-costs are about the same, overhead is the same for a low yield and a high yield, but the one does not give the farmer any more than wages, while the high yield gives the pleasing returns.

IF the story of potato spraying is read aright from the great mass of accumulated experience so hastily presented, it is to be seen that it is a winning proposition year in and year out. Fundamentally, potato spraying is given for the same reason that any plant spraying is practiced, namely, protection against diseases and insect attack. But notice that where spraying of apples is an expense to be charged to the apple crop, the results from potato spraying outweigh the costs year in and year out, and it becomes a farm practice which more than pays for itself.

Conservatively placing the results from spraying with the average good field in Michigan at a fifteen to twenty-five bushel increase in yield, even with potatoes at \$1.00 per bushel, the gross return from spraying would be \$15 to \$25, whereas the cost of the treatment in material and labor would be something under \$10 an acre. For many crops \$15 an acre is a good net gain to expect, and here is a protection meas-

ure—a bit of crop insurance, if you please, which nets a sizable return.

WE must consider next the things which lead farmers to spray. The practice of sprinkling for the potato beetle is common, and is not in the domain of this article. The spraying discussed here concerns itself with the application of fungicides to control leaf diseases. Incidentally, it may be remarked that the spraying and insect control are readily handled together.

The chief disease which spraying insures against is late blight. We know enough of this disease which comes in wet seasons and which blights the tops and rots the tubers, either in the ground, or in storage, to be able to predict fairly far in advance when this disease is to be serious.

Late blight is carried to the field in diseased tubers and if the first half of the growing season is cold and wet—in short, if July has frequent rainy periods, then we may confidently expect blight if the month of August is even moderately rainy. The farmer will receive warning through the press if late blight is at hand and if it is discovered in any of the counties by our county agents who are ever on the alert for this disease. Even late spraying, if undertaken before the blight has taken the crop, will do wonders in stopping the ravages of the disease.

Potato-leaf diseases are peculiar. If the season is wet the farmer has late blight. If it is fairly dry then he has troubles of a different sort. Year in and year out early blight comes and makes vines unthrifty. The leaves become a sickly yellow and are peppered with black spots—about the size of a dime.

IF is the common thing to see potato leaves with half of their surface killed. Now every farmer knows that the leaf surface spread out into the sun makes the starch which is stored in the tuber. A plant with half its leaf surface killed is working about half its normal rate and this effect registers in the crop. Potato early blight in the ordinary Michigan season shortens every unsprayed crop of potatoes. The early blight is the "nigger in the wood pile" in many of the gains in yield which spraying brings about. In years when late blight does not operate, and we have had no general potato late blight outbreak since 1915, spraying heads off the early blight in its onslaught on the potato wood pile! Early blight is probably a greater loss-producer in the aggregate than the late blight since the latter comes only occasionally—1902, 1903, 1905, 1912 and 1915 were blight years. Whereas, early blight is always on the job and is always causing yield reductions.

But, so far I have not touched on what the farmer calls blight. He looks on the last three years as "blight" years. He has seen the fields, especially last year, wither and dry up—that is blight enough for him (!), yet true blight has been absent.

For years this drying up of leaflets at the top, and the burning and rolling at the edges has been called by the plant pathologists, "Tip Burn." Many theories have been advanced to explain it, and in general it was thought that the disease arose from

(Continued on page 72).



Experiments Show the Value of Careful Spraying.



The Morleytown Agricultural Club is a Real Live Institution.

BEFORE I begin my story on Saginaw county, with some interesting sidelights on the progress of a highly progressive farming population, it may be well to remind our readers of a few facts which place the county among the leading communities in the state.

In point of area Saginaw is one of the largest counties in Michigan having no less than twenty-seven townships; and its favorable location gives it a decided advantage in many ways. Near the geographical center of lower Michigan, with the largest river flowing through its middle from south to north—a river navigable to a large type of lake vessels for twenty miles to its source, and draining a territory far greater than the area of Saginaw, it has all the natural features that could be desired by an ambitious farming community. At about its center is the prosperous and growing city, ranking third in the state in everything (except population) that makes a city worth living in for permanent residence. Saginaw is the great railroad shipping center for central Michigan, with its railroads spreading out in all directions like the spokes of a wheel, and it occupies a commanding position as a market for farm products and as a great supply depot for the farmer's needs.

Fertile Fields Replace Dense Forests.

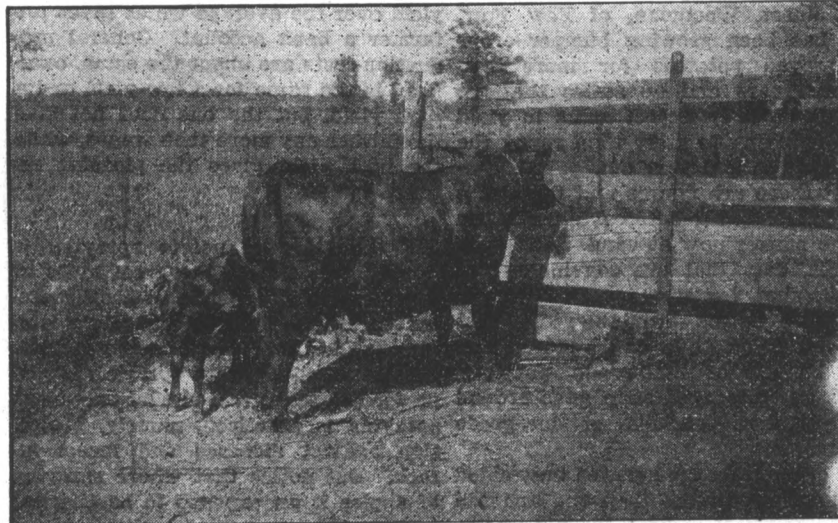
Where once stood the stately forests of cork pine and hardwoods along the tributary streams, forests which produced the finest lumber known to the trade, there are now broad fertile fields of alfalfa, grain, corn, sugar beets, cabbage and almost every crop grown in Michigan. Dotting the landscape are comfortable and pretentious farm homes, many with all the modern conveniences of city homes, and large barns and outbuildings of approved construction, glistening with fresh paint, while in green pastures are big herds of cattle, some of pedigreed strain, flocks of sheep and other farm animals. In some respects Saginaw county leads the state, notably in raising famous Belgian draft horses and Duroc Jersey swine, in the production of sugar beets and in the culture of mint and pedigreed seeds. It has won more first awards on improved grain than any county at the Michigan Crop Improvement Annual Exhibit at the Michigan Agricultural College. And Saginaw is in the forefront in organizing cooperative farm associations.

A Revelation of Prosperity.

In this happy paradise of contented, prosperous people it was my good fortune to wander and mingle freely with the hospitable farming population. What I learned in this pleasant sojourn was a surprise and in some respects a revelation—the things that go into the making of an interesting story of rural life with all its lure and charm.

Mr. Farmer Meet Mr. Bovay. Saginaw county is indeed fortunate

in having as its director of agriculture a man of such broad vision, understanding of men, and of such intense energy as Arthur G. Bovay. To know him intimately is both a pleasure and benefit. Thoroughly infused with a desire to aid the farmers, with a keen insight into their needs, and with deep sympathy in their troubles, he has the happy faculty of providing a remedy for all ills that beset them. Upon meeting him you are instantly impressed with the inherent honesty of the man, with his sincerity of purpose and strong friendliness. His energy is ceaseless, and he is a dynamic force in



A Cow of Superior Quality from Russell Brothers' Aberdeen Angus Herd.

all that promotes the prosperity of the farming population. He is an outstanding figure in our rural life.

His Assistant—Mr. Bannan.

The earnest assistant director is Lawrence Bannan, a young man of earnest purpose and ambition to rise in his chosen field of endeavor. He was born in Saginaw and received his education in the city schools. After five years of study in agriculture, including a special course at the Michigan Agricultural College, which was concluded in 1919, he came to the Saginaw county agricultural work in the spring of the present year, making a specialty of the culture of pedigreed seed and the organization of township farm bureaus.

Arthur L. Strang—County Club Leader.

A newcomer to Saginaw county is Arthur L. Strang, in charge of the Boys' and Girls' Club work, the objects and aims of which and the activities directed by Mr. Strang, being given in another paragraph.

Farm Bureau Organizations.

Of all the numerous activities of the county leaders the work of organizing Farm Bureaus is the most important. It is a vast labor union of the farmers and must eventually prove of inestimable benefit to them. The features of this vast movement among producers of the people's food are perfect organization and cooperation of all earnest

Our Farm Bureaus

*Happy to be Relieved of the Exacting
ley Farmers Quickly Adjust Their
says Agricultural Agent Arthur*

and prosperous farmers for the common good. What impressed me most, and probably impresses all persons conversant with the aims and objects of the County Farm Bureaus, is that they are organized for business. This is something that the average farmer is apt to be in need of, and in cooperation with thousands of other workers in the same business, he finds many helps and benefits. "All city workers, even messengers, scrub women and dish-washers are thoroughly organized into unions, why should not the farmers—representatives of the biggest industry of all, be organized for their mutual benefit," asks the county agent.

The answer to this question is found in a narration of the good work already done, and of the business-like manner in which the movement is broadening out into a number of township cooperative associations, some with limited scope it is true, but all with definite objects to pursue.

The Saginaw County Farm Bureau was organized early in May with more than three thousand active and enthu-

Cornair, Chesaning; directors, William Hill, Blumfield; Henry Doerr, Buena Vista; August Smith, Hemlock; Geo. Bennett, Chesaning.

During the following week township organization work in the county, which had been in progress for some time, was practically completed and resulted in a number of strong units. These organizations were largely cooperative associations; and some others already in operation, of more or less a cooperative nature, were merged with Farm Bureau corporations. The main purpose of all these associations is to better marketing conditions and to provide a general purchasing agency for their members. To insure permanency of these associations the individual members taking stock tender payment in the form of collateral notes, each in the sum of \$100. This requirement of good faith in each member is a sort of guarantee that he will give the association his earnest support and carry out his obligations to it; and it also serves to lend a feeling of personal interest as a partner in the enterprise.

"The practical plan pursued," said Mr. Bovay, "was to incorporate each district unit with regard to the most convenient shipping point for a majority of its members, also considering improved highways, rather than township lines as its boundaries. Thus, we have the southern townships, Maple Grove, Chesaning, Brady, Brant and Chapin uniting in a permanent association with the village of Chesaning as its marketing and shipping center. This is a very prosperous district of highly cultivated farms, intelligent people with numerous agricultural, stock raising and canning clubs, and the community activities are managed with skill and efficiency."

"Likewise, the Hemlock Farm Bureau Cooperative Association was organized with the aid of John W. Nicholson, of the State Farm Bureau, with a membership at the first meeting of fifty-four farmers signing collateral notes amounting to \$10,000. This association has already improved the marketing of live stock, having made several shipments direct to Detroit, and has inaugurated in its district, comprising Richland, Thomas and Swan Creek townships, the state wool market plan, with competent men on hand certain days with proper sacks to prepare any wool the farmers bring in for shipment to the state exchange."

"The need for better and more direct marketing facilities has long been felt by Saginaw stockmen, many of whom are tired of paying freights to Chicago or other markets on their stock. In many cases, stock thus ship-

siastic members. From the director of agriculture I learned that the main purpose of creating strong and efficient Farm Bureaus were:

1. To promote better marketing conditions.
2. To secure better legislation.
3. To obtain better farm labor conditions.
4. To adopt more profitable methods and economic production.

On Saturday, May 15, the county organization was perfected and the following officers elected:

President, T. C. Price, Saginaw; vice-president, Christian Gugel, Frank-enmuth; secretary-treasurer, Fred F.



Exhibit Showing Method of Packing and Shipping Pedigreed Seeds. Note Registry Tag and Guarantee on Each Bag.

and Their Work

Work of Growing Beets, Saginaw Val- Plans to Meet New Circumstances, G. Bovay—Our Saginaw Valley Field Man

ped to market is returned to Michigan upon to assist in drafting a suitable as dressed beef, thus adding an excess-ordinance to provide for better and sive freight tax to the consumer and uniform quality, and to encourage an lowering the net price to the producer. increased consumption of milk. The An effort is thus being made to de-spirit of cooperation between city off-velop adequate markets within the cials and the county agent represent-state in order to eliminate these "cross ing the farming community is very freights."

Mr. Nicholson also aided in the or- a better feeling and closer sympathy ganization of a Farm Bureau cooper- among the farming community and city ative association at Freeland, at which dwellers. Their highest interests are time forty-six farmers of Tittabawas- common interests of all, and neither see and Kochville townships, and a can prosper without a helpful coopera- few in Midland county, signed as tion of the other. The prosperity of charter members tendering collateral one is generally a measure of the pros- notes to the total of \$8,000. This asso- perity of the other, if there exists a ciation will handle farm produce on a spirit of coordination among the pro- large scale and conduct as much of gressive elements of a community. their purchasing as possible on a co- operative plan.

The Marion township farmers joined with those of Lakefield and Jonesfield townships in a cooperative association at Merrill, a convenient shipping point for the western townships.

Frankenmuth Has Biggest Bureau.

The record Farm Bureau of Saginaw county is the Frankenmuth Farm Bureau Cooperative Association, having nearly one hundred and fifty members. The board of directors, composed of Alfred Grueber, Christian Gugel, Immanuel Trinklein, Carl Muehseld, Geo. M. Bierlein, Alfred Kraft and Frank Frahm, laid plans for incorporation and drafted an outline for the bylaws, and a week later perfected organization with a subscribed capital of \$10,000. Blumfield farmers, in the rich township lying directly north of Frankenmuth joined this association for reasons of expediency, and with an active market in the thriving village of Frankenmuth, this association is one of the strongest in the county.

To improve the marketing of grain in the northeast part of the county, Mr. Bovay, in company with Mr. Nicholson, showed the farmers the advantages of the Reese Cooperative Elevator joining with the State Farm Bureau Elevator Exchange, and this will probably be brought about before long by the farmer members directly interested in the local elevator.

Improving the City Milk Supply.

Saginaw and Buena Vista townships also perfected the permanent organization of a joint cooperative association, largely to improve marketing conditions in the city, practically all members living within four miles of the city limits and finding, of course, the city markets the natural outlet for their products. Improvement of the city milk supply was recently undertaken by Mayor Mercer and a committee from the Saginaw Chapter of the Red Cross; and Mr. Bovay was called

dealing in food products. Under pres-ent conditions the farmer has practi-cally nothing to say about what he is to receive for his products. Individ-ually his production is so small that he cannot choose his market. The remedy is to encourage the farmers of the country to form cooperative market-ing and selling associations, by which he can sell on a cost-plus system as the manufacturer and the merchant does. This can be brought about un-



Officers and Directors of the Saginaw County Farm Bureau. From left to right: August F. Smith, Christian Gugel, D. A. Keddy, county campaign manager of State Farm Bureau, George Bennett, Arthur G. Bovay, County Agent, Fred F. Cornair, Henry Doerr, Thomas C. Price, President.

Birch Run Comes Into Line.

Birch Run farmers, at the extreme southeast corner of the county, met together and subscribed to the capital stock of \$10,000 in a local cooperative association with the expectation of greatly improving the marketing conditions there. "The farmer realizes he is at a disadvantage," they say, "in dealing with the men who buy his products and especially the large corporations

der the so-called Capper-Hersman bill, which was passed by the house at the last session of congress, and will be taken up in the senate at the next session."

We find that Saginaw has introduced an innovation which may be found exceedingly helpful in those counties where many new cooperative selling organizations are being formed. The board of directors have secured the

methods of American agriculture.

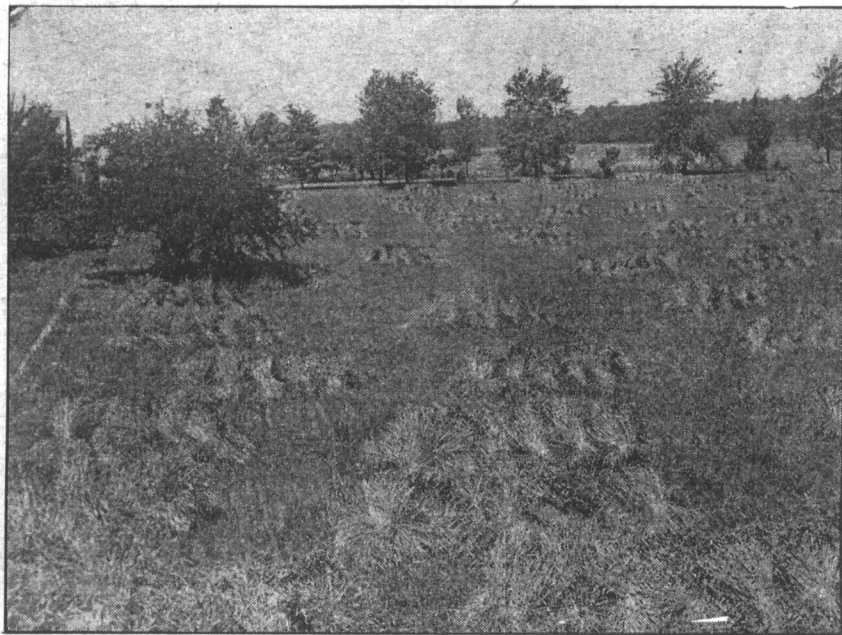
"Our aim in this county," said Mr. Strang, the energetic club leader for Saginaw, "is to cultivate a close cooperation between the County Farm Bureau and the farm boys and girls, and by working through the boys to produce in this county more uniform stock and crops in the future, so that when the produce from this country is placed on the market it will be uniform and command the best prices."

"We realize that in the near future the farmers will be confronted with different problems than those of today. Methods of standardization of both crops and stock will be introduced. Our aims are to get the boys interested to the extent that they will meet the new problems as they arise, according to methods approved by the agricultural colleges and the United States Department of Agriculture, and by doing so give the boys training along these lines in actual field practice that will be equal, and in many ways superior, to any course which might be given in our schools. By giving the boys this first-hand experience, under supervision of an agricultural college graduate, we think that much will be done to keep them interested in country life, so that instead of gradually drifting to the city, under the delusion that they will improve their chances of success in life, they will see the great opportunities that lie directly before them and be content to remain in the country and to improve the farm conditions.

"The Saginaw County Fair Association is offering about one thousand dollars in prizes to boys and girls for club work, and the country banks are giving the movement their hearty support. The people throughout the county are giving the work every encouragement and doing all that they can to help the children in their laudable efforts. The club work has been carried on for the last four years and splendid results have been obtained, and everywhere the people are very much interested in continuing the work.

Girls' Canning Clubs.

"Another feature of the club work is the girls' canning clubs, which have proved very successful. Excellent results have been obtained in creating a strong desire in their minds to preserve some of the fresh fruits and vegetables from the farm, always so abundant in summer and often going to waste, for their own use during the winter when those things taste so good. Where this canning work is carried on on a larger scale than required for the family needs, a ready market is always found for such good preserves among friends and acquaintances in the city. During the past winter a number of sewing and handicraft clubs were or-



Field of Red Rock Wheat on the Cornair Farms.



This Field of Rosen Rye Averaged Three and One-quarter Feet High June 3.

Boys' and Girls' Club Work.

In a general way the purpose of the Boys' and Girls' Club work is to instill in their minds a sense of responsibility and a pride of ownership and to teach them to become good and self-reliant citizens. It is also the aim of the leader to get the boys and girls in the habit of raising the best live stock and crops, and to encourage a pride in their work so that in the future, when these boys and girls take charge of the farms, they will be able to carry on the work in an efficient manner and perhaps improve upon the present

ganized, and nearly all finished the work outlined with creditable results.

"I have been somewhat delayed," continued Mr. Strang, "in getting the summer projects thoroughly organized, but I feel sure that the club work in this county has a very bright future. We expect to make this county the banner club county of the state, and expect to put on an exhibit at the Saginaw County Fair in September that will make the farm folk in this part of



One of Saginaw's Active Corn Clubs.

the state, and city people, too, take particular notice."

To Keep the Boys on the Farm.

A consistent effort to keep youths on the farms, and, perhaps, to bring back some of those who have drifted away to the cities in quest of fortune, is being made along practical lines. The best plan followed is to give the boys a financial interest in the farm property, either in the form of a lease of certain acreage, a deed to a good forty, or an actual share in the yearly profits

from the whole property. Farming is a serious business and making the boys partners in the business goes a long way toward keeping their interest in the farm work. Too often the young men are looked upon as serfs and treated no better than hired hands on the farm. No wonder they become discontented and restless and long for the bright lights and amusements of the city. The high wages paid unskilled labor in the factories is a big lure to the ambitious country boy, even though living conditions may be far from his liking, and he stays on, spending all his earnings as he goes.

The big idea of the county leaders is to start the boys early in life on the farm partnership basis. As soon as he is old enough to understand the value of things—the farm crops and stock—give him a brood of chickens, a sow or two, or a small flock of sheep, and teach him the proper care of them so that he will look after his own possessions intelligently. All the profits from raising stock should, of course, be regarded as his very own to do with as he chooses. By careful and tactful direction he may be made to see the advantage of increasing his stock for greater gain, and thus instill in his mind sound principles of business. When he has grown old enough to do an average man's work he should be given a twenty or forty-acre plat of good land, to work as best he can, all the profits from the plat going to him alone. By this generous treatment, he feels that he is not a slave to farm work, but is a part owner in the enterprise, as indeed he is.

The county director told me an incident that recently came to his notice, that illustrated the obstinate nature of a farmer unwilling to give his boy a fair chance. Growing discontented with his lot under the hard rule of an austere father, the boy had gone to the

city and found work in a motor plant. Day after day, week in and week out, the boy stood beside an automatic machine drilling holes, an operation requiring little skill but close attention. How monotonous and uninteresting this occupation must have been, how tiring to a spirit eager to do things, will never be known to another. Yet he kept on for months, the only inducement to stick being the big wages earned. At length he could stand the grind no longer and went home. He had little money left after costly living in the city, and he was thus no better off, or scarcely as well, as when he had left the old farm home. His mother welcomed him with open arms, as a mother always will and would have given anything to arouse in him an interest in farm life. The father, however, peeved at having to hire work done, the work his son had previously done as filial duty, would listen to no plan for a fair division of the farm profits, or even grant a fair wage to him. Embittered at this treatment and despite the entreaties of the mother, the boy returned to the city, and again took up the drilling of holes—the same kind and size of holes—thousands of them every day, a most disheartening operation to anyone, rather than submit to the injustice and tyranny of an ungrateful father. How different would this have been had the father had a real interest in the boy's welfare. A little encouragement might have changed the whole course of the boy's life, to the end that he might have become a producer of the necessities of life, instead of a mere helper in the production of a non-essential product.

Motor companies in Detroit and other Michigan cities are no longer employing farm boys in their factories, believing that the time has come when every discouragement should be giv-

ing the young men on the farms, and is reluctant to offer any encouragement to them to leave the essential duties there for whatever may be offered in the city. Thus, the farm boy now returns to his home and finds in it an added attraction—the certainty of work, and with opportunities for the



Saginaw County Wins Many Prizes in 1919: Michigan Farmer Cup on corn by Douglas Bow; sweepstakes on oats at State Fair, and first at Kent County Fair, by Lawrence Bannan; Red Rock wheat by John Vitten-gruber, and county sweepstakes at Farmers' Week last February.

Personal Credit Bill a Live Issue

Opinions on the Merits of the Bill In Its Present Form Differ

THE McFadden personal credit bill, H. R. 12678, now pending in congress is arousing much interest throughout the country. Its official title is the Rural Credit Act, and its object is to create a rural credit society and general insurance league to facilitate the increase and reduce the cost of farm production, and act as the fiscal and financial agent for the government.

Commissioners representing the Liberty Insurance League and given power to negotiate "with any solvent and well-established life insurance company," incorporated under the laws of one of the states, and having approved assets of not less than \$40,000,000 for the purpose of inducing such company to accept the terms of the charter creating the Liberty Insurance League and bind itself to operate thereunder and be governed by the provisions of the bill.

The Rural Credit Society, which is the twin sister of the Liberty Insurance League, is authorized in such a manner as may be prescribed by the secretary of agriculture and approved by the society's board of directors, to do a general banking business. It provides for one central bank, forty-eight branches, one for each state, and numerous local associations to be known as communes. The capital of the society consists of a guarantee fund and the stock of its branches and communes. The guarantee fund, consisting of \$25,000,000, is to be furnished by the United States government without interest. This \$25,000,000 is to be paid into the treasury of the league when the commissioners have been able to induce a life insurance com-

pany to accept the Liberty Insurance League charter and the league is authorized to begin business. The league is to hold this fund until the secretary of agriculture orders it paid over to the Rural Credit Society's treasury, less the compensation allowed for the risk of accepting such trust.

Each of the forty-eight branches shall have a capital stock of \$50,000, which is to be paid by the Liberty Insurance League. Neither the society nor its branches or communes will be allowed to issue demand payable bank notes or currency, and the society's communes shall not receive deposits.

The par value of the stock of the communes is five dollars, and is non-transferable while the subscribing owner is a member of the society. There are three classes of communes, the classification being based upon the state laws governing property exemptions. The credit of each member of a commune of the first class is limited to twenty times his paid-up stock; of the second class ten times his paid-up stock in his commune, and of the third class to five times his paid-up stock in his commune.

The McFadden bill provides for a large number of directors and other salaried officers, the salary of the censor of which there may be three appointed, being \$12,000 a year.

The Liberty Insurance League scheme provides for departments each having a capital stock of \$100,000, and the stockholders are to be paid a dividend, if earned, of seven per cent per annum, which dividend shall be cumulative and paid semi-annually. The

stock is non-assessable. The bill includes an old-age pension fund, and other features of varying degrees of importance.

Before taking action on this bill a joint commission of the house and senate will make an investigation of the personal rural credits systems of Europe.

Sentiment Varies.

AT the recent annual meeting of the American Agricultural Editors' Association there was considerable discussion regarding the merits of the McFadden bill, several editors who had given it much study saying that they were favorably impressed with it, but it was evident that a larger number were either opposed to the bill or were not willing to endorse it. Nevertheless the sentiment was apparently unanimous that some kind of personal credit system is needed in this country.

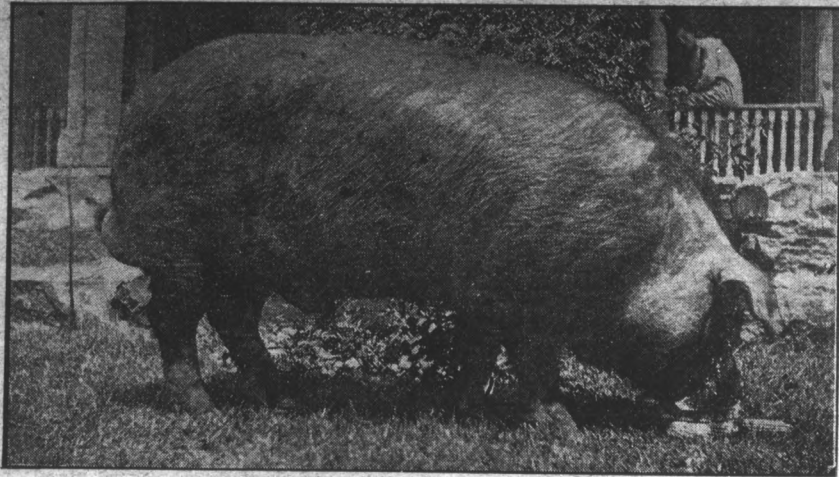
None of the farmer organizations having headquarters in Washington have made any definite statements regarding the bill. Giving his personal views, however, Charles W. Holman, of the National Board of Farm Organizations, says: "I cannot see any benefit coming to American agriculture from any scheme of personal credit that is not founded on any recognized principles of cooperation such as are in successful operation in some of the foreign countries in which I have studied personal credit systems. I am very much committed to the adaptation of the Raffeisen plan to American conditions. I think it is entirely possible for the country to have a personal credit system for financing farmers along lines parallel with the Fed-

eral Farm Loan system, including regional banks and local associations."

The American Farm Bureau Federation favors a personal credit law, but has made no statement in regard to the McFadden bill, according to C. M. Kile, of the Federation Washington headquarters. The insurance company scheme is one of the objectionable features which will not meet the approval of the farmers, Mr. Kile thinks.

Professor T. C. Atkeson, Washington representative of the National Grange, has endorsed the principles of the personal credit bill in these words: "In order to encourage farm ownership and production and to make it possible for farmers to capitalize their health, efficiency, education, character and industry, we favor a properly safeguarded system of personal credit." The Grange has not endorsed the McFadden bill, and Professor Atkeson thinks it will need much revision. It will never pass congress in its present form.

Mr. Milliken, author of the McFadden bill, it is claimed, has devoted many years to the subject of personal credits and the present bill is the result of his years of investigation and study. He is in the insurance business and his bill proposes to invest the governments millions in an insurance company. Mr. McFadden is a Pennsylvania banker, and his record in congress shows that he is against the Federal Land Banks. These are some of the things that will make the friends of personal credit want to investigate the McFadden bill several times before giving it their unqualified endorsement.—E. E. R.



State Fair Prize Winning Duroc Jersey and Exceptional Producer.

scientific study of farming through activities of the Farm Bureau.

Growing Pedigreed Seeds.

As before stated, Saginaw is one of the leading counties in Michigan in the production of pedigreed seeds. The soil in various places through the county has been found peculiarly adapted to the propagation of pure seeds of high germination; and the important work of promoting the industry has been carried on for more than five years. To insure uniformity and purity of seeds grown for the market, Mr. Bannan, the assistant agricultural agent, often visits the seed fields, makes careful note of the growth and development of each plot, and advises the growers on improved methods of cultivation and care. He also lends his aid to farmers, when desired, in selecting their seeds for general planting, and otherwise helps them in their work. This results in great benefit to farmers, especially those in isolated places where there is little opportunity to get first-hand information.

For its own tests and to produce the highest quality seeds for scientific purposes, the county conducts a seed farm of its own south of the city. On this farm are grown selected strains of pure seeds, but each year experiments are made on a large scale with one particular crop. Last year experiments were made with five hundred bushels of oats, the "College Wonder," with very satisfactory results, the seeds thus produced being widely distributed through the county and elsewhere. This year experiments with corn are being made and important developments are looked for. During May a carload of potatoes of superior quality was distributed to farmers in need of seed for planting.

In connection with the cooperative association plans it is proposed to establish a warehouse in Saginaw, with railroad shipping facilities, where pedigreed seed grown in the county will be received. There would also be a cleaning station in this warehouse, and the grading and proper packing of fine strains of seed (as shown by illustration) would be a feature of the work.

The Wool Market.

Very little may be said at present on the wool market in Saginaw county.

Owing to conditions existing in this state, and, in fact, throughout the country, there is little buying and very little interest or desire for selling on the part of farmers. The prices offered are not attractive, ranging between fifty and sixty cents. So far as I could learn, there is only one buyer, Charles Bow, assembling wool at Merrill, in the western part of the county. Up to June 7 he had secured about four thousand pounds. No grading is attempted here, all wool being forwarded to Lansing for that purpose.

The Sugar Beet Situation.

Although the Saginaw Valley has long been the sugar bowl of Michigan, and Saginaw county one of the largest producers of sugar beets, it may not hold that title this year. A very different situation has arisen between the growers and the sugar companies, than existed in former years, and the farmers generally are following the natural and logical course of strained relations. In driving about the county I found in some places about as many acres planted to beets as in former seasons, while in others there was scarcely a single field to be found. Growing beets requires more labor and attention than any other crop, and far greater expense, therefore, when labor became scarce and wages high it was only natural that the farmer should care less about raising beets.

He wants a fair return for his labor, especially when he sees the sugar companies earning high profits and the public paying exorbitant prices for sugar. He demands, it seems to me very reasonably, a conference on beet prices with the manufacturers or a satisfactory price for beets, and with refusal of both he quite logically refuses to grow beets. The companies absolutely refused, in a seemingly arbitrary manner, to discuss the situation or to grant the price scale demanded by the growers.

The leading farmers believe that at this time they should take a careful inventory of their resources, and go ahead with their larger plans in an earnest endeavor to get the very highest return from their land and labor, leaving the beet problem to work itself out to a satisfactory conclusion. Their

(Continued on page 83).



King Segis Mooie of the Phoenix Farm Herd.

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IT'S A GREAT MISTAKE for any dairy farmer without a separator or using an inferior machine to put off the purchase of a New De Laval Cream Separator in the summer months especially with butter-fat at the present unusually high price.

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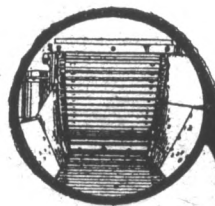
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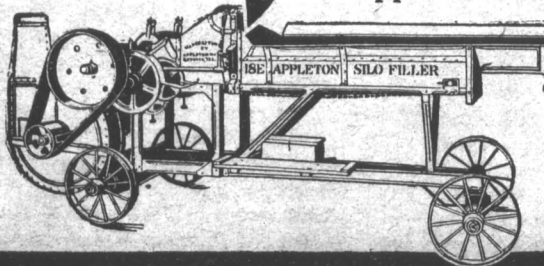
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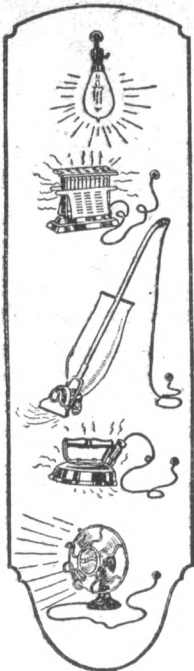
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Potato Spraying in 1920

(Continued from page 67).

the dry weather effects on nearly mature potato leaves. Under drought conditions, following quickly conditions which produced a tender succulent foliage, the leaflets blighted in V-shaped form at the tip and scorched at the edges.

In many ways this explanation did not satisfy. If the trouble were sunburn, then the youngest leaflets should burn. If it were wind scorch, protected locations should escape.

Light on the problem was first given by Dr. E. D. Ball, state entomologist for Wisconsin. He attributed tip burn, as it is generally seen in Wisconsin and Michigan, to leaf hoppers and he looked upon the blighting of leaves as a specific vine disease carried by the leaf hoppers.

On this matter of leaf diseases no evidence as yet exists. But there is excellent evidence supporting Dr. Ball's conclusion that the leaf hoppers are primary agents in inciting the burning. Dr. Ball had plants caged in Wisconsin and noticed burning to be severe in a few days after the hoppers began to attack the plants. His experiments were not altogether satisfying because he had some burning in his check plants.

Mr. E. J. Kotila, at the Chatham Station, last year had some potato plants grown in the field under cheesecloth cages. They were insect free. Under some of these cages he introduced a score or more leaf hoppers. These cages blighted badly with typical burn which would pass anywhere for tip burn. The cages without insects remained green and perfect. These cages were inspected by several hundred farmers who visited the Chatham Station at the time of the Upper Peninsula Experiment Station Field Day. The plants told their own story.

There remains to be solved the question of how leaf hoppers burn the leaves, and as has been said, one authority believes that the leaf hopper carries the virus of a specific plant disease.

NOW, tip burn, or hopper burn, as it is better called, is sure to be with us this year. At the time this is written early potatoes are about to blight as a result of hopper attack. The question is, will the late crop follow the same course?

For years it has been observed that sprayed potatoes in both wet and dry seasons have remained green, while unsprayed burned and died. It was thought that in some peculiar way the Bordeaux spray stimulated the leaves and kept them green and active.

With the relation of leaf hoppers to hopper burn before us, we can see that the action of Bordeaux is simply this: That in some way the spray coating acts as a repellent and makes the leaves unpleasant for the insect enemy.

We must look to the experiments of the entomologists for light on leaf hopper control. The facts of the twenty-five years' spraying experience merely are of applicability in furnishing us a palliative until the right measures are discovered. Farmers in fighting early blight and in protecting against late blight can feel confident that they are doing something to ward off the serious hopper burn.

Potatoes should be sprayed, beginning when they are about four to six inches high, and from then on at ten-day intervals with home-made Bordeaux mixture made with four or five pounds of blue stone and six pounds of lime in fifty gallons of water.

THE spray should be applied so as to cover the under side of the leaf as well as the top. Late blight is readily controlled by giving the plants a

fair coating, but to get results with early blight, the covering must be thorough.

A sprayer with nozzles set to shoot upward is necessary to get good covering. A home-made device is illustrated in Experiment Station Bulletin No. 86, or other similar devices can be bought from almost any concern making spray rigs.

A word may be said about the sprayer. In the past we have felt that any kind of a sprayer would do for the field and, indeed, it is better than none. The writer has been in wonderful fields where the spraying was done with a knapsack outfit, but the labor and time is prohibitive. The barrel sprayer will do if nothing else can be had, but the mist-like spray which will sift under the leaves is difficult to obtain with this outfit.

Best results can be had either with a horse-drawn traction sprayer, or with a gasoline-engine-driven sprayer. Such sprayers carrying one hundred gallons of spray and developing one hundred and fifty to two hundred pounds pressure give remarkable covering of the plants if nozzles spray upward.

Field spraying is now with us as a regular part of growing crops. Machinery is going through the same evolution that orchard outfits have gone, and growers may well profit by orchard experience. Several of the large manufacturers of sprayers are now producing a spray machine mounted on two wheels with the load evenly balanced, in which the engine and the duplex or triplex pump are mounted on the tank. Such an outfit will spray six rows, with three nozzles to a row. It will put on about one hundred gallons of spray to the acre, and the covering obtained is superb.

This article gives the facts which show that potato spraying pays with good fields of potatoes. It tells why it pays by pointing out the potato diseases combatted by application of home-made Bordeaux mixture. It puts the proposition up to the farmer, either to protect his fields in the best way now known or to take a chance with weather and disease. Considering the investment in seed and the farmer's responsibility in the matter of food production, the argument weighs heavily on the side of giving the potato adequate protection.

SIMPLIFY INCOME TAX RULES.

AS a result of the protest made by the American Farm Bureau Federation Income Tax Committee against the present form of making out the farmers' income tax returns, the committee on appeals of the treasury department has made a decision which knocks out the objectionable ruling made by the department officials, so that it will be possible for a farmer who has past records to make adjustments back over preceding years the same as before the present ruling was promulgated. Another plan, if granted, and it is apparently in a fair way to be adopted, will enable large numbers of farmers to materially increase their inventory exemptions, when changing over from cash to inventory basis. This will make it possible to reduce the penalty taxes farmers would have to pay in changing over to the new system under the present ruling. The tax officials of the treasury have also agreed to give official approval to the farm account book which the federation is getting out, making it much easier for farmers to make their income tax returns. It is understood, however, that the book is to be printed and sold to farm bureau members without profit, and it will be available soon.

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HERE is an offer that calls for immediate action. Without obligating yourself in any way, sign and mail the above coupon—or drop us a card, mentioning this advertisement. We will send you our July special proposition on the famous Ross Ensilage Cutter. Your card or letter of inquiry must be postmarked not later than one week after date of issue of this paper.

This offer is made on the genuine Ross Ensilage Cutter—the powerful low-speed, light-running dependable machine that cuts clean always and gives you better silage at lowest possible cost.

There's a Ross to match your present power—from four H. P. up. Write for all the facts at once. We'll prove to you that the Ross is absolutely the best cutter built. No obligation—and a real proposition if you act quickly.

THE E. W. ROSS CO., 520 Warder Street Springfield, O.
Distributing Houses in 21 Leading Shipping Points in U. S. A.



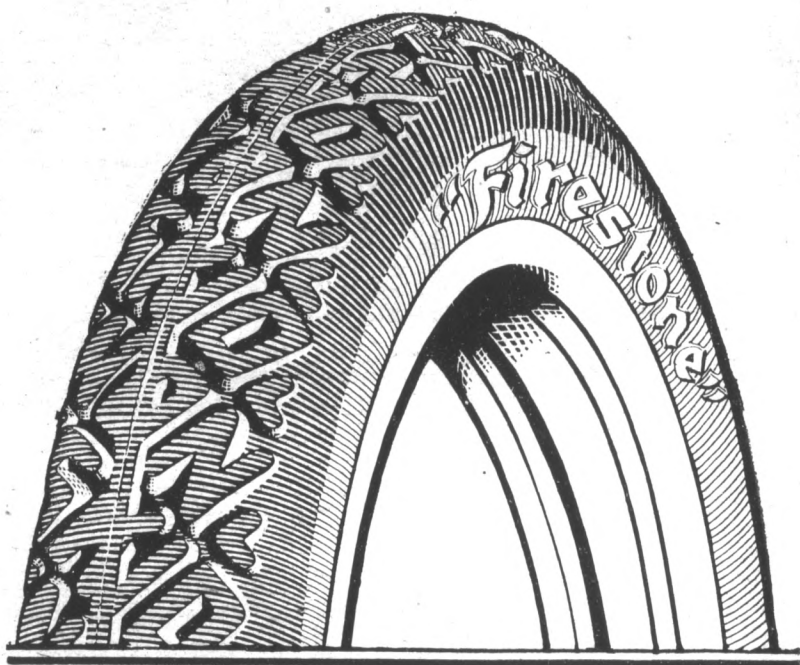
Firestone

LAST year Firestone lifted the 30x3½-inch tire out from all the sizes made and focused attention on it—as the *only tire size capable of quantity production*. And not only the tire user but the whole tire industry responded.

Firestone built an exclusive factory devoted to this size—and worked out a specialized way of manufacturing this tire in quantity—without a backward move—every tire good.

Today—while others are centering on the tire for owners of small cars, the Firestone 3½-inch is out in front with a highly specialized and bed-rock economical method of manufacture.

Firestone is two years ahead because Firestone saw two years ahead—and you owners of light cars get the benefit.

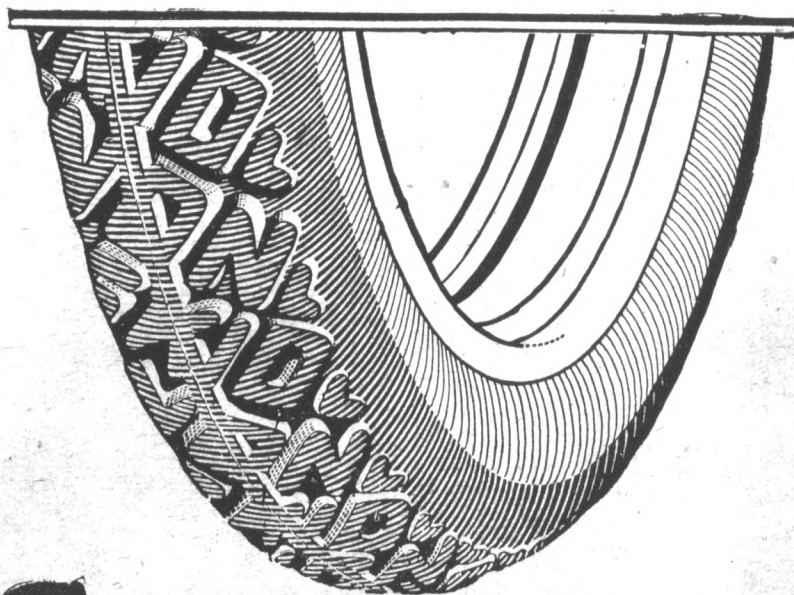


30x3½

(non skid)

\$22.50

Gray Tube \$3⁷⁵
Red Tube \$4⁵⁰



Most Miles per Dollar



Your Comfort Is Important— Too



Of course it is essential to have your stock and implements well housed under a good tight Roof. But your personal comfort is just as important, or more so, and there's a MULE-HIDE Roofing for your home, too.

MULE-HIDE Shingles and Slate-Kote Roofings have the same enduring qualities as MULE-HIDE smooth finish Roofing. Their added feature of beauty makes MULE-HIDE Shingles and Slate-Kote ideal for covering homes and other buildings.

Furthermore, these types of Roofing also have the same remarkable service record as MULE-HIDE smooth finish roofing:

"Not a Kick in a Million Feet"

MULE-HIDE Shingles and Slate-Kote have surfaces of crushed slate in natural, unfading shades of red or grey-green. The shingles may be had singly in two weights or in the Four-Unit style (four shingles to the strip).

They are mighty good looking and add greatly to the attractiveness of your home.

Ask your lumber dealer. If he doesn't carry MULE-HIDE a letter will bring him samples.

THE LEHON COMPANY

Manufacturers

44th to 45th Street on Oakley Avenue - Chicago

RABBIT WITH LIVER TROUBLE.

Would like to know what ails my rabbits. I went out one morning and found a young doe dead. She seemed all right the night before, ate her feed all up. Also had an old doe with young ones about two weeks old that seemed ailing. She sat all humped up and panted all the time. She did not care to eat or drink. She acted as if she has spasms at times. Would like to know what ails them and what to do for them.

E. M.

The doe that panted was probably afflicted with liver complaint. Heavy breathing that can be heard several feet from the hutch is a symptom of that trouble. In severe cases there is no chance for a cure but it can largely be prevented by feeding plenty of dandelions. The dandelion seems to act as a liver tonic for rabbits and helps to keep them thrifty. Rabbits with liver trouble may eat well but they have an unnatural appearance and often breeders inexperienced with the symptoms might find a rabbit dead before they realized it was sick.

When rabbits have convulsions there is no cure but the trouble can largely be eliminated by careful breeding and feeding methods. Some breeders give their rabbits small bits of apple wood occasionally as a tonic and find that it helps in keeping down losses. Rabbits in hutches are living in an unnatural environment and the best kind of sanitation is necessary to keep them in good health.

R. G. K.

SICK TURKEYS.

My turkeys have the yellow cholera. I have tried everything I know and nothing seems to help them. What can I do for them?

Calhoun Co.

M. S.

When turkeys have cholera it is difficult to control the spread of the disease as the birds need a large range. The germs of cholera can live several weeks and retain their power to cause the disease in other birds. The germs are often carried from one farm to another by wild birds, especially sparrows which visit poultry yards. The disease can be eliminated by isolating sick birds and giving all feed in dishes which have been disinfected with a five per cent solution of carbolic acid. This keeps them from picking up the germs on feed gathered from the ground.

When cholera attacks hens on a limited range it is much easier to cure than is the case with turkeys. Turkeys with blackhead will have a greenish yellow diarrhea. This is also a trouble which is difficult to cure. When a turkey flock contains many birds that are sick and the losses continue it may be best to stay out of the turkey business until the range has had a chance to become clean. Then by starting over with new stock that is vigorous it is possible to have success.

LOSING RHODE ISLAND REDS.

Lately I have lost quite a number of my Rhode Island Red hens. They get dumpish, finally refuse to eat and then die. Some of them get so they can't walk, their feet seem to crumple up and they lose the use of their legs. I have been feeding corn and oats, and I am putting poultry tonic into their drinking water.

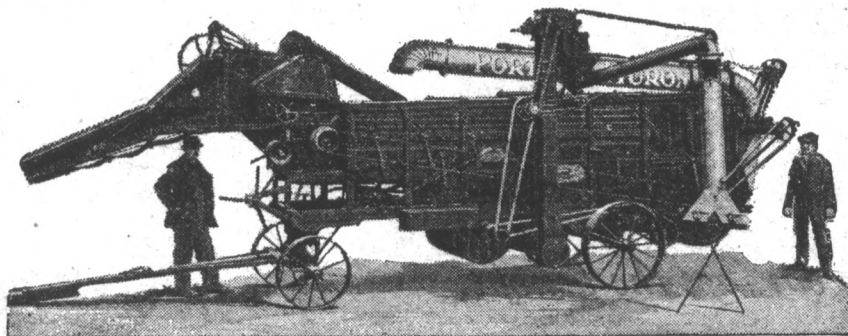
Clinton Co.

J. K.

Perform an autopsy on some of the birds and see if the liver is covered with the greyish-white nodules which are usually a symptom of tuberculosis. That symptom, combined with the emaciation and inability to walk we would consider a sure sign of tubercular trouble in the flock. It will pay to kill all the sick birds at once and burn them. Possibly it will be best to have a veterinarian inspect the flock. And if it is necessary to kill them all he can tell which are fit for food purposes.

Tuberculosis spreads rapidly among a flock of hens and there is no cure. The premises should be disinfected and the hen house sprayed and a new start made with healthy stock.

Individual, Community or Custom Thresher



PORT HURON 22x38 GENERAL PURPOSE GRAIN THRESHER

This machine has large capacity and can be operated with any small steam engine, or medium sized tractor.

Will do excellent work in all kinds of seeds and grain, (including clover, timothy, alfalfa, peas, etc.) and is fully guaranteed the same as our standard size threshers.

Save your own grain; thresh when most convenient and accommodate your neighbors. It will take only a small portion of your time in custom work to pay for the machine, as well as power to operate it. We can also furnish second hand steam engines or tractor, to operate same.

We can ship from stock same day order is received—Write us for catalog, or, if in a hurry, wire us at our expense.

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Port Huron, Mich.

WANTED good reliable married man for herdsman. H. H. DRIGGS, Palmyra, Mich.

Trained American Fox Hounds Rabbit and Skunk dogs all ages. Send stamp. W. E. LECKY, Holmesville, Ohio

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Stop Leaks, Breaks and Cracks with Smooth-On Iron Cement No. 1
Easily applied, saves money. Do it yourself and get lasting repairs at little cost. 6-oz. can 30c., 1-lb. 50c., at hardware and general stores. Write for interesting Booklet "M" showing hundreds of repairs in Home, Barn and on Cars.
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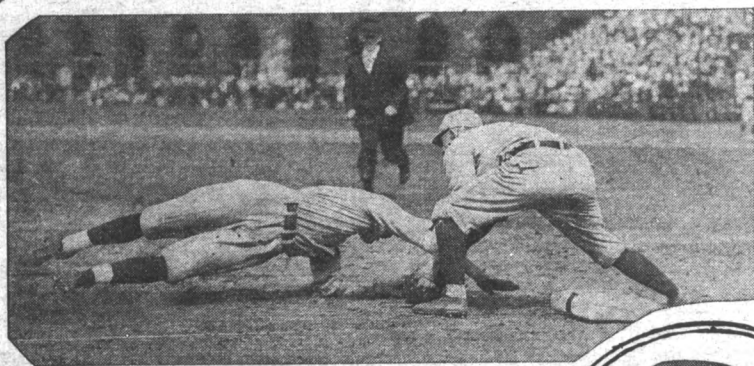
WORLD EVENTS IN PICTURES



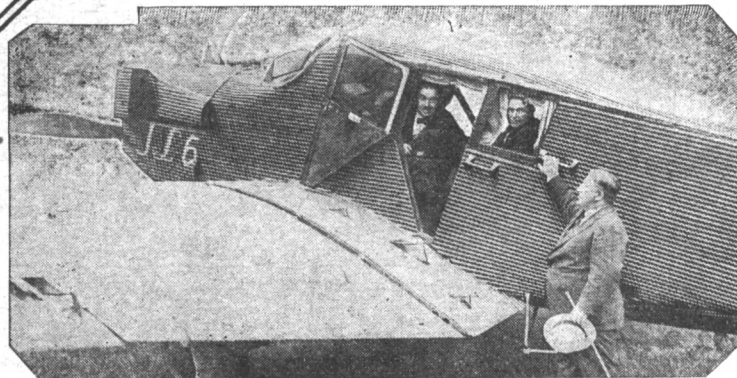
View of the San Francisco civic auditorium where the National Democratic Convention nominated Cox and Roosevelt.



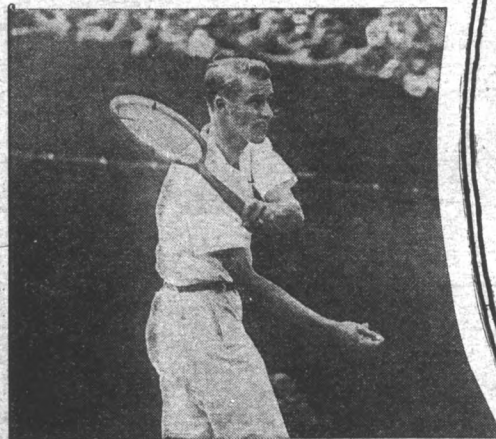
Earthquake shocks at Los Angeles tumbled a brick wall on this automobile, completely wrecking it.



Remarkable action photograph taken during recent Yale-Harvard baseball series leaves no doubt as to the outcome of this particular play which occurred during the second game of the series.



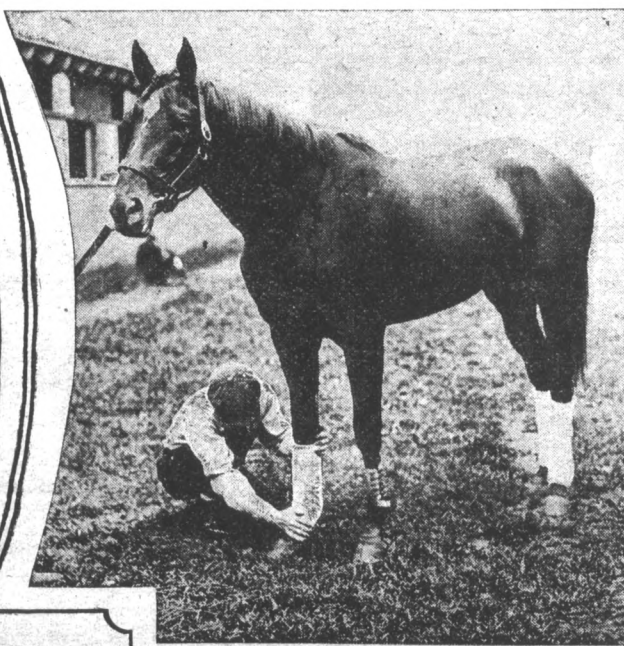
All-metal monoplane breaks United States non-stop record, Omaha to New York, 16 hours, 12 min.



Mr. Tilden, of Philadelphia, who meets Zenzo Shinidzu, of Japan, in England for the British lawn tennis singles championship.



Interesting photograph of Ellen Axson McAdoo, five years of age, with Mary Faith McAdoo, aged four months, the daughters of William G. McAdoo, and the granddaughters of President Wilson.



Man o' War, which is conceded by all racing men to be America's greatest race horse, is photographed outside his quarters at Belmont Park.

THE VALLEY OF THE GIANTS

A ROMANCE OF THE REDWOODS

By Peter B. Kyne

"Perhaps. Nevertheless, if I can demonstrate to a certain party that it will cost more than three quarters of a million, he'll loan me the money."

The old man shook his head. "I don't believe it, Bryce. Who's the crazy man?"

"His name is Gregory. He's Scotch."

"Now I know he's crazy. When he hands you the money, you'll find he's talking real money but thinking of Confederate greenbacks. For a sane Scotchman to loan that much money without collateral security would be equivalent to exposing his spinal cord and tickling it with a rat-tail file."

Bryce laughed. "Pal," he declared, "if you and I have any brains, they must roll around in our skulls like buckshot in a tin pan. Here we've been sitting for three months, and twiddling our thumbs, or lying awake nights trying to scheme a way out of our difficulties, when if we'd had the sense that God gives geese we would have solved the problem long ago and ceased worrying. Listen, now, with all your ears. When Bill Henderson wanted to build the logging railroad which he afterward sold to Pennington, and which Pennington is now using as a club to beat our brains out, did he have the money to build it?"

"No."

"Where did he get it?"

"I loaned it to him. He only had about eight miles of road to build then, so I could afford to accommodate him."

"How did he pay you back?"

"Why, he gave me a ten-year contract for hauling our logs at a dollar and a half a thousand feet, and I merely credited his account with the amount of the freight-bills he sent me until he'd squared up the loan, principal and interest."

"Well, if Bill Henderson financed himself on that plan, why didn't we think of using the same time-honored plan for financing a road to parallel Pennington's?"

John Cardigan sat up with a jerk. "By thunder!" he murmured. That was as close as he ever came to uttering an oath. "By thunder!" he repeated. "I never thought of that! But then," he added, "I'm not so young as I used to be, and there are any number of ideas which would have occurred to me twenty years ago but do not occur to me now."

"All right, John Cardigan. I forgive you. Now, then, continue to listen: to the north of that great block of timber held by you and Pennington lie the redwood holdings of the Trinidad Redwood Timber Company."

"Never heard of them before."



"Well, timber away in there in back beyond has never been well advertised, because it is regarded as practically inaccessible. By extending his logging-road and adding to his rolling-stock, Pennington could make it accessible, but he will not. He figures on buying all that back timber rather cheap when he gets around to it, for the reason that the Trinidad Redwood Timber Company cannot possibly mill its timber until a railroad connects its holdings with the outside world. They can hold it until their corporation franchise expires, and it will not increase in value to pay taxes."

"I wonder why the blamed fools ever bought in there, Bryce."

"When they bought, it looked like a good buy. You will remember that some ten years ago a company was incorporated with the idea of building a railroad from Grant's Pass, Oregon, on the line of the Southern Pacific, down the Oregon and California coast to tap the redwood belt."

"I remember. There was a big whoop and hurrah and then the proposition died abominably. The engineers found that the cost of production through that mountainous country was prohibitive."

"Well, before the project died, Gregory and his associates believed that it was going to survive. They decided to climb in on the ground floor—had some advance, inside information that the road was to be built; so they very quietly gathered together thirty thousand acres of good stuff and then sat down to wait for the railroad. And they are still waiting. Gregory, by the way, is the president of the Trinidad Redwood Timber Company. He's an Edinburgh man, and the fly American promoters got him to put up the price of the timber and then mortgaged their interests to him as security for the advance. He foreclosed on their notes five years ago."

"And there he is with his useless timber!" John Cardigan murmured thoughtfully. "The poor Scotch sucker."

"He isn't poor. The purchase of that timber didn't even dent his bank-roll. He's what they call in England a tin-ned-goods manufacturer—purveyor to His Majesty the King, and all that. But he would like to sell his timber, and being Scotch, naturally he desires to sell it at a profit. In order to create a market for it, however, he has to have an outlet to that market. We supply the outlet—with his help; and

that happens? Why, timber that cost him fifty and seventy-five cents per thousand feet stumpage—and the actual timber will overrun the cruiser's estimate every time—will be worth two dollars and fifty cents—perhaps more."

The elder Cardigan turned slowly in his chair and bent his sightless gaze upon his son. "Well, well," he cried impatiently.

"He loans us the money to build our road. We build it—on through our timber and into his. The collateral security which we put up will be a twenty-five-years contract to haul his logs to tidewater on Humboldt Bay, at a base freight-rate of one dollar and fifty cents, with an increase of twenty-five cents per thousand every five years thereafter, and an option for a renewal of the contract upon the expiration, at the rate of freight last paid. We also grant him perpetual booming-space for his logs in the slough which we own and where we now store our logs until needed at the mill. In addition we sell him, at a reasonable figure, sufficient land fronting on tidewater to enable him to erect a sawmill. lay out his yards, and build a dock out into the deep water."

"Thus Gregory will have that which he hasn't got now—an outlet to his market by water; and when the railroad at Sequoia builds in from the south, it will connect with the road which we have built from Sequoia up into Township Nine to the north; hence Gregory will also have an outlet to his market by rail. He can easily get a good manager to run his lumber business until he finds a customer for it, and in the meantime we will be charging his account with our freight-bills against him and gradually pay off the loan without pinching ourselves."

"Have you talked with Gregory?"

"Yes. I met him while I was in San Francisco. Somebody brought him up to a meeting of the Redwood Lumber Manufacturers' Association, and I pounced on him like an owl on a mouse."

John Cardigan's old hand came gropingly forth and rested affectionately upon his boy's. "What a wonderful scheme it would have been a year ago," he murmured sadly. "You forget, my son, that we cannot last in business long enough to get that road built, even though Gregory should agree to finance the building of it. The

interest on our bonded indebtedness is payable on the first—"

"We can meet it, sir."

"Aye, but we can't meet the fifty thousand dollars which, under the terms of our deed of trust, we are required to pay in on July first of each year as a sinking fund toward the retirement of our bonds. By super-human efforts—by sacrificing a dozen cargoes, raising hob with the market, and getting ourselves disliked by our neighbors—we managed to meet half of it this year and procure an extension of six months on the balance due."

"That is Pennington's way. He plays with us as a cat does with a mouse, knowing, like the cat, that when he is weary of playing, he will devour us. And now, when we are deeper in debt than ever, when the market is lower and more sluggish than it has been in fifteen years, to hope to meet the interest and the next payment to the sinking fund taxes my optimism. Bryce, it just can't be done. We'd have our road about half completed when we'd bust up in business; indeed, the minute Pennington suspected we were paralleling his line, he'd choke off our wind. I tell you it can't be done."

But Bryce contradicted him earnestly. "It can't be done," he said. "Gregory knows nothing of our financial condition. Our rating in the reports of the commercial agencies is as good as it ever was, and a man's never broke till somebody finds it out."

"What do you mean?"

"I mean that if we can start building our road and have it half completed before Pennington jumps on us, Gregory will simply have to come to our aid in self-defense. Once he ties up with us, he's committed to the task of seeing us through. If we fall, he must pick us up and carry us, whether he wants to or not; and I will so arrange the deal that he will have to. I can do it, I tell you."

John Cardigan raised his hand. "No," he said firmly, "I will not allow you to do this. That way—that is the Pennington method. If we fall, my son, we pass out like gentlemen, not like blackguards. We will not take advantage of this man Gregory's faith. If he joins forces with us, we lay our hand on the table and let him look."

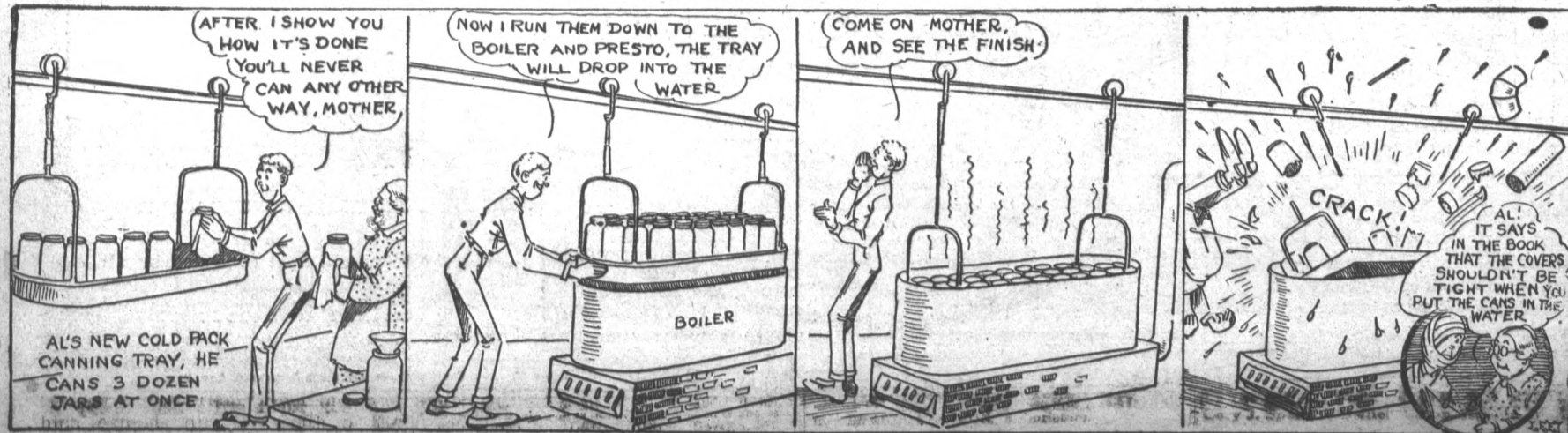
"Then he'll never join hands with us, partner. We're done."

"We're not done, my son. We have one alternative, and I'm going to take it. I've got to—for your sake. Moreover, your mother would have wished it so."

"You don't mean—"

AL ACRES—On the Cold Pack Question Al is Consistent—He Now Packs His Head in Ice.

—By Frank R. Leet



"Yes, I do. I'm going to sell Pennington my Valley of the Giants. Thank God, that quarter-section does not belong to the Cardigan Redwood Lumber Company. It is my personal property, and it is not mortgaged. Pennington can never foreclose on it—and until he gets it, twenty-five hundred acres of virgin timber on Squaw Creek are valueless—nay, a source of expense to him. Bryce, he has to have it; and he'll pay the price, when he knows I mean business."

With a sweeping gesture he waved aside the arguments that rose to his son's lips. Lead me to the telephone," he commanded; and Bryce, recognizing his sire's unalterable determination, obeyed.

"Find Pennington's number in the telephone book," John Cardigan commanded next.

Bryce found it, and his father proceeded to get the Colonel on the wire. "Pennington," he said hoarsely, "this is John Cardigan speaking. I've decided to sell you that quarter-section that blocks your timber on Squaw Creek."

"Indeed," the Colonel purred. "I had an idea you were going to present it to the city for a natural park."

"I've changed my mind. I've decided to sell at your last offer."

"I've changed my mind, too. I've decided not to buy—at my last offer. Good-night."

Slowly John Cardigan hung the re-



"We have one alternative, and I'm going to take it. I'm going to sell Pennington my Valley of the Giants."

ceiver on the hook, turned and groped for his son. When he found him, the old man held him for a moment in his arms. "Lead me upstairs, son," he murmured presently. "I'm tired. I'm going to bed."

When Colonel Seth Pennington turned from the telephone and faced his niece, Shirley read his triumph in his face. "Old Cardigan has capitulated at last," he cried exultingly. "We've played a waiting game and I've won; he just telephoned to say he'd accept my last offer for his Valley of the Giants, as the sentimental old fool calls that quarter-section of huge redwoods that blocks the outlet to Squaw Creek timber."

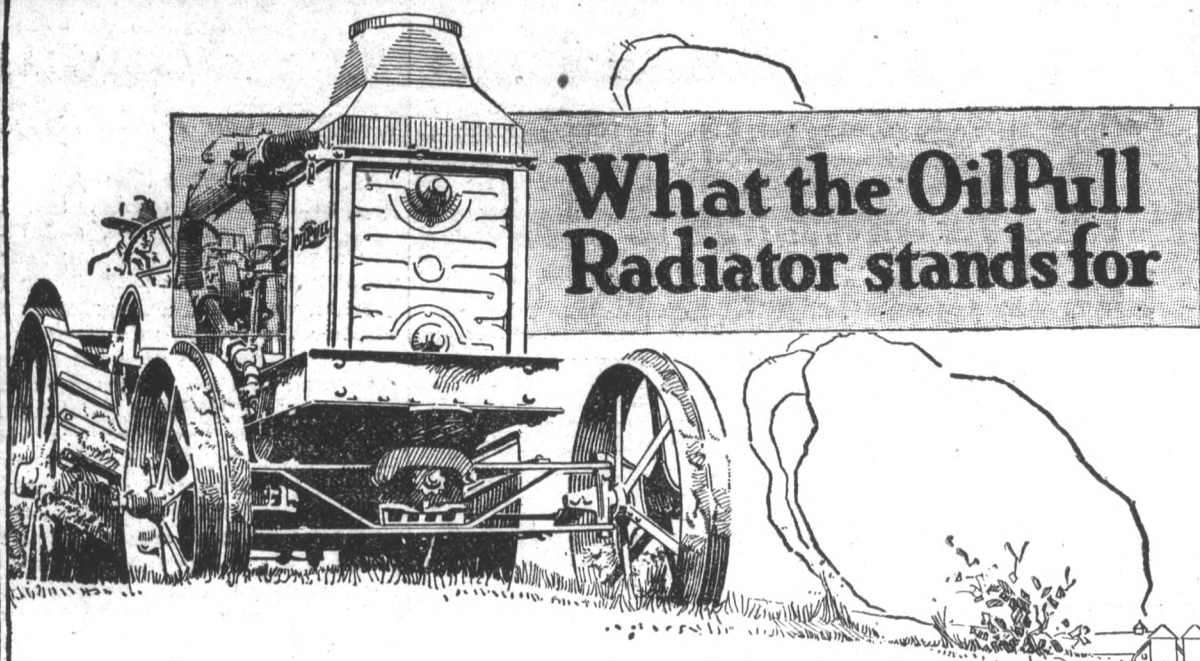
"But you're not going to buy. You told him so, Uncle Seth."

"Of course I'm not going to buy it—at my last offer. It's worth five thousand dollars in the open market, and once I offered him fifty thousand for it. Now I'll give him five."

"I wonder why he wants to sell," Shirley mused. "From what Bryce Cardigan told me once, his father attaches a sentimental value to that strip of woods; his wife is buried there; it's—or rather, it used to be—a sort of shrine to the old gentleman."

"He's selling it because he's bankrupt. If he wasn't teetering on the verge of bankruptcy, he'd never let me outgame him," Pennington replied gay.

(Continued on next page.)



Whether working to full capacity under the hottest summer sun—or running idle at 40° below zero, the OilPull cooling system keeps the motor temperature within absolutely safe limits and at the correct point for perfect kerosene burning.

For the OilPull is cooled with *oil*, not water—another point of OilPull quality—another exclusive OilPull feature that eliminates all possibility of cooling troubles.

Compare oil-cooling with the ordinary method of water-cooling—

Oil-Cooling

No boiling—no evaporating in hottest weather—goes indefinitely without refilling.

No freezing in coldest weather—no need of ever draining radiator.

No deposit of scale or sediment—circulating system always open.

Oil is a metal preservative—prevents rusting—the OilPull radiator lasts as long as the tractor.

The OilPull oil-cooling system automatically keeps the motor at the right temperature at all loads—warm for low loads—increasingly cooler from half load to full load. *The harder the OilPull works, the cooler it runs.*

The OilPull oil-cooling system eliminates a cooling fan—no lost power—no belt troubles.

Water-Cooling

Water evaporates quickly—requires frequent replacement.

Water freezes and must be drained daily in cold weather to prevent broken parts.

Water boils easily, produces sediment and clogs the circulating system.

Water rusts the circulating system parts—the metal quickly deteriorates.

Water cooled tractors get hotter as the load increases.

Cooling fans usually consume 1½ to 2 H. P. and are a source of constant annoyance and trouble.

Besides oil-cooling, the OilPull has many other *proved* advantages. And it is this combination of outstanding features that has enabled the OilPull to establish a record for dependability, economy and long life that has stood unequalled since the beginning of the tractor industry. There's a choice of four sizes—12-20, 16-30, 20-40 and 30-60 H. P. See your Rumely dealer or send for catalog.

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IS SUCH A DIGGER. OUR FREE BIG CATALOG HAS 25 PAGES OF WONDERFUL HELPS ON BIGGER AND BETTER CROPS. LET US SEND IT.
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All worth-while paints contain *some* white lead. The better kinds are *chiefly* white lead; the best kind is *pure* white lead.

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10,000 retail paint dealers sell Carter White Lead and probably ten times as many professional painters are using it. You can safely follow their judgment.

Carter White Lead Co., Chicago, Ill.

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"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Sidings, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Positively greatest offer ever made.

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Standard Binder Twine, 500 ft. to lb., 13 $\frac{3}{4}$ c per lb. Less in carloads. Write for circular.

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For External Use on

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Serious results through Blood Poisoning are liable from scratches, cuts or wounds from rusty nails or other metal. This great remedy applied at once will prove a preventive, is a perfect antiseptic, soothes while it heals. *What it has done for others it will do for you.*

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Cleveland, Ohio

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\$1.32 PER GALLON

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It's San Soy Beans. Michigan grown \$10 per bush Genuine Grimm and Montana grown Alfalfa. Seed Potatoes. Write today for special seed price list. A. H. FOSTER CO., Allegan, Mich.

Does The Church Have Any Influence?

Our Weekly Sermon—By N. A. McCune

A MAN once said this: "If I were the gang said, 'I've a notion to fire going past a church, and the church was on fire, and there was a pail of water standing near, I would kick the pail over.' When the question was asked a few months ago whether the church might not be of help in settling the deadlock between congress and the President on the peace treaty, one replied, 'Nothing doing, they are too busy quarreling among themselves.' Another answered, 'They are too much in heaven to mix in this muddle.' Whatever we may think of these opinions as to the future, has the church had a large influence in time past? Are we the better, in a large and general way, apart from personal faith, for her being here.

In 1787, Doctor Manasseh Cutler, a clergyman, asked that congress pass an ordinance forbidding slavery in the northwest territory, and guaranteeing free education, and religious liberty. Dr. Cutler no sooner saw the bill a law than he went west and caused schools and education to be sown broadcast in the territory. Lincoln came from this section, so did Grant, the Shermans, Garfield, McKinley. Ohio has been a state of Christian colleges, and Illinois provided one-tenth of all the soldiers in the Union armies in the Civil War. So much for the influence of a preacher on the early history of some of the greatest states of the Union.

THE Supreme Court of the United States has within a month declared that the national prohibition act is constitutional. Prohibition thus becomes the law of the land, the most tremendous piece of social reconstruction of the kind the world has ever seen. But prohibition was not always so popular. It began in a humble way, with a few ministers, who preached on it, and a few women who organized societies here and there. This agitation at first was almost exclusively confined to the church. Later it extended beyond the membership of churches, and embraced voters of all parties, who believed that it was better to be sober than drunk. The minister is still living, who organized the anti-saloon league, the most powerful single force in securing prohibition legislation. One night, after a local option fight in a Michigan county, I had gone to bed. The "drys" had been successful. About midnight a group that had absorbed all they could of the liquor that was being sold or given away, stopped in front of the house. The window was open, in the room where I was in bed. One of

WHITMAN'S RIDE" has been celebrated in story and song. It was the journey of a missionary, Doctor Whitman, from Oregon to Washington, D. C., the winter of 1842-43. Whitman's purpose was to save to the United States the vast tract of territory now known as the state of Oregon. The British Hudson Bay Company desired it, and had a company of trappers and explorers there, at the time Whitman started east. After traveling over the mountains in storm and snow, reduced in rations until he had to eat his dog, at the end of three months Whitman reached Washington. He showed the public the value of this northwest country, and the next year headed a company of settlers, west-bound. Just how much is owing to this missionary will probably never be known, but that he and his mission performed a great service is beyond doubt.

COLONEL JACQUES, before he entered the Civil War, was a preacher. One night he states that he preached on the text, "Ye must be born again." Abraham Lincoln was present. Monday night Mr. Lincoln came to the house and said to Mr. Jacques, "I heard your sermon, and I think it is according to the Bible. It contains an experience I have not had, but ought to have." Mr. Lincoln then knelt in the parlor and prayed. He said he found comfort in believing in Jesus Christ. What did that have to do with the spirit of Lincoln's Second Inaugural?—"With malice toward none, with charity for all." One might go on and tell of other public affairs that have been largely attributable to the church's influence. There are many more incidents showing the influence of the church on men who afterward have shaped the policies of the government. The question that faces us now, however, is the church, especially the church in the country, having this influence? Undoubtedly it is. One never can tell at the time. And surely the rural church ought to be doing the greatest work it has ever done. Never has there been the opportunity for teaching the young, and for accomplishing results that exists now.

The Valley of the Giants

(Continued from preceding page.)

ly. "I'll say this for the old fellow: he's no bluffer. However, since I know his financial condition almost to a dollar, I do not think it would be good business to buy his Valley of the Giants now. I'll wait until he has gone bust—and save twenty-five or thirty thousand dollars."

"I think you're biting off your nose to spite your face, Uncle Seth. The Laguna Grande Lumber Company needs that outlet. In dollars and cents, what is it worth to the company?"

"If I thought I couldn't get it from Cardigan a few months from now, I'd go as high as a hundred thousand for it tonight," he answered coolly.

"In that event, I advise you to take it for fifty thousand. It's terribly hard on old Mr. Cardigan to have to sell it, even at that price."

"You do not understand these matters, Shirley. Don't try. And don't waste your sympathy on that old humbug. He has to dig up fifty thousand dollars to pay on his bonded indebtedness, and he's finding it a difficult job. He's just sparring for time, but he'll lose out."

As if to indicate that he considered the matter closed, the Colonel drew his chair toward the fire, picked up a magazine and commenced idly to slit the pages. Shirley studied the back of his head for some time, then got out some fancy work and commenced plying her needle. And as she plied it, a thought, nebulous at first, gradually took form in her head until eventually she murmured loud enough for the Colonel to hear:

"I'll do it."

"Do what?" Pennington queried.

"Something nice for somebody who

did something nice for me," she answered.

"That McTavish girl?" he suggested.

"Poor Moira! Isn't she sweet, Uncle Seth? I'm going to give her that black suit of mine. I've scarcely worn it at all—"

"I thought so," he interrupted with an indulgent yawn. "Well, do whatever makes for your happiness, my dear. That's all money is for."

About two o'clock the following afternoon old Judge Moore, of the Superior Court of Humboldt County, drifted into Bryce Cardigan's office, sat down uninvited, and lifted his long legs to the top of an adjacent chair.

"Well, Bryce, my boy," he began, "a little bird tells me your daddy is considering the sale of Cardigan's Redwoods, or the Valley of the Giants, as your paternal ancestor prefers to refer to that little old quarter-section out yonder on the edge of town. How about it, eh?"

Bryce stared at him a moment questioningly. "Yes, Judge," he replied, "we'll sell, if we get our price."

"Well," his visitor drawled, "I have a client who might be persuaded. I'm here to talk turkey. What's your price?"

"Before we talk price," Bryce parried, "I want you to answer a question."

"Let her fly," said Judge Moore.

"Are you, directly or indirectly, acting for Colonel Pennington?"

"That's none of your business, young man—at least, it would be none of your business if I were, directly or indirectly, acting for that unconvicted thief. To the best of my information and belief, Colonel Pennington doesn't figure in this deal in any way, shape, or manner; and as you know, I've been your daddy's friend for thirty years."

Still Bryce was not convinced, notwithstanding the fact that he would have staked his honor on the Judge's veracity. Nobody knew better than he in what devious ways the Colonel worked, his wonders to perform.

(Continued next week.)

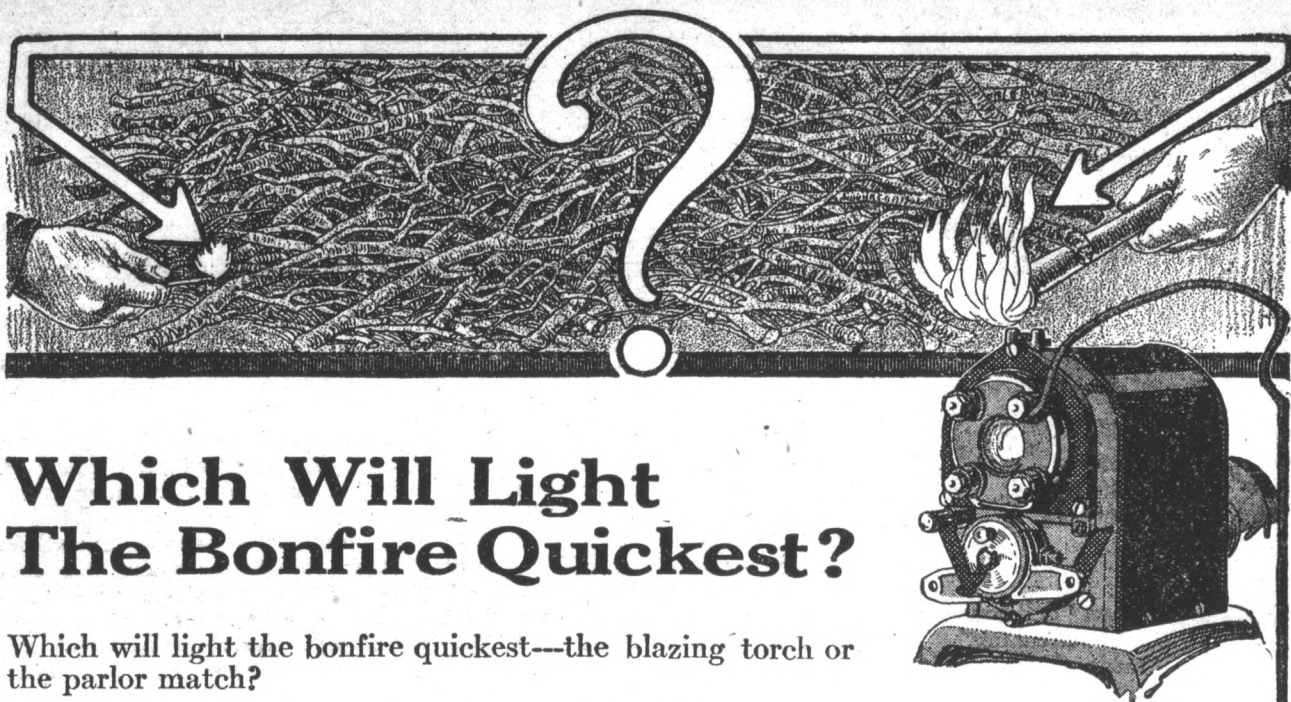
Sunshine Hollow Items

By Rube Rubicon

Grandpa Sloan says so many folks are feeling sorry for the farmers that it is becoming popular to quit the awful business. That's because folks like to be in style. He believes in basing his calculations on ten-year averages and thinking where his pay check is coming from five years from now as well as now. Grandpa Sloan believes in cooperation and is going to get right behind the Farm Bureau and sign up quick. He thinks that is better than selling the farm and nine-tenths of the furniture so that the rest can be squeezed into a cozy city flat with a shoe horn.

Simon Peck has a good record for automobile driving. He has been at it twelve years without an accident. So last week when he hit Martha Jones's adopted boy, folks knew it couldn't have been Simon's fault. It sure pays to have a good reputation when you are out of luck. That's what Simon says. If he had been a careless driver some folks would have sworn he was going sixty miles an hour when he hit that kid.

Grandpa Cooley has a grandson in the city who has just made the Mu Ki Yi fraternity. He says that if some folks weren't so proud when their kids were "took in" to the fraternity that the kids wouldn't get so proud for "being took." But little Leon Cooley is a nice boy and folks like him. Here is hoping that he makes as good a man as his grandfather in spite of the Mu Ki Yi.



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Which will light the bonfire quickest—the blazing torch or the parlor match?

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227F

Woman's Interests

If You Can Without Sugar

WE read with mingled feelings that Michigan is to have a bumper crop of cherries. Not that we don't all like cherries, but of

how much value are they to us without sugar, or with plenty of sugar at thirty cents the pound? What will they be like if we can them without sugar, and then next winter find ourselves as sugarless as now?

Of course, we can put up fruit without sugar, or we can sweeten with corn syrup. There seems to be plenty of that, and at the present writing it has not advanced in price in west Michigan. Ten-pound pails may still be bought for ninety cents. That is the dark syrup, the light is a few cents more. But syrup is not so satisfactory as sugar; A cup of syrup has not the sweetening power that a cup of sugar has, and then it is a liquid and greatly increases the bulk in your fruit. In making preserves and jams you must cook it a great deal longer to get it down to the desired thickness. And then your jam hasn't its old-time flavor nor color.

If you decide to can without sugar, trusting to sweeten each can as you open it, try the methods given by the Department of Agriculture through its experiment station at Pullman, Washington. These have been worked out by the department and found successful. Both the cold pack and the open kettle methods are given.

Select only firm, not over-ripe fruit, absolutely free from signs of decay. Test all jars, by partly filling with water and inverting. Then place everything to be used in canning—jars, tops, rubber, spoons, funnels, every utensil you may use—in cold water deep enough to entirely cover everything, and boil twenty minutes. Be

and immediately screw the tops down tight. Wipe dry and place on shelf, inverting can to see that there are no leaks.

If you prefer the open kettle method, sterilize utensils as before for cold pack. Place the fruit in a porcelain-lined, or granite preserving kettle with enough cold water to just cover, and cook for time given. Then pack quickly in sterilized jars, fill to overflowing, adjust rubbers and tops, invert jars, and store. Do not wipe top of jar with cloth before sealing.

Rhubarb, gooseberries and cranberries may be canned with cold water. Wash the fruit, washing the rhubarb before cutting. Pack in freshly washed jars, put in a pail and fill with clean, cold water until the water comes five

or six inches above the top of jar. Seal under water. If you have running water as good results are obtained by putting the filled jar under the tap, letting the water run five minutes, and then sealing.

When these fruits are opened pour the water from the jar into a kettle, cook down one-half, add fruit, cook till soft and sweeten to taste.

Drying the fruit will eliminate the present need of sugar. Farmers' Bulletin No. 841 gives complete directions for drying fruits and vegetables, illustrations of dryers and directions for making home-made ones. It also has recipes for cooking the dried products. This may be obtained by writing to the Department of Agriculture at Washington.

DEBORAH.

Conference at M. A. C.

Expert Tells of Discoveries in the Science of Nutrition

WHEN California oranges go beyond your pocketbook, give the baby a spoonful of tomato juice, and if one orange doesn't satisfy little Willie's growing appetite tell him to run out and pull a Michigan turnip. It may not taste the same to Willie, but the raw turnip juice will have the same anti-scorbutic effect as the orange juice.

These are two of the recent discoveries in nutrition told to the educators attending the Woman's Conference at M. A. C. by Mrs. Mary Swartz Rose, of Teachers' College, Columbia University. Mrs. Rose is the author of a book on "Feeding the Family," and in charge of the nutrition work being done by the university among the chil-

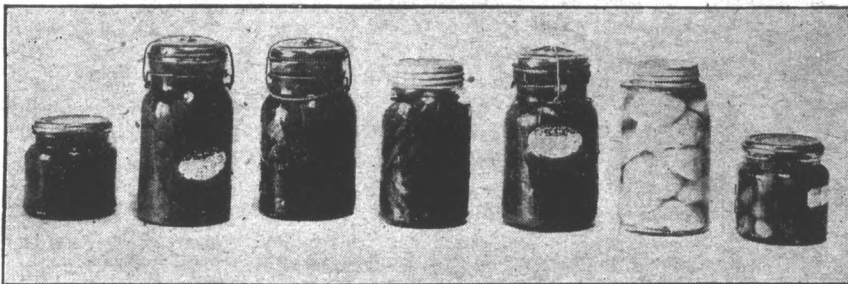
claim they can fix the rate at which animals grow old by altering the diet. Yet in spite of this, insurance statistics show that great numbers of people are as old at thirty-five and forty years as they should be fifteen or twenty years later. This is especially true in rural districts. Hardening of the arteries and kidney trouble now appear at forty years, where it used to be at sixty.

"Modern research shows that much of the trouble is due to a lack of one mineral, and of these minerals the most common shortage is calcium. A pint of milk a day will take care of the calcium requirements of a child. A quart will give it sufficient proteins. But as proteins may be supplied in other forms, where the price of milk makes the quart impossible, a pint will be enough, as it supplies the calcium. Milk contains three times as much protein as cereals and six times as much as peas and beans. This is why the addition of milk to a cereal makes a well-balanced breakfast food."

Mrs. Rose jarred several old ideas regarding feeding. Ice cream, which we have believed a safe and sane food for children, she blacklisted as too sweet and too rich in fats to be fed very frequently. Even sherbets she classed as too sweet. Bananas, which have been taboo, she admitted to good fellowship—if properly ripened. This means you should buy green bananas on the stem and let them hang with the skin unbroken, until they are speckled. Peanut butter, which many mothers forbid, she classes as a fine spread for bread if you know how it is made. To be sure, buy the raw peanuts and put them through the food grinder. This may be used without butter, providing the child gets its butter-fat in whole milk or cream.

For the growing boy who can't be filled with a regular meal Mrs. Rose advised rice pudding made with milk and dotted with raisins. Any cereal pudding is good. She got in strong with the boys by telling the mothers to let them have five or six regular meals a day, that is at regular hours, but spoiled it by firmly declaring that they must eat bread pudding.

The recent campaign of weighing



sure to have all new rubbers. Most important of all, do not wipe off the neck of the jar before sealing, with a cloth, as this may introduce bacteria.

For the cold pack method. Fill your boiler, or canner, about half full of warm—not hot—water. Put in a jar from the boiling water, fill with cold, raw fruit, packing down tight, add enough cold water to fill the jar one-half inch from the top, using knife or spoon to displace air-bubbles. Fill on rubber and set top loosely in place. When all cans are filled, fill boiler with enough cold water to come within one and one-half inches of the tops of the jars, fit cover on closely, put boiler on stove and heat to boiling.

For red and black raspberries, blackberries and loganberries, boil vigorously for eight to twelve minutes. For cherries, currants, gooseberries and similar acid fruit, boil five to eight minutes. For apples, peaches and pears, boil for twenty to thirty-five minutes. When boiled sufficiently, remove cans

dren in New York, so her discoveries were of great interest.

"Fifteen years ago we didn't give children vegetables until they were three years old," she said. "Now we start at three months if they are artificially fed and show the need of it. We used to think the baby must have orange juice as an anti-scorbutic, but experiments on London babies during the war showed that raw turnip juice did just as well. American workers found that tomato juice, either canned or raw, is equally good."

"The science of nutrition has made rapid strides in the last ten years. With the discovery of vitamins, many of our old ideas changed. We have learned very closely the energy requirements of children and the value of establishing health and habits of health in the first years. Most of the poor health of adults can be traced back to early childhood. The close relation between food and health has been discovered. Experimenters even

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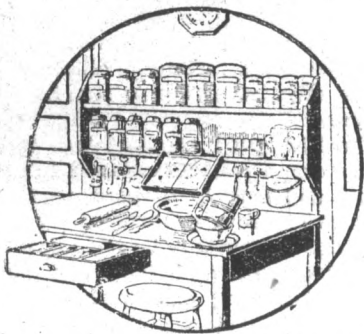
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and measuring had her hearty indorsement. She stated that, while the average showed only fifteen to twenty per cent underweight, some schools showed a third of the children below par, and one showed fifty per cent. One child who looked the picture of health was twenty-five per cent underweight. Examination by a physician revealed a bad heart, which had not been suspected.

Addresses by Mrs. Mary Hindle on subjects of interest to the new women voters, and by Miss Zella Bigelow of the Vocational Board, Washington, D. C., were features of the conference.

Mrs. A. L. L.

(Continued next week).



FROM ONE HOUSEKEEPER TO ANOTHER.

After having much trouble with oil-cloth cracking, I discovered a method to prevent this which adds fifty per cent to the life of the oil cloth. I cover the table smoothly with paper that has been well oiled with common machine oil. I then place the oil cloth on top of the paper and stretch tightly. The oiled paper keeps the under side of the cloth moist and prevents cracking, and also acts as a sort of pad.—Mrs. G. A. G.

As fast as a tumbler of jelly is opened I wash off the paraffin that covers it and put it in an old tin coffee pot. When I want to use some, it takes but a moment to set the coffee pot on the stove, melt the paraffin and pour it out. In this way I have no extra dish to clean and all the bits are thus saved and utilized over and over.—Mrs. H. R. W.

When you have a surplus of lettuce cook a large quantity of it with a few beet leaves—result, a delicious dish of mild-flavored greens. Season with salt, pepper and butter.—Mrs. E. V. S.

The disagreeable smell caused by cooking any kind of greens may be prevented if a small piece of bread is thrown into the water while boiling.—M. A. P.

Last year a friend never had trouble with her canned fruit or string beans. She used the usual method of canning, sterilized and sealed the cans as usual, then while the can was hot she took a strip of adhesive plaster one-half-inch wide and lapped one-half on the cover and half on the rubber, pressing firmly, which made the can perfectly tight.—Mrs. E. V. S.

If there is no timepiece near the bed of a sick person a sense of loneliness may be felt, while if the watch is not covered the ticking may annoy the invalid. Place the watch under a tumbler and the ticking will be almost inaudible.—Mrs. G. B.

When you have peas to shell put them in a pan, pour hot water over them and let them stand awhile. The pods will burst open and the peas will come to the top of the water.—Mrs. J. J. O'C.

INFORMATION ON SPINNING FLAX.

A subscriber asks for information on harvesting flax and preparing it for spinning. She also asks for the address of flax mills where this work is done. Can any of our readers send us the information wanted?—Editors.

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Only the choicest wheat is used. It would be a revelation to women to see the amount of dirt, chaff and undesirable materials that are removed from every kernel of wheat. Four cleanings, three scourings and a final washing precede the first break. Nothing but the "goodies"—the nutrition values remain. These are milled to a beautiful, clean whiteness. Close inspection by experts at every stage.

LILY WHITE quality has been maintained for nearly sixty years. Without fear of contradiction we say that it is not only good, but is the finest flour that it is possible to make.

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CATALOG NOTICE.

Send ten cents in silver or stamps for our up-to-date spring and summer 1920 catalog, containing 550 designs of ladies', misses' and children's patterns, a concise and comprehensive article on dressmaking, also some points for the needle (illustrating thirty of the various, simple stitches) all valuable hints to the home dressmaker.



No. 3215—Ladies' Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 6 7/8 yards of 40-inch material, or four yards for the underwaist and skirt, with 2 7/8 yards of contrasting material for overblouse and tunic. The width of the skirt at its lower edge is 1 1/2 yards. Price 12 cents.

No. 2889—Misses' Dress. Cut in three sizes, 16, 18 and 20 years. Size 18 will require 5 1/4 yards of 36-inch material, if skirt is made with tucks, and 4 3/4 yards if made without tucks. The width at lower edge is about 1 1/2 yards. Price 12 cents.



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See Pages 180-181 Sale Book—Order by No. 80M1476. Tested 12-Gauge Barbed Wire made for the British Government. Never been exposed to weather—perfect and free from rust as the day it left the mills. Two strands thoroughly annealed 12-gauge wire twisted together, with 4-point standard length barb every 3 inches. ORDER QUICK—If you want it for 45¢ per pound. We have only 200 carloads of this wire and at this price, it will sell very fast. Shipping weight about 114 pounds to the spool.

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Per Lb.
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Munson Army Last Shoes

See Back Cover of Sale Book—for this and other splendid shoe bargains. Order by No. 24M1629. Sizes 5 to 12. Wide width. Men's Munson Army Last Shoes made with exceedingly soft, durable, brown uppers and long-wearing soles. Triple wax thread stitched—heavily re-enforced vamp—soft, flexible, guaranteed insoles. A wonderful bargain for farmers, railroadmen, firemen, postmen, policemen and all outdoor workers. Shipping weight about 3 pounds.

\$3.98
Per Pair

Genuine Horsehide Gloves

See Page 91 of Sale Book—Order by No. 55M7251. Olive Drab Driving, Auto or Work Gloves—genuine horsehide—outseam sewn. Chrome tanned. Always remain soft, pliable. Easily cleaned with soapy water or gasoline. Manufactured for French Government. We bought them so low that we can sell them for less than present manufacturing cost. Better buy several pairs at this price. Sizes 7 1/2 to 10 1/2. Shipping weight about 9 ounces.

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Prevents potato scab and black-leg diseases that attack beets and other vegetables. Guards against onion rot, smut and smudges and cucumber root rot. Prevents mould in celery and lettuce, parsnips and other covered seeds when applied to the beds before planting. Buy Formaldehyde—of the Perth Amboy Chemical Works' Laboratories—at your dealer. Big book giving full directions for scientific seed treatment, free upon request.

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Mention The Michigan Farmer When Writing Advertisers

Our Boys' and Girls' Department

My Trip to the State Fair—By Hazel Marie Telmos

I AM a member of the Sunshine Sewing Club of the Wadsworth School, (Saginaw county). One day as I was sitting under our great oak tree making an apron for myself, our mail carrier told me that he had a letter for me. After opening it I found that another girl and I had been chosen to give a demonstration at the State Fair in Detroit.

We gave our demonstration in the Model School Building on Labor Day. My opinion is that the school really deserves its name because it has so many conveniences.

On that day four other teams besides ours gave a demonstration. We demonstrated once in the forenoon and once in the afternoon. The other teams demonstrated canning, hot lunch and handicraft. We drafted the bungalow apron pattern because it is a simple pattern, and also because it can be used for the making of several other garments.

Some people say, "Why bother with

down the front so we finish the raw edges off with a neat seam and tie it with a silk cord.

When making a dress we follow the same directions as for the apron, with this one exception, and that is, we lay a box plait in the goods over each shoulder before pinning the pattern to the material.

Nightgowns simply require a lengthening of the lines. It may be made wider by drawing a slanting line from the underarm to the bottom. The neck of the gown may be finished off with a crocheted yoke.

Our last year's club consisted of thirty-six girls, and all completed the work with the exception of four. We made middies, skirts and one-piece underwear. We also made French refugee garments. In our club of 1917 we made three garments and besides this we made several Belgium baby outfits. We also knitted blocks for a blanket and made hospital bags and "housewives." We kept a record of the

terested me most was the agricultural building because it displayed so many fine products of our state. I just could not help but think that we are living in a very fine state.

I believe every county was represented. Being Labor Day there were thousands of people at the fair. We went into many more buildings in which we saw very many things. Towards evening, feeling tired, we went to the city and took the train back to Saginaw.

The Michigan State Fair Association paid our fare. For this my team mates and I wish to thank them because we learned and saw so much on this trip. I feel that this trip alone has rewarded me for all the work that I have put into my club work.

To Judge Cattle

Boys and Girls Will Compete for
Prizes at National Dairy Show

THE boys and girls who are selected to compete October 8 in the National Junior Judging Contest for dairy cattle, at the National Dairy Show, Chicago, will come back with something worth while. The National Dairy Association, under whose auspices this contest is held, plans to make this the largest and most instructive junior judging contest ever held. It is expected that thirty teams, from as many states, will be at the judging arena when the contest begins, according to representatives of the Dairy Division, Bureau of Animal Industry, and the Boys' and Girls' Club section of the States Relations Service, United States Department of Agriculture, who are cooperating with the National Dairy Association in putting on the contest.

Thirty-nine gold, silver and bronze medals and a gold watch, offered by the National Dairy Association, will be awarded to the winners; and in addition to this, the first fifteen teams entered will be housed and fed in Chicago, at the expense of the National Dairy Association. Some of the dairy cattle breeders' associations also have signified an intention of awarding prizes to those doing the best work in judging the cattle of their respective breeds.

All Club Members Eligible.

Only one team can be entered in the contest from any one state. Any boy or girl between the ages of twelve and eighteen, who is a bona fide member of a club project, and who has not had more than six weeks' training in any agricultural college or short course at such an institution, is eligible for a team. Eligibility, however, must be certified by the director of extension of the state land-grant college.

Plan Many Extra Features.

Besides the excellent training in judging dairy cattle which will be obtained at a contest of this kind, the team members will enjoy a number of other advantages. Some of the leading breeders of dairy cattle will talk to the boys and girls and give them the benefit of their experiences in dairy cattle breeding. Tours of the city of Chicago are also planned for the judging teams, and the contestants will have an opportunity of seeing the places of interest and meeting the prominent people of the city and state.

Last year the judging contest was tried out on a small scale, six states being represented; and the success of

JUNIOR Canning

Team of the Morleytown Agricultural Club. Reading from left to right are Lucile Boivin, age 13 years; Geraldine Linzey, age 9 years; Agnes Boivin, age 9 years. This was the youngest team in Michigan and perhaps in the United States to give a Cold Pack Canning demonstration. Their leader was Edith L. Cornair, Chesaning, Michigan.



the drafting of a pattern when one can be bought so reasonably at any store?"

That is true, but we know from experience that all patterns will need alteration. But how are we to understand the alteration of a pattern if we do not know the first thing about the construction of a pattern? Then, too, it saves money which might be used in a better way.

From the bungalow apron pattern many different garments can be made, such as, kimonas, dresses, and night gowns. In drafting the apron pattern we first measure the length taken from the highest part of the chest to the bottom of skirt plus three inches for the hem and one inch for shrinking. We then measure from the center of the chest to the elbow for the desired length of the sleeve. Then we draw a slanting line from the underarm to the bottom. Next we round off the bottom to prevent the apron from sagging.

A kimona requires more fullness at the bottom than the apron, so we simply add the desired width by adding the material which has been cut out from the underarm to the bottom and there by setting in an extra gore.

The kimona is opened all the way

cost of materials used, and of the time spent, in a notebook.

A garment-making club does many things for a girl. It makes her independent in one way, because she can always make her own clothing and in that way save the money which she would have to pay the dressmaker. It also gives her experience in bookkeeping when keeping a record of the cost of material and the time she uses when making her garments.

Garment making has done all this for me, and as I intend to take it up all through my school years, I am certain it will do still more for me.

I am very anxious for the time to come when every boy and girl shall be interested in some sort of club work, and I sincerely hope that each one shall get as much out of it as I have. If anyone wishes to learn more about club work or wishes to take it up, for further information they should write to the Junior Extension Department of the Michigan Agricultural College.

Our team again demonstrated in the afternoon. After this we walked about the grounds and went into some of the principal buildings. The one which in-

this initial attempt prompted the plans for a larger contest this year. Practically all the states in the middle west have agreed to send teams to the contest, and some of the eastern and western states have signified their intention of competing.

What the Contest Can Accomplish.

The benefit from such an event is bound to be far-reaching. Thousands of boys and girls who competed in the local contests, then in the county contests, and finally in the state contest for state team membership, have obtained a fine training in cattle judging. Competition always arouses interest in a subject, and these contests have proven very effective as a means of teaching dairy cattle judging, and in developing a wholesome point of contact between boys and girls and the cow—that efficient producer of human food. There is a very urgent demand for good cattle judges in America.

Entries for teams that are to compete in this contest must be sent in by August 1, to W. E. Skinner, General Manager, National Dairy Show, Suite 222, 910 South Michigan Avenue, Chicago, and the names of the individuals who will compose the teams must be sent in by September 27. Details as to the classes of animals to be judged, the manner of judging, etc., will be announced later.

OUR FARM BUREAUS.

(Continued from page 71).

organizations, meanwhile, will be strengthened and the project of farmer-owned sugar factories pushed. It is the general sentiment that ample funds will be subscribed to build and equip sugar factories in the best beet districts to handle all the beets grown by their members.

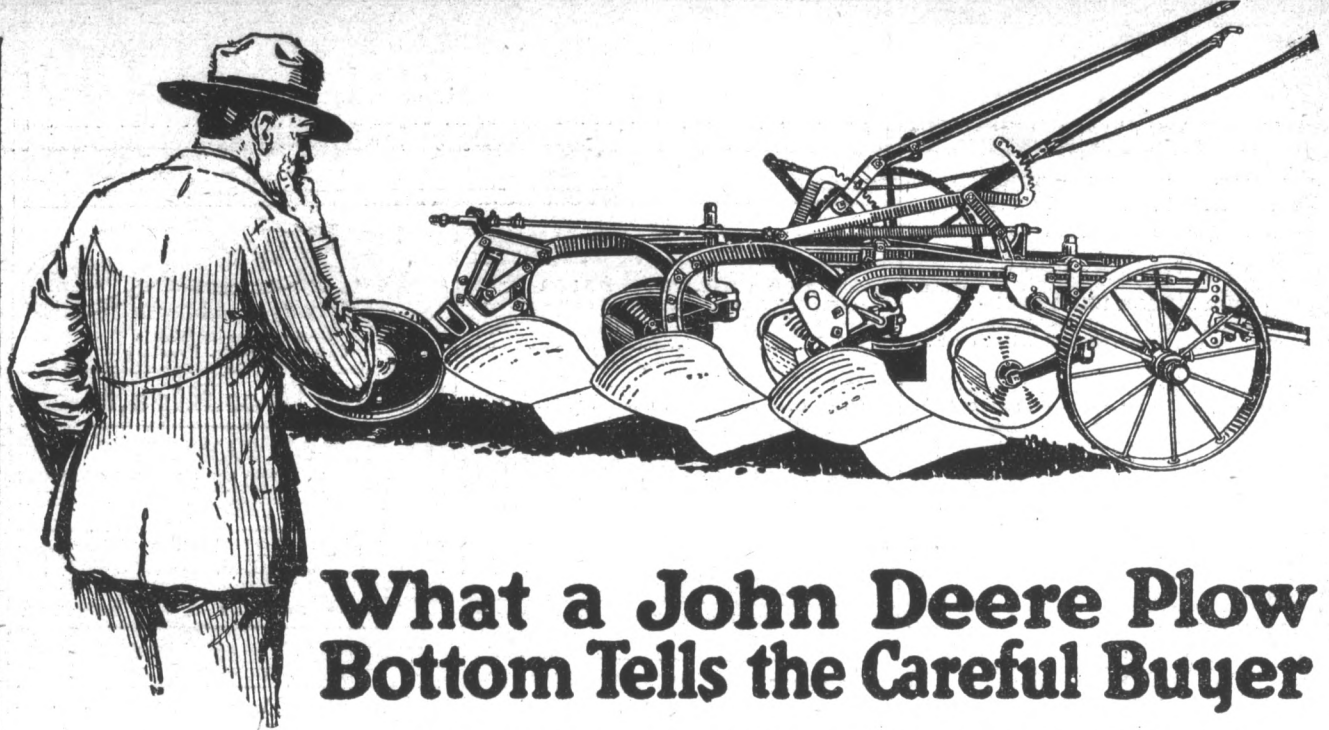
The Farm Leaders of Saginaw County.

Arthur G. Bovay.—“I was raised in Mecosta county,” said Mr. Bovay in an interview, “on a farm near Big Rapids, where I stayed until I entered the Michigan Agricultural College, in 1908. For three years I taught rural schools, and was able to get first-hand information concerning the condition of schools in the country. I graduated from the Michigan Agricultural College, receiving a Bachelor of Science degree, in 1912. Five years were then spent in Minnesota, in supervising agricultural work in high schools, and also doing extensive work as county agent.

“In the fall of 1917 I secured a position with the United States Department of Agriculture, Bureau of Markets, where I had charge of investigating and general marketing work. I resigned this position to accept the position I now hold of Farm Bureau Manager and County Agent for Saginaw county.”

Thomas C. Price, president of the Saginaw County Farm Bureau, was born in Saginaw county in 1873, and has been a resident of the county practically all his life. He was educated in the public schools of Saginaw, West Side, and was a member of the 1900 law class at the University of Michigan. Traveling extensively in Europe, he attended the Paris Exposition in 1900 and visited Switzerland, Germany, Holland, Norway, and the British Isles. In 1909 he made a trip to South America to study market conditions in the southern hemisphere, and gain the broad knowledge that comes from travel in foreign lands.

Mr. Price is also president of the Sugar Beet Growers' Association which has conducted a vigorous campaign this spring for better prices for beets grown, and is secretary of the Produce Growers' Exchange. He is a member of the executive committee of the Farm Bureau, and interested in kraut manufacture in this county. The Price farm is situated in Albee township a short distance south of the Flint river, and near the Sheridan town line road which extends directly south of the



What a John Deere Plow Bottom Tells the Careful Buyer

HIGH grade material and workmanship; a shape that assures good scouring, good pulverizing and light draft; special reinforcement at points where wear is greatest; strong and close-fitting quick detachable shares; and perfect support of all parts by an extra strong frog—these are qualities that you will find in examining the bottoms on

JOHN DEERE TRACTOR PLOWS

And don't forget that the bottoms lead in determining the value of any plow to the user. Their quality governs the value of your investment in a plow just as blade quality governs the value of your investment in a knife. Be sure to consider the special quality in John Deere bottoms—the product of 83 years of successful experience in plow-making—and then note these other features of John Deere Tractor Plows:

Beams guaranteed not to bend or break—with no time limit on the guaranty.

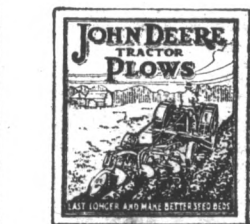
Simple, strong and positive power lift that raises the bottoms high and level. Lifting mechanism moves only when plow is being raised or lowered—practically no wear.

Great clearance in throat of beam to prevent clogging in trashy soil.

Wheelbase design that assures steady running and plowing at uniform depth in uneven ground.

Widely adjustable hitch, adapting the plows for use with any standard tractor.

Tell your John Deere dealer to show you John Deere Tractor Plows. He can furnish you with the size you want.



Send today for your free copy of the booklet describing John Deere Tractor Plows. It is full of valuable information for the man who needs a plow. Address John Deere, Moline, Ill., and ask for Booklet PS-626.

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BREEDERS' DIRECTORY

Change of Copy or Cancellations must reach us Ten Days before date of publication

Wildwood Farms Angus

Effies Lass 238203 sold on May 6th for \$7100. She was sired by Black Monarch 3rd. We are offering for sale Editor of Wildwood 295059 a full brother in blood lines to Effies Lass also four more choice bulls which are old enough for service and sired also by the champion show and breeding bull Black Monarch 3rd.

Our herd is under State and Federal Supervision.

WILDWOOD FARMS

ORION, MICHIGAN

W. E. SCRIPPS, Prop., Sidney Smith, Supt.

WOODCOTE ANGUS

Imported Herd Bulls
ELCHO OF HARVESTOUN (45547)
by Jason of Ballindalloch (36043)
EDGARDO OF DALMENY (45501)
by Escort of Harvestoun (30006)
Woodcote Stock Farm, Ionia, Mich.

For Sale At reasonable prices. Registered Aberdeen-Angus bulls from ten to twenty-two months of age. LANG BROS., Davison, Mich.

Reg. May Rose Guernseys

One bull service age. 17 months old bull calf. Farmer prices. Send for picture and pedigree. Herds on Federal Accredited List. GILMORE BROTHERS, CAMDEN, MICH.

GUERNSEYS. Federal Inspected. Headed by only son of Carrie of Hillhurst champion of A. A. class. 7 bulls under 10 mos. old and any 10 of 25 reg. females for sale. Write or come and see. G. W. & H. G. Ray on Electric R.R., 4 mi. east of Albion, Mich.

Registered Guernseys A choice bull 2 months old, will keep and ship when 6 months old, you must see his breeding to appreciate. J. M. WILLIAMS, North Adams, Mich.

GUERNSEY BULL CALVES whose sire's dam made 19,460.20 milk, 909.05 fat. Their mother's sire's dam made 15,109.10 milk, 778.80 fat. T. V. HICKS, Battle Creek, Mich.

For Sale Registered Guernsey bulls. May Rose breeding cheap if taken soon. Come or write. John Ebels R. 2 Holland, Michigan.

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

Guernseys Five pure bred Guernsey Bulls. Write your requirements. WALTER PHIPPS FARM, Geo. E. Currie, Mgr., 80 Alfred St., Detroit.

Holsteins of Quality

Fifteen High Grade Holstein Cows For Sale E. A. HARDY, Rochester, Mich.

BUTTER BOY ROSINA PRINCE 257572. Herd sire Son of King Oba. His sire is from a 30 lb. cow that made 1345 lbs. in one year, and Dam Butter Boy Rosina 2nd 20640 made 29 lbs., and almost 800 lbs. in ten months. She has a 33 and 34 lb. sister. Have some fine Bulls and Heifers and some heifers bred to him, all from A. R. O. Cows, with records from 22 to 30 lbs. Hampshire Hogs—Fall Boars ready for service, and gilts. Also looking orders for Spring Pigs—Belgium, Percheron Stallions and Mares. Imported and American bred. Write or come and see us. SAGINAW VALLEY STOCK FARM, Saginaw, W.S. Michigan. ELI SPRUNGER & SON, Proprietors.

Facts in BLACK & WHITE

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Imagine our cows averaging 4,500 quarts! Our farmers would then be able to make the finest, best and cheapest milk on earth, just as the Hollanders do now, and prosperity would abound, for every quart would mean profit.

Send for Free Illustrated Booklets.

THE HOLSTEIN-FRIESIAN ASSOCIATION
164 Hudson Street
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OUR HERD SIRE Model King Segis Glista

By a 30 lb. son of Lakeside King Segis Alban De Kol. His dam Glista Fenelle 32.57 lbs. Her dam Glista Ernestine 35.96 lbs. His three nearest dams average over 33 lbs and his forty-six nearest tested relatives average over 30 lbs. of butter in seven days. Write for prices on his sons.

Grand River Stock Farms
Cory J. Spencer, Owner Eaton Rapids, Mich.

CATTLE

A Good Note accepted in payment of finely bred registered Holstein bull calves. Quality of the best, and at prices within reach of all. Write, GEO. D. CLARKE, Vassar, Mich.

-WinnWood Herd- Flint Maplecrest Boy No. 166974 Has Made Good

one of his SONS will raise your herd to a higher standard and better production we have them for sale at moderate prices.

A Few Females For Sale

—OUR JUNIOR HERD SIRE—

Sir Ormsby Skylark Burke No. 264966

A brother to the world champion cow over all breeds.

DUCHESSE SKYLARK ORMSBY
Michigan's best bred Ormsby bull.
Better get on the list for one of his sons out of a daughter of Flint Maplecrest Boy.

JOHN H. WINN, (Inc.)
Roscommon, Michigan

Reg. Holstein Bull calf born Dec. 19, a beauty 3/4 white reg. and del. for \$100, would take Liberty Bond.
J. R. HICKS, St. Johns, Mich.

A BULLY GOOD BULL CALF.

Born July 1919. His six nearest dams have good yearly records. Amongst them are three world's records. Good individual, nicely marked, and worth in any good herd all he will cost. You can't pay too much for this kind. I have a fine four months bull, not quite so well bred but a nice one.
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LONG DISTANCE HOLSTEIN BULL CALF

Born Dec. 24, 1919. Seven close up dams average above 1200 lbs. butter and 24,000 lbs. milk in 1 yr. His dam untested—\$100. A. Fleming, Lake, Mich.

May Echo Sylvia Bull calf. 2 crosses to May Echo Sylvia, and 3 crosses to King of the Pontiacs. Dam a 2 yr. old daughter of a 23 lb. cow. 6 of his nearest tested dams average 34.49 lb. of butter and 759 milk.
O. H. GIDDINGS, Gobleville, Mich.

The Traverse Herd

We have what you want in BULL CALVES, the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dam's records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

"TOP NOTCH"

HOLSTEINS

McPHERSON FARMS COMPANY
has raised many great milk cows:—
1 Officially Produced

1	"	"	842 lbs. milk in 7 days
1	"	"	3394 lbs. milk in 30 days
1	"	"	120 lbs. milk in 1 day
1	"	"	511 lbs. milk in 7 days
1	"	"	over 10000 lbs. milk in 100 days
1	"	"	105 lbs. milk in 1 day
1	"	"	696 lbs. milk in 7 days
1	"	"	2669 lbs. milk in 30 days
1	"	"	100 lbs. milk in 1 day
1	"	"	20654 lbs. milk in 1 year
1	"	"	300 lbs. milk in 1 day
1	"	"	659 lbs. milk in 7 days
1	"	"	18675 lbs. milk in 1 year

Others under test are making large milk records. A fine lot of young bulls from 3 months to 2 years old for sale. Get a "milk" bull, and increase milk production in your herd.

Our herds are under U. S. supervision.
McPHERSON FARMS CO., Howell, Mich.

HOLSTEIN BULL CALVES FOR SALE

From dams with good records.
(BULL CALVES Sired by 45 lb. BULL.
BULL CALVES Sired by 34 lb. BULL.
BULL CALVES Sired by 33 lb. BULL.
PRICES VERY REASONABLE.

Privilege of return if not satisfied.
A. W. COPLAND,
Birmingham, Michigan.
Herd under State and Federal Supervision.

CLUNY STOCK FARM

A Semi-Official Bred Bull to Head

Your Head

Maplecrest Application Pontiac No. 132652, heads

Our Herd

His dam's record is 1344.3 lbs. butter 23,421.2 lbs. milk in 365 days, and 35,103 lbs. butter and 515'6 lbs. milk in 7 days.

One of his sons from our good record dams will carry these great blood lines into Your Herd.

For Pedigrees and Prices write to

R. Bruce McPherson, Howell, Mich.

As I Am About to leave the state, must sell my herd of ten (10) Registered Holsteins. Two daughters of Traverse Cadillac Lad. Two daughters of King Vale Palmyra Fayne. A grandson of King Fayne Segis from a 32 lb. dam. Farm near Marengo. Address, EDWARD M. PIERCE, Route 7, Marshall, Mich.

31.06 lb. butter 571.46 lb. milk in 7 days, is average of 9 nearest tested dams of 2 mo. old bull. Price \$150. Terms, M. L. McLAULIN, Redford, Mich.

Registered Holstein cows and heifers due to freshen this fall. Some bred to a 42 lb. bull. Price \$200 to \$400 each. B. B. REAVEY, Akron, Mich.

Herefords. Just purchased 3 new herds, now have 150 head; we offer you anything desired either sex, horned or polled, any age. Priced reasonable. **THE McCARTYS,** Bad Axe, Mich.

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20 Cows and Heifers of popular breeding for sale also bulls not related.

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Spring gilts and fall yearlings bred for March, April and May litters. I ship C. O. D., pay express and register in buyer's name. If you want a BIG TYPE sow, guaranteed right in every way, write me.

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For Sale Jersey bull calves of a steady breeding from good producing stock. Herd on Government "Accredited List." Write for price and pedigree to C. A. TAGGETT, R. 2, Fairgrove, Mich.

LILLIE Farmstead Jerseys—A few heifers bred to freshen soon, heifers bred to freshen next fall, 3 cows, R. of M. bull calves. O. C. Lillie, Coopersville, Mich.

Bulls ready for service from our herd bull Marguerites Premier, grandson of Fopie 99th of Hood Farm, and cows now on test for R. of M. Smith & Parker, Howell, Mich.

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You Can Buy

a bull that will put weights on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch and Scotch-topped yearlings, reasonably priced. A roan, senior yearling, a Missie of Villager breeding, a herd bull prospect, Federal Test.

BIDWELL STOCK FARM,
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Royal Bruce 78521 heads our herd. Three half brothers sold for \$55,000.00 one Cluny Proud Augusta going to head Wm. Duthies of Collyne's herd at \$21,000.00. One bull and a number of females for sale.
CARR BROS. & CO., Bad Axe, Mich.
Norman Carr, Secretary.

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Home of the Michigan Champions.

Shorthorn Sires in Service:

IMP. Lorne, IMP. Newton Champion, Sterling Supreme. Why not buy a young bull to head your herd that carries the blood that is making Shorthorn History. Only a few real headers left. Write your wants.

C. H. PRESCOTT & SONS, Tawas City, Mich.

Shorthorns New list 39 bulls, 49 females. Central Mich. Shorthorn Assn. write OSCAR SKINNER, Sec., Gowen, Mich.

Shorthorns Scotch and Scotch Topped bulls and heifers priced right. Sultan Champion heads herd, one scotch two yr. old herd bull by Red Cumberland priced right.
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Milking SHORTHORNS. Clay bred bull calves Hords under Federal Supervision.
Davidson & Hall, Beland & Beland, Tecumseh, Mich.

Shorthorns Good Scotch bred bulls, cows and heifers, priced right.
W. B. McQUILLAN, R. 7, Howell, Mich.

MEADOW HILLS SHORTHORNS. Herd headed by Silver King, full brother of Lavender Sultan Purdue University's great sire. For sale females of all ages, a few young bulls. Geo. D. Doster, Doster, Mich.

St. Joseph Valley Shorthorn Ass'n has for sale males and females of all ages and best breeding.
AARON HAGENBUCH, Sec. Treas. Three Rivers, Mich.

Milking Shorthorns of best Bates breeding, bulls 6 to 8 mo. old for sale.
E. H. KURTZ, Mason, Mich.

Shorthorn Bulls Eight to ten months old of Scotch and Scotch Topped breeding. Lawrence P. Otto, Charlotte, Mich.

Reg. Red Polled calves, under 6 mos. of age for sale. Some extra good ones of good breeding. Also one yearling.
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For Sale One Thoroughbred Brown Swiss Bull. Nine months old.
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Berkshires size with quality is our specialty. Write your wants to **M. G. MOSHER & SONS,** Osseo, Mich.

Registered Berkshires, Gilts, and Sows bred for April May and June farrow. A yearling Boar and a few younger. Spring pigs. Chase Stock Farm, Marlette, Mich.

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Write for catalogue.

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Duroc sows and gilts bred to Walts King 29499, who has sired more 1st and 2nd prize pigs at the State Fair in last 2 years than any other Duroc boar. Everyone will be a money maker for the buyer. Cat and price list.
NEWTON BARNHART, St. Johns, Mich.



Spring pigs by Walt's Orion, First Sr. Yearling
Detroit, Jackson, Gd. Rapids and Saginaw 1919
Phillips Bros, Riga, Mich.

OAKWOOD FARM DUROCS

We can furnish you with anything from a weanling pig to a boar of herd heading caliber at reasonable prices. Your inspection and correspondence is solicited.
RUSH BROS., Romeo, Mich.

12 Choice Duroc gilts bred to farrow July and August. Daughters of Michigan Cherry Col. bred to Jacks Cherry Oriol King Number 189259. Son of the \$10,000.00 champion Jacks Oriol King 2nd. All large type, heavy bone gilts, 250 to 300 lbs.
THE JENNINGS FARMS, R. 1, Bailey, Mich.

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Am Selling Durocs August 4th. Send for catalog.
W. C. TAYLOR, Milan, Mich.

Duroc Jersey fall and spring pigs for sale. We sell you only the best, ship C. O. D. subject to your approval. Register in buyers name and guarantee satisfaction.
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CHESTERS two good fall gilts bred to a boar of Wildwood Prince Jr. breeding for Sept. farrow: spring pigs.
F. W. ALEXANDER, Vassar, Mich.



The World's Champion

big type O.I.C.'s. Stock of all ages for sale. Herd headed by Calloway Edd, the World's Champion O. I. C. boar assisted by C. C. Schoolmaster. Grand Champion boar of Michigan, New York and Tennessee state fairs. Also, C. C. Giant Buster, undefeated Senior boar pig wherever shown and Grand Champion of Oklahoma state fair. Get our catalogue of Crandell's prize hogs, Cass City, Mich.

Central Mich. O. I. C. Swine Breeders Ass'n.

Hogs of all ages of popular blood lines. Every sale guaranteed by association.

DR. H. W. NOBLES,
Sales Mgr. Coral, Mich.

O. I. C's. One Sept. boar. March farrowed pigs of either sex.
O. J. THOMPSON, Rockford, Mich.

O. I. C. & Chester White Swine

Strictly big type with QUALITY. Spring pigs own ready to ship. Never had better ones. Remember I was breeding Big Type 20 years ago. They have a right to be big. Write us for prices.
NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

O. I. C's A few choice late fall and winter boars, also a fine two year old boar.
WEBER BROS., R. No. 2, Royal Oak, Mich.

O. I. C. Gilts bred for July and Aug. farrow. Also spring farrowed pigs.
G. P. ANDREWS, Dansville, Mich.

O. I. C. Gilts bred for Sept. farrow and spring pigs.
F. C. BURGESS, R. 3, Mason, Mich.

O. I. C's Eight young boars and spring pigs for June shipment.
CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C's Booking orders for spring pigs, we register free and ship C. O. D.
A. J. BARKER & SON, Belmont, Mich.

O. I. C's 5 last fall boars and 15 last fall gilts bred for fall farrow. Weight 230 to 325 lbs. extra good stock. Also this spring pigs not akin. 3/4 mile west of depot. Citizens phone 124. Otto B. Schulze, Nashville, Mich.

MILLER Meadow's L. T. P. O. boars all sold. Gilts sired by General Jones and bred to our young boar Alaska, address **OLYDE WEAVER,** Ceresco, Mich.

FOR SALE Registered Big type Poland China gilts bred for Sept. farrow, weighing 225 lbs. for \$60, spring pigs all sold, guarantee satisfaction.
DORUS HOVER, Akron, Mich.

L. S. P. C.

One 400 lb. sow and 7 pigs by side, price \$100.00. One 275 lb. gilt and 6 pigs by side, price \$85.00. Two choice boars.
H. O. SWARTZ, Schoolcraft, Mich.

Big Type Poland Chinas

Our herd is representative of the best in Big Type. The \$40,000.00 "The Yankee", the \$50,000.00 "The Clansman" and the priceless "Giant Buster" are all represented. We aim to keep up-to-date blood lines and only quality stuff. Boars for sale now. **PUBLIC SALE OCT. 26th.**
WESLEY HILE, R. 6, Ionia, Mich.

city for forty-two miles as straight as an arrow, without a single turn. Mr. Price is of that intelligent, progressive farmer type that makes steady progress in agriculture, and is a man whom it is a real pleasure to meet and converse with.

Christian Gugel, vice-president of the Saginaw County Farm Bureau, is a resident of Frankenmuth township where he has lived all his life, having been born on the farm, about two miles west of the village, which he now cultivates. On this beautiful rolling land on both sides of Cass river, comprising one hundred and thirty-five acres, Mr. Gugel grows general farm crops (excepting beets), beans, oats, wheat and corn being the principal products this year.

Mr. Gugel has held several county offices, which indicate the confidence the people place in him; and he is widely known through the county as a thoroughly reliable and faithful citizen. He is a firm believer in the movement of farmers doing more of farm business for themselves, and is a big booster with progressive ideas.

Fred Cornair, who is secretary-treasurer of the Saginaw Farm Bureau, is one of the progressive young farmers of the county. He is the owner of "Lone Elm," a fine stock farm in Chesaning township, noted for its Aberdeen Angus cattle and registered Jerseys, as well as a producer of pedigreed seeds. Mr. Cornair was president of the Farm Bureau for the last two years, and is a director in the Michigan Crop Improvement association. He also holds membership in several other state organizations.

When interviewed Mr. Cornair said: "We specialize in growing registered pedigreed seeds, and in the live stock line we have registered Aberdeen Angus for beef and a register of merit cow for a foundation herd of purebred Jerseys. Yes, we grow alfalfa. We get the best northern grown seed. Our farm is practically all tile drained, and we practice a three-year rotation, using clover and alfalfa. Lime and plenty of acid phosphate is used."

George Bennett was elected a member of the executive committee of the Farm Bureau for a term of two years, and lives in Brady township, directly west of Chesaning. He has been actively interested in the welfare of his community for a good many years, and is a member of the Grange in which he has held offices. He has also filled a number of township offices. Mr. Bennett is the owner of a good farm and is a thoroughly practical farmer and business manager.

William B. Hill is a resident of Blumfield township, living with his family on the farm upon which he was born, being the southwest quarter of section twenty-six. His father, took the land when a wilderness of forest in 1855, and it has ever remained in the family. Mr. Hill is generally regarded as a capable, conservative farmer among his associates, and highly respected by all as one of the real pioneers of this county. He grows a variety of farm crops principally oats, corn, barley and wheat, with a small acreage of beans. He has hitherto grown sugar beets, but this year has made an exception, leaving beets to some of his neighbors south of his farm, toward Frankenmuth, where I was informed, a number of farmers who had never before grown beets, were this year growing them.

The Hill family consists of Mrs. Hill and seven children. The eldest son is married and lives on a forty-acre farm adjoining, which his father presented to him several years ago. The eldest daughter is also married. The other children, ranging in years down to seven, are all active helpers on the farm. Two daughters, who during the war were in the service as clerks in Washington, returned home in 1919 at the height of the harvesting, and the next

DIG YOUR POTATOES THE FARQUHAR WAY

A Farquhar Digger will get you more marketable potatoes, and besides save much labor. These machines are sufficiently strong to stand the strain of hard continuous usage. They dig clean, and leave the potatoes convenient for picking. The No. 1 Elevator shown above has paid for itself in one season for some users. Rigid tongue construction holds Digger steady on the row avoiding cutting. Either Cross Bottom or Angle Bucket Elevator to suit different soils. Larger size Elevator Diggers for deep planting and bad conditions. Engine drive, if desired.



No. 1 Elevator means larger profits for growers.

"Success Jr." The place that pays dividends on an acre patch.



Large illustrated Digger Catalog free on request. Every grower owes it to himself to send for this booklet.

A. B. FARQUHAR CO., Ltd., Box 212 York, Pa.

Also Engines and Boilers, Tractors, Sawmills, Threshers, Cider Presses, Grain Drills. Ask for literature.

HOGS

Bred Sow Sale at Fairgrounds

August 5th. Carey U. Edmonds, Hastings, Mich.

Big Type P. C. Bred gilts, Fall yearlings, prize winners, out 100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

BOARS! Oh Boys!

Sons and grandsons of the Mighty Giant Buster. The big boned useful kind. Priced for a quick sale. JNO. C. BUTLER, Bell Phone, Portland, Mich.

Big Bob Mastodon pigs takes the cake, book your order now. Fall boars and gilts sired by a grandson of Disher Giant, open or bred to Big Bob for Sept. 23 yearling sons. C. E. GARNANT, Eaton Rapids, Mich.

Big Type Poland Chinas with quality, at reasonable prices. Pigs of both sex, and bred sows and gilts. G. A. BAUMGARDNER, R. 2, Middleville, Mich.

Big Type Poland all sold out. Watch this ad for further announcements. Breeding stock for sale in season. L. L. CHAMBERLAIN, Marcellus, Mich.

LEONARD'S B. T. P. C. bred sows all sold. Order booked for boar pigs at weaning time from Mich. Champion Herd. E. R. Leonard, R. 3, St. Louis, Mich.

I am offering Large Type Poland China Sows, bred to F's Orange, at reasonable prices; also fall pigs. Write or call Clyde Fisher, St. Louis, Mich. R. R. 3.

"Lindhurst" Poland Chinas Mammoth Ben's Chief No. 352167 heads our herd. Sows by Mammoth Ben, Upome Lad, Joe Mastodon, Gertsdale Jones, and Capt. Price. Pigs by Mammoth Ben's Chief, Mountain Jack, and Orange Model. For sale fall boars and gilts sired by a son of Bower's Mammoth Joe. A few herd sows priced to sell. Get in line for spring boars. WM. H. LIND, City Phone, Alto, Mich.

6th ANNUAL P. C. Bred Sow Sale March 13, 1920. For particulars write W. J. HAGELSHAW, Augusta, Mich.

LARGE TYPE P. C. SWINE. One yearling boar, one fall yearling boar, fall pigs, a few more bred sows. R. W. Mills, Saline, Mich.

Poland China Brood Sows Bred for May and June farrow, \$50.00 Maplewood Stock Farm, Allegan, Mich.

HAMPSHIRE

Spring boar pigs, sired by Steuben's Perfection and Cherokee Jim, 1st prize Ind. State Fair. Other winners at other fairs. Tried sows bred. Satisfaction guaranteed. Will ship C. O. D. Address,

STEBEN'S HAMPSHIRE FARM

R. R. 3, Angola, Ind.

Edgewood Hampshires

All bred gilts sold. Now booking orders for gilts bred for fall farrow, and pigs for pig club work only. Depew Road, Edgewood Farm, Marion, Ohio.

Large Type Poland Chinas nothing for sale at present. Spring pigs doing fine. A. A. FELDKAMP, R. 2, Manchester, Mich.

BACON The highest priced pork product. Yorkshires are ideal bacon hogs. For sale, spring pigs, both sexes. WATERMAN & WATERMAN, Packard Rd., Ann Arbor, Mich.

Hampshires get your boar pigs, now a few bred gilts left new blood lines of quality. JOHN W. SYNDER, R. 4, St. Johns, Mich.

HORSES

BAY MARE

For Sale, sound and right in every way, weight about 950 lbs. Must be sold at once come and see her or write L. J. Hamlin, 496 Huribut Ave., Detroit, Mich.

Percheron Stallions and mares at reasonable prices; inspection invited. F. L. KING & SON, Charlotte, Mich.

Additional Stock Ads on Page 87

morning found both busy in the fields, one driving a binder. Of the other two boys, the lad of seven is much interested in poultry and has charge of the chicken yard in which there are upwards of seven hundred birds, some of pure strain.

Henry Doerr, another of the active leaders of the Farm Bureau work, and all his life a resident of Saginaw county, is an enthusiastic young farmer of Buena Vista township, which lies directly east of the city. He is a director of the Farm Bureau, and also president of the Buena Vista local Farm Bureau. He believes thoroughly in the farmers' cooperative associations and is giving valuable aid in extending them through the county. His fine farm is located about five miles from the city limits, and is, indeed, a stretch of beautiful country. General farm crops are raised with corn perhaps a specialty this year, the field I saw on June 21, consisting of about twenty acres, being the farthest advanced and in better condition than any I had seen to that date.

August F. Smith, of the older generation of farmers, has been a resident of Saginaw county for fifty-eight years. He has lived in Hemlock and has actually farmed for thirty-five years. His fine farm in Richland township, one of the most productive towns in the county, consists of eighty acres sown to general farm crops. Mr. Smith is president of the Hemlock Creamery Company, organized ten or twelve years ago, which has been instrumental in securing better outlet for dairy products, and is one of the leading business enterprises of the thriving village.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Pica.—Can you tell me why my cows are inclined to chew bones? A. R., Oxford, Mich.—Cattle suffering from a depraved appetite have perhaps been deprived of the kind of food they required, may not have had sufficient exercise and fresh air. Cattle pastured on low, swampy land become predisposed to this ailment. In treating such cases the aim should be to improve digestion, supply the animal with the kind of food needed; besides it should be of good quality. Mix together carbonate of iron, four ounces; bone flour, one pound; powdered gentian, four ounces; salt, half pound; fenugreek, one-quarter of a pound. Give to each cow a tablespoonful, and two or three tablespoonfuls of powdered wood charcoal in feed twice a day. Grass is the best summer feed for them.

Chronic Painful Lameness.—I have a horse that has been lame in hind legs for the past three months. He was first affected with scratches. I cured him; some time later he went lame, the same leg, and since then he has held foot off floor and ground, acting as if in great pain. Have had him treated by two different veterinarians, neither of them have seemingly helped him, but both prescribed blistering of leg. J. T., Caledonia, Mich.—Leave him alone until you can locate lameness. Rest is perhaps the proper remedy for him.

Slight Bowel Hemorrhage.—We have a two-year-old heifer due to come fresh next fall, that passes some blood with her dung and has been doing so for the past four or five days. She is not sick, eats and drinks good and is quite playful when out in the yard. We are feeding her silage twice a day, cornstalks once, and hay once. She is in good flesh. A. N. D., Montague, Mich.—Her bowels should be kept open, if so she will soon get well without giving her drugs. Feed her some grass.

Cow Gives Bloody Milk.—I have a young cow that calves on the fourteenth of May. Everything seemed to be all right. Now she is giving bloody milk. I would like to know the cause and remedy. J. H. S., Henfe Lake, Mich.—Lack of bedding, rough milking, stepping over logs or fence rails, bruising udder, are all common causes of cows giving bloody milk. Remove the cause and she will get well.



What Uncle Sam Says About Fertilizer Quality



"The difference between a good brand of fertilizer and a poor one lies not so much in the difference that may exist in the total amount of plant food contained in it as in the quality of the materials of which it is made." (U. S. Dept. of Agriculture.)

Quality in fertilizer, like character in men, is a question of performance and not of promise.

The Federal trade mark is the official stamp of quality. It is for your protection and guarantees to you in every bag of complete fertilizer the largest amount of—

Readily Available Phosphorus

The crop making material

Graduated Nitrogen

To feed the plant from seed-time to harvest

Soluble Organic Potash

From Ground Burley Tobacco Stems

In All—The largest amount of actual available plant food, in the best mechanical condition, for the least amount of money.

If your fertilizer dealer can't furnish you Federal quality in your fertilizer purchase, write us your needs and we will give you the benefit of our 35 years experience making fertilizers that give results in the field.

FEDERAL CHEMICAL CO.

Incorporated

Columbus, O.

LOUISVILLE, KY.

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FEDERAL FERTILIZERS

The Standard of Known Value



Time

is vital in the fertilizer situation this Fall. The world is short of wheat, the farms are short of labor. Fertilizer is needed more than ever, but the fertilizer manufacturers are short of cars and labor to load cars. It is impossible to supply the fertilizer needed this fall unless the shipping season is lengthened, and this can only be done by starting earlier. Why not place your order now for

ROYSTER'S FERTILIZER

TRADE MARK

F.S.R.

If you delay, you may fail to get Royster's. You may even fail to get ANY FERTILIZER.

F. S. ROYSTER GUANO CO.
TOLEDO, O.

LATEST MARKET REPORTS

SECOND EDITION.

The market reports in this edition were revised and corrected on Wednesday afternoon, July 14.

WHEAT

The active demand for this cereal featured Monday's trading in grain. The local price recovered 3c of the recent decline and news from Minneapolis quoted spring wheat 5@10c higher. Chicago reported the demand for new wheat active and scarcely any old for sale, and reports of active buying for export stimulated the market. Prices Monday on the local market were as follows:

Cash No. 1 red.....	\$2.90
Cash No. 1 mixed.....	2.88
Cash No. 1 white.....	2.88

CORN

Receipts of corn on the local market were moderate and reports from Chicago indicate a decline of 7c lower than Monday's quotations. On the local market quotations are as follows:

Cash No. 2 mixed.....	\$1.62
Cash No. 2 yellow.....	1.67

OATS

The demand for oats is easy, and prices declined 3c owing to liberal offerings and inactive buying. At Detroit quotations are as follows:

Cash No. 2 white.....	\$1.09
Cash No. 3 white.....	1.08
Cash No. 4 white.....	1.07

RYE

A decline of 5c is reported on the local market. Cash No. 2 rye is quoted at \$2.25 per bushel.

BEANS

A decline of 15c is reported. On the local market choice pea beans are quoted at \$7.10 per cwt.

SEEDS

There is no particular activity in the seed market and prices remain about the same as last week. Prime red clover is quoted at \$24.75; alsike, \$25; timothy, \$5.50.

FEEDS

The demand is taking care of the supply on the local market at the following prices: Bran, \$58; standard middlings, \$56@60; fine middlings, \$60@62; coarse cornmeal, \$75; cracked corn, \$77; chop feed, \$76 per ton in 100 pound sacks.

HAY

The market is quiet and receipts are moderate. Consumers are active buyers. On the local market prices are as follows: No. 1 timothy, \$37.50@38.00; standard, \$36.50; light mixed, \$36.50@37.00; No. 2 timothy, \$35.50@36.00; No. 1 clover, \$35.50@36.00; rye straw, \$13.50@14.00; wheat and oat straw, \$12.50@14.00 per ton in car lots.

POTATOES

Buyers are taking potatoes freely and prices are firm. Virginia potatoes are quoted at \$13.00@13.50 per barrel for No. 1 stock, and \$8@9 for No. 2 stock on the local market.

BUTTER

On the local market the demand is quiet and prices steady. Present quotations are 55c for creamery extras and 54½@56c for 1 pound prints.

CHEESE

There has been no material change in the demand and prices for cheese. At Detroit the quotations are as follows: Michigan flats, 26@26½c; New York flats, June make, 32½c; brick, 29c; long horns, 27c; Michigan single daisies, 26½c; Wisconsin double daisies, 26c; Wisconsin twins, 26½c; limburger, 31½@32c; domestic block Swiss, 32@36c; wheel Swiss, 35@65c; imported Swiss, 80c per lb.

POULTRY

The supply is limited and buyers are active. The demand is active for broilers and good hens, but other lines are inactive. Present quotations for live poultry are as follows: Broilers, 50@52c; leghorn broilers, 40@45c; hens, 35@36c; small hens, 32@34c; roosters, 20@22c; geese, 18@20c; ducks, 36@40c; turkeys, 40@45c per lb.

EGGS

The market is firm and prices have advanced ½c. On the local market No. 1 fresh rehanded are quoted at

43½c; storage packed, extras, 43½c per dozen.

NEW YORK PRODUCE MARKET.

Butter.—The market has been fluctuating during the past week and has been unsatisfactory from the point of view of the receiver. There is some decline in domestic consumption because of the summer season, but out-of-town purchasing has been active. Receipts are beginning to show a slight decline but it is fully expected that production will continue at a high point for several weeks because all conditions are favorable. There is considerable anxiety in the market at present because of the expected arrival of large quantities of Danish and Holland butter during the coming week. It is reported that 40,000 casks of Danish butter, aggregating approximately 5 million pounds, and 12,000 casks, aggregating more than 11-4 million pounds, of Holland butter are en voyage to this port at the present time. It remains to be seen what the effect of the arrival of so much butter will have on the market. The market was weak on Tuesday and Wednesday. Since that time it has strengthened and is fairly active at present. Quotations are: Extras, 57½@58c; higher scoring than extras, 58½@59c; firsts, 53@57½c; and, seconds, 47@52c.

Cheese.—The market for State cheese has held uniform throughout the week. However, there has been a decline in price of western varieties. While holdings in western storages are increasing rapidly, those in this market are very moderate. There is practically no movement in skims except for those of very high quality. Quotations are: Fair to good, 24½@25½c; average run, 26@27c; and, specials, 27½@28½c; skims, prime to

choice, 16@18c; fresh specials, 18½@19½c.

Eggs.—Receipts of eggs during the week have been very light and demand has been exceptionally strong. The result is a better market. The quality in general is not good, although there are certain marks that are holding up exceptionally well. There is a very critical trade at present, especially among those who are purchasing for storage purposes. Quotations are: Seconds, 39@43c; firsts, 44@48c; extra firsts, 49@51c; and, extras, 52@53½c.

Poultry.—Receipts have been light and demand has been heavy. As a result the market has gradually gained strength throughout the week. The principal demand has been for fowls. Old roosters have been selling to a disadvantage and the price has declined. However, there was some recovery toward the close of the week. Quotations are: Fowls, 34@36c; broilers, 50@62c; old roosters, 22c; turkeys, 35c; ducks, 25c, and geese, 18@20c.

DETROIT GROWERS' MARKET

Consumers are taking all kinds of vegetables freely and receipts are not heavy.

Beans, wax, \$2 to \$2.50 bushel; beets, 30c to 40c dozen bunches; cabbage, \$2.25 to \$2.75 bushel; carrots, 30c to 40c dozen bunches; cherries, \$6.50 to \$7 for 24 quarts; currants, \$5 to \$7.50 for 24 quarts; endive, 50c to 60c bushel; gooseberries, \$5 to \$6 for 24 quarts; head lettuce, best, \$1.50 to \$2 bushel; poorer, 40c to \$1 bushel; kohlrabi, 75c dozen bunches; leaf lettuce, 35c to 50c bushel; onions, 16 to 28 small bunches, \$1; peas, \$2 to \$2.50 bushel; red radishes, best, \$2 to \$2.75 bushel; poorer, \$1.25 to \$1.75 bushel; romaine, 40c to 50c bushel; black raspberries, \$7 to \$8 for 24 quarts; red raspberries, \$12.50 to \$15 for 24

quarts; strawberries, \$10 to \$12 for 24 quarts; tomatoes, greenhouse, best, \$3.75 to \$4 for 14 pounds.

DETROIT MILK PRICES

The Detroit Milk Commission has established a price of \$3.70 per hundred pounds for all milk F. O. B. Detroit. City prices are 16 cents per quart and 9 cents per pint. The price raise all goes to producers.

COMING LIVE STOCK SALES.

Durocs—August 6, Michigana Farm, Pavilion, Michigan.

HOLDEN

LIME, PHOSPHATE
and FERTILIZER
DISTRIBUTOR

SPREADS
WET or DAMP
LIME ROCK



30 Days Free Trial

If the Holden does not do all we claim, return it.
Increase your crops by spreading. Get a hardier, more certain stand. Put life back into the soil. Save labor and time and make bigger profits by using this lime phosphate and fertilizer distributor.

(Write for trial offer and for folder)
Tells everything. Holden spreads 16 feet wide. Handles wet and damp lime rock. Passes egg size rocks. Attaches to any wagon in 3 minutes. No heavy lifting. Light draft. Find out all about it. Write.

The HOLDEN CO., Inc.
Dept. 30 Peoria, Ill.

SPREADS 16½ FT. WIDE

Live Stock Market Service

DETROIT

Cattle.

Common light stockers and feeders very dull; all other grades steady.
Best heavy steers \$13.50@14.50
Best handy wt bu steers 12.50@13.50
Mixed steers and heifers. 10.00@11.50
Handy light buachers.... 8.50@ 9.50
Light butchers 7.00@ 8.00
Best cows 8.00
Butcher cows 7.00@ 8.00
Cutters 5.00
Canners 4.50
Best heavy bulls..... 8.00@ 9.00
Bologna bulls 7.00@ 8.00
Stock bulls 6.00@ 7.00
Feeders 9.00@10.00
Stockers 7.50@ 8.50
Milkers and springers....\$ 60@ 100

Veal Calves.

Market 50c lower.
Best \$17.00@17.50
Others 7.00@16.00

Sheep and Lambs

Market steady.
Best lambs \$15.00@16.00
Fair lambs 13.00@14.00
Light to common 10.00@12.00
Yearlings 8.00@10.00
Fair to good sheep..... 5.00@6.50
Culls 2.00@ 4.00

Hogs.

Market dull.
Pigs \$14.50
Mixed hogs 15.50@16.00

CHICAGO.

Hogs.

Estimated receipts today, 21,000; holdover, 14,805. Market mostly 10@15c lower; very little doing; bidding sharply lower. Bulk of sales, \$15.65@15.90; tops, \$16.15; heavy 250 lbs. up, medium, good and choice, \$14.35@15.60; medium 200 to 250 lbs, medium, good and choice, \$15.20@16; light 150 to 200 lbs., common, medium, good and choice, \$14.90@16; light lights 130 to 150 lbs., common, medium, good and choice, \$13.90@15.70; heavy packing sows 250 lbs. up, smooth, \$13.50@14.35; packing sows 200 lbs. up, rough, \$13@13.50; pigs 130 lbs. down, medium, good and choice, \$12.75@14.50.

Cattle.

Estimated receipts today, 9,000.

Market steady. Beef steers, medium and heavy weight 1,100 lbs. up, choice and prime, \$16.15@17.15; do medium and good, \$13@16.15; do common, \$10.75@13; light weight 1,100 lbs. down, good and choice, \$15.10@16.85; do common and medium, \$10@15.10; butcher cattle, heifers, common, medium, good and choice, \$6.50@14.75; cows, common, medium good and choice, \$6.50@12.75; bulls, bologna and beef, \$6.25@12.25; canners and cutters, cows and heifers, \$4.25@6.50; do canner steers, \$4.50@7.50; veal calves, light and handyweight, medium, good and choice, \$12.25@14.25; feeder steers, common, medium, good and choice, \$8.50@10; stocker steers, common, medium and good and choice, \$6@10.75; stocker cows and heifers, common medium, good and choice, \$5.25@8.50; stocker calves, common, medium, good and choice, \$8.50@10.

Sheep and Lambs

Estimated receipts today, 15,000. Market active and steady. Lambs, 84 lbs. down, medium, good, choice and prime, \$13.50@16.75; do culls and common, \$7.50@13.50; spring lambs, medium, good and choice and prime, \$10@14; ewes, medium, good and choice, \$6.50@9; ewes, cull and common, \$3@6; breeding ewes, full mouths to yearlings, \$6.50@11; yearling wethers, medium, good, choice, \$11.50@13.75.

BUFFALO

Cattle.

Market steady; shipping steers, \$16@16.75; butchers, \$9@15.50; yearlings, \$15@16.50; heifers, \$7@13; cows, \$3@10.50; bulls, \$6@10; stockers and feeders, \$6@10; fresh cows and springers, \$60@150.

Calves.

\$1.00 higher at \$18.50.

Hogs.

Pigs, \$15.50@15.75; yorkers and mixed, \$17@17.25; medium and heavy, \$16@17.

Sheep and Lambs.

Lambs steady. Lambs, \$8@17; yearlings, \$7@13; few at \$14; wethers, \$8.50@9; ewes, \$3@8; mixed sheep, \$8@8.50.

VETCH Separator

—FOR—

Separating
Vetch
from
Wheat
Rye
or Oats

The Sinclair Scott Co.
Baltimore, Md.

For Best Net Results

Ship to

CULOTTA & JULL

Detroit, Mich.

"Enough Said!"

Mr. POULTRY FARMER:

We make a specialty of White Henery Eggs and have created a profitable market for your eggs the year around. We pay the highest premium for your Henery Whites—We remit same day shipments arrive. Ship Often—Ship by Express

GEO. R. ELDRIDGE CO.

494-18th Street, Detroit, Mich.

Remember! We guarantee you satisfaction with every shipment

Eggs

We have a good demand for fancy fresh eggs and will pay you 5c per dozen, delivered Detroit, cases included for express shipments strictly new laid eggs shipped direct by farmers. This price good for week July 24th, 1920. AMERICAN BUTTER & CHEESE COMPANY, Detroit, Mich.

HAY Ship to The Old Reliable House Daniel McCaffey's Sons, 623-625 Wabash Bldg., Pittsburg, Pa.

Potato sprayer. A four row one or two horse sprayer. All brass fittings double action pump driven from axle, two years old, \$55.00. PETER WALSH, 255 Boston Blvd. East, Detroit, Hemlock 2433 M.



What troubles are due to faulty lubrication?

BURNED-OUT bearings, scored cylinders, worn piston rings, fouled spark plugs, worn cam shaft, loose wrist pins and pitted valves are responsible for 85 percent of all engine repair jobs. Each is due to faulty lubrication.

You probably spent months in deciding what car, truck or tractor to buy, but have you devoted an hour's thought to preserving its value by proper lubrication.

In 44 years in the oil business we have learned some essential facts which will save you many a dollar if you know them. They are certainly worth sending a post card for right now.

The Globe Refining Company,
Cleveland, Ohio.



Thousands of Happy Housewives in Western Canada

are helping their husbands to prosper—are glad they encouraged them to go where they could make a home of their own—save paying rent and reduce cost of living—where they could reach prosperity and independence by buying on easy terms

Fertile Land at \$15 to \$30 an Acre

—land similar to that which through many years has yielded from 20 to 45 bushels of wheat to the acre. Hundreds of farmers in Western Canada have raised crops in a single season worth more than the whole cost of their land. With such crops come prosperity, independence, good homes, and all the comforts and conveniences which make for happy living.

Farm Gardens—Poultry—Dairying

are sources of income second only to grain growing and stock raising. Good climate, good neighbors, churches, schools, rural telephone, etc., give you the opportunities of a new land with the conveniences of old settled districts.

For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan, and Alberta, reduced railway rates, etc., write Department of Immigration, Ottawa, Can., or

M. V. MacInnes,
176 Jefferson Ave., Detroit, Mich.
Canadian Government Agent.

SHEEP. KIDS

I cannot sell you any more ewes until next fall. To some grown up, I can offer 10 very good young Shropshire ewes that will lamb in April for \$400.00. Their lambs contracted to me should not more than purchase price next fall. Also 10 mighty nice ewe lambs for \$350.00. Come and see them.

S. L. WING, KOPE-KON FARMS, Coldwater, Mich.

Idle Wild Stock Farms Shropshire yearling rams from prize winning stock. Make your selection early. Cliff Middleton, Proprietor, Clayton, Mich. R. 3.

Want a Sheep? Let America's Hampshire Sheep Association send you dandy booklet with list of breeders. Write COMFORT A. TYLER, 22 Woodland Ave., Detroit, Mich.

Farms and Farm Lands For Sale Must Be Sold by fall. 122 acres highly improved, good buildings 3 miles from Lansing, Mich. buy of owner cheap. S. W. HEMPEY, R. 7, Lansing, Mich.

80 A. FARM all improved large orchard, on state road, borders city 1 mile to high school. Box A-717, care of Michigan Farmer, Detroit, Mich.

BRIGHT OUTLOOK FOR CATTLE.

WELL-INFORMED men on such matters regard the outlook for fat cattle as extremely encouraging, their view being that prices are going to gradually work higher. On the other hand, the chances are that common, medium and grassy cattle will work lower as supplies of grass cattle increase in numbers. At the present time good corn-fed yearlings and fat little yearlings are selling at high figures, even if the extreme prices quoted a few weeks ago are not being paid. Steers weighing from 1,000 to 1,300 pounds are selling to good advantage as well as heavier steers, and not long since sales took place at \$17 to \$17.25 per hundred pounds, with later tops around \$16.75, that price being paid for three carloads of prime, 1,720-pound cattle. On the same day a train load of California steers which averaged 1,175 pounds sold on the Chicago market for \$12.15. The weather cuts an important figure in the beef trade, and during the recent hot spell it fell off so much that cattle were much depressed in prices, the offerings for a week mounting up to 63,600 head and forcing a big break in prices. That would have been a big supply for a winter week, when the consumption of beef is far greater than in the mid-summer period. The best demand is for light weight cattle that are fat, with the packers buying fleshy feeders with a "kill." Texas cattle have been running freely, and the season is close at hand for large supplies of native grassers.

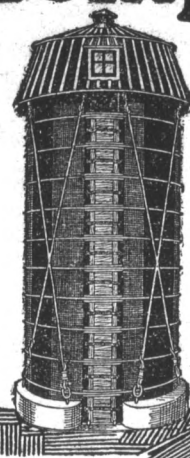
CHICAGO LAMB TRAFFIC.

SINCE the season opened for marketing Idaho range lambs there has been an enormous decline in prices, the first shipment having brought \$18.50 per hundred pounds. A short time ago sales of Idaho lambs embraced six hundred head which averaged sixty-two pounds at \$12.75 and 1,300 which averaged around sixty-seven pounds at \$14.25, with sales a few days later up to \$15.50, while Idaho wethers brought \$8 and range yearlings \$9.50. Following the custom of years, the term "spring" was dropped on July 1 in referring to lambs dropped this year. Flocks previously described as aged lambs are now designated as yearlings. Unfortunately, the marketing of lambs is apt to be extremely irregular, supplies at times greatly exceeding the market requirements, and during a recent week the Chicago supplies mounted up to 93,550 head, precipitating a decline of from \$3 to \$5 per hundred pounds in fat flocks, while aged sheep were off about \$2. On the low day the best lambs sold for \$13 to \$13.50, with culls down to \$6. It was the worst break in the history of the Chicago Stock Yards. Some rare bargains in feeder lambs and yearlings have been picked up by country buyers, and good yearling breeding ewes have also sold at bargain figures. Lamb prices are much below those paid in recent years, the best having sold at \$17.60 one year ago, \$19.25 two years ago and \$16.50 three years ago; but the best brought only \$11.10 four years ago and \$10 five years ago.

HIGHWAY QUESTIONS

1. Can the highway commissioner or township compel me—or anyone—to cut the brush and weeds on the right-of-way of a public road along my farm?
 2. Has the highway commissioner any right to roll or throw stones on my land and leave them there in grading the road along my farm?
 3. The farm adjoining mine has a bunch of brush or second growth about forty rods long, averaging forty feet in height. Can I recover damages on crops from shade?—J. M.
1. Yes. 2. No. 3. Yes.—J. R. R.

Prompt Shipment GUARANTEED



The E. W. Ross Co.
220 Warder St., Springfield, Ohio.

Gentlemen:

Without obligation, send me at once full details of your special proposition on:
[] Champion Creosoted Wood Silos,
[] In-de-str-uct-o Metal Silos.

Name.....

Address.....

Silos

for LIFETIME SERVICE

It is not too late to get a Ross Silo in ample time for use this Fall—if you act quickly. Mail the coupon or a post card today for catalog, bedrock prices and full details of our prompt shipment guarantee on all orders placed within the next thirty days.

Champion Creosoted Wood and In-de-str-uct-o Galvanized Metal Silos Ready to ship—and we Guarantee to carry Out Our Promise of Rush Delivery!

Champion Creosoted Wood Silos give best silage and longest service per dollar invested. Rot-proof, non swelling, oil-filled staves planted in a solid concrete foundation make Champion Silos indestructible. Anchored by heavy interlocking steel cables. Positively cannot creep or twist—this is the most popular silo made.

In-De-Str-Uct-O means the best metal silos. Thousands in use. Easy to erect. Warranted fire-proof, storm-proof and acid-proof. Gives perfect silage and lasts a life time. Backed by highest farmer endorsements.

Remember! The man who acts now saves big money on his corn crop. Delay may cost far more than a silo's price.

THE E. W. ROSS CO.

220 Warder St.,

Springfield, Ohio

Manufacturers of CHAMPION Creosoted Wood IN-DE-STR-UCT-O GALVANIZED METAL Silos

CHICKS

200,000 strong, sturdy chicks for June and July. Delivered safely at your door by parcel post. From selected bred to lay trains.

PREPAID



CHICKS

Highest quality.

By parcel post prepaid
W. Leg. \$13 per 100
Br. Leg. \$14 " "
Eng. Leg. \$14 " "
Anconas \$15 " "

All our chicks are from selected breeders, kept on free range. Get your order in for some of these high grade chicks and be a successful poultry breeder. Special price on 1000 lots

Wingarden Hatchery, Box M, Zeeland, Michigan

MICHIGAN LIVE STOCK INSURANCE COMPANY

INDEMNIFIES Owners of Live Stock—Horses, Cattle, Sheep and Hogs
Against Death by Accident or Disease

308 Davidson Building,

Bay City, Michigan

Farms and Farm Lands For Sale

Fully Equipped Farm With Growing Crops

\$1500 cash gives possession including 2 horses, 10 cattle, hogs, poultry, wagons, machinery, tools and part growing crops; level productive fields, 75-cow pasture; valuable timber, market nearby; variety fruit, 400 sugar maples, 2-story house, good water, maple shade; 2 barns, 100-ft. cattle shed; owner's plans force sale, everything goes for \$4,000, only \$1500 cash, balance easy terms. Details page 72 Strout's Big Illustrated Catalog Farm Bargains 33 States. Copy free. STROUT FARM AGENCY, 814 B C Ford Bldg., Detroit, Mich.

For Sale Immediate possession 120 acre grain or dairy farm, 2 houses, necessary out-building, 16 head of cows, 5 horses, 37 acres rye, 40 acres horse corn, 1 acre of cabbage, 3 acres tomatoes, 5 acres white potatoes, 25 acres new hay, 60 laying hens, cows producing \$124 weekly. Price \$24,000. C. J. LAME FARM AGENCY, Inc., Burlington, N. J.

F-O-R S-A-L-E

100 acres three miles to city, seventy acres cleared, some timber, very productive, good house, barn and other buildings, price \$8000, one third down, balance long time payments, will sell stock and tools and give immediate possession, James S. Bicknell, Clare, Mich.

140 ACRES first class, gently rolling land, fine buildings and location in Central New York State for \$12,000. Part cash balance easy. Write for full particulars. FORT AND WILDER INC., Oneida, N. Y. Members of the Farm Brokers' Association, Inc.

160 acre stock and dairy farm, grain, etc. 12 miles south of Lansing on Memorial road. Nearby markets, school, church, all delivery, condensed milk route, telephone, Spring water, pasture 1000, tree sugar bush, other valuable timber. Barn 30x50. Good 9-room house piped for hard and soft water. Going to California. Maplebrook Farm, Mason, Mich.

FOR SALE

An ideal home, 100 acres, 20 A. good timber. Good buildings, good level land. No waste land. Excellent orchard, located on main gravel road. Woods in right place. A bargain. O. D. Grose, R. 4, Box 44, Fenton, Mich.

F-O-R S-A-L-E

320 acres pasture land, half mile to R. R. Station, plenty of good timber, fenced with woven wire in 160 acre tracts, price \$4800, one third down, balance time, runs down to Lake George, beautiful location for summer home. Address James S. Bicknell, Clare, Mich.

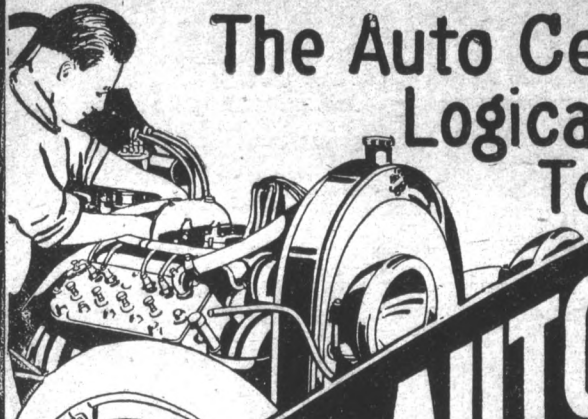
Farms in southeastern North Dakota in the Famous James River Valley Butte county North Dakota. 20,000 acres must be sold immediately. Write for big free list. JOHN B. FRIEDLAND COMPANY, Jamestown, North Dakota

FOR SALE 80 acres, about 40 acres cleared, good house, small barn, lots of wood timber, well watered. Price \$3000, one third down balance, in yearly payments. Address JAMES S. BICKNELL, Clare, Mich.

FOR SALE Choice unimproved farm lands in Thumb district of Michigan. Suitable for getting farming, dairying, grazing. Near railroads and good markets. Buy direct from owner and get better land for less money. Albert Heath, Harbor Springs, Mich.

DETROIT

The Auto Center is the
Logical Place
To



Training for
Head and
Hand

LEARN AUTO AND TRACTOR BUSINESS

12,000 practical, competent, well trained graduates over the Country are daily proving the thoroughness of our course of instruction. They are successful and give all credit to the "Old Reliable" M. S. A. S. They are a prosperous, contented, happy lot of fellows. Business comes to them because car owners are glad to put their cars into the hands of M. S. A. S. graduates. Thousands of letters from these graduates verify our statements and show we are working in the right direction, and prove that DETROIT—The Heart of the Auto Industry—is the logical place for training in Auto Mechanics.

Earn \$100 to \$400 Monthly

Factories, Garages and Service Stations all over the Country are continually asking for our graduates. They know the value of the training we give and do not hesitate to give our men the preference. The training you get here will fit you to hold positions which before were out of your reach. Your success in the Auto Business depends upon your training—what you know plus what you are taught and trained to do correctly. M. S. A. S. training removes the obstructions, gives you the necessary self-confidence and makes possible largely increased earning capacity. Here at the M. S. A. S. you are thoroughly instructed in every phase of Auto Mechanics. You learn every part of the work by actually doing it. Such training enables you to earn the biggest salaries in the business. Many graduates who are in business for themselves make \$5,000 to \$10,000 and more yearly.

Auto Factories Endorse School

The thoroughness of our methods and the completeness of our equipment are well known in the Auto Industry. The Auto Factories here in Detroit heartily endorse our Courses. We have letters from such factories as Packard, Maxwell, Hudson, Chalmers, Hupmobile, King, International Harvester Co., and others. These factories are constantly calling on us for graduates. They furnish us their latest chassis for students' instruction.

Unlimited Opportunities

Hundreds of our students go right into business of their own—many of them previously thought such a thing impossible. Our training gives them the knowledge and the necessary self-confidence, and these students are successful. They write us of having incomes way beyond their expectations, all because of the training received at the M. S. A. S.

Students From 'All Quarters of the World

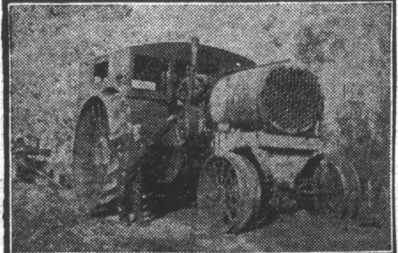
Men are coming to our school from every quarter of the Globe, recognizing Detroit as the World's training place for Auto, Truck and Tractor mechanics. Our School is open the year 'round. Enter the classes any day. Our Welfare Department will assist you in finding a good room and splendid meals.



Class Instruction

Money-Back Guarantee

We guarantee to qualify you for a position as Chauffeur, Repair Man, Demonstrator, Auto Electrician, Garage Man, Automobile Dealer or Tractor Mechanic and Operator or Farm Lighting Expert, paying from \$100 to \$400 monthly or refund your money.



Many Train at Detroit and Return to the Farm

If you don't care to engage in the Garage business—but must have a thorough knowledge of Auto Mechanics, THIS IS YOUR CHANCE. Come to Detroit, The Heart of this Great Industry and learn to operate, adjust and repair your machines yourself—save thousands of Dollars in repair bills and in long delays which so often prove costly at busy seasons. Think, too, of the money you can make in your spare time adjusting and repairing your neighbors' machines, either in a small shop on your own farm or at some conveniently located place nearby.

Previous Experience Makes No Difference

It makes no difference what you have done or what you are doing, you can successfully learn the Auto and Tractor Business if you so desire. Our Courses will positively teach you this wonderful business with its promise of a bright future in an unlimited field of Opportunity. Grit, perseverance, determination, a willingness to work and a desire to get ahead are the chief requisites. If you have them our Courses will teach you the work—will fit you to command big money.



Shop Instruction

Best Preliminary Training for Auto, Truck and Tractor Salesmen

Here is a big field for our students. The training we give helps you to know machines as no average salesman can know them. Your thorough knowledge of the various makes enables you to estimate fairly the value of old machines taken in exchange for new cars, and you are qualified to give expert advice on Autos, Trucks and Tractors. Such advantages mean superior salesmanship and more sales.

Modern Equipment

Modern Automotive School Equipment means more than merely modern equipment. It means we must have old as well as modern equipment for purposes of instruction. Here you will find every type of motor from a stationary gas engine to a Packard "Twin Six," here are Two, Four, Six, Eight and Twelve cylinder motors as well as the Knight Sleeve valve type. Our students become thoroughly familiar with these through actual shop work. Every student has complete instruction in Auto Electrics as a part of the regular course. Automotive Electric instruction is important for future success. Practically every Starting, Lighting and Ignition System and other needed electrical equipment such as magnetos, coils, distributors, etc., are here for the students to work on and learn. Throughout the entire Course each subject is taught with the practical idea and practical practice and while the theory is taught, actual shop work gives experience and thereby knowledge is retained. Such methods have proved to be the best assurance for thorough instruction.

What We Teach---and How

Each student is thoroughly taught Auto, Truck and Tractor construction. This knowledge is gained in class instruction and by actually doing shop work. We train both the head and the hand. Every part of a car and its operation is explained and taught in detail. Starting, Lighting, Ignition, Carburetion, Lubrication, Transmissions, Differentials, Chassis construction, etc., all are covered thoroughly and practically. Not one thing is omitted. The feature of thoroughness of instruction which distinguishes our courses, is the strongest reason why prospective students, wherever they may be situated, should come to Detroit and enroll with the "Old Reliable" M. S. A. S.



Not a One-Man School
This School is founded on the best, newest and most practical principles in the Auto, Truck and Tractor business. Our Courses are built with the closest and most liberal co-operation from Manufacturers, Garages, Service Stations and Owners. It is not one man's ideas, but the combined ideas of the biggest and most successful men in each field. A. G. ZELLER, President

Brazing, Welding and Tire Repairing Taught

These subjects are fully covered in complete Courses separate from the regular Course. Brazing and Welding have become a most important part of the Auto Industry and students taking the course are thoroughly instructed in the subjects. Our Tire Repair Course is most complete and comprehensive and furnishes a valuable addition to the equipment of a student entering the Auto Industry. The increasing numbers of autos makes a constantly increasing demand for trained, competent tire repair men.

Farm Tractor Instruction Part of Regular Course

Complete and thorough instruction on the care, repair and operation of Farm Tractors is a part of our regular Course. The constantly increasing use of Farm Tractors has created a big demand for trained Tractor Men. Manufacturers have placed machines with us for the instruction of students.

Ask for Catalog--Write Today

The new catalog tells the complete story of our School and the several Courses. Gives the names and letters from some of the many graduates who have made good because of the training received at the "Old Reliable" M. S. A. S. "The Detroit Auto School." Mail the Coupon today and get this wonderful book, or better still, say when to expect you, then jump on a train and come. Hundreds have done it and were well repaid. Don't delay. Don't wait. Write or Come—NOW—Today.

SEND THIS COUPON TODAY

MICHIGAN STATE AUTO SCHOOL,
1007 Auto Bldg., 687-91 Woodward Ave.,
Detroit, Michigan, U. S. A.

Gentlemen:—Please send me absolutely FREE New Illustrated Catalog, "Auto School News", and information as checked below.

☐ Auto and Tractor Course
☐ Tire Repairing ☐ Brazing and Welding
(Mark each course you are interested in)

Or, better still, you can expect me about

Name _____
Street _____
City _____ State _____

THE STUDEBAKER CORPORATION
OF AMERICA
Detroit, Michigan

Answering your letter of January 18th, relative to the Michigan State Auto School at Detroit, it is our understanding that they conduct a very good school, in fact, we do not know of a better automobile school than we could recommend to you than the Michigan State.

Yours very truly,
THE STUDEBAKER CORPORATION OF AMERICA

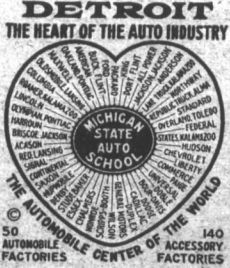
BUICK MOTOR COMPANY
DETROIT, MICHIGAN

Wish to advise that from all we have been able to learn, the Michigan State Auto School is alright. They have quite a plant here and a large number of students from all over the country.

Of course, do not wish you to construe this letter as in any way guaranteeing them, yet we have never heard anything against them and we have heard a lot of good things. The writer's personal opinion is that they are as good an automobile school as there is in the country.

BUICK MOTOR COMPANY
(Detroit Branch)

Detroit in Summer
The Queen City, in addition to being the Heart of the Auto Industry, is the center of some of this Country's prettiest pleasure resorts—including the famous Belle Isle. Here you find boating, bathing and a score of other amusements within a few minutes boat or trolley ride of the heart of the city. Boat trips on the Detroit River through Lake St. Clair—on Lake Erie to Cleveland, Buffalo and Niagara Falls, Sugar Island, Put-in-Bay, Cedar Point and many other interesting resorts are enjoyed by thousands during the vacation season. The Michigan State Auto School has arranged three pleasant boat trips for this summer. These are FREE to students and their friends. This season holds forth the promise of much enjoyable recreation for every M. S. A. S. student.



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