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VOLUME CLIII. NUMBERTWENTY

DETROIT, NOVEMBER 15, 1919

CURRENT COMMENT

Farm Management Studies

THE subject of farm management is one in which every farmer is vitally interested. Upon the quality of management which he gives his business depends in no small degree the measure of success which rewards his efforts. That there is a very considerable difference in the character of farm management as exemplified by different farmers can be easily proven in any community. A careful survey of the farms of any agricultural community will show a marked difference in the results secured. Under apparently similar conditions, one farmer will make a good net profit on his year's business, while another will just play even, or still worse have a charge on the wrong side of the profit and loss account.

So many things enter into success or failure on the farm, that in a majority of cases of this kind, the result is attributed to good fortune rather than good management, but a careful study of the situation will generally reveal the fact that good management has been the great factor of success in every such case. It will be profitable, then, for the less successful farmers of the neighborhood to study the methods used by the more successful ones, and to devote considerable thought to the possible betterment of the management of their own farm business.

The importance of this subject has been appreciated to an increasing degree by investigators, economists and educators during the past generation. Farm management has been made the subject of considerable investigational work by a bureau of the Department of Agriculture. Farm management courses have been developed by a number of the leading agricultural colleges of the country, and it will not be long before farm management courses will be the rule rather than the exception in such institutions.

The investigational work which has been undertaken in this field has pointed to a number of basic factors which contribute to the success or failure of the average farm enterprise. One of these is the size of the business. This need not of necessity be measured in acres, but in possible return for the labor invested in the business. Another is the division of labor throughout the season by the choosing of farm projects which will not conflict with each other at a time when immediate attention is essential to their success, and which will give the longest possible season of full employment to the available help on the farm. Another is the maintenance of soil fertility by

proper systems of crop rotation and supplementary fertilization. Another is the choosing of some special line of production which is well adapted to the individual farm, to which the principle of quantity production may be applied to a degree which will give economic results in the production of a marketable surplus which will provide a main and dependable source of income and profit. Another is the economic marketing of the products so produced. Still another phase of farm management is the relation of the farm business and the farm family to the community in which the farm is located.

The study of this subject is a comparatively new development. The possibilities of original research have by no means been exhausted. There is a wide opportunity for every farmer to study the question of farm management as related to his own business, taking into consideration his own experience and the experience of other farmers in his community with which he is familiar through observation. Such a study will be both interesting and profitable to any farmer who cares to undertake it, and will, we believe, be rewarded by a noticeable increase in future profits from his farming business.

The Farm Bureau Campaign

THE result of the Farm Bureau membership campaign recently conducted in Oakland county definitely insures the success of this movement in Michigan. Returns on the work of the canvassers show that of 2,212 farmers solicited, 1,800 signed up for three-year memberships in the organization. Two hundred more farmers who were not at home when the solicitors called have since signified their desire to join by writing some one of the officers of the organization. A follow-up campaign is now under way, and it is certain that the final results in Oakland county will show a membership of over 2,000 of its most progressive farmers, as a result of this campaign.

Arrangements have been completed whereby this follow-up work will be pushed in every county as soon as the general solicitation is completed. This plan will be adopted in Barry county and Allegan county, in which the work is now beginning. Apparently, the demand for organization work is developing more rapidly than it can be taken up by the officers of the State Farm Bureau. The work will, however, be pushed as rapidly as possible, to the end that Michigan may quickly develop a strong organization, and be an important factor in the National Federation of Farm Bureau Organizations, which is being organized at a general meeting in Chicago this week.

Something of the enthusiasm with which the work is being taken up by local leaders in various counties is indicated by the willingness with which farmers have signed collateral notes to carry the work until the organization can be completed. There can be no question as to the outcome of this organization campaign in Michigan, and there is just as little question regarding the beneficial local and general results which will accrue to the farmers of the state through affiliation with the organization.

Public Safety Campaigns

PUBLIC safety campaigns are being conducted in the cities of Detroit and Jackson, Mich., during the week of November 9 to 15 inclusive. In this connection a review of the statistics of the traffic accidents of the state's metropolis during the past twelve months will be of interest.

During this period there were one hundred and ninety-four persons killed in traffic accidents, of which eighty-

two were children. During the same period more than three thousand persons suffered from minor injuries sustained in the streets, and four hundred and ninety-three were seriously injured. There were thirty-six thousand traffic law violations during the year which came to the attention of the police authorities, and these, of course, were only a fraction of the violations which actually occurred.

These statistics are sufficient to show the prevalent carelessness of our people, both in the matter of driving and walking. This carelessness is not by any means all confined to the large cities; in fact, it is perhaps less prevalent there than in the open country, due to the restraining influence of adequate police protection.

There is need of a state-wide public campaign in which citizens generally will volunteer their services to aid in the enforcement of traffic regulations and in public education, particularly of children, in the dangers of modern highway traffic, and the necessity of avoiding them. This can, in a large measure, be accomplished by reading accounts of accidents which may occur in other localities as a means of impressing upon the children the need for care in their play and in their travel to and from school in order to avoid the possibility of accidents.

Another very common cause of fatal accidents in the country is neglect of travelers to look out for trains and trolley cars at railway crossings. Pre-occupation can be overcome by habit of thought induced by a general public safety movement. Farmers' organizations should take this question up as a topic for discussion, to the end that general public cooperation may be secured to lessen the number of traffic accidents in the country as well as in the cities.

The Coal Strike Situation

AS we go to press, the issue has been squarely drawn between the government and the leaders of the striking miners' labor organization. In view of the fact that the government was a party to the present wage agreement which was negotiated until the close of the war or until April 1, 1920, the government has taken the position that the strike is illegal and in violation of law as well as the public interest. On this ground the federal court has issued an order to the leaders of the miners' organization to call off the strike. It is generally understood that in case this order is complied with, a committee of arbitration will be appointed by the government to consider the grievances of the men and negotiate a fair settlement of same. In the event that the court order is not obeyed, however, the strike leaders will be in contempt of court and subject to punishment by it.

In its action, the Department of Justice has made it plain that the proceedings in this case do not involve the general right to strike, but apply only to the peculiar and unusual situation arising through the war control of fuel, under which the present arrangement with the miners was made. Before this issue reaches the reader, the decision of the miners will have been made, and the controversy well on the road toward settlement, or a bitter finish fight just begun.

While it is conceivable, if not certain, that the decision made by labor leaders in this case may have a most important bearing on the settlement of the present condition of industrial unrest, the outcome of this case cannot be expected to finally settle the industrial problem. This can only come through a better appreciation by all classes of the fact that general prosperity cannot be built on class favoritism, but upon the equitable division of the product of labor.

The report of the congressional com-

mittee appointed to investigate the steel strike censures both labor leaders and employers in almost equally strong terms. While it is possible that a temporary solution of present industrial ills may be brought about through court or legislative action, its permanent solution can come only through the adoption and acceptance of the principle of a square deal between classes as the remedy for such injustice as may exist.

News of the Week

Wednesday, November 5.

MINERS propose arbitrating labor differences, providing the federal government will vacate the injunction order against the labor leaders.—The dries win in Ohio elections.—Massachusetts and Kentucky choose republican governors.—The United States government plans to sell its wooden vessels at its own price.—Twelve persons die in a railroad collision near Sens, France.—Increased wages allowed milk wagon drivers in New York City advances the retail price of milk.—The Chilean government adopts the League of Nations.—The Australian parliament dissolves, and elections will be held December 13.

Thursday, November 6.

CHILI denies that she has ceded a strip of territory to Bolivia.—Maine ratifies the federal amendment to the constitution giving women the right of franchise.—Prussian armies have been absorbed in the newly organized German military machine.—President Wilson re-appoints Dr. Garfield to take charge of coal supplies and manage distribution for the entire country.—Rioting occurs at Youngstown steel mills.—United States Senate votes down LaFollette's labor amendment to the peace treaty.—King Alfonso leaves England for Spain.—Supreme council decides that the first session of the League of Nations will be held in Paris.

Friday, November 7.

GERMANY will send a delegation to sign protocol guaranteeing the performance of the unfulfilled terms of the armistice.—French government confers decorations on thirty-five more officers of the United States Navy.—Maine senate passes bill providing for a \$100 bonus to each of the thirty thousand Maine troops who served in the war.—Germany does not feel herself bound to surrender her authority over Danzig until the United States ratifies the peace treaty.—High tides flooding the wharves in Boston causes thousands of dollars of damage.—Following the vote to ouster the street car lines in Toledo that city finds itself without transportation.

Saturday, November 8.

THE Austrian delegation delivers to the Peace Conference the ratification of the peace treaty.—Troops of the Fifth U. S. Infantry reach the Rhine.—Military rule is declared in Jugo-Slavia.—Dock workers in Buenos Aires threaten to strike.—The Railroad Administration is arranging to move corn in large volume.—Judge Carroll of the Massachusetts Supreme Court denies petition of striking policemen for a writ to have them reinstated.—Hoboken plans to buy local piers that were taken over by the government from Germany during the war.

Sunday, November 9.

FEDERAL court at Indianapolis directs union leaders to recall strike order within forty-eight hours.—Over 400 Russians are rounded up in Michigan cities by federal agents, who are making a nation-wide drive on radicals.—Senate adopts reservation to safeguard nation's right to withdraw from membership in the League of Nations.—Bill penalizing persons who transport stolen automobiles from one state to another, becomes a law.—Both the steel workers and the employers are rebuked in the report of the senate committee which investigated the steel strike controversy.

Monday, November 10.

AN American squadron is soon due to visit the Pacific Coast of Bolivia to investigate difficulties between Chili and Peru.—Italian forces are fighting d'Annunzio's troops in Fiume.—The king and queen of the Belgians arrive in Lisbon enroute home from their American trip.—The German government baffles efforts of the communists to hold demonstrations in Berlin.—Government agents from Washington capture 250 more radicals in Detroit.—The condition of Senator Martin of Virginia, democratic leader in the senate, is critical.

(Continued on page 646).

The Art of Building Perfect Tile Drains

A FEW years ago the country was full of ditch diggers and tiling experts who did all of the work by hand. They, and most people, thought this work could not be done well by machinery. As farmers came to see, more and more, the great value of tiling, it grew to be a big problem how to get this work done. For it is almost a life-time job to tile a large farm when the work must be done by hand. And at the same time there has always been trouble aplenty with this sort of tile drainage. While most everybody believed that those old-time tile drainage experts were doing their work perfectly and much better than could possibly be done by any sort of machine work, still their drainage systems failed to give satisfaction. Tile lines would get clogged with silt and fail. Or they might just simply refuse to draw off the water, apparently without cause. And now many of our farmers who spent thousands of dollars years ago for tiling are being compelled to do the work all over. I was over a farm just a few days ago that was dug full of funnel-shaped holes. Some of those holes were six feet across at the top, were three to four feet deep and very small at the bottom. There were so many holes that they interfered seriously with working the field. Those sinkholes, as they were called, began forming right away after the field was tile drained. The farmer laughed when he first noticed them, and said that was a sign the tile were working well. They worked so good that they drew off the water and a little of the soil, too. He said it would soon stop. But the wise old ditcher didn't say anything. This seemed significant to me at the time, and the passing years have proved that my early apprehensions were well founded. Because things gradually got worse instead of better, until now it is almost impossible to work over this field. But the ditcher wasn't to blame. He had done all that any man could do. But the facts in the case are that

E. Gregory Tells How Machinery Has Displaced the Old-Time Ditch Digger.

it isn't possible to do a perfect job of laying tile by hand, especially on a large scale. When you dig ditches by hand, using the ordinary farm level and carpenters' level or running water for lining up the bottom for fall, there can't help but be some slight variations here and there at one place or another in the drainage system sufficient to cause trouble. Now, in every case mentioned, good, experienced ditchers had been employed. But results have not been as satisfactory as one would expect. And then I have mentioned only a few failures where there have been dozens of complete successes. One failure, however, is a costly experience for that particular individual. This is especially true when applied to one farmer whom I talked to recently. A large part of his farm was literally honeycombed with tile years ago, the work all being done by hand. It was almost a failure, and lately caused so much trouble that he put in a new system altogether. He

did the work by machine and placed the lines just half way between the old ones, buying new tile as this was cheaper than to dig out the old tile. He now has tile lines only twenty-five feet apart, but the old tile is just about equal to none. And he expects to take it up for use elsewhere if labor ever gets plentiful again.

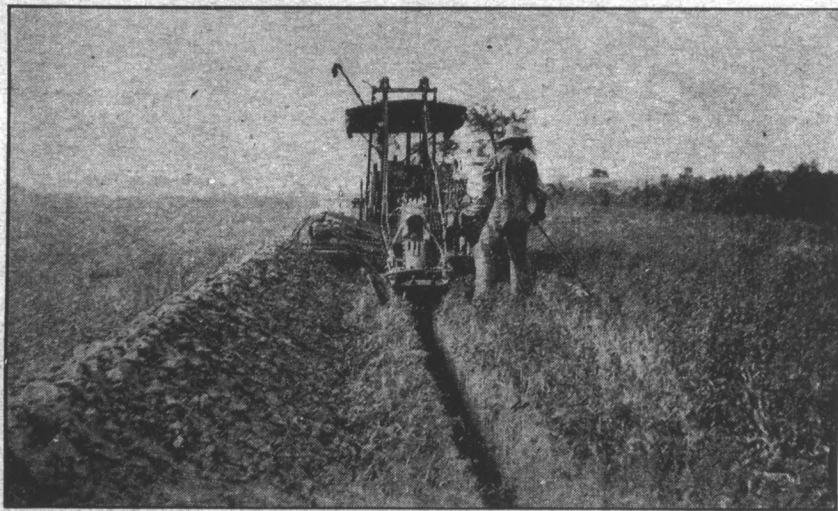
As against all this I haven't yet heard of a single complaint where machinery and competent men were employed. The tile ditching machine has grown in popularity in this locality constantly for years, until now it is a very rare sight to see anyone digging tile ditches by hand. And this on very small jobs.

One of our neighbors, a large owner of flat, muck land makes a practice of putting in a few tile every year. He has been using the machine for fifteen years and reports not a single failure. He says that the machine does much better work than is possible to do by hand. This man's name is Frank Lu-

cas, and he is a thorough farmer in every sense of the word. And if the best drainage expert should offer to tile drain every acre of Mr. Lucas' farm, for nothing, doing the work by hand, he couldn't get the job. Mr. Lucas put in 3,032 rods of tiling this year, which cost him about \$3,000. And practically all of this was wheat land and the work was done between wheat cutting and wheat sowing time. If this work had been done by hand the cost would have doubled and the crops interfered with for a couple of years. That's something worth taking into account.

But you may be interested as to the cost of this job. Mr. Lucas said the actual total cost was between ninety-seven and ninety-eight cents per rod. This takes into account his own time and board as well as that of his hands and the machine men. The cost of digging the ditch was one and a quarter cents per inch per rod, and averaged thirty-eight cents per rod for digging and laying the tile. To this must be added the board bill for the three operators. The six-inch tile cost \$50 a thousand, and the four-inch \$30 a thousand. Add to this the cost of hauling and distributing, and filling the ditches. Then you have it all, nearly a dollar a rod. But it couldn't be done for that with hand labor, and not nearly so good a job.

I happened to be there just as one of the main lines had been finished, but the tile not laid. Usually they lay the tile right up to the machine as fast as the ditch is dug. But for some reason they had not done so this time. This machine leaves a groove in the bottom of the ditch about an inch wide and an inch deep. This line, forty rods long, had a seepy, springy place at the upper end, and the water had run the full forty rods in that little groove without overflowing it at any place. This field was fairly level, but the fall or grade was perfectly true from one end to the other. Is it possible to do such perfect work by hand?



A Competent Man Can Get a Perfect Grade.

Farm Management and Farm Labor

YES, the labor problem is very simple for us. My son and I do all the work that is done on this farm, except a very little extra help in the busiest seasons," said David Denton, a farmer of Northern Michigan. "We stick to the job pretty steadily, and work fairly hard, but at the same time we get value received for our labor. 'All work and no play makes Jack a dull boy,' so we both plan to take a little outing each year when we can arrange to leave without feeling that things will go backward while we are gone. I went out east last fall on a visit and my son here 'did' the International at Chicago last December. We both came home feeling well repaid for time and money spent and each had something new to think about and in my son's case a freshened point of view on live stock questions. If we didn't do some good hard thinking and planning ahead we wouldn't be able to take our vacations and accomplish what we do, so part of our present labor income would go to pay more hired help. We put more emphasis on this point than any other single factor because the labor cost on the farm is about half the total expense and if we are able

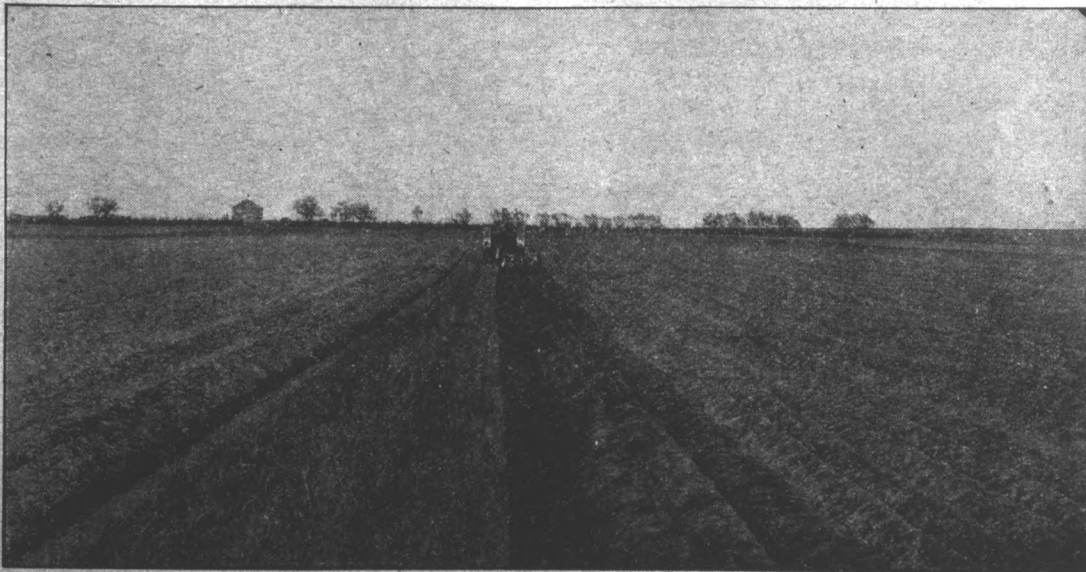
Well Distributed Labor is the Direct Road to Maximum Results.--By Chas. H. Graves

to swing that part of the expenses into our own pockets we feel quite elated." The productive farm work achieved per man on the different farms shows greater variation than any other factor in a farm analysis. It is not an uncommon thing to find two farms in the same locality under practically the same conditions where one farm shows

but two hundred and twenty-five productive work days per man while the other will show three hundred days per man of actual work accomplished with apparently little more effort. This is because the one farm has a much better organization than the other. Whether or not a farmer gets a maximum amount of work done for a given

amount of labor depends upon his ability as a manager and his foresight in harmonizing the various factors that control the profits of the business.

Mr. Denton and his son are good managers and have brought about a system of management that seems ideal for their situation. Since their best market is live stock and beef they have made this enterprise the hub of their wheel. Every other enterprise is subordinate to that. The crop rotation is especially adapted to raising the proper feed for the live stock and crops have been chosen that do not compete with one another for care and cultivation. A three-year rotation is practiced. Corn, oats and barley, clover and timothy make up the rotation with a field of alfalfa to increase the proportion in hay. Although this rotation is not absolutely regular, due to the fact that the alfalfa is included, it is so managed that the alfalfa is changed to a different field each time it is reseeded. The clover and timothy is left down the second season the year that the alfalfa is broken up and the corn is put on the alfalfa field. This system gives a sequence of operation all



Fields Are Large and Well Arranged.

(Continued on page 614).

News of the Agricultural World

FARM BUREAU UNION IN FAVOR IN MINNESOTA.

REPORTS from Frank E. Balmer, temporary secretary of the proposed federation of farm bureaus in Minnesota, say that of the forty-four counties which have voted on the plan, thirty-four have taken favorable action and none has voted against it.

In connection with the Minnesota Federation of Farm Bureaus much attention is being devoted to a meeting held in Chicago on November 12-13, at which a plan is being formulated for perfecting a national farm bureau organization.

SEES END OF SUGAR SHORTAGE.

IT is the belief of Attorney-General Palmer that relief from the present sugar shortage will come very soon through harvesting of the beet sugar crop, now in progress, and the Louisiana sugars, which will be on the market soon. "We are trying to stabilize prices," Mr. Palmer said, "through an agreement with interests concerned and to eliminate intermediary transactions which have so largely influenced prices."

He declared that if the people would increase their savings by ten per cent the cost of living would drop twenty per cent in a short time.

NEW PEACE-TIME INDUSTRIAL BOARD.

AN international board for the co-ordination of industries and resources for the national security, with a view to the establishment of such relations as will make their mobilization in time of war less difficult, has been created by the Council of National Defense. This is the first move by the council toward the building up of a peace-time organization.

The new board is composed of Maj. General George H. Burr, assistant chief of staff and director of purchase, storage and traffic, representing the War Department; Rear Admiral William Strothers Smith, Navy Department; Van H. Manning, director bureau of mines, Interior Department; L. H. Estabrook, chief bureau of crop estimates, Department of Agriculture; Dr. S. W. Stratton, director bureau of standards, Department of Commerce; Royal Meeker, commissioner of labor statistics, Department of Labor.

The duty of the board as announced by the director of the council of national defense, will be to survey and classify the industrial and economic resources of the country for the national defense. It is the judgment of the director of the council that the creation of this board is one of the most progressive steps toward a scientific and economical consideration of the national defense in all of its various phases that has in peace time been taken under the government.

HOOVER PREDICTS LOWER PRICES.

RELIEF from the high cost of living is the prediction made by Herbert Hoover, former food administrator, before the foreign affairs sub-committee of the house select committee on expenditures in the war department.

He based his forecast on the natural operation of the law of supply and demand, rather than on the contemplated campaign of the department of justice against profiteers and hoarders.

The prevailing high prices, he told the committee, are due in a large measure to the activities of speculators who bought up huge quantities of sup-

plies in anticipation of a rush of buying orders from Germany and other countries after the signing of the armistice.

The expected demand did not materialize, he said, and the United States now has an excess of from 15,000,000 to 20,000,000 tons of food supplies. This surplus cannot be exported without the establishment of credit machinery and lower prices must come in this country.

Failure of the foreign demand to materialize, Mr. Hoover asserted, already has been reflected in slight reductions in the wholesale market, though there has been little decrease in the retail prices.

The drop in wholesale costs will continue, however, the former food administrator declared, and a tumble is due in the retail market.

The President's advisers, the witness disclosed, have been unable to agree upon recommendations for handling the sugar situation. They are divided on two proposals, one providing for a strict rationing system and government regulation of prices, and the other proposing unrestricted buying in a free market.

Mr. Hoover thought both plans had their advantages, but said no decision was reached on either one, and the differences of opinion continue.

To meet next year's home demand for sugar, he continued, half of the Cuban crop, in addition to the available supply from other sources, will be required. In Europe sugar production now is only about seventy per cent of the pre-war output.

Aside from all these factors, however, the public is not without blame for a large part of the high cost of living, Mr. Hoover asserted. The "mania" for buying expensive things which has developed in the United States he said, is one of the big elements contributing to the prevailing high prices of foodstuffs, as well as advances in the costs of other commodities.

BUTTERFAT PRICES TO JUMP, SAYS EXPERT.

REPORTS from 218 cooperative creameries in different sections of Minnesota for August 1919, show the average price for butterfat by these creameries was 62.75 cents. Fifty-two paid from sixty-five to sixty-nine cents, 116 paid from sixty to sixty-four cents, forty-one from fifty-five to fifty-nine, and nine from fifty-two to fifty-four cents. Cream buying stations paid around fifty-three to fifty-five cents. Butterfat prices, says A. J. McGuire, of the agricultural extension division, St. Paul, will probably be higher the coming winter than ever before.

MAXIMUM MARGINS FOR TEXTILES AND CLOTHS.

MAXIMUM margins of profits are to be determined for the sale of textile and clothing, according to information received from Washington, the object being to decrease the cost of living in accordance with plans outlined by the fair price committee. By way of explanation, those who are making a study of the idea and suggesting these plans, it is stated that the Department of Justice will not fix a margin of profit on clothing and other wearing apparel, but will assign that work to the local fair price committees, whose decisions will be backed by the full authority of the department under the law.

These margins of profit will not be fixed arbitrarily, but will be determined after a series of consultations with the businesses affected and the business of the community as a whole.

The Department of Justice is instructing the state to fix margins of profits for manufacturers, wholesalers, jobbers and retailers. There will be maximum margins of profits allotted to all these branches of industry, and firms selling at higher prices will, according to reports, be classified as profiteers and will be prosecuted.

CLOTHES SHOULD BE CHEAPER.

MATERIAL reduction in raw wool, yarn and cloth are shown in quotations collected by the labor department. Attorney General Palmer's assistants in the campaign to reduce prices let it be known they are ready to act under the amendments to the Lever food control act which prohibits profiteering in clothing.

Labor Department Cites Reductions.

Results of investigations of the labor department are available to the justice department agents in their campaign. These results include the following quotations on raw materials used in men's and women's suits, overcoats and underwear:

Raw, scoured, Ohio wool (medium grade) September, 1918, \$1.44 a pound; September, 1919, \$1.22 a pound; pre-war price September 1913, 46 cents a pound.

Wool yarn for fine goods, grade "2-40's," October, 1918, \$4 a pound; October, 1919, \$3.75 a pound; pre-war price, October, 1913, approximately \$1.15 a pound.

Men's overcoating, soft faced, black, plain twill cloth, 54 to 56 inches wide, all wool, April, 1918, \$3.10½ a yard; April, 1919, \$2.14 a yard; pre-war price April, 1913, \$1.37½ a yard.

Suitings Decline Somewhat.

Men's all wool suiting dyed blue, 15 ounces to the yard, October 1918, at \$4.75 a yard; October, 1919, \$4.45 a yard; pre-war price, October, 1913, \$1.48½ a yard.

Women's all wool storm serge for heavy suits and overcoats, October, 1918, \$1.67½ a yard; October, 1919, \$1.40 a yard; pre-war price, October, 1913, 51 cents a yard.

Cotton warp cashmere for women's suits, October, 1918, 55 cents a yard; October, 1919, 50 cents a yard; pre-war price, October, 1913, 19 cents a yard.

Men's undergarments, 60 per cent wool, October, 1918, \$35 a dozen garments; October, 1919, \$30 a dozen; pre-war price, October, 1913, \$12.69 a dozen.

FARMERS INVITED TO LABOR CONFERENCE.

REPRESENTATIVES of the National Board of Farm Organizations have been invited to participate in the conference of the one hundred and twelve industrial unions tentatively called by Samuel Gompers to meet in Washington, December 13.

Just how the farmer will participate has not been definitely settled, according to officials of the national board, which acts as an official clearing house for fifteen or more agricultural associations. It is certain, however, that there will be delegates from these farmers' organizations at the labor conference.

Officials of the national board made it plain that the farmers are not in sympathy with labor's program in its entirety, and said that they would govern their future action very much on the course followed by the unionized worker within the next few weeks.

There is absolutely no sympathy for the present coal strike, and if it is carried through, as labor now affirms, it will do much to alienate the farmers. The farmers will not deal with the

radical wing of labor and regard the bolshevistic tendencies displayed by the organized workers as harmful.

MORE FOOD FOR PEOPLE.

UTILIZING of a large part of forty-five billion pounds of whole milk in such by-products as condensed and powdered milk, cottage cheese and curd cheese, was advised by B. H. Rawl, assistant chief of the Bureau of Animal Industry, Department of Agriculture, Washington, before the convention of the Minnesota Creamery Operators and Managers' Association.

"It is possible to utilize fifteen billion pounds of skim milk for food consumption," Mr. Rawl said. "In the face of the present world shortage of food, it is well nigh criminal to permit a food of such vitamine value to be fed to animals. One hundred pounds of skim milk fed to a young pig will produce only fifteen pounds of pork. At present skim milk is largely fed to live stock."

BUCKEYE FARMERS NOW OWN MANY ELEVATORS.

A LARGE increase in farmers' elevators in Ohio is reported by H. E. Erdman, of Ohio State University, who has been studying the farmers' elevator movement in Ohio during the past few years. At present there are probably more than two hundred companies in operation in Ohio, representing an increase of about seven hundred per cent during the past year.

The increase in number is due to the dividends paid into the farmers' hands rather than to the grain dealers, according to Mr. Erdman. Other reasons given for the increase are the general organizing system of farmers and the necessity for cutting out the middlemen's profits.

Some of these companies do a large business annually, a few amounting to between \$400,000 and \$500,000. A number of the companies have increased their capitalization during the last year and many of the newer companies are starting out with a capitalization of from \$40,000 to \$60,000.

MICHIGAN FRUIT GROWERS CONVENT AT DETROIT.

THE annual meeting of the Michigan State Horticultural Society will be held at the Statler Hotel in Detroit, December 2-3-4.

The subject of freight rates will be thoroughly dealt with. Rates within Michigan are not on an equal basis with other sections and other states are getting lower rates into Michigan than we are getting to them. This discrimination is adding hundreds of thousands of dollars to the fruit costs which in the end is paid by the consumer. Mr. Coombs, secretary of the Michigan Traffic League, will tell of the results already obtained and give an outline of future plans. Decision in favor of shippers has just been rendered in the "South Bend Case."

The subject of spraying has many new phases and surprising results have been obtained. Mr. Dutton of M. A. C. has had active charge of the experiments carried on by the college and is well qualified to speak on this subject. The best talent from several other states has been secured and this meeting will be the most important one from a growers' and shippers' standpoint ever held.

All available space has been allotted to the manufacturers of insecticides, spraying machinery, etc. Reservations are being received by hotels daily and a large attendance is assured.

Farmers and Industrial America

WHEN I speak of the farmer and the government I have reference to the true American brand, which embraces the real farmers of the United States and of all sections thereof. All in all, he is the best and biggest farmer in the world, and the government—the free, representative government—under which he lives and which in peace and in war he patriotically supports, is the best government in the world. Its distinguishing feature is that it is a government of laws—not of men. But laws have their source in the hearts and minds of men, in their needs, in their desire to correct abuses and inequalities, in their ideals of justice and equal opportunity for all. The glorious thing about a sanely progressive democracy is that your ideals sooner or later are bound to find expression in the law. As to how sanely progressive your democracy will be depends on the intelligence, the self-restraint and conscience of the people—in other words, of the average citizen within its borders.

But the road to reform has not always been short nor easy, as the farmers who have traveled it, or are familiar with the history of farmers' movements, well know.

It is a far call from the Grange of 1867, founded for the purpose of advancing the social needs and combating the economic backwardness of farm life, down to the Smith-Lever law of 1914 with its beneficent provisions for cooperation between the states, their agricultural colleges and the federal government in farm demonstration and home economics work. But some splendid monuments to the earnestness and success of the earlier farm movements are to be found here and there on the way. It was hardly to be expected that they would succeed in everything. I think you will agree with me that it is fortunate for themselves and the country that some of their plans were doomed to failure, such, for example, as the free coinage of silver at the ratio of sixteen to one, or the government ownership of railroads, telegraph and telephones, both advocated in the populist platform of 1892. But here are some of the enduring monuments they erected in their onward march: Declaring in 1874 that they were not the enemies of railroads, and that the charge that they stood for communism was not true, the grangers secured the enactment of the Granger state laws for the regulation of the railways as common carriers, the general principles of which were indorsed by the Supreme Court of the United States. It was a signal victory for the public when in the great case of *Munn vs. Illinois*, decided in 1876, it was held that private property "devoted to a use in which the public has an interest" is subject to regulation by law; and that is the broad principle on which has been based every date-regulating statute since enacted, as well as every judicial decision sustaining the statute.

This farmers' movement was more or less misunderstood. I can recall when the term "granger" was used in ridicule, or derision. It was indeed marked by some eccentricities, some narrow prejudices and the means employed to promote the welfare of a class were not always founded on sound economic reasoning. The opposition to the middleman, when carried to the extent of purchasing and distributing the supplies for every

United States Senator Sterling's Argument is that Farmers Must be Intelligently Organized to Bring About Industrial Democracy. Here is What He Says:

farm need from a woman's finery to a threshing machine, to the operation of flour mills and the manufacture of farm machinery, went too far, and there was loss and disaster in many states as a consequence. The cooperative spirit was commendable, but it was cooperation overdone.

But let us not forget the real achievements and the spirit of service, the desire for human welfare behind them. Whatever may be said of the Farmers' Alliance and the People's party which followed later, it was the Grange that blazed the way, that gave "the initial impulse and prepared the way" for the establishment of the rural library, the lyceum, the farmers' institutes, the better development and utilization of the agricultural college and for the establishment of that now wonderfully equipped and helpful department of government, the Department of Agriculture.

To these we may add the impulse and the influence springing from the demand of farmers and farmers' organizations which brought about the enactment of the Arid Land Reclamation Act of 1902, the Interstate Commerce law, the Pure Food laws, and the Railway Rate laws of 1906.

And here I am reminded that yesterday was Roosevelt Day. A grateful people revere his memory for what, among a hundred other great deeds, he accomplished when President in 1906, in urging to the point of demanding of congress that it enact these two last named laws. He is reported to have said that "for twenty years now the people have been petitioning congress to enact a pure food law, and in behalf of the people I demand that this congress get busy and pass the law." He was just as insistent on the railway rate legislation which purged the railway service of extortions, rebates and discriminations innumerable and gave new emphasis to the principle that the property of the public service corporation must be used in and not against the public interest.

And when we once get rid of this present incubus of government control and operation, and the roads are turned back to the old managements, it will be under a law which clearly recognizes that principle, and which, however it may protect the railroads, their stockholders and owners, will have the welfare of the public as the ultimate aim.

In those old days the farmer fought against the "menace of privilege." The shibboleth of the union to which he belonged was not the expression of his own selfish desires, but it was "equal rights to all, special privileges to none." Let the knowledge of how he has succeeded and of his present aims make us optimists not alone as to his future, but as to the stability of American institutions amid a complex civilization.

So much for history and the progress of which it furnishes the proof.

What is the relation now between the farmer as such and the government? Can he be heard? Is he entitled to a hearing by congress or by the executive or by any department of government coming in contact with his activities and needs and having the power to act in his behalf?

The right of a petition for a redress of grievances is guaranteed by the Constitution. Congress can pass no law abridging that right. If there is any industry in our land which, by virtue of its intimate relation to every other and to the prosperity of the republic, should be permitted to freely express its grievances and secure their redress, it is this great basic industry of agriculture.

It is entitled to recognition by virtue of its seven million farms with their nearly six hundred million acres, with a valuation of sixty-five to seventy billion dollars for the lands alone, exclusive of implements used in operating them of the value of two billion dollars or of the live stock which they feed of the value of nine billion dollars. It is entitled to recognition by virtue of the fact that there are probably fifteen million farmers or others gainfully employed on the farms of the United States with nearly fifty million of our estimated population of one hundred and ten million immediately dependent on this great industry. There was a fine opportunity lately to express some appreciation of the magnitude of its industry—of its vast importance, of its relative rank compared with other interests—but at the great industrial conference at Washington in session a few days since, made up of the three groups representing the public, the employers and the employees, the public was allotted twenty-five, the employers seventeen and the employees seventeen representatives; the farmers, as such, not one. The three mem-

bers representing farmers' organizations were Mr. T. C. Atkeson, of the National Grange; Mr. Barrett, president of the National Farmers' Union, and Mr. J. N. Tittmore, president of the National American Society of Equity. But these men, whether actual farmers or not, were listed among the representatives of the employers of labor with Mr. Harry A. Wheeler, vice-president of the Union Trust Company of Chicago, as chairman of that group. How much, if any, these distinguished gentlemen were handicapped or embarrassed by their environment I would not dare to say, but I can imagine that membership in a public group, properly officered, would have appealed to them more. Mr. Bernard M. Baruch, formerly chairman of the War Industries Board, but whose regular business is that of a millionaire operator on the stock exchange, was made chairman of the public group—another example, as it seems to me, of a want of just discrimination in the designation of the members and officers of these two groups. There is an "eternal fitness of things" which appeals to the sense of the average man, but many of the selections in both the public and employers' group ignored that principle, and to that extent weakened the public confidence in a just solution of our big industrial problems.

But in the employees, or labor group, there was consistency throughout. Starting on the assumption that there was no labor but union or organized labor, or if there was, it must accept the leaders of organized labor as its spokesman, or perhaps stay out in the cold, all the members of that group, with Mr. Samuel Gompers at their head, were listed as high officials, presidents or secretaries of various labor unions, including the officials of the four railroad brotherhoods—all save one lone representative, Mr. Paul Scharrenburg, of San Francisco, who is classed as editor. I never heard of him, but it is probable that his relations to organized labor would be shown by a visit to the editorial sanctum.

But there were three men, out of fifty-nine persons, to represent in this conference the one industry which is fundamental, and well-nigh universal, and which outranks most of the others combined, in the number of people engaged in it and at once dependent upon it, and in the material wealth it produces. There should have been as large as either of the others and fairly representative of the men who work longer hours and get less pay than the men who work in the steel mills or in the coal mines. With few exceptions the farmers of the United States need no Americanization in order that they may become dependable and loyal American citizens.

I would utter no word suggestive of class prejudice. I yield to no man in respect for the honest toiler in whatsoever vocation he toils. "A man's a man, for a' that," and this is no true democracy unless this principle abides and is the heartfelt attitude of the citizen toward his fellowmen. But we cannot stand for the tyranny of a class, and no number of labor leaders and agitators, native or foreign-born, and reinforced by all the excitable illiterate and Bolshevik elements brought to our shores from eastern Europe should be permitted to take

(Continued on page 640).



With the Fruits of Industry Justly Distributed Farming would Become the Envy of the Boys.



Farmers Scorn "Reds"

TWO apparently contradictory currents developed at the Farmers' National Congress at Hagerstown, Maryland, during the week ending Saturday, November 1.

It became evident from the outset that the majority of those present had absolutely no sympathy with the direction organized labor has taken within the last three months. It became equally evident that the farmers are anxious to perfect a cohesive organization among themselves, and that they hold themselves absolved from any responsibility for high costs, and, indeed, expect even higher prices for their products than they are getting.

The temper of the gathering toward radicalism and strikes was plainly set forth in resolutions passed. The resolutions were introduced by Dr. Thomas B. Symons, of Maryland State College, and were passed without a dissenting voice. Radicalism, strikes, labor unrest, etc., were strongly condemned, and the congress pledged to the President and the government all possible support in anything that would be done to deal with the "national crisis."

Ohio Man Sounds Keynote.

Little was heard openly of a farmers' organization, except for talk in hotel lobbies and around the auditorium where the congress met, until A. P. Sandles, of Ohio, took the floor. Mr. Sandles' speech was not expected to be an especially important affair, but it proved to be the feature of the day.

He made a strong plea for organization of farmers and from the outset the meeting was with him. Bursts of applause interrupted him as he elaborated his idea and painted the power that would be the farmer's with an organization as well knit as that of labor.

"We are now," said Mr. Sandles, "at the mercy of the politicians. Every politician that comes along says he was born on the farm and so was his wife. He's going to buy a farm as

soon as he can save up enough money and come back to live the great life. And the poor farmer votes for him and that is the last the farmer ever gets out of it.

"Not so labor. Labor has got these big politicians bluffed. The big politicians down in congress are scared so

"If you could get the truth on some of those fellows you would find the stamp of the kaiser is on most of them.

They are foreigners, for the most part, and they are over here making trouble in America. They don't know anything about America. Yet they will come over here and influence our own

shoot 'em or ship 'em." Prolonged cheering greeted this statement.

Trend Against Price-Fixing.

So that, while the farmers seem inclined to form some sort of organization, they certainly are out of sympathy with radicalism and cut-throat methods. The attitude of the farmers on government control of wheat and what they are likely to do about it before they adjourn is indicated by the way J. H. Kimble, president of the congress, dealt with it in his address at the afternoon session.

"I believe we are agreed," said President Kimble, "that supply and demand should regulate the price of commodities. Regulation of prices may have been necessary during the war period. Now, however, fixing of prices destroys the fundamental basis on which business is conducted. No such policy can deal fairly with the farmer on account of the impossibility of regulating sunshine, rain and other weather conditions. We want education and cooperation, but not regulation."

Dr. A. F. Woods, president of the Maryland State College of Agriculture, was another of the speakers. Dr. Woods said the time had come when the farmer must become educated, especially as regards farming. He said, too, that the farmer must be educated to the idea of community service, rather than the idea of individual gain, though the latter came all the more surely through practicing the former. Dr. Woods was another who touched on the labor question. Continuing along the community service idea, he said:

"Upon the farmers of the world rests the responsibility for the well-being of the world. I hope the farmers never will call a strike. Strikes should be curbed and the farmer should be the last one to make use of such a means to obtain ends he is demanding."

Michigan to Have Largest Exhibit at Hay and Grain Show

MICHIGAN will have the largest state exhibit of farm products at the first annual International Hay and Grain Show, at Chicago from November 29 to December 6. The grain show, which will be held at the same time as the annual live stock show, will be the biggest thing of its kind in the country, all middle western states and many Canadian provinces being represented. Michigan has been allotted more show space than any other state, and her educational exhibit will be the feature of the show.

The Michigan Crop Improvement Association, the Michigan Potato Growers' Association, and the Michigan Agricultural College are cooperating in the preparation of the state exhibit. In addition many of the leading farmers of the state are entering private show samples in competition for the prizes offered on the \$10,000 premium list.

"The state exhibit will feature Michigan's seed industries, showing the highly diversified seed production of the state," says Prof. J. F. Cox, Farm Crops Specialist at the Michigan Agricultural College. "The exhibit will pay especial attention to the production of pedigreed seed, in which field Michigan is a recognized leader."

badly they haven't got the nerve to do for Uncle Sam what he really needs to have done for him.

"The reason is that labor is organized. They stick together and act together and vote in a solid chunk. And if there is anything that a politician can listen to it's a crowd.

"Kaiser Stamp" on Organizers.

Concerning the professional organizers among labor, Mr. Sandles said:

honest workmen—for whom we will do much in the way of helping from the neck down, protecting his body by safety devices and giving him insurance, but for whom we do precious little from the neck up—they work on our own American product and before long he has got the fever and is waving the red flag.

"There is only one thing to do with those fellows, and that is either to

Farm Management and Farm Labor

(Continued from page 611).

through the crop season and makes it possible for the two men to do practically all of the work without neglecting any crop at any time.

After the oats and barley are in, about May 1, there is plenty of time to get the corn ground fitted and the corn in before the first cutting of alfalfa is ready. The haying is out of the way in time to harvest the grain, and this in turn is usually threshed before it is time to fill the silo. Cultivating is sandwiched in between the big operations from time to time, which is not difficult.

The work on the crops is done with three and four-horse teams so that many of the operations are accomplished with the labor of one man which usually require double the amount of man labor.

The fields are large and well arranged so that there is no loss of time in getting about or turning with the large teams, as is usual on the majority of farms that have not been rearranged since the use of three and four-horse teams and gas tractors became a common practice.

The buildings are so located that very little time is lost in going to and from the fields. The expense due to a poorly arranged farm often adds enough to the cost of producing the

crops equal to what would otherwise be a fair profit. The interior arrangement of the barns enables them to use labor-saving machinery that helps to cut down the amount of labor needed. All of the hay and grain is handled with slings and even though the grain does not handle quite as well at threshing time as it does when put in by hand, the expense is lower handled in this way and the trouble of getting extra help at any definite time is eliminated.

An even distribution of labor over the year, through the winter as well as during the crop season is an important factor in keeping the labor costs low. Mr. Denton is able to do this on his farm because the cattle require practically no attention during the summer and in the winter they furnish enough work to keep both men busy. All the manure is drawn directly from the cattle pens to the field and spread each day. Until the snow

is too deep a manure spreader is used and after that a home-made sled and dray serves the purpose. Mr. Denton finds that there is very little loss of fertility by this method and it gives an opportunity to make use of winter man-labor and idle horses. This practice substantially lowers the cost of producing the crops as this work would otherwise come at a busy season when labor is expensive and hard to find. It also keeps the cattle much cleaner and the stables neater than the usual method of leaving the manure to pile up during the winter to be hauled in the spring.

The labor connected with the marketing of the farm's production is minimized because the cattle and the oats are the two principal sources of income and these are marketed in large quantity and only a few times a year. It is often more convenient for a farmer to have his income divided into smaller parts and come in at shorter

intervals but if it is possible to finance the business and decrease the cost of marketing by selling in larger quantity, all well and good, an increased profit is the result.

It may not be possible for everyone to avoid the necessity of paying out cash for hired help since everyone hasn't a son to share the work and responsibility, but at the same time it is possible for everyone to apply the same principles as have been carried out in the organization of Mr. Denton's farm and cut the labor expense as low as possible. Every farm can have a good arrangement of fields, can have buildings made convenient to work in, can have a rotation that is properly adapted to meet the requirements of the live stock and the cash crop market, and can make use of labor-saving machinery such as hay slings, manure and feed carriers, self-feeders, power grindstones, three and four-horse implements and many other devices now on the market that will help solve the labor problem. Over-equipping must be guarded against on the small farm and care should be exercised in deciding on improvements as to whether or not they will actually save labor and pay the interest and depreciation on the necessary investment from the saving made.



Teach Boys to Use Machinery

I HAVE a boy twelve years of age who particularly prides himself in enumerating chores with other boys, that he is doing work of real consequence. He milks each night sixteen cows. Of course he does not do it in the old hand-way, and he does not strip the cows or empty the heavy pails when they are filled.

A paragraph in this journal some weeks ago prompts me to say something about this boy and the farm machinery which we have. We have used the mechanical milker four years. There seems to be a natural bent toward machinery in most boys. The first year we had the machine he became anxious to familiarize himself with the little trick of attaching the teat cups. In a short time he could do it so quickly as to cause some wonderment on the part of anyone who might observe him. From time to time we had visitors at the barn, and I have allowed him to show them about the machine, and he always took particular pride in showing other boys how "real milking is done." After school the eight-year-old boy has chosen his duty to oil the engine and the vacuum pump. The older one puts the machine together, gets the cows, and starts the engine. When the engine hesitates, he has become so familiar with it that he is generally successful in starting it. He has but little trouble with the motors in the tops of the pails. If I am engaged in field labor or am away, I positively have no reason to worry about the milking, and, in fact, all other chores, and during haying and other rush seasons the two boys have milked alone and at those times there were seventeen cows.

I have not asked the boys to do any particular work with a farm machine. I know when they are interested they will ask for the opportunity. I do not believe in giving the boy the oldest tool on the farm to try out. I believe in giving him one that will work, and when he does meet with success he will be anxious to take hold again. Nothing succeeds like success is true in boy life. I had this brought home to me particularly this summer. We were using two mowers. The older boy asked to ride the one which I was using. It was giving some trouble. When the machine got partly around the field the trouble developed again. He was greatly worried, fearing he had caused the trouble. When he changed to the new mower, and he observed how nicely it operated, he was quite enthusiastic over his work. I always believe in having a farm machine in dependable condition to do its appointed task before it starts. I know from boyhood experience and from observation that nothing will disgust a boy more with machinery than to be com-

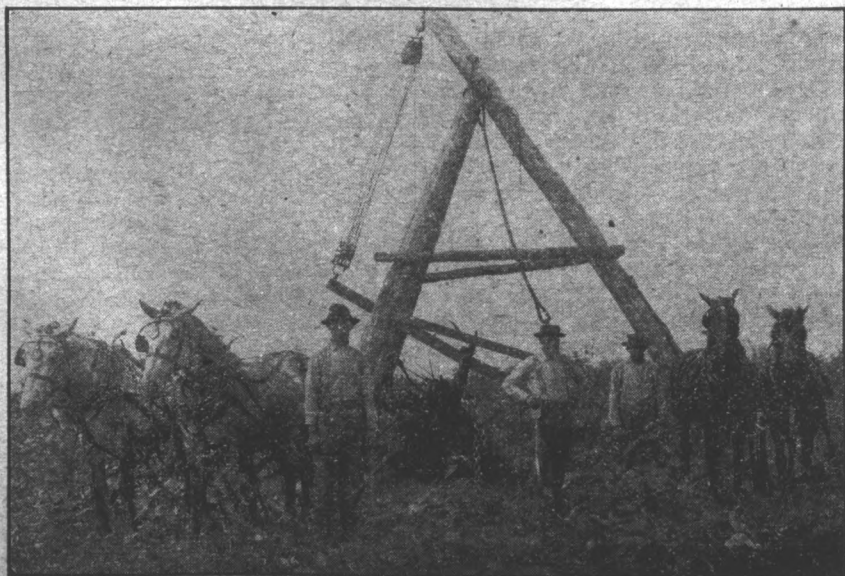
pelled to work with a machine that operates imperfectly and requires tinkering. As the boy gets older he will become acquainted with machinery, and such overhauling as may become necessary will not be so irksome to him, as when he is first learning.

My boys have had a curiosity to investigate gasoline engines, grinder, cutter, saw and other machinery about the farm, either operating, or standing. This is true of all farm boys. I have always tactfully told them to avoid belts, pulleys, and gearing, and by example, not scolding, I have impressed the wisdom of care about farm machinery. However, I now recall instances where their carelessness might have caused considerable pain, and perhaps the loss of an arm. When the older boy was about seven years old he was about the barn when I was cutting cornstalks, using engine and cutter. There was no elevator attachment, and as I was about to step to the front of the machine to remove the cut stalks he began pulling them out from under the machine and to brush them from the spout. He reached up so far that one of the blades caught his mitten, tearing it off and cutting it to pieces. The thought of the possible consequences now makes me shudder, and I continually watch where there is such element of danger. At another time when grinding feed the grain needed brushing into the bottom of the grinder when finishing the operation. I noticed my boy using his fingers to clean it off a very narrow place on which it gathered. His fingers were dangerously near the crushers, and thereafter I advised his using a stick which would readily break if caught.

I believe in giving boys freedom of a machine, yet I positively do not believe in prematurely rushing them headlong into mechanical work of which they are afraid. A boy should acquire his confidence in a machine and his abilities to handle it gradually. A pathetic incident occurred a year ago when a boy was so mangled by a tractor that he died. The incident occurred not far from our home. He had been driving the family car for some months. He had driven the tractor a very little. When he started up the tractor, as near as I can learn, he became confused, tried jumping from the machine and the tractor backed over his legs.

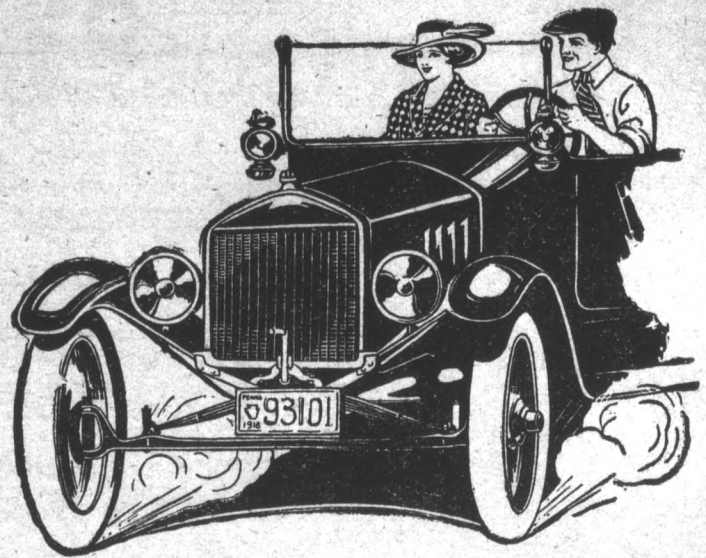
We all know that farming is as dangerous as railroading, and I am giving the foregoing instance particularly that we should bear in mind that boys should not be rushed into work with farm machinery and unreliable horses at any age. Boys should be impressed that above all they should give attention to personal safety as well as to the efficient operation of machinery.

WALTER JACK.



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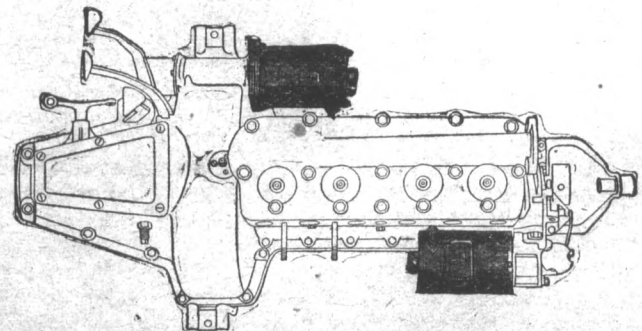
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Rural Community Service

A Challenge to Rural Communities—By C. A. S.

THE one biggest lesson we learned from our war activities was the lesson of team work, or working together as a community. Cities, villages, and rural communities forgot petty strife, jealousies and individual differences in the all absorbing task of winning the war. If we should lose the gains thus made and lapse again into our old ways, what a tragedy it would be, and yet it seems that is exactly what certain communities are apt to do.

The war brought home to us the fact that, as Theodore Roosevelt so nicely phrased it, "Unless this country can be made a good place for all of us to live in, it will not be a good place for any of us." The same applies to the community. There are certain vital problems affecting the community which must be faced and solved by the community if they are solved at all. Otherwise that community will suffer in consequence thereof.

During war time we thought it was a matter of community concern to see that socks and sweaters were knit in plenty, and that it was a community matter to subscribe for our quota of War Savings Stamps, Liberty Bonds, and war relief funds, and that meats, flour and sugar were conserved. We have regarded it as a community matter that those of our boys who were fortunate enough to come home whole were received in a fitting manner by the community. All these things and many more are naturally thought of as matters of community interest. We are coming to see, however, that many of the problems formerly regarded as individual have a community bearing and must be met by the community.

This is being evidenced by the fact that in our larger towns and cities we are establishing more social centers, open forums, more gymnasiums and more public playgrounds. Those of our cities which organized hospitality work for the soldiers at their gates have had their eyes opened and are continuing to organize hospitality for their own people. This is especially true with those cities engaged in war camp community service. Called upon by the war and navy departments to take charge of the soldiers, sailors, and marines in the camp cities when he was on leave, this organization learned its lesson so well that peace time community service programs are being mapped out in many cities today.

Let us compare this example with our country communities. Our country communities have been to war, have returned home and to some extent are forgetting the lesson learned. The country needs a rural community service or a rural social program. The fact that few of our boys coming back from service return to the farm finds grave concern everywhere. Yet how would you dare expect that any great number of boys would go back in the face of the longer hours, less wages, and an environment so lacking in social features. Farm boys in service awoke to the fact that they were social beings. The army and the navy for the most part was nothing if not sociable. Our rural communities must correct this feature if they are to tempt their boys back to the farm.

Nor is this the only reason why a social program is necessary. The leadership in the cities today has been recruited from the country boys and girls of Columbia have enrolled in the "Better Sires—Better Stock" campaign material from which our farm leader-

ship should have been developed has been diverted to the city. If the country is to keep apace, if we are to hold up an end, we must have leaders. We can raise these leaders in our rural environment much better than we can import them from the city.

One of the reasons at least why the boys and girls grow up and leave the farm is because of the lack of a social program. This, of course, is not the only reason, but is one of them. Some more reasons are because they think they can make more money, but the fact that in the richest section of this country the farmer owners have moved into town and their farms are managed by renters shows that back of the economic reasons, is the fact that rural environment is too lonely. This was not always the case. There was a time in the history of our country when every farm neighborhood regarded it as a neighborhood or community responsibility to have a lyceum, singing school, spelling match, or other program which was an excuse for sociability. The work itself requiring so much hand labor was an excuse for sociability more than it is today. Corn huskings, apple pickings, harvesting, etc., were all made an occasion of a certain amount of sociability where everyone "changed work."

Now, then, if the community can be brought again to bear the burden and accept the responsibility for a truly social program we will have made, I believe, a distinct forward step in rural life. Suppose the school be regarded as the center of the community and that with the help of agencies available, a committee in the community map out a year around program to meet the social needs of their community. This program will, of course, vary in different communities, but the essential feature would remain about the same, I believe. We should map out a program that will meet the leisure time of rural people young and old, if rural people can be said to have leisure time. This program would include some of the following features:

1. Increased recreational facilities on the school grounds for boys and girls. (A small amount of equipment for volley ball, tennis, basket ball, and base ball only would be necessary).
2. The use of the school as a social center. Around the school as a center could be built a program of music, literary work, dramatics, etc., which would do much to keep young and old interested in their own environment.

The problem of the farm is more than a problem of eliminating the excess profit of the middleman. True, it is a problem of producing more efficiently and marketing more efficiently thereby making it more remunerative. But more than this, it is a problem of making the farm life and the rural environment such that farm boys and girls will be glad to stay on the farm and will find just as great an opportunity there as they can now find in the city. When we reach this stage in rural life, we can begin to expect more progress for we will be developing and conserving rural leaders in whose hands the problems of farming and rural life may be safely left.

If rural community service can be developed and can contribute a rural sociable program, it will be worth much more than its cost.

A total of 36 states and the District of Columbia have enrolled in the "Better Sires—Better Stock" campaign since it was instituted October 1.



Tons of Leguminous Hay

Can Be Had if These Practical Suggestions by County Agent David Woodman are Followed

THE past year has been one of good shape for seeding next spring and the most unfavorable ones for summer. Some time to secure a good seedling of alfalfa in southern Michigan. In spite of this unfavorable condition, the men who did their work properly, and at the right time, succeeded. The purpose of this article is to point out some of the reasons why they were successful while others failed.

Prepare Seed Bed Early.

The first important thing is to prepare the seed bed early and thoroughly. The average farmer has a pretty clear outline in mind of his crop rotation plan for some time in advance. It is true that very often these plans are upset, yet on the whole, they are carried out. Also, if we have an idea of seeding some alfalfa next year, it is probable that we know at this time just where we will put it. It seems to be a habit of ours to not prepare for our wants in advance, yet we may be fully aware of them. Figuratively speaking, too many farmers decide today to sow a field to alfalfa, prepare and lime the land tomorrow and sow the seed day after tomorrow. Almost always where sufficient time is not taken for thorough preparation, a poor seeding is the result. The exception would be when the land happens to be pretty well supplied with lime naturally, in good state of fertility and plenty of moisture. Our suggestion is that the ground be plowed and well limed this fall. This may be done any time before it freezes up. It will take just as long to plow and lime the land at one time as another, therefore do it at the time it will pay you best; that will be this fall.

Use Plenty of Lime.

Use the maximum rather than the minimum amount of lime. We would say that usually two tons per acre would be the minimum amount, if lime is needed at all. Probably there are few sections in Michigan where lime is not absolutely necessary to get a seeding of alfalfa. (This is also fast becoming true with clover and other legumes). It is not safe to predict the maximum amount of lime that could be profitably applied. This would depend somewhat upon the nature of the soil as well as its previous history. It is reasonable to say that this maximum amount that could be applied with profit is seldom used by most of us. On the Notre Dame University farm, Brother Leo, the farm manager, uses six and seven tons per acre. Some of the finest alfalfa in Indiana is grown on this farm. Certainly it pays them to use these relatively large applications. We do not say that it will pay every Michigan farmer to use this much lime per acre for alfalfa; we do say, however, that it will usually pay him to use more than he does.

Another point about liming for alfalfa: Get it on the land a considerable time in advance of the seeding of the crop. Lime is slower to dissolve and get into action than we have been led to believe. It takes moisture and plenty of it to dissolve lime. That is the reason why we suggested plowing the ground and getting the lime on this fall. The abundance of moisture this fall, winter and spring will dissolve enough lime so the land will be in

Sow Good Seed.

The best seed obtainable is none too good. There is probably no question but what Cossack and Grimm are the two best varieties to be had. From some experiments recently made, we believe that Cossack is superior to the Grimm. It is true that if everyone wanted to sow seed of these varieties, there would not be enough to go around. However, we Michigan growers want to get it if we can. Let the farmers farther south sow the less hardy strains. Many a failure is due to common and imported seed. Pay the price for the good seed; it will more than reimburse you the first year.

About one hundred farmers in Cass county are buying their seed now for next year's seeding. This seed is of the Cossack variety and is purchased direct from the growers in South Dakota. They are not only effecting a saving of \$15 per bushel but they are getting new seed, Dakota grown, free from noxious weeds and guaranteed pure Cossack. The size of this order is one hundred and thirty-three bushels. This will be sufficient to seed about one thousand acres. We believe farmers in other counties in the state can do the same. This is done through the County Farm Bureau.

Time of Sowing.

Everything being considered, we believe that the best time to sow the alfalfa is from the middle of May to the latter part of June. These dates are given assuming that the seed bed will be prepared either in the fall or the first thing in the spring. Occasionally a small grain crop will be sown with the alfalfa. This is probably not advisable the first time alfalfa is grown on the land. But if alfalfa has been grown on the land and the lime content and fertility are kept up, it is usually safe to seed with the small grain crop the same as you would seed clover with it. When the land is not prepared until May or June, it is not usually possible to seed it before August. There are always risks attendant with this late seeding that are not present with the earlier dates.

Three of the main reasons for fairly early seeding of alfalfa are these: Less danger from dry, hot weather; less danger of damage from insects and a better growth to go into the first winter. We seldom get a severe drought before July. Alfalfa sown in May and June will usually start evenly and quickly because of a good supply of moisture. This last year we have suffered considerable damage from the ravages of the garden webworm. This pest will usually do no great damage before August. If alfalfa is sown before the last of June, it will be large enough to withstand the attack of this worm, provided it is present. We have seen several hundred acres of new seedlings, plants from one to two inches high, cleaned up by the worm this year. Preventive measures are better than curative ones.

The question of inoculation needs no discussion. The cheapest and most effective way is to get the pure culture from the Michigan Agricultural College. If directions are followed, no trouble will usually be experienced.

What Is Big Business?

BUSINESS, be it big or little, is production and distribution of commodities and service.

The size of a business is measured by the service it renders the public, and regardless of the capital invested, it never can become Big Business unless its output of useful service is great.

The Standard Oil Company (Indiana) is classified with big business, and it deserves to be, for from the day of its organization the goal toward which every effort has been directed has been to render a useful service to the public at large.

Originally the purpose of the Company was to manufacture and sell an illuminating oil of superior quality, but as the years have passed the Company has been able to take a wide range of other useful products from crude petroleum, and has made them available to mankind.

Today the Standard Oil Company (Indiana) is big because its job is big, and as the job expands so must this organization if it is to keep pace with the insistent and ever-increasing demands of a discriminating public, and thereby discharge completely its obligation as a public servant.

Standard Oil Company

(Indiana)

910 S. Michigan Avenue, Chicago, Ill.



"How can you sell such high-value clothes at such moderate prices?" we are asked.

No secret about it. Simply, in the making of Clothcraft Clothes are many money-saving processes. You get the benefit of these—not only in scientifically-tailored garments, but at a price that's easy on your pocket book.

That is the reason why so many of your fellow-townsmen are wearing Clothcraft Clothes—the reason you should come in here when you want a suit or overcoat that will give a full measure of satisfactory fit and wear.

CLOTHCRAFT CLOTHES

FOR MEN AND YOUNG MEN



The Clothcraft Store in your Town

The new Clothcraft Style Book has many views in color of the new clothes. A copy sent free. Write The Joseph & Feiss Co., 648 St. Clair Ave., N. W., Cleveland, O.



Wheat and Stock Notes

By James N. McBride

WHEAT threshing will continue day populists, however, are not, nor for a month or more because have they even been, farmers. The there are not enough of ma- most of them seem to be selling rub- chaires or men. Then when this short- ber tires, autos and trucks, and their age is overcome they have to stop and "misery," as the negro refers to his wait for cars for there is no local stor- bodily ailments, is the high prices of age, either on the farms or at the ele- food and raiment. The old original vators, that approaches a sufficiency. calamity howler of low-priced agricul- I counted sixteen wagons of wheat in tural days, was a piker in the field of bulk, not in sacks, waiting to be un- calamitous howling as compared to his loaded at Goodland. This grain was successors who are complaining of hauled direct from the thrasher and their low salaries as compared to the was selling at \$1.85 per bushel. The prices they have to pay. These latter average yield has been about twenty- day populists, whose forbears poked fourteen years ago could be bought for fun at the farmer. Economic natives of fifty cents to one dollar per acre. Now of the early nineties are most clamor- this land, with no buildings on what- ous for the government to do some- ever, is selling for \$50 per acre. Even thing to bring down prices, but draw the sandhill land which in point of value the line at becoming food producers themselves. One of the really danger- would rank with jackpine land in Mich- ous conditions of the present time is igan, is selling for five dollars per acre. the failure of the consumer to under- There is no good cheap land any long- stand that cheap food is an economic er and the Michigan farmers who ex- impossibility. There is an addition to pect to buy cheap farms out west will some inequity between salaries and be disappointed. To see the "stubbing living costs, a good deal of hypocrisy in" wheat in Kansas looks like slip- in wanting current wages or prices for shod farming. Heavy weighted disc ourselves and the former prices and drills are used and some effort made wages for what we buy, and applied to make the drill row between the to the other fellow who serves us. In stubble rows of the preceding wheat traveling one meets and feels a genu- crop. The stubble is disturbed as lit- ine appreciation for the returning sol- tle as possible so as to hold not only diers, including officers, position in matters of prices. The low pay and the snow and moisture but the soil a- high cost to officers for subsistence self. If one were not enlightened on and maintenance of rank has left these Kansas methods he might assume no men poorly provided for, especially crop for this season has been planted, officers with families. Proper provi- so dense is the stubble. Miles and sion for these men would be for the miles of wheat have been stubbled in state or nation to pay them wages at least equal to civilian workers who stacks still in these fields. Where the staid at home.

Sheep men are standing fairly pat on prices for lambs, both for feeding and for immediate slaughter, and prices have not gone off like hogs or cattle. It will take some time to increase breeding flocks to the danger point of prices because of restricted ranges in the west and the growth of dairying in the east. High-priced corn land in the middle west does not lend itself to sheep husbandry. For these reasons the future of the mutton and woolen industry is very favorable. To see a sheep grower following the cotton market in the daily papers is not without significance. For when cotton is selling at from thirty-four to thirty-six cents, wool is not high at sixty-three to sixty-seven cents. Wool could go to one dollar per pound and still not be out of line with cotton, either measured by pre-war prices or by cost of production. The cotton grower, however, comes back with the claim that the increased labor cost of growing cotton is proportionately more than the labor required in wool growing. All in all, some more sheep on Michigan farms looks like a good investment.

HOLD ANNUAL MEETING.

THE annual meeting of the Michigan State Association of Farmers' Clubs will be held in the senate chamber, Capitol Building, Lansing, Tuesday and Wednesday, December 2 and 3, 1919. Every Farmers' Club in the state is invited to be represented at this meeting and everyone interested in promoting agricultural interests. Speakers of national reputation will be present to present subjects of vital importance to the farmer and the tire program will be of the greatest profit and interest to all who attend.

This is a world of changes. The old-time Kansas populist minus the whiskers, now rides in parlor and Pullman cars and clamors against present-day prices and conditions. The present-

Mrs. I. R. JOHNSON, Sec.

Farms and Farm Lands For Sale

246 A. \$4000; with Pair Good Horses and

Hoffers, pigs, poultry, full line tools, wagons, harness, gasoline engine, hay, grain, feed, &c., convenient R.R. town, 100 acres loam tillage, 5 miles from good railroad town in Oscoda County, on good road, close to school, fine orchard, just rolling enough to make good drainage, price \$4000 half down and any reasonable time on the remainder. This place has fine location and if values keep increasing this place will be worth twice as much in a few years without improvements beside being able to pay dividends while are you are waiting. Write W. F. UMPHREY, Ewart, Mich.

FOR SALE

160 acres, about sixty acres cleared, small house and barn, good clay loam soil except a few acres of dark sand loam with clay subsoil, 5 miles from good railroad town in Oscoda County, on good road, close to school, fine orchard, just rolling enough to make good drainage, price \$4000 half down and any reasonable time on the remainder. This place has fine location and if values keep increasing this place will be worth twice as much in a few years without improvements beside being able to pay dividends while are you are waiting. Write W. F. UMPHREY, Ewart, Mich.

Farms For Sale Farm 140 acres acres \$1650; 220 acres \$2000, both have good buildings and considerable timber, trout stream and orchards. Hunting and fishing preserve 640 acres, modern house, several caretaker's houses \$7150. All in Catekill, Ulster County, N. Y. 130-acre farm, Village of Livingston Manor, Sullivan County, \$12000. Will subdivide this to suit purchaser. Bungalow and small farm lots, running water and electric lights. Send for details. P. S. Johnston, Livingston Manor, N. Y.

For Sale: Arbor Lawn Stock Farm of 110 acres, located in the rich dairy county of Livingston on state reward road 7 miles from Howell, one of the greatest Holstein centers of the U. S. Clay loam soil, very productive, well drained, good buildings, tile sile and milking machine. On milk and mail routes. 2 1/2 miles from depot, elevator and stock yards. A very pleasant home. W. B. READER, Howell, Mich.

GOOD OHIO FARMS If you want a farm in Ohio, write me. I can furnish them, the best in Ohio at from \$100 an acre up. I have farms, there is no better and will take mortgage back for half at 6 percent on long time. J. B. EBBY, Room 303 Arcade Bldg., Columbus, Ohio.

For Sale 50 acres high producing farm land all improved. Good 7 room house; good barn; small orchard; all fenced in, located in township of Colchester North, County of Essex, Ontario, Canada. Address B. Spaleny, 116 Colorado Ave., Flint, Mich.

Rich Michigan Farms. Low prices. Easy terms. ERS. 15 Merrill Building, Saginaw, Michigan

Will Finance parties with limited means to purchase small farms. A. G. HARRIS, Dixon, Ill.

POULTRY

Giant Bronze Turkeys

Young stock for sale from our wonderful 55-pound tom — BLOOMFIELD KING — Buy our Turkeys and improve your flock.

Pullets and Hens . . . \$20.00 to \$25.00
Cockerels and Toms . . . 25.00 to 50.00

Order eggs now for spring delivery from
RING NECK PHEASANTS
WILD MALLARD DUCKS
GIANT BONZE TURKEYS
RHODE ISLAND REDS

Bloomfield Farms

America's Largest Game Farm
1714 Penobscot Building
Detroit, Mich.

Write for Price List and free descriptive Booklet of Instructions.

HOMESTEAD FARMS

We have some strictly high quality stock—the best we have ever offered—that will please you if you want practical paying poultry true to type. Let us describe the birds we have.

Cockerels—Barred Rocks, highly bred, well marked; White Rocks; R. C. and S. C. Reds, rich dark plumage; White Orpingtons, fine type large birds; White Wyandottes; S. C. Black Minorcas; S. C. and R. C. White and S. C. Brown Leghorns; Anconas; Cock Birds, Reds; Black Minorcas.

Spring Pullets—Small number Barred and White Rocks; S. C. Black Minorcas; S. C. and R. C. White Leghorns; S. C. Brown Leghorns; yearling White Rocks; choice White Orpingtons. A few mated pens from these Pullets.

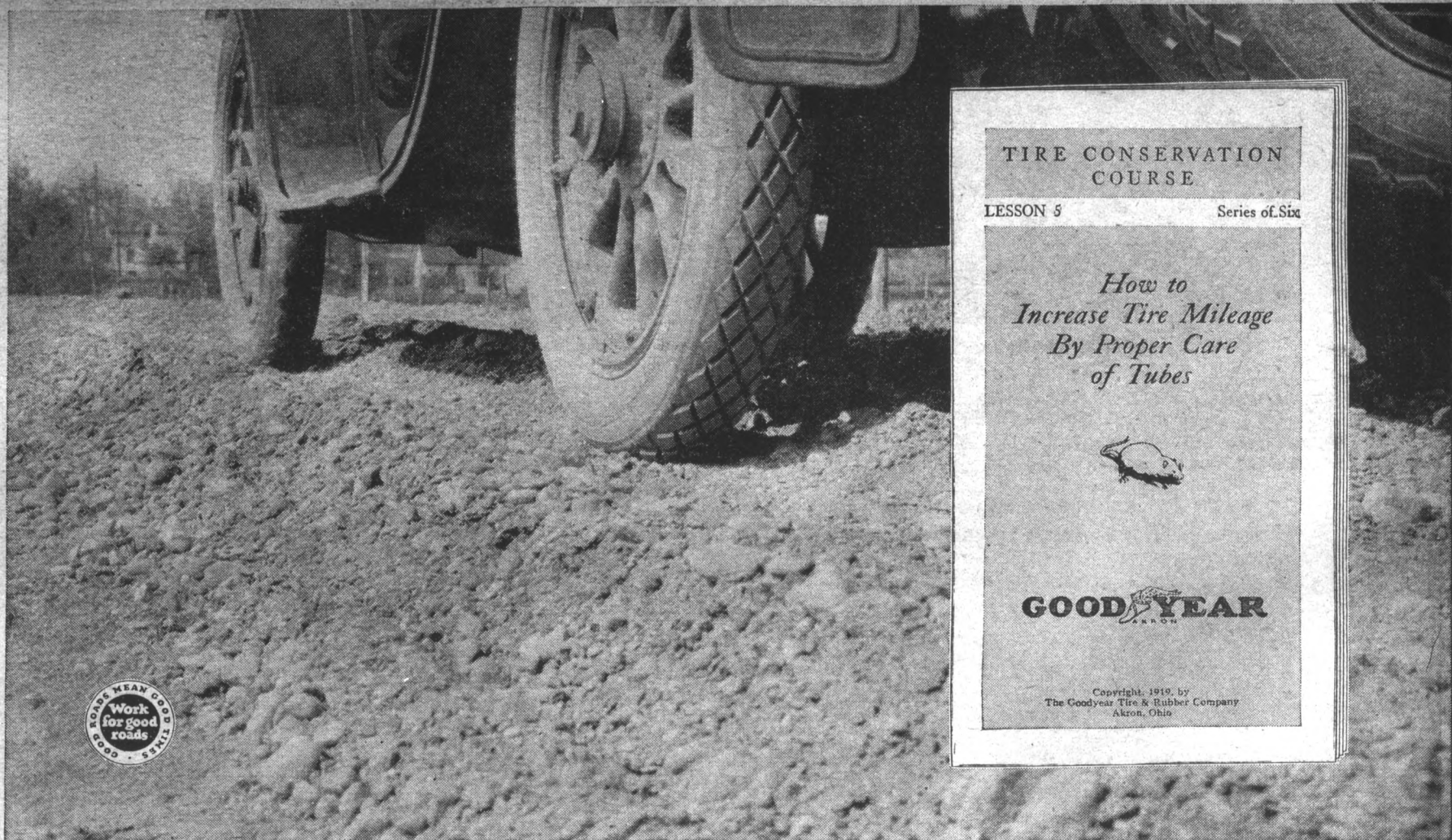
We will send you our Fall Circular and Price List.
STATE FARMS ASSOCIATION,
Kalamazoo, Michigan

LOOK BABY CHICKS \$17 A 100 UP

By Special Delivery Parcel Post, postpaid 20 different thoroughbred breeds. Utility & Exhibition grades. Live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Nabob Hatcheries, Gambier, Ohio

Am Selling out my entire flock of fine thoroughbred single comb Ancona pullets, yearling hens, cocks and cockerels at from \$1.50 to \$5.00.
T. O. JONES, Dundee, Mich.

Poultry Ads. Continued on Page 646



A Few Hundred Yards May Cost 10,000 Miles

A MAN with a new car had one of his tires blow out. He didn't have a spare, so he decided to run a few hundred yards to a friend's house. When he got there he discovered that neither the tire nor the tube was worth repairing, for running on the rim had fractured the casing fabric. And the tube was riddled with holes caused by being pinched against the rim. Those few hundred yards of running on the rim probably cost him 10,000 miles—miles that could have been saved by properly caring for the tube. Proper care of tubes saves miles in many other ways—not only in emergencies, but all the time. Ask your Goodyear Service Station, or write to Akron, for Lesson 5 of the Goodyear Conservation Course—telling how to increase tire mileages by proper care of tubes.



Repairing a tube with the Goodyear Tube Repair Kit

PROPER care of tubes increases by thousands of miles the life of even the best of tires. For whenever a tube fails, the casing is seriously damaged by being run flat.

Only a few hundred yards of such running may utterly spoil the tire; and even if the tube merely has a slow leak the tire will suffer the inevitable injuries due to under-inflation.

Take care of your tubes, if you wish to get the most from your tires.

Tubes inserted in the casing without being properly talced, either stick to the casing and tear because of the lack of French Talc or—when too much of this lubricant is used—they are injured because the talc collects in puddles and hardens.

Tubes must be properly inserted in the casing; otherwise they will be pinched against the rim, or—if the valve stem is at an angle—they may be torn.

Lesson 5 of the Goodyear Conservation Course gives simple but detailed directions for making your tubes serve your tires.

It also tells how tubes can be repaired permanently and in a few minutes with the Goodyear Tube Repair Kit.

Ask your Goodyear Service Station to show you one—and ask also for the other lessons of the Goodyear Conservation Course.

The Goodyear Tire & Rubber Co.
Akron, Ohio

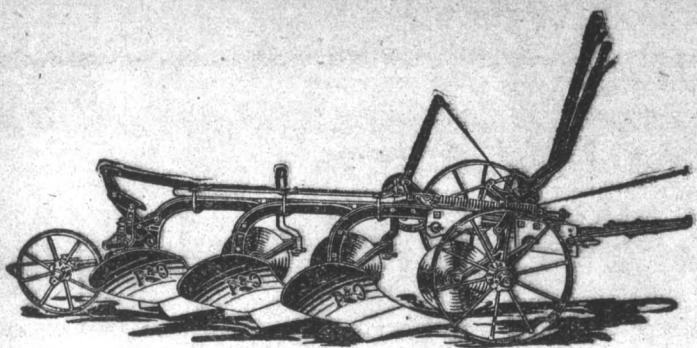


The tube repaired and ready for talcing

GOODYEAR

AKRON

TIRE SAVERS



P&O Little Genius Power Lift Tractor Plow

Is One as Good as Another?

THERE are questions of economy and finance to be considered in the contemplated purchase of a tractor plowing outfit, and these questions cannot always be properly settled in advance—unless the decision is based on known quality and tested reputation.

For they are not all alike—one outfit is not necessarily "as good as another", and the one too-often-made mistake is the careless purchase of an outfit that is not as good as it should be.

The Titan 10-20 tractor and the P&O Little Genius tractor plow form the ideal combination—the one best one-man outfit—the one outfit that will figure the highest percentage, that will pay back dollar per dollar plus—the most talked-of tractor plow combination on the market.

The Titan and the Little Genius are built for each other, by the International Harvester Company, sold by International dealers, and backed by International service—a service which is dependable, efficient and satisfying.

If you intend to buy a tractor plowing outfit, now or in the future, your best interests will be served by calling on the International dealer for catalogues and information.

INTERNATIONAL HARVESTER COMPANY

CHICAGO

OF AMERICA, INC.

USA

IF FEEDING HOGS, YOU NEED THIS FEED

Ask Your Dealer for

DIAMOND HOG MEAL

Made from the nutritious hearts of corn kernels

Write to H. CHRYSTAL, Selling Representative, 909 Ford Building, Detroit.

for sample, literature and particulars. Who is your dealer?



We quote exact prices and pay what we quote. Furs are high. You get more actual cash by shipping to OHZMAN and better all 'round satisfaction. We want the best and are willing to pay well to get them.

WE GRADE LIBERALLY—PAY PROMPTLY
Our assortment will please you. An honest valuation and quick payment is our policy. We charge no commission. We pay transportation and send money same day furs reach us. Write for price-list and tags free.

WE TAN YOUR HIDES
We buy your horse hides, cow hides, calf skins, etc., and assure you highest market value. From your cow and horse hides we make fur coats, robes, etc., at money saving prices. Be sure to get our free catalog, hide quotations and shipping tags. *Buyers of Hides etc. Since 1891*

OHZMAN & SONS CO.
Dept. 106 Cedar Rapids, Iowa

Scotch Collie Puppies bought and sold; write me if you have any for sale either males or females. Dr. Ewalt's Collie Farm, Mt. Clemens, Mich.

Mention The Michigan Farmer When Writing Advertisers

More Money

The season of seasons for raw furs is here. This means "more money" for your catch Mr. Shipper. It also means that it is more important than ever before that you get big money for your pelts. We guarantee to pay highest prices. Our long established reputation is your protection—send for price list to day—it's free.

RAW FURS

We must have shipments immediately to fill orders. We will be more liberal than usual to get them. Rush your pelts to us. Our price list proves the high prices we pay—send for yours today.

L. Briefner & Sons
151 W 25th St New York



The International Grain and Hay Show

THE world famous International Live Stock Exposition is an annual institution looked forward to by thousands. To enhance its attractiveness and to show the possibilities in the use of improved breeds of grain and the relation of crops and live stock, the first International Grain and Hay Show is to be held in connection with the Live Stock Show at the Union Stock Yards, Chicago, November 29 to December 6, 1919.

G. I. Christie, director of the Indiana Agricultural Extension Division, has been secured as superintendent of the Grain and Hay Show, and at a meeting held October 9 in Chicago, representatives from many states were called together to complete final arrangements for the show.

A number of the state agricultural colleges, including Michigan, Indiana, Illinois, Wisconsin, Iowa, etc., are planning exhibits of great interest and value which will not compete for premiums. The various Crop Improvement Associations and Crop Breeding organizations are planning to cooperate in these exhibits. The farmers of all states are invited to compete for the ten thousand dollars in premiums put up for corn, wheat, rye, oats, barley and hay. These premiums can be competed for only by the farmers who are the growers of the samples.

Michigan's reputation as a producer of pure improved varieties of seed is becoming known far and wide. This is evidenced by the reports of members of the Michigan Crop Improvement Association who have this year sent inspected seed to thirty-four different states. One carload of over twelve hundred bushels of registered Rosen rye traveled nearly to the Pacific Coast on its trip to the state of Washington.

Naturally the people of these other states are looking for Michigan to have a great exhibit of small grains at the International and this furnishes an excellent opportunity for Michigan farmers to advertise the wonderful possibilities of this state for the production of grain, forage crops and live stock.

For a successful live stock industry it must be possible to produce forage and grains at a reasonable price. With land selling in some of our neighboring states at \$200 to \$300 per acre on the basis of its ability to produce feed for stock it is time for us to wake up to our opportunities in this line for we have the advantage of a climate better adapted to the rapid growth of pasture and to the production of small grains.

In connection with this idea we should have a good exhibit of baled hay at this show. The requirement is for a bale weighing at least fifty pounds.

The small grain samples must consist of one-half bushel. It is permissible to hand-pick the seed.

Corn samples consist of twenty ears.

In the wheat classes our winter wheat competes only in the soft winter class. Even with the somewhat inferior quality of wheat we have this year Michigan should make a cleanup in this class for most other states had worse conditions for wheat.

There are five different classes in the corn. The country being divided into five zones, Michigan will not have to compete with the cornbelt farmers on this grain. The southern line of Michigan constitutes the southern line of our zone, and we compete

with states in our latitude, such as Wisconsin, Minnesota, New York, etc.

If the farmers of this state want to go after the premiums in this show with a determination to win, the products are in the state to take a good share of the premiums in our corn zone.

While this was not a very good barley and oat year in Michigan it was a poor year for these grains all over. So we should take our share of premiums in these classes. We should do exceedingly well in soft winter wheat, rye, timothy and clover hay classes. As there are fifteen to twenty premiums up in each class ranging from one to sixty dollars each, a number of farmers will have an opportunity to more than pay their expenses to the show out of their winnings, not to mention the advertising and satisfaction obtained from winning at such a show.

There Are No Entry Fees.

Applications for entry must be made by November 20, and material must be on the grounds by November 26.

The Michigan Crop Improvement Association will have two men at Chicago from November 25 until the show is over and they will see that all samples from Michigan are properly placed. To insure the immediate attention of these men notify the secretary, whose address is given below, as to what you are sending. Samples will be returned if desired.

Premium lists and entry blanks can be secured by addressing the International Grain and Hay Show, Union Stock Yards, Chicago, Illinois, or from J. W. Nicholson, Secretary of the Michigan Crop Improvement Association, East Lansing, Michigan.

SOME TURKEY TROUBLES.

I have a flock of turkeys which seem to have some kind of an itch on their heads and legs. They scratch their heads with their feet and pick away at their legs, after which they start to running around as though they were dizzy. Also some seem to have a diarrhea and die. What can I do for them?

Emmet Co. A. M. B.
The scratching and picking would indicate an infestation with lice and this can be cured by treating the birds with blue ointment mixed equal parts with vaseline. Place a bit of the ointment under the vent and rub it in thoroughly. Also place a small dab under each wing on the skin and rub it in thoroughly so there will be none of it which the bird can pick off. The dizziness, if it occurred during the summer, may have been due to excessive heat, but is more apt to be caused by the absorption of some poisonous material in the intestine. Eating spoiled food is apt to cause such trouble. When it is due to eating decayed meat it is called limberneck. Diarrhea may be due to drinking dirty water, eating spoiled food, or worms in the intestinal tract. A liberal feeding of sour milk is often beneficial in cases of diarrhea and it also acts as a preventive of intestinal disorders. Most turkeys raised on general farms have large unfenced ranges and it is difficult for the owner to control all of the conditions on the range. The only practical method seems to rest in healthful and vigorous breeding stock, plus all possible sanitary measures in feeding. The balance seems to be more or less a matter of luck.—R. G. K.

Power

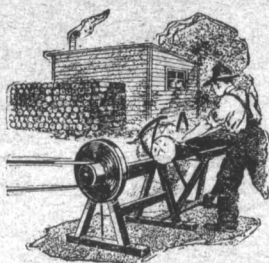
On Your Farm
for Every Purpose

Scores of Chores
Your Ford Can Do
with

SIMPLICITY Certified Power

Any Ford car and Simplicity Power Plant provides an abundance of power for practically every purpose on the farm. It will run the large power machines as well as the small. It's quickly installed, easily portable and does not injure or alter the car for driving purposes. In a word it makes the "Universal Car Really Universal."

Saws Wood

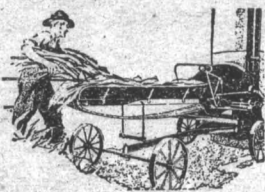


Simply drive your Ford to the wood lot. Attach a Simplicity Power Plant—belt it up to a Wood Sawing outfit—which takes only ten minutes, and you can handle the job in a jiffy—easier,

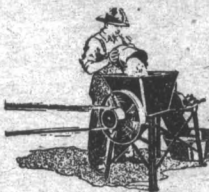
quicker and at a cost that you'll scarcely consider. Simplicity Service provides the machine—you provide the power. That keeps expense down and profits up.

Fills the Silo

A Simplicity Power Plant and Simplicity Service give you power and machinery to fill your Silo, and fill it at the right time, when the corn is ready for cutting and when it is best for ensilage. You don't have to wait. There's no delay and your profits increase accordingly. You don't have to buy the filler—it's furnished by Simplicity Service and gives you the same advantages, but without the money investment, of an individually owned outfit.



Grinds Feed



Complete equipment for grinding feed is provided by Simplicity Service and Power Plant. You save the expense of hauling, and have better feed for your stock, if you grind it yourself.

Simplicity Service provides the grinder, you don't need to buy one, but it's yours to use like a machine of your own.

Threshes Grain— Bales Hay and Straw

The big machines, which only the largest farms can afford to own outright, are furnished by Simplicity Service. Simplicity Power Plants run them. It means their use when you need them most, to make the biggest profit on your farm. —and a dozen more farm jobs where one to fifteen Horse Power is required.

Wherever belt power can be used on your farm for the operation of any machine, you can use Simplicity Certified Power and Simplicity Service to advantage and save money. Investigate the opportunity. Let us send you complete particulars. It's the least expensive source of complete farm power in the world—almost unbelievable but it's a fact.

*The Coupon brings all facts
Mail it Today*

Buy Service— Not Machines

Thresh your grain, Fill your silo, Bale your hay and straw, Grind your feed, and Saw your wood, with all the advantages of individually owning all equipment—but without the investment.

To buy outright all the power machinery you can use profitably would cost you more than the farm could afford. Yet you can have all the advantages of individually owning a Silo Filler, a Wood Sawing outfit, a Feed Grinder and even a Threshing Machine and Baler, simply by having a Ford car equipped with a Simplicity Power Plant.

Simplicity Service Clubs

Save Money and Boost Farm Profits

No longer is it necessary to go without the power machinery that you know will earn farm dividends, because you can't afford to own the machines outright. No longer is it necessary to put up with the delays and inconveniences of having to hire the big power jobs done on your farm.

Simplicity Service Clubs are organized to give farmers complete farm power service—the use of power machinery which you have had to do without entirely or hire at a sacrifice of profit.

You need only to own a Ford car to have these advantages—this with a Simplicity Power Plant, a mechanical device that converts the Ford into a most reliable guaranteed power plant capable of running any machine requiring up to 15 Horse Power.

It means for less than one hundred dollars you can provide complete power for your farm at a less cost than you would pay for a small pumping engine. It is all made possible by Simplicity Service Clubs—the greatest innovation for equipping farms with power at the lowest cost in the world.

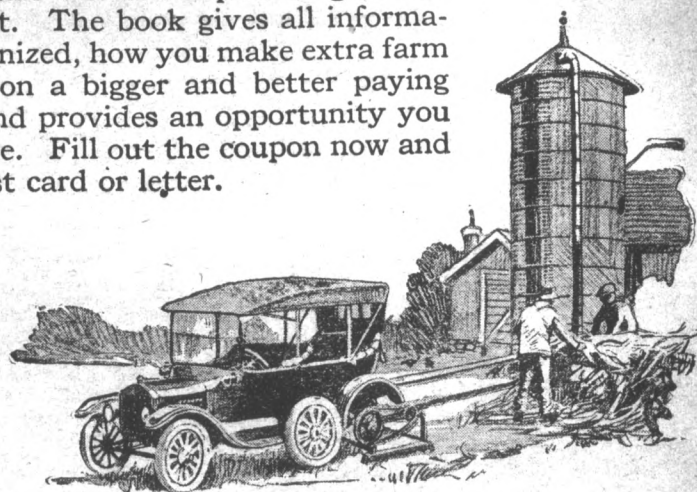
SEND COUPON FOR FACTS

The complete details of this wonderful plan is given in Free book sent upon request. The book gives all information, tells how clubs are organized, how you make extra farm profits and put your farm on a bigger and better paying basis. It's worth reading and provides an opportunity you never before thought possible. Fill out the coupon now and mail it today, or write a post card or letter.

**FORD
SIMPLICITY MFG. CO.
SPECIALTIES**

Dept. 500

Grand Rapids, Michigan



FILL OUT THIS COUPON AND MAIL TODAY

Simplicity Mfg. Co.,
Dept. 500, Grand Rapids, Michigan.

Gentlemen:

Send me without obligation complete particulars of Simplicity Service Clubs and plan of having the use of complete power on my farm without investing in the equipment.

Check Squares below.

☐ I own a Silo.

☐ I have Threshing to do.

☐ I have Wood to Saw.

☐ I have Feed to Grind.

☐ I have Hay and Straw to Bale.

☐ I own a Ford.

Name.....

Address.....

The Breeder's Gazette Holiday Number

FOR 1919 will be issued under date of DEC. 25.

Arrangements for advertising space should be made at once as forms must be gotten ready weeks in advance of publication date.

No advance in rate for space in this beautiful number.

Distribution more than 90,000 copies.

The Gazette Holiday Numbers have for more than two decades ranked as the outstanding farm journal productions year after year. Every subscriber gets one as long as the supply lasts if his name is on our list before January 1st. Better send your order in at once and be sure of receiving this handsome and interesting number.

SOME COMMENT ON THE 1918 NUMBER

DR. C. W. MARTIME, Opdyke, Ill., writes: "The Holiday Number is simply fine. Each number seems the best."

WALTER F. GERWIG, Ogle Co., Ill., writes: "I have your Holiday Number and say without hesitation that it is the best issue I have yet received. It impresses me as a paper that stands by itself and makes a good showing."

VON L. THOMPSON, Birmingham, Ala., writes: "I have read the Holiday Number with great pleasure and profit. It is certainly a grand issue."

H. C. ROBEY, Madison Co., O., writes: "It is evident that the Holiday Number of THE GAZETTE was prepared by capable hands, and at no little expense. It is certainly a revelation in the printer's art."

I. B. MOORE, Licking Co., O., writes: "I wish to congratulate you on the Holiday Number of THE GAZETTE. It is a masterpiece and will be greatly appreciated by every one of your subscribers."

J. N. TIMMS of the Ontario Agricultural College, Guelph, Ontario, writes: "I have enjoyed looking through the Holiday Number of THE GAZETTE. It is about the finest edition of its kind that I have seen. The pictures of live stock which you are so generous with are worth a great deal in themselves."

J. M. RANGLES, Waukesha Co., Wis., writes: "The Holiday Number was the best you have ever printed."

C. MATTHEWS, Putnam, Ont., writes: "The Christmas Number of THE GAZETTE is a fine one. I would rather have it than any one in the country."

I. J. SWAYER, Pickaway Co., O., writes: "I want to endeavor to thank you for the beautiful Holiday Number of THE BREEDER'S GAZETTE. It is on our library table the year 'round."

R. W. SONNENMOSER, Platte Co., Mo., writes: "We think THE GAZETTE the finest live stock paper issued. The Christmas Number was grand. The beautiful scenes of winter-time, the charming sketches and poems, the pictures of live stock and the pages of advertising made a journal which up-to-date farmers and breeders keenly appreciate."

JAMES A. BREEN, Jefferson Co., Colo., writes: "I think the Holiday Number the finest edition of any magazine I have ever seen."

PROF. J. J. HOOPER, Kentucky State University, Lexington: "Splendid! full of useful breed history. I will use it with my students."

JACOB A. DAVY, Miami Co., O., writes: "The Christmas GAZETTE will do more to make farmers appreciate what splendid possibilities lie before them and promote the spirit of achievement than all other influences combined."

F. L. CRICKMAN, Macon Co., Ill., writes: "I enjoyed the Christmas Number very much. It is the best that you have ever published."

The subscription price of The Gazette is \$1.50 a year or \$5 for 5 years. Sample copy and book catalog without charge if you mention this paper. Address

THE BREEDER'S GAZETTE, Room 1125, 542 So. Dearborn St., CHICAGO, ILL.

Dispersion Sale of Shorthorn CATTLE

To Be Held In Sale Pavilion, At
HOWELL, MICH. ON

Friday, November 21 at 1 o'clock P.M.

This is a dispersion sale of the herds of E. B. & W. J. Hosley, Howell and Joe Hughes, Howell, consisting of

41 HEAD

31 females and 10 Bulls.

10 cows with calves at foot

7 two year old heifers and 9 yearlings

These cattle are all in good condition, fine individuals with lots of scale.

Among the bulls is a Cruickshank Orange Blossom and a Marr Flora.

W. W. KNAPP

Sales Manager

Howell, Mich.

Andy Adams, Auctioneer

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Irritation of Nerves.—I have a nine-year-old Percheron mare that first commenced to favor one hind leg some time later showed same symptoms in the other leg. When walking she showed straddling gait, tired quickly, but worked fairly well. Occasionally she acted nervous, perspired too freely, lifted hind feet high, as if suffering from stringhalt, but these spells last for only a short time, then she works all right. When moving from side to side in stall, she jerks up hind legs. I raised this mare and she has never been abused or overworked. D. A. Montague, Mich.—Give her 1 dr fluid extract of nux vomica, and ½ oz. of Fowler's solution at a dose in feed or drinking water two or three times a day. Her ailment is chronic and her permanent recovery doubtful.

Infected Udder—Sub-acute Vaginitis in Sow.—I have a cow that came fresh May 8. She milked well until middle of July, when small bunch appeared in upper portion of teat. I applied salve which is recommended for such ailment, but it failed to do any good. This quarter of bag occasionally swells and cakes, milk comes with chunks in it. The calf sucked her night and morning until it was five weeks old. Have a sow that has vaginal discharge and a poor appetite. She has always dribbled urine and I have thought she had kidney disease. W. E. B. Ransomville, N. Y. Apply one part iodine and nine parts fresh lard to hardened portion of udder three times a week. Give her one teaspoonful of hyposulphite of soda in feed once daily. Your sow is incurable, therefore she should be fattened for market.

Teat Stricture—Choking.—I had a grade Jersey cow four years old which had first calf about first of July. She was a hard milker. I asked the Vet. to open stricture, but he thought it bad practice and it was not done. I let calf with cow, it thrived, but later cow's throat and neck swelled, but the Vet. failed to tell what ailed it. After a time the cow refused to either eat or drink and finally died. One day later I opened throat and neck, found little lumps in gullet and throat, but none in lungs. J. McC., Dafer, Mich.—The writer is inclined to believe that your cow died as the result of starvation, caused by a diseased condition of throat and gullet. Teat stricture is best treated by opening teat canal on four sides, using a concealed teat slitter, an instrument made for doing this operation. It is seldom necessary to cut high up in teat. Be sure that your instrument is clean before using it.

Sore Throat.—I recently purchased three rabbits which had been fed oats and dry clover before I got them. Since then fed them some oats, both green and dry clover, with plenty of green vegetables, besides they had good fresh water to drink. I had them about two weeks when one died, the others died a week later. They were sick two days; before they died the hair under throat was wet. G. F. Rochester, Mich.—Your rabbits died as the result of diphtheritic sore throat which is a fatal ailment in young rabbits and kittens. Clean and disinfect your kennel. I do not believe the food supply had anything to do with their death.

Strained Leg.—I have a seven-year-old mare who laid down in the stall with her harness on and got fast. When I went to the barn she was up, but standing on three legs and there was a large swelling on the hock joint of one leg. It has been about six weeks since she injured her leg; have applied blisters, also other commercial remedies, but none of them seem to have done the leg much good. She is lame and it bothers her to lie down and get up. R. A. C., Lansing, Mich.—Your mare should have rest; the swollen joint should be hand-rubbed three times a day; also apply equal parts of tincture of iodine and camphorated oil after each rubbing. Give her a teaspoonful of acetate of potash at a dose once daily. This medicine can either be mixed in feed or given in drinking water.

Loss of Vision.—Some of my sheep are going blind. Will you kindly prescribe me a remedy for the ailment? My sheep are all young. A. E. McG., Lachine, Mich.—Blow one part calomel and four parts boric acid into the sore eyes every day or two. The sore-eyed sheep should be kept in shaded place, as a bright light always irritates a sore eye. Feed them food of a laxative nature to keep their bowels open.

TRAPPERS

Let me give you these
Stretching Board
Patterns FREE

Get ready for a big money-making trapping season. Old timers will tell you that they never dreamed of prices like you will get this year. Let me send you FREE my set of Stretching Board Patterns—just what you need to make your furs worth every possible dollar. Properly stretched furs always worth 10% to 50% more. Be ready with plenty of good stretching boards—

RUMBAUGH
DES MOINES, I.A.

I pay top prices—I mail returns in a few hours after I get your shipment—I grade fair—I do not charge commission, but give you 100 cents for every dollar's worth—and GUARANTEE TO HOLD YOUR FURS SEP. 15th on request and return them if you are not satisfied.

Mail me the names and addresses today of two trapper friends and get my Stretching Board patterns and game laws for your state by return mail—also RUMBAUGH'S up-to-the-minute market reports, which will keep you posted all season on what your furs will bring. Write today.

W. R. RUMBAUGH
393 S. W. Fifth St
Des Moines Iowa

ROGERS

ST. LOUIS

Trapper's Guide—FREE!

Trappers and Shippers—don't wait, write in to-day for Rogers' big improved Trappers' Guide—it's free. The biggest, best work of its kind—hang the cover on your wall—it's full of color and action—meant for real outdoor men.

Complete lists of traps and trapper's supplies at lowest prices—

Game laws—all the haunts and habits of the fur bearers—every trapper needs it—and it's FREE. Rogers pays highest prices, quickest cash, and shipping charges on furs—deals direct with you, the square deal way—grading done by experts. No commission charged. Write today for Trapper's Guide—get prices and market reports all winter through—Service Free—don't delay—send card today. Address Dept. 170

ROGERS FUR CO.

ST. LOUIS

World's Best Roofing Freight Paid

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

Edwards "Reo" Metal Shingles

cost less; outlast three ordinary roofs. No painting or repairs. Guaranteed rot, fire, rust, lightning proof.

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Get our wonderfully low prices and free samples. We sell direct to you and save you money. Ask for Book No. 1167.

LOW PRICED GARAGES

Lowest prices on Ready-Made Fire-Proof Steel Garages, 8' up any place. Send postal for Garage Book, showing styles. THE EDWARDS MFG. CO., 1117-1167 Pike St., Cincinnati, O.

FREE
Samples &
Roofing Book

R. K. TIRES

ARE BEST IN WINTER

Any tire can perform on an easy road, but it takes a rough, frozen, hard road to show you just how good the R. K. Tire is. Retreaded, double chain stitched made of first-class casings and materials, and R. K. Tire is a dependable, 100 percent service worker—and the harder the going the better it works!

Guaranteed, of course—even at these little prices:

Size	Price	Size	Price
30x3	\$ 6.50	34x4	\$11.00
30x3 1-2	7.50	34x4 1-2	12.50
32x3 1-2	8.00	35x4 1-2	13.00
31x4	10.00	36x4 1-2	14.00
32x4	10.00	36x5	14.00
32x4	10.50	37x5	14.00

Add \$1.00 to the above for Non-Skid Tire

2 percent off for cash with order.

10 percent deposit required with all C.O.D. orders

R. K. Tire Company

837 No. Broad St. Philadelphia, Pa.

Send for descriptive booklet and price list.

Good Territory Open for Live Agents

Keep Dirt and Filth Out of the Milk

by clipping the cow's flanks and udder every month. Then with a damp cloth wipe the parts off in a hurry. There is no long hair to hold the dirt and the milk is clean and wholesome as it falls into the pail. Clipping all over twice a year is good for the cows. A Stewart No. 1 Machine is best. It will clip horses also. Machine all complete only \$12.75 at your dealer's or send \$2 and pay balance on arrival. Chicago Flexible Shaft Co. Dept. A. 127, 12th St. and Central Ave., Chicago, Ill.

10 thoroughly broken American fox hounds, good hunters and trailers, a few partly broken. Stamp for reply. Ambrose S. Taylor, West Chester, Pa.



NOTES ON ACTIVITIES OF MICHIGAN POTATO GROWERS' EXCHANGE.

Associations organized recently that have joined the Michigan Potato Growers' Exchange are the Howard City Market Association, the Gowen Market Association, both of Montcalm county, and the Sand Lake Cooperative Association of Kent county.

All of these associations have ordered their supplies of the Central Exchange and are getting ready to load potatoes and other farm produce to sell for the farmer members through the exchange.

The new association at Amble, Montcalm county, is getting ready to build a fine warehouse this winter and is preparing to handle all business for the members. They have begun to ship potatoes and have been compelled to refuse to let any more farmers join their association on account of not being able to handle all of the produce which a large membership would offer. Until they get their new warehouse ready they will have to confine their membership to the present number.

The new Marion Elevator Company have taken over the local elevator and are ready to do business. The Sand Lake Association has purchased a warehouse and are loading out potatoes at the present time.

The Rose City and West Branch Association of Ogemaw county are doing a large amount of business and are keeping a cream tester busy all of the time, besides several warehouse men and the managers. The association has been able to get the farmer much higher prices for their eggs and cream as well as other products. The price of cream has been raised several cents to the farmers and in one instance twenty cents more was obtained for eggs than the farmers had been receiving.

The business of the exchange has increased to such an extent this season that they had to put on another salesman to help in the handling of that department. The new man is a brother of G. E. Prater, Jr., our salesman for the past year. W. A. Prater, the new salesman, has been for a number of years handling some large accounts for the North American Fruit exchange. The Potato Growers' Exchange is very fortunate in being able to have his able assistance for their regular salesman.

The product of the Potato Exchange is moving very rapidly and is being put upon the market in such good condition that the buying trade is recognizing the better values than in the pack of the ordinary buyer.

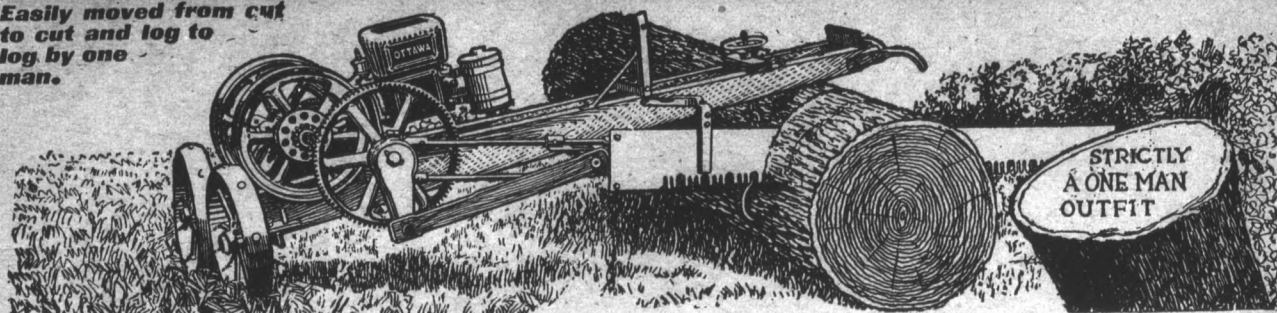
The movement of apples through the exchange has been very large this season and the prices which the exchange has been able to return to the growers has been very satisfactory.—W. C. C.

WELL CONTRACT.

Last spring I had a man bore a well for me at \$1.85 per foot. He bored 120 feet without getting water and quit. I paid him \$100 and have asked him to come and fix it, but he does not do it. Can I hire someone else to finish it without trouble with the first man?
H. S.

It looks like trouble already. This party having waited a reasonable time can have the well finished by somebody else and take his chances of recovering the \$100 paid to the first man, less any value of the dry hole.
JOHN R. ROOD.

Easily moved from cut to cut and log to log by one man.



STRICTLY
A ONE MAN
OUTFIT

One Man Saws 25 Cords a Day: Cuts down trees

IT'S the easiest kind of work to cut down trees and saw any timber any size or length. On thousands of farms the Ottawa Engine Log Saw is proving the greatest labor-saving device ever invented. You alone can do the work of ten men with the Ottawa. It does away with the back-breaking, hard job of cross-cut sawing the old way or lugging logs to a circular saw.

The country is facing the worst coal

shortage in history. You can help your friends, neighbors, and the people in town by sawing wood for fuel, and make splendid money. Noah Digge of Jacksonville, No. Car., writes, "I cut 27 cords of wood in one day, under unfavorable conditions, and in 52 hours I sold, and delivered \$75 worth." Men everywhere are doing the same. The Ottawa Log Saw provides cheaper and more plentiful fuel. Quickly pays for itself.

OTTAWA LOG SAW

Cuts Down Trees—Saws Logs By Power

Direct gear drives saw—no chains to tighten, no keys, no set-screws. Automatic friction clutch protects saw. 4-Cycle Frost Proof Engine. Oscillating Magneto Ignition, and the Automatic Governor with Speed Regulator. Engine will also run pumps, feed mills, washing machines, cream separator and other machinery. Saw blade easily removed.

10 Year Guarantee Take advantage of our liberal offer. The 10 year guarantee protects you. See the Ottawa in operation, see how quickly and easily it cuts any log? No work at all. The greatest work-saver ever invented.

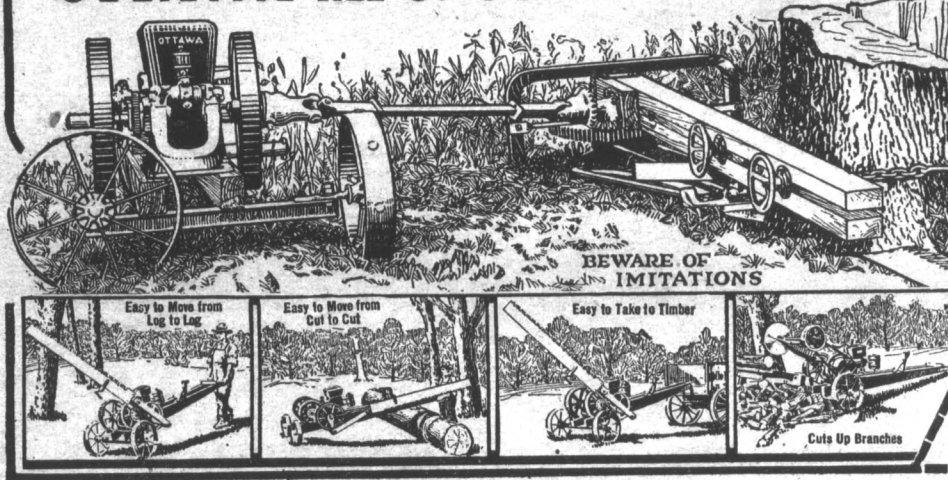
Low Factory Price—Write at once for low direct factory price. The lowest price ever made. You'll be surprised at the figure possible because of low manufacturing cost and direct sales plan.

You get the Ottawa Log Saw direct from the factory. You get the **lowest price** and immediate shipment—no delay—no waiting. Back of each Ottawa is our big factory with its 10 year guarantee. You'll be surprised how easy the Ottawa is to use—how simple to operate—how easy to start in any weather. And it's economical, too. Uses very little gasoline.

30 Days Trial The Ottawa reaches you all ready for work. Let it saw your logs for 30 days. This is the most liberal trial offer ever made on any log saw. Before you choose any saw—get the trial offer, backed by the largest log saw factory in America.

Free Book Send today for New Free Book about the Ottawa Log Saw. See what this work and time-saver can do for you. Its a big money-maker. Your name on a post card or the coupon below, brings this fully illustrated book free and postpaid.

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CORDS
A DAY
One Man
Outfit

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Send me your Free Book about the
Ottawa Log Saw. It is understood
I am to be under no obligation.

Name.....
Address.....

INTERNATIONAL LIVE STOCK SHOW

NOV. 29th to Dec. 6th

UNION STOCK YARDS—CHICAGO

The Victory Carnival
of the Live Stock World.

The Criterion of All
Stock Shows.

Daily Sales of Pure Bred Stock

POLLED HEREFORD SALE
Tuesday, Dec. 2nd, 1:00 P. M.
For catalog write B. O. Gammon,
324 Valley National Bank Bldg.,
Des Moines, Iowa.

ABERDEEN-ANGUS SALE
Wednesday, Dec. 3rd, 1:00 P. M.
For particulars write Chas. Gray,
Union Stock Yards, Chicago.

POLLED SHORTHORN SALE
Thursday, Dec. 4th, 10:00 A. M.
For catalog write J. H. Martz,
Greenville, Ohio.

SHORTHORN SALE
Thursday, Dec. 4th, 1:00 P. M.
For catalog write F. W. Harding,
Union Stock Yards, Chicago.

HEREFORD SALE
Friday, Dec. 5th, 1:00 P. M.
For particulars write R. J. Kinzer,
1009 Baltimore Avenue,
Kansas City, Mo.

Study Intimately the Art of Breeding.
Learn to Reduce the High Cost of Living by Economic Feeding Methods.
The International Hay and Grain Show for Chicago Board of Trade Prizes
The Brilliant Evening Horse Shows and A TRIP TO CHICAGO

Lowest Rates on all Railroads

MAPLE SYRUP MAKERS

Champion

Evaporator

saves labor, makes
finest quality syrup
and sugar, and gets
Better Returns from
Your Sugar Bush.
Write for catalog
and terms Today.
Order Sugar Mak-
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Freight moves slowly.

CHAMPION EVAPORATOR CO., Hudson, O.



America's
Pioneer
Dog Remedies

BOOK ON DOG DISEASES And How to Feed

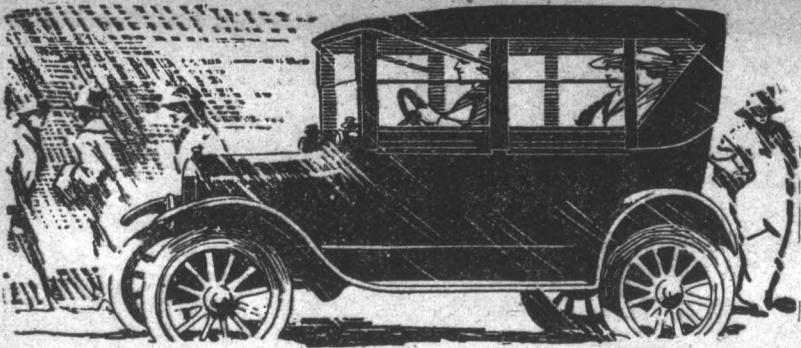
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the Author

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Agricultural Lime High calcium hydrated lime
in 50 lb. paper bags, in car
lots of 20 tons or more. Delivered, price promptly
quoted on request.
Northern Lime & Stone Co., Petoskey, Mich

BUY FENCE POSTS direct from for-
est. Prices deliv-
ered your station. M. M. care of Michigan Farmer,

Please Mention The Michigan Farmer When Writing to Advertisers



How to Convert Your Ford Into a Cozy, Closed Car

You want the comforts of a Limousine when driving against bitter-cold winter blizzards.

USTUS
Limousette
FOR FORDS

converts either a Ford Touring Car or Roadster into a machine that shuts out biting winter winds, and enables you to ride in comfort.

The practicability of this utility is evidenced by the fact that it can be used in connection with the standard body and top of your Ford without making alterations.

Just a light touch operates the roller windows.

The USTUS Limousette for Fords for touring car weighs only 40 pounds and for roadster only 20 pounds.

It provides clear vision front and sides—is free from rattles and vibration and can be installed in an hour.

Better see the USTUS Limousette Dealer promptly for a demonstration of its advantages or write to your USTUS Distributor.

Price, for Touring Car \$46.00; for Roadster \$30.00, f. o. b. Detroit

DAFOE-EUSTICE COMPANY, Inc., Manufacturers
1172 W. Jefferson Ave. DETROIT, MICH.

Distributors:

J. G. HAYS SALES CO., 1162 Penobscot Bldg., Detroit, Mich.

Features of USTUS Limousette for Fords



Provides closed car comfort in bad weather.

Is combined with standard Ford body and top without alterations. Eliminates inconveniences of awkward side curtains.

Instantly converted into open or closed car. Gives clear vision from front or sides.

We also manufacture USTUS standardized, guaranteed Canvas Covers

Our Service Department

TRESPASSING LIVE STOCK.

I rent a farm and my neighbor's cattle got through the part of the line fence which he was to keep in repair and which was defective. Later my cattle got through the same place and injured his crops. Who is liable for these damages?—H. H.

The inquirer is not liable for the damages done by his stock to the neighbor because the damage was the direct result of the neighbor's fault but the owner of the cattle which trespassed on the crops of the inquirer is liable for the loss he suffered and if the cattle were caught in the act they might be turned into the town pound and held as pledge for the damage until paid.

JOHN R. ROOD.

ADVERTISING STRAYS.

October 20 four calves came to my place and are still there. I have advertised in a local paper but the owner does not show up. How long do I have to keep them before I can dispose of them?—Subscriber.

In cases of this sort the statute must be followed in every detail and it is not good business for a person to attempt to do it who is not an attorney or without the aid of an attorney.—R.

FARM SOLD ON CONTRACT.

I have sold my farm on contract and the man refuses to pay any more. I should like to know how long he can hold possession and what proceedings are necessary.—Subscriber.

It is first necessary to serve written notice of forfeiture for failure to keep up the contract. Then it is necessary to make out a summons from the circuit court commissioner returnable not less than three, nor more than six days from the date and served at least two days before the time for appearance, upon which date the commissioner will hear the case or adjourn it, and upon the hearing give such judgment as the facts may require. If he awards judgment of restitution no writ of restitution can be had until thirty days after the judgment is rendered. If the purchaser pays the amount and cost within the thirty days no recovery can be had. If the amount found due is not paid within the thirty days, then a writ of restitution issues and puts the seller into possession again.—R.

CAPACITY OF SILOS.

Please give me the number of tons of ensilage in a silo 10x30 feet, that is, how many tons per foot, and the price per ton for corp silage.

Kent Co.

E. F. R.

From careful experiments made, it is estimated that a cubic foot of well settled silage will weigh on the average about forty pounds, so you can determine the number of cubic feet in your silo and then multiply by forty, which will give you the weight of silage in pounds.

There is practically no market price for silage as it is a product that is rarely bought and sold. The only thing we can do is to estimate its food value as compared with other foods in the same proportion of food nutrients. Careful experiments show that three tons of silage is worth as much as one ton of timothy hay. Consequently if timothy hay is worth \$27 a ton, good corn silage should be worth \$9 a ton.

C. C. L.

RIGHTS OF A WIDOWER.

Please tell me the rights of a widower in the property of his wife, and can he recover money he has lent her to be put into her business?—J. C.

Widowers have no rights in the property of their deceased wife except that

if there are no children and no will, they inherit one-half in fee, but they can claim nothing against the will. The ability of the widower to recover money lent depends on his ability to prove that he has lent it. If he has a note for the amount or independent proof to show it he could recover it, but he cannot testify to the matters himself. The statute forbids any person having a claim against the deceased giving testimony of any matter equally within the knowledge of the deceased.—R.

SUGAR BEET CONTRACT.

I entered into a contract to grow beets, plowed and prepared the land, put in the beets and called up the company several times and they promised they would come but did not. Finally, they sent some men who stayed a few hours and left. I never saw any more of them. I am out at least \$300. Have I any remedy?—H. C.

The printed contract form enclosed provides that the grower shall take care of the crop and that no agent of the company has any authority to change the terms of the contract which is signed by the grower and the company's agent. Under their printed contract certainly there is no liability on the part of the company. If there is any liability at all it is by virtue of the subsequent contract made orally. Whether there was such a contract is a question of fact and it looks like a fair question for a jury. The subscriber had better see a lawyer.—R.

CULTURE OF GRAPES.

Will grapes do well on low ground, well tilled? How old must a grape vine be to bear? J. W. S.

A well drained clay loam is usually recommended as the best soil for grapes but this fruit thrives on a wide range of soils from steep sandy hills to level fields and even river bottom land. If the soil is well tilled and contains plenty of organic matter the grapes should succeed very well. If the ground is not well drained the conditions can be improved with tile. Planting a vineyard is something like building a barn. It lasts a long time and so the best and most satisfactory site should be selected right at the start. If a grape vine is strong and thrifty in its third year of growth from the cutting, it can bear a cluster of grapes on each shoot. However, some growers remove early in the season any bunches that develop the third year and this allows more strength to go into the vine to help in the future production of the fruit. The various systems used in starting and training vineyards are interesting and a beginner with grapes will find a special book on grape culture to be a good investment.—K.

SIGN YOUR NAME.

We are constantly receiving unsigned inquiries. Many times it becomes necessary to send a direct reply, and this is impossible where no name and address are given. Since initials only are used in publishing the query, subscribers need not fear the publicity given through this service. For our convenience and the more prompt service we can give our readers, we especially request that all communications be properly signed.

No amount of scrubbing can make a rusty milk can fit to put milk into. Cans are costly these days; so are cans of milk. Cold squeezes milk to nothingness, dry weather causes the cows to shrink, but rusty cans are the worst of all.—E. L. V.



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Dated Seed	BB	A	BB	A	BB	A	BB	A	BB	A
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" (9-18)	BB	A	BB	A	BB	A	BB	A	BB	A
" (10-20)	BB	A	BB	A	BB	A	BB	A	BB	A
" (12-25)	BB	A	BB	A	BB	A	BB	A	BB	A
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Trundon	BB	A	BB	A	BB	A	BB	A	BB	A
Trundon	BB	A	BB	A	BB	A	BB	A	BB	A
Flour City	BB	A	BB	A	BB	A	BB	A	BB	A
" (Model 6)	BB	A	BB	A	BB	A	BB	A	BB	A
" (Model 10)	BB	A	BB	A	BB	A	BB	A	BB	A
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Westerlo Bay	BB	A	BB	A	BB	A	BB	A	BB	A
Whitson	BB	A	BB	A	BB	A	BB	A	BB	A
Wisconsin	BB	A	BB	A	BB	A	BB	A	BB	A

WORLD EVENTS IN PICTURES



Mrs. Agnes Menefee, wife of an American officer, served four years in Woman's Battalion of Death. Wounded twice and was twice decorated by the Czar.



Mrs. Oliver Harriman, chairman of the Women's Council of the League of Nations Association.



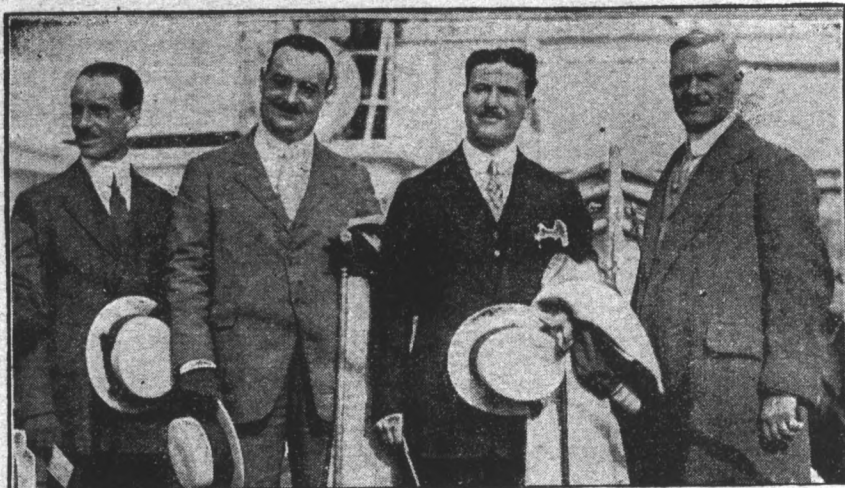
Miss Malvina Hoffman, a successful sculptress who returns to America after a stay abroad.



Mrs. Wiley Sparks, wife of an American, was taken prisoner by the Bolsheviks and was held in an Odessa prison for six months. Mrs. Sparks was a Rumanian.



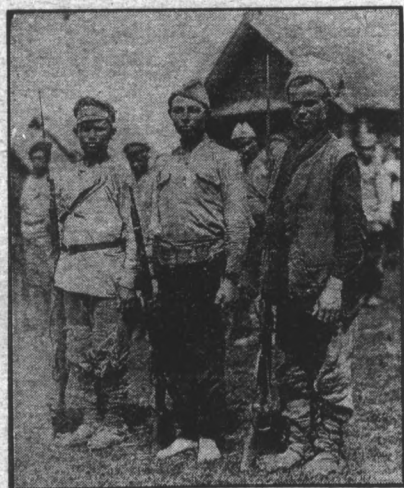
Latest photograph of President and Frau Ebert of Germany.



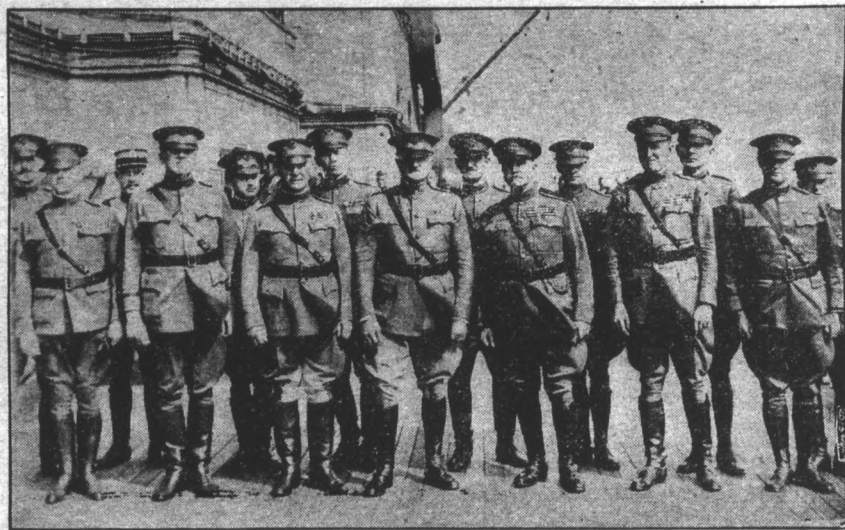
Members of world-renowned Sistine Chapel Choir of the Vatican at Rome which is on a tour through the United States. - All four served in the Italian army during the world war.



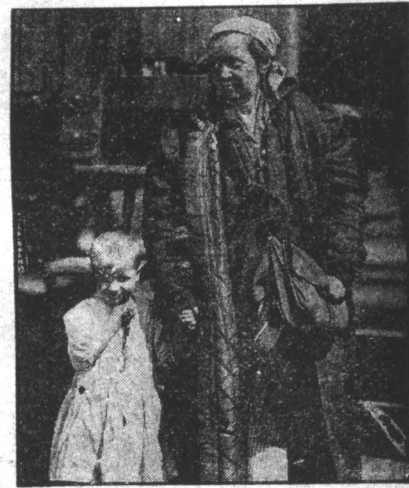
John L. Lewis, President of the United Mine Workers of America.



Typical troops and equipment with which Kolchak fought during the great retreat from Ufa.



General John J. Pershing, Commander-in-Chief of the American Expeditionary Forces, and his complete staff, which fought with him through the war. Photo was taken before they landed from the Leviathan.



Wife and child of a Russian Colonel who were forced to flee from Ufa with Kolchak's forces.



King Albert of Belgium carrying a large wreath which he placed on the grave of Theodore Roosevelt in Young's Memorial Cemetery at Oyster Bay. He is accompanied by Theodore Roosevelt, Jr.



General view taken during the impressive ceremonies which marked the placing of the historic Roosevelt Memorial Flag on the grave of the great American, at Young's Memorial Cemetery, Oyster Bay.

Crooked Trails and Straight

By Wm. MacLeod Raine

The Missourian stared without civility at his guest, turned on his heel, and with his daughter beside him marched out of the room. He could not decently tell Stone to leave while he was under the care of a doctor, but he did not intend to make him welcome. London was a blunt grizzled old fellow who said what he thought even about the notorious Soapy Stone. "We'll pull our freights right away, Curly," Stone announced as soon as his host had gone.

The young man went to the stable and saddled Keno. While he was tightening the cinch a shadow fell across his shoulder. He did not need to look round to see whose it was.

"I'm so glad you're going to the horse ranch. You will look out for Sam. I trust you. I don't know why, but I have the greatest confidence in you," the owner of the shadow explained sweetly.

Curly smiled blandly over his shoulder at her. "Fine! That's a good up-lifting line of talk, Miss Laura. Now will you please explain why you're feeding me this particular bunch of taffy? What is it I'm to do for you?"

She blushed and laughed at the same time. Her hand came from behind her back. In it was a letter.

"But I do mean it, every word of it."

"That's to be my pay for giving Master Sam his billy doo, is it?"

"How did you guess? It is a letter to Sam."

"How did I guess it? Shows I'm sure a wiz, don't it?"

She saw her father coming and handed him the letter quickly.

"Here. Take it." A spark of mischief lit her eye and the dimples came out on her cheeks. "Good-by, Curly."

CHAPTER VII. Bad Medicine.

THE house at the horse ranch was a long, low L-shaped adobe structure. The first impression Curly received was that of negligence. In places the roof sagged. A door in the rear hung from one hinge. More than one broken pane of glass was stuffed with paper. The same evidence of shiftlessness could be seen on every hand. Fences had collapsed and been repaired flimsily. The woodwork of the well was rotting. The windmill wheezed and did its work languidly for lack of oil.

Two men were seated on the porch playing seven-up. One was Bad Bill, the other Blackwell. At sight of Curly they gave up their game.

"Hello, kid! Where did you drop from?" Cranston asked.

A muscle twitched in Flandrau's cheek. "They got Mac."

"Got him! Where? At Saguache?"

"Ran us down near the Circle C. Mac opened fire. They—killed him."

"Shot him, or—?" Curly was left to guess the other half of the question.

"Shot him, and took me prisoner."

"They couldn't prove a thing, could they?"

"They could prove I wounded Cullison. That was enough for them. They set out to hang me. Later they changed their minds."

"How come you here? Did you escape?"

"Nope. Friends dug up bail."

Cranston did not ask what friends. He thought he knew. Alec Flandrau, an uncle of Curly, owned a half interest in the Map of Texas ranch. No doubt he had come to the aid of the young scapegoat.

"I'll bet the old man was sore at having to ante," was Big Bill's comment.

"Say, Soapy has been telling me

that the Cullison kid is up here. I reckon we better not say anything about my mixup with his folks. I'm not looking for any trouble with him."

"All right, Curly. That goes with me. How about you, Blackwell?"

"Sure. What Sam don't know won't hurt him."

Curly sat down on the porch and told an edited story of his adventures to them. Before he had finished a young fellow rode up and dismounted. He had a bag of quail with him which he handed over to the Mexican cook. After he had unsaddled and turned his pony into a corral he joined the card players on the porch.

By unanimous consent the game was changed to poker. Young Cullison had the chair next to Flandrau. He had, so Curly thought, a strong family re-



He was the Maddest Man in Arizona

semblance to his father and sister. "His eye jumps straight at you and asks its questions right off the reel," the newcomer thought. Still a boy in his ways, he might any day receive the jolt that would transform him into a man.

The cook's "Come and get it" broke up the game for a time. They trooped to supper, where for half an hour they discussed without words fried quail, cornbread and coffee. Such conversation as there was held strictly to necessary lines and had to do with the transportation of edibles.

Supper over, they smoked till the table was cleared. Then coats were removed and they sat down to the serious business of an all night session of draw.

Curly was not playing to win money so much as to study the characters of those present. Bill he already knew fairly well as a tough nut to crack, game to the core, and staunch to his friends. Blackwell was a bad lot, treacherous, vindictive, slippery as an eel. Even his confederates did not trust him greatly. But it was Soapy Stone and young Cullison that interested Flandrau most. The former played like a master. He chatted carelessly, but he overlooked no points. Sam had the qualities that go to make a brilliant erratic player, but he lacked the steadiness and the finesse of the veteran.

The last play before they broke up in the gray dawn was a flashlight on Stone's cool audacity. The limit had long since been taken off. Blackwell

and Stone had been the winners of the night, and the rest had all lost more or less.

Curly was dealing. Cranston opened the pot.

"She's cracked," he announced.

Blackwell, sitting next to him, had been waiting his turn with palpable eagerness. "Got to boost her, boys, to protect Bill," he explained as his raise went in.

Sam, who had drunk more than was good for him, raised in his turn. "Kick her again, gentlemen. Me, I'm plumb tired of that little song of mine, 'Good here'."

Stone stayed. Curly did not come in. Cranston showed his openers and laid down his hand. Blackwell hesitated, then raised again.

"Reckon I'm content to trail along," Cullison admitted, pushing in the necessary chips.

Soapy raised his stubby chin, looked sideways at Sam and then at Blackwell, and abruptly shoved in chips enough to call the raise.

"Cards?" asked Curly.

"I'll play these," Blackwell said.

Sam called for two and Stone one.

Blackwell raised. Sam, grumbling, stayed.

"Might as well see what you've got when I've gone this far," he gave as a reason for throwing good money after bad.

Soapy took one glance at his new card and came in with a raise.

Blackwell slammed his fist down on the table. "Just my rotten luck. You have filled."

Stone smiled, then dropped his eyes to his cards. Suddenly he started. What had happened was plain. He had misread his hand.

With a cheerful laugh Blackwell raised in his turn.

"Let's me out," Sam said.

For about a tenth of a second one could see triumph ride in Soapy's eyes. "Different here," he explained in a quiet businesslike way. All his chips were pushed forward to the center of the table.

On Blackwell's face were mapped his thoughts. Curly saw his stodgy mind working on the problem, studying helplessly the poker eyes of his easy placid enemy. Was Soapy bluffing? Or had he baited a hook for him to swallow? The faintest glimmer of amusement drifted across the face of Stone. He might have been a general whose plans have worked out to suit him, waiting confidently for certain victory. The longer the convict looked at him the surer he was that he had been trapped.

With an oath he laid down his hand. "You've got me beat. Mine is only a jack high straight."

Stone put down his cards and reached for the pot.

Curly laughed.

Blackwell whirled on him.

"What's so condemned funny?"

"The things I notice."

"Meaning?"

"That I wouldn't have laid down my hand."

"Betcher ten plunks he had me beat."

"You're on," Curly turned to Soapy.

"Object to us seeing your hand?"

Stone was counting his chips. He smiled. "It ain't poker, but go ahead. Satisfy yourselves."

"You turn the cards," Flandrau said.

A king diamonds showed first, then

a ten-spot and a six-spot of the same suit.

"A flush," exulted Blackwell.

"I've got just one more ten left, but it says you're wrong."

The words were not out of Curly's mouth before the other had taken the bet. Soapy looked at Flandrau with new interest. Perhaps this boy was not such a youth as he had at first seemed.

The fourth card turned was a king of hearts, the last a six of spades. Stone had two pair to go on and had not bettered at the draw.

Blackwell tossed down two bills and went away furious.

That night was like a good many that followed. Sam was at an impressionable age, inclined to be led by any man whom he admired. Curly knew that he could gain no influence over him by preaching. He had to live the rough-and-tumble life of these men who dwelt beyond the pale of the law, to excel them at the very things of which they boasted. But in one respect he held himself apart. While he was at the horse ranch he did not touch a drop of liquor.

Laura London's letter was not delivered until the second day, for, though she had not told her messenger to give it to Sam when he was alone, Curly guessed this would be better. The two young men had ridden down to Big Tree spring to get quail for supper.

"Letter for you from a young lady," Flandrau said, and handed it to young Cullison.

Sam did not read his note at once, but put it in his pocket carelessly, as if it had been an advertisement. They lay down in the bushes about twenty yards apart, close to the hole where the birds flew every evening to water. Hidden by the mesquite, Sam ran over his letter two or three times while he was waiting. It was such a message as any brave-hearted, impulsive girl might send to the man she loved when he seemed to her to walk in danger. Cullison loved her for the interest she took in him, even while he ridiculed her fears.

Presently the quails came by hundreds on a bee-line for the water hole. They shot as many as they needed, but no more, for neither of them cared to kill for pleasure.

As they rode back to the ranch, Curly mentioned that he had seen Sam's people a day or two before.

Cullison asked no questions, but he listened intently while the other told the story of his first rustling and of how Miss Kate and her father had stood by him in his trouble. The dusk was settling over the hills by this time so that they could not see each other's faces clearly.

"If I had folks like you have, the salt of the earth, and they were worrying their hearts out about me, seems to me I'd quit hanging around and go back to them," Curly concluded.

"The old man sent you to tell me that, did he?" Hard and bitter came the voice of the young man out of the growing darkness.

"No, he didn't. He doesn't know I am here. But he and your sister have done more for me than I ever can pay. That's why I'm telling you this."

Sam answered gruffly, as a man does when he is moved. "Much obliged, Curly, but I reckon I can look out for myself."

"Just what I thought, and in September I have to go to the penitentiary. Now I have mortgaged it away, my liberty seems awful good to me."

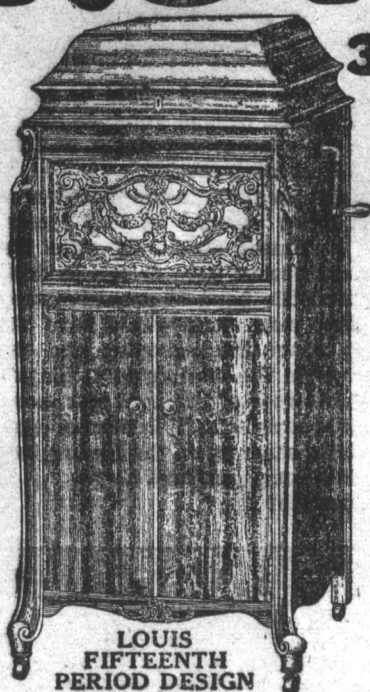
"You'll get off likely."

(Continued on page 631).



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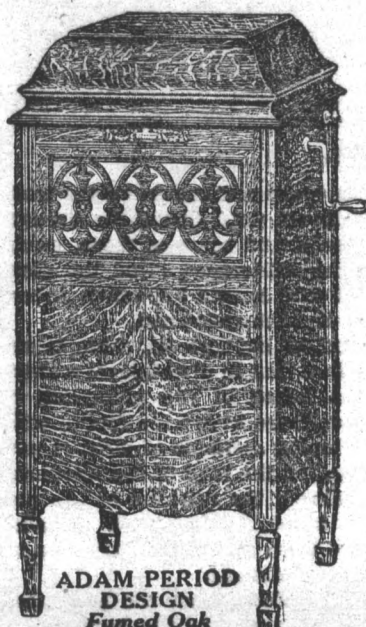
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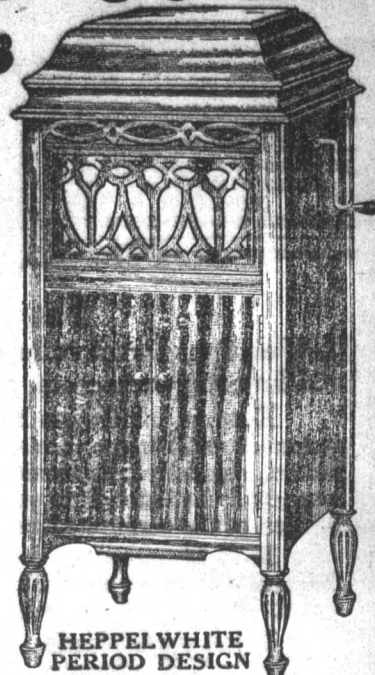
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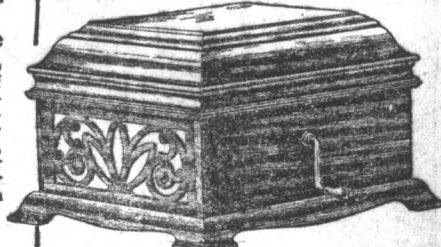
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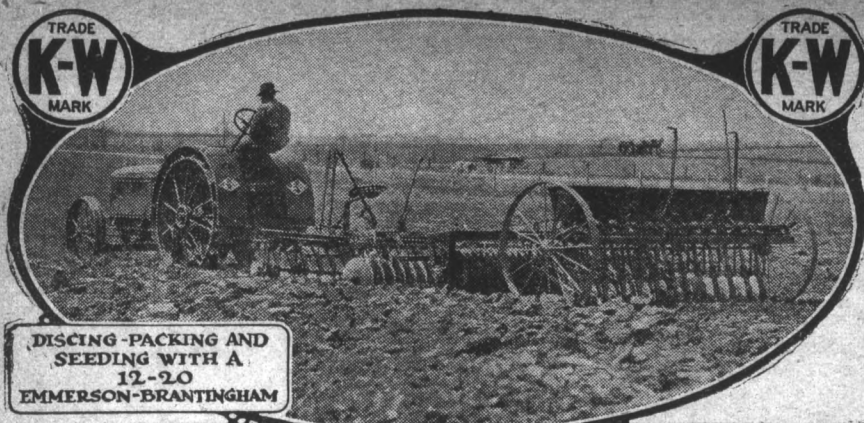
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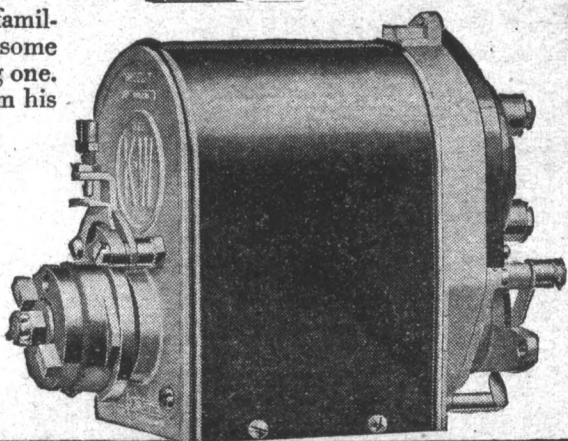
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The Origin of the Horse

By Felix J. Koch

THIS is a story which might very, tist may still dig their bones today! very well be considered the What could have frightened them? brain-child of some clever writer Lightning, thunder, the fall of trees of motion picture scenarios, but which in storm; an avalanche of snow per- has its foundation in hard and indis- puts? Not these; no more than the putable fact. rabbit or the squirrel would be fright-

Once upon a time—for all good stor- ened at these, beyond going to shelter ies for which no exact date can be as- before the approaching storm, and that certain must, of course, begin in with accustomed caution.

Not to speculate on the matter need- lessly, other remains in that locality such wise, according to all rules of the make it almost absolutely sure that story writer's order, a great herd of the giant beasts were driven to death mastodon grazed away in the prehis- toric swamps about what is, today, the almost forgotten hamlet of Big Bone, by some little band of primitive men; in Kentucky. These mammoth were and since man alone would have slip- the very kings of creation of their ped up about the mastodon and shot times; they tramped the hills and fed his arrow in the vital spots of his prey in the dales; they tore down any mon- before the rest of the herd was aware ster oak so rash as to stand in their of it, this early man, it is almost equal- way; they trampled the wher-wolf and ly certain, came up on the feeding herd the fox and the catamount and any astraddle some primeval horse. other animal so unwise as to come up- Impossible?



Today in Kentucky.

on them, bent on mischief. The mas- todon, like the elephant—his remote descendant, it is believed—was a gregarious chap, who traveled in herds; and not alone was one mastodon very near invincible to the living world of his time, but a herd of the creatures might go where they would, like so many dreadnaughts, in their forest lairs.

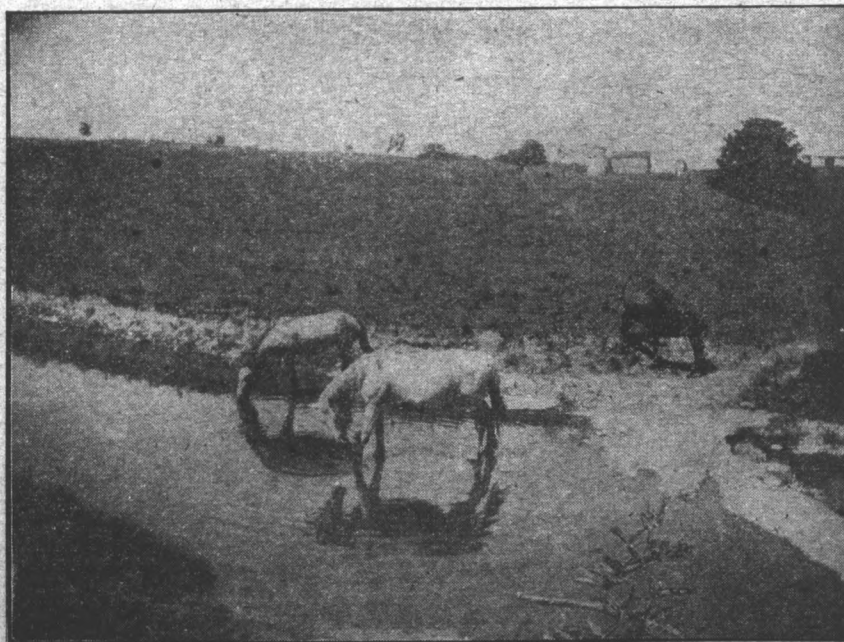
All of which is, of course, very familiar, indeed, to even the most precursory student of natural history. Only, what is not quite so well known, even to the scientists who specialize in these larger, vanished forms—for some reason or other that Big Bone herd, masters of the wilderness though they were, suddenly took fright before something they knew, by long race-experience, to be more powerful than they; they forgot the cunning and caution even the elephant is renowned for; and, in their abject terror, rushed into the Big Bone swamp, only to be slowly, but surely engulfed in most horrible deaths, and there the scien-

Horses were not known on the west- ern continent until Spaniards brought their steeds, and some of these, escap- ing to the wilderness, sired the giant herds of wild horses for which Ameri- ca later became renowned.

One might suppose so, were it not for the fact that in direct juxtaposition with the bones of the mammoth or mastodon, there have been found, with- in easy loping distance of what is now Big Bone and the land of the Kentucky thoroughbred, the remains of the pre- historic horse. Other such remains, too, have been found over America, at points quite distant.

Man, therefore, knew the horse, and man, it appears, used the horse, away back in the days when the colossal elephantine forms came for the salt to the Kentucky licks, crushing all things in the way from their path. Man, then too, with the strategy which gave him dominance over all living things around, must have watched the herds of wild horses near, chosen those he

(Continued on page 632).



At the Kentucky Pools.

CROOKED TRAILS AND STRAIGHT.

(Continued from page 628).

"Not a chance. They've got me cinched. But with you it's different. You haven't fooled away your chance yet. There's nothing to this sort of life. The bunch up here is no good. Soapy don't mean right by you, or by any young fellow he trails with."

"I'll not listen to anything against Soapy. He took me in when my own father turned against me."

"To get back at your father for sending him up the road."

"That's all right. He has been a good friend to me. I'm not going to throw him down."

"Would it be throwing him down to go back to your people?"

"Yes, it would. We've got plans. Soapy is relying on me. No matter what they are, but I'm not going to lie down on him. And I'm not going back to the old man. He told me he was through with me. Once is a plenty. I'm not begging him to take me back, not on your life."

Curly dropped the matter. To urge him further would only make the boy more set in his decision. But as the days passed he kept one thing in his mind, not to miss any chance to win his friendship. They rode together a good deal, and Flandrau found that Sam liked to hear him talk about the Circle C and its affairs. But often he was discouraged, for he made no progress in weaning him from his loyalty to Stone. The latter was a hero to him, and gradually he was filling him with wrong ideas, encouraging him the while to drink a good deal. That the man had some definite purpose Curly was sure. What it was he meant to find out.

Meanwhile he played his part of a wild young cow-puncher ready for any mischief, but beneath his obtuse good humor Flandrau covered a vigilant wariness. Soapy held all the good cards now, but if he stayed in the game some of them would come to him. Then he would show Mr. Stone whether he would have everything his own way.

CHAPTER VIII.

A Rehearsed Quarrel.

BECAUSE he could not persuade him to join in their drinking bouts Stone nicknamed Curly the good bad man.

"He's the prize tough in Arizona, only he's promised his ma not to look on the wine when it is red," Blackwell sneered.

Flandrau smiled amiably, and retorted as best he could. It was not his cue to take offence unless it were necessary.

It was perhaps on account of this good nature that Blackwell made a mistake. He picked on the young man to be the butt of his coarse pleasantries. Day after day he pointed his jeers at Curly, who continued to grin as if he did not care.

When the worm turned, it happened that they were all sitting on the porch. Curly was sewing a broken stirrup leather. Blackwell had a quirt in his hand, and from time to time flicked it at the back of his victim. Twice the lash stung, not hard, but with pepper enough to hurt. Each time the young man asked him to stop.

Blackwell snapped the quirt once too often. When he picked himself out of the dust five seconds later, he was the maddest man in Arizona. Like a bull he lowered his head and rushed. Curly sidestepped and lashed out hard with his left.

The convict whirled, shook the hair out of his eyes, and charged again. It was a sledge-hammer bout, with no rules except to hit the other man often and hard. Twice Curly went down from chance blows, but each time he rolled away and got to his feet before his heavy foe could close with him. Blackwell had no science. His arms

(Continued on page 633).

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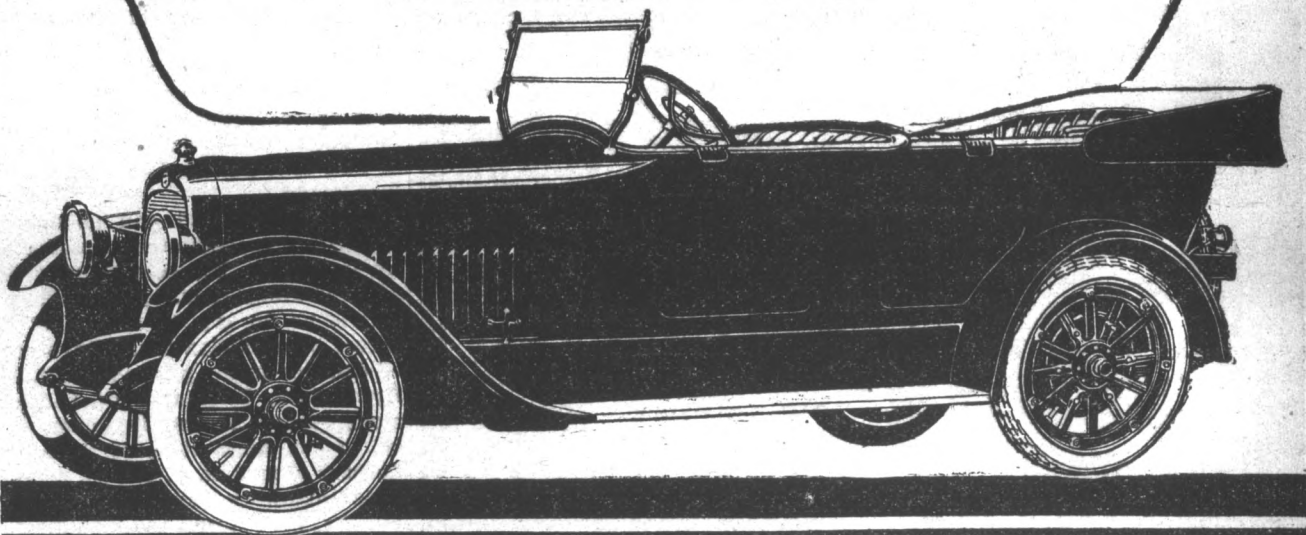
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The Origin of the Horse

(Continued from page 630).

would use as steeds; made these captive, and, it is but reasonable to presume, bred from them, as the ancient man bred certain other wild things he kept near, to save the going on chase when not just so inclined.

It is really little more than a matter of a decade and a half ago, at Hyde Park, now a fashionable suburb of the Queen of the West, but then still a rather rural bit of country, that some workmen were given the task of sinking the shafts for two cisterns in the garden of a Mr. Shaw, a gentleman farmer, whose place lay along the high road through the section.

Reaching a depth of twenty-two feet, the borers came upon what was, to them, an unfamiliar object. Stopping operations and investigating, they found this to be a bone, but of most gigantic size. Looking closely round about, they found more such bones, of equally great proportions, round about it. Save for a few scattered fragments lying helter-skelter between, these bones were also so very big that even these laymen to the nature-students' art felt sure they could not have belonged to any creature then existent.

Clinching their conclusion on this point was the further fact that the bones of no animal of modern times would be found in such virgin soil, full twenty-two feet beneath the earth's surface.

The men advised the Shaw family at once and these folk, people of education, who understood the scientific value of such a find, at once ordered further halt on the cistern bores until Professor Hayes, then Curator of the local Natural History Society, could take charge of all such remains in the way. The bones, what was more, were immediately covered over with muslin, to preserve them, and then, as soon as practicable, they were given a coating of shellac, which will preserve them from crumbling for all time.

Before the entire field of bones was exploited, though, a hole ten feet square, had been cut and every ounce of earth in this carefully searched. This space, however, seemed to mark the limits of the treasure trove, and no further efforts toward excavation were then made.

Many and varied and undoubtedly interesting were the theories advanced by lookers-on, but science very soon added things of still greater interest.

It is no far cry, as a band of wild horses or mastodon would have counted distance in the primeval days, from Hyde Park, in Cincinnati, to the famous Serpent Mound, in Adams county, in the same state of Ohio. The Serpent Mound is, of course, a prehistoric earthwork, carefully constructed by the prehistoric mound-builder to show a giant serpent about to swallow an egg. Over in Asia, mounds identical in shape, identical in construction, identical in content, abound. Where, for, it takes no great stretch of the reasoning for the scientist to believe that the peoples of early America and early Asia were one and the same and that, doubtless, they crossed at Behring Strait when an Isthmus existed there. This was away back in the Pliocene Period. Not only do the mounds serve to show this, but the Asiatic elephant is, after all, simply a diminutive replica of the mammoth and mastodon found in Siberia, and, again, down in Kentucky, quite close to where the Shaw mammoth was found.

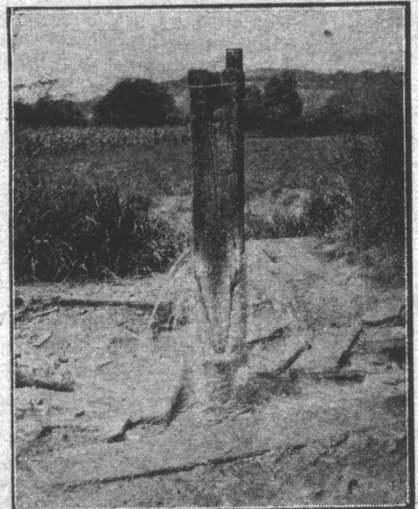
Granting the existence of this passage, the fact that mastodon were existent in both Asia and America and, now, the fact that the bones of a prehistoric horse were plainly separated from among those very remains of that Hyde Park mastodon in the laboratory of the Natural History Museum, prove that horse and mastodon grazed

side by side here in America. Why, not, then, as reasonable to credit America with the birthplace of the equine race, and why not to assume that early man made use of these fast-flying steeds to pursue game as he dare not on foot?

The Hyde Park mastodon and the pre-historic horse, found at levels so deep that no chance freak of our times—when the horses introduced by the Spaniards had sent their descendants into the mid-west—recall other investigations bearing out the antiquity of the horse.

A British authority, for one, states that the early horse was close akin to the tapir and the rhinoceros in his form, thus helping on this theory of Asiatic connection with the America continent.

"Investigations in comparative anatomy," he stated, "have demonstrated that the structure, at first so singular and exceptional, is really but a modification of the same general plan upon which the tapirs and rhinoceri are formed. The discovery and restoration of the characters of extinct species, inaugurated by Cuvier and later



Big Bone Salt Lick.

conducted on more ample scale in the prolific fossiliferous strata of North America by Ledy, Marsh and Cope, have revealed numerous intermediate stages through which the existing horses appear to have passed in their modifications from a very different ancestral form.

"We have, as yet, no knowledge of the history of any mammals of the group to which the horse belongs before the Eocene Period. There is certain knowledge that when the land which formed the bottom of the cretaceous ocean which flowed over a considerable part of the present continents of Europe and North America was lifted above the level of the water and became fitted for the habitation of terrestrial animals, it was very soon the abode, too, of a vast number of herbivorous animals belonging to the group now called ungulates, or hoofed animals. The remains, though, of the earliest known animals to which it is possible to trace the modern horse by a series of successive modifications are found in the lowest strata of the formations assigned to the Eocene Period; these spread over considerable portion of the present states of New Mexico, Wyoming and Utah."

The transition from this horse-like creature of the early period to the horses of modern times has been accompanied by a gradual increase in size. The diminutive Eocene creatures were succeeded in the Miocene Period by other forms, of the size of sheep; these, again, in the Pliocene times by creatures as large as modern donkeys; and it is only in the Pleistocene Period that genuine Equidae appeared, approaching the size of the existing horse.

When You Write to Advertisers Please Mention This Paper.

CROOKED TRAILS AND STRAIGHT.

(Continued from page 631).
went like flails. Though by sheer strength he kept Flandrau backing, the latter hit cleaner and with more punishing effect.

Curly watched his chance, dodged a wild swing, and threw himself forward hard with his shoulder against the chest of the convict. The man staggered back, tripped on the lowest step of the porch, and went down hard. The fall knocked the breath out of him.

"Had enough?" demanded Curly.

For answer Blackwell bit his thumb savagely.

"Since you like it so well, have another taste." Curly, now thoroughly angry, sent a short-arm jolt to the mouth.

The man underneath tried to throw him off, but Flandrau's fingers found his hairy throat and tightened.

"You're killing me," the convict gasped.

"Enough?"

"Y-yes."

Curly stepped back quickly, ready either for a knife or gunplay. Blackwell got to his feet, and glared at him.

"A man is like a watermelon; you can't most generally tell how good he is till you thump him," Sam chuckled.

Cranston laughed. "Curly was not so ripe for picking as you figured, Lute. If you'd asked me, I could a-told you to put in yore spare time letting him alone. But a fellow has to buy his own experience."

The victor offered his hand to Blackwell. "I had a little luck. We'll call it quits if you say so."

"I stumbled over the step," the beaten man snarled.

"Sure. I had all the luck."

"Looked to me like you were making yore own luck, kid," Bad Bill differed.

The paroled convict went into the house, swearing to get even. His face was livid with fury.

"You wouldn't think a little thing like a whaling given fair and square would make a man hold a grudge. My system has absorbed se-ve-real without doing it any harm." Sam stooped to inspect a rapidly discoloring eye. "Say Curly, he hung a peach of a lamp on you."

Soapy made no comment in words, but he looked at Flandrau with a new respect. For the first time a doubt as to the wisdom of letting him stay at the ranch crossed his mind.

His suspicion was justified. Curly had been living on the edge of a secret for weeks. Mystery was in the air. More than once he had turned a corner to find the other four whispering over something. The group had disintegrated at once with a casual indifference that did not deceive. Occasionally a man had ridden into the yard late at night for private talk with Stone, and Curly was morally certain that the man was the little cow-puncher Dutch of the Circle C.

Through it all Curly wore a manner of open confidence. The furtive whisperings did not appear to arouse his curiosity, nor did he intercept any of the knowing looks that sometimes were exchanged. But all the time his brain was busy with questions. What were they up to? What was it they had planned?

Stone and Blackwell rode away one morning. To Curly the word was given that they were going to Mesa. Four days later Soapy returned alone. Lute had found a job, he said.

"That a paper sticking out of your pocket?" Flandrau asked.

Soapy, still astride his horse, tossed the Saguache Sentinel to him as he turned toward the stable.

"Lie number one nailed," Curly said to himself. "How came he with a Saguache paper if he's been to Mesa?"

Caught between the folds of the paper was a railroad time table. It was

(Continued on page 639).



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Our Boys' and Girls' Department

Trapping the Mink

By H. F. Grinstead

THE taking of animals in traps and snares is a fascinating sport as well as a profitable trade, and the practice is as old as man himself. It is not necessary to go into the wilds to trap the valuable fur bearers. While many animals have disappeared with the settlement of the country, the mink has increased in numbers in certain localities.

Mink fur is among the most valuable taken, becoming prime in November and beginning to fade in March. The animals are very shy and difficult to trap, but one prime skin will reward the trapper for many long tramps. The wary little animal feeds on eggs, fish, frogs, mice, birds, rabbits and young chickens when he can get them. His varied bill of fare and the fact that he is usually found along the banks of streams and ponds, will suggest methods of trapping.

The No. 1 or No. 1½ steel trap will be found most satisfactory for taking mink, though experienced trappers sometimes use home-made deadfall with success. The advantage in using the larger-sized trap lies in the fact that a coon or a fox may be caught in one when set for a mink.

The web-jaw trap, which effectually prevents the trapped animal from gnawing off a foot and making its escape is to be preferred over the regular style, and another great improvement is the "jump" trap. Instead of having the long bow spring as in the other styles, it has a short spring located inside of the jaws and under the pan, attached to one end of the bed plate. This trap is strong, and takes up little room, either when set or sprung. If trap chains are fastened securely to heavy drags or clogs instead of being staked, the animal will not be so likely to escape, since it cannot make a straight pull, and will take the drag only a short distance from where it is caught.

It will be advisable to spy out in advance the territory over which you intend to trap, looking for signs, the direction of water courses, or preparing places to make sets. Possibly as many mink are taken in "blind" sets as where bait is used. A favorite place for making such sets is along a pond or brook where the animals go in search of frogs and crawfish. Find a place where a steep bank comes down to the water, leaving a narrow strip of ground at the water's edge. Scoop out a place just large enough to contain the trap, and when it is set place a piece of moss or other yielding substance under the pan, and cover with a few muddy leaves. If the mink is forced to take to shallow water for a few feet in traversing the shore, set the trap here, trusting to the muddy water to hide it. If the strip of ground is more than a few inches wide, place a stone or chunk so that any passing animal will be forced to go over the trap. Stake the trap chain in deep water. Never use a drag when making a water set.

Mink love to pass through a tile or a hollow log, and will cross a stream on a fallen tree or a log. Traps set at both ends of such places well camouflaged are likely to get several mink before the season is over. No kind of bait or scent should ever be put on a trap, and a change of bait occasionally will keep the animal from associating a certain kind of bait with the odor of steel.

While some of the more crafty animals can be caught only with blind sets, others are attracted by bait and scents. Mink are likely to go poking about into every hole under a bank or among tree roots. If a freshly killed bird, a mouse or a chicken head is placed far back in such cavities and a well concealed trap set at the opening, it is likely to catch the animal. Chicken feathers and droppings from the hen roost make an attractive scent, and should be scattered over the ground where the trap is hidden. If traps are buried for a little while in hen manure before they are used, all odors that might be suspicious to the mink are destroyed.

Sardines and canned salmon have proved to be attractive scent baits for the mink. One of the best scent baits is made by cutting up an eel or a fish into small pieces and letting it stand in an open jar in warm sunshine for a week. The foeted oil which rises to the top should be strained off and used.

Always when making a set in or near the water, it would be best for the trapper to wade in at some distance from the set, and work from the water. Leave the ground looking natural after the trap has been placed, and throw water over anything the hands may have touched. All surplus mud or earth that has been scooped out should be thrown into the water.

The skin of the mink should be "cased." Cut around the hind feet and slit down the back of the legs to and around the vent. Peel the skin from the legs and tail and draw it over the body. When finally cut loose around

the mouth, the skin will be in the form of a long pocket, fur side in. The skin should now be fleshed. Slip a long tapering board inside, and with a dull knife or similar instrument, scrape downward from the tail toward the nose till all surplus flesh and fat have been removed. All trash, burs and blood clots should be removed from the fur before this is done.

After being fleshed, the skin should be stretched over a suitable board. Nothing has proved more satisfactory than the plain half-inch board, twenty-eight inches long, four inches wide at one end, and tapering to two and a half inches at the other, being well rounded at the tapering end, and with the edges rounded. Since the sizes of minks differ somewhat, it will be well to have some of the stretchers slightly smaller.

Slip the skin over this board, the back on one side and the belly on the other. Draw it down tightly and tack the hind feet and tail. Also put a tack through the nose at the tapering end of the board. The skin should be well stretched from one end to the other, but not till the fur shows thin. If desired to make it tighter on the board, slip a long flat strip of wood an inch wide and a quarter of an inch thick, rounded on one side, in between the skin and the board.

Dry the skin in the shade where there is a free circulation of air, which usually takes from three days to a week. Bale for shipment just as it is, with the fur side in. The manner in which a skin is stretched and cured will often change its value by half.



Bumper the White Rabbit Plays King

By George Eshelbert Walsh

Bumper's Ignorance Excites Suspicion

SPOTTED TAIL was not pleased and she taught him many things. For by the rebuff the Old Blind Rabbit one, that it was much easier to lead gave him in the presence of the the young people into new ways than the old ones.

But on the other hand Bumper found that the young rabbits were inclined to be careless and reckless, which often got them into trouble. Indeed, Fuzzy Wuzz herself was apt to make mistakes by doing things an older and more experienced rabbit would not.

But it was Bumper who made the greatest mistake of all the young ones, and through his ignorance nearly lost all the glory he had gained in leading his followers away from the hunters. It happened on the third trip from the burrow.

Goggle Eye, a fat, lazy rabbit, who was forever stuffing himself and thinking of his stomach, reported a wonderful feeding ground in a clearing where a woodsman had put up a cabin and planted fields of turnips, cabbages, lettuce and other luscious vegetables.

"He's away all day," said Goggle Eyes, "and we don't have to wait until dark to raid his patch. I crossed it today and ate some of the most delicious turnips I ever tasted. I'll lead you to it."

This was good news to the rabbits, He made friends with Fuzzy Wuzz, for it was a long time since any of

them had tasted turnips or cabbages. They don't grow in the wild woods, and even Bumper hadn't had a smell of one since he left the read-headed girl's garden.

They were all eager to visit the field, and bright and early, under Goggle Eyes's leadership, they sallied forth. The way was through the heart of the big woods, and then along a beautiful stream of water until they came to the clearing.

The field of vegetables was some distance from the cabin, and after Goggle Eyes announced that the coast was clear, they hopped through the rail fence, and began greedily filling their little stomachs. What a feast it was! Nothing had ever tasted better to Bumper and he munched the succulent leaves of the cabbages and lettuce and the thick, fleshy turnips until it seemed as if he possibly couldn't eat another mouthful.

Then out of sheer happiness he rolled around in the field. The younger rabbits, taking this as a signal for play, began rolling and frolicking around, chasing each other's tails in and out among the vegetables. Bumper forgot all the dignity of a king and played the hardest of any.

Goggle Eyes picked off a big cabbage leaf and tried to hide from the others under it. Spotted Tail jerked up a small turnip by the roots and threw it over his head at him. Fuzzy Wuzz kicked up her hind legs and sent a shower of dirt all over Goggle Eyes hiding under the leaf.

Not to be outdone by the others, Bumper looked around for something to throw. Near him, hanging from a low branch of a bush, was a big gray ball that wasn't either a vegetable or a stone. He bumped against it with his nose, and found it so light that he could lift it with his front paws easily.

"Look out!" he shouted gleefully. "I'm going to throw this ball at you, Goggle Eyes!"

All the players turned, and when they saw what it was they looked a little horrified, and then taking Bumper's threat as a joke they laughed.

"I dare you to do it," exclaimed Spotted Tail.

This dare was accepted at once.

"Stand back, all of you, then!" Bumper added. "I want to aim straight at him. No," he continued, changing his mind, "I don't throw it at Goggle Eyes. I'll toss it up in the air, and

What goes up must come down.

Either on heads or on the ground."

"You can't do it, Bumper!" exclaimed one of the older rabbits.

"Can't do it!" retorted Bumper, puffing up his cheeks at what he considered a challenge to his strength. The ball was twice the size of his head, and at a distance looked big and heavy. But Bumper had tested its weight, and found it light and easy to handle. Here was a good chance to make them think he was strong and muscular.

He laughed good-naturedly, and added: "I'll show you if I can't! I've thrown bigger balls than this one."

He turned to grab it in his two front paws, but Fuzzy Wuzz turned suddenly pale, and cried:

"Oh, Bumper, don't—please don't!"

Proud of the attention he was attracting, and pleased at the thought that Fuzzy Wuzz didn't want to see him strain himself, he smiled, and put all the strength he had in the pull that loosened the big ball from the twig. After that it was easy to lift it in his two paws. It was almost as light as a toy balloon.

All the rabbits set up an exclamation of surprise and horror. "Oh! Oh! Run!" they shouted.

Of course, Bumper thought this was from fear that the ball might be thrown at them, and he smiled. But when they all scampered away to a great distance, and a queer humming sound came out of the ball he held in his paws, he began to wonder if he

had made a mistake through ignorance.

It did not take him long to find out. The humming and buzzing inside the ball increased, and then out of one end appeared Mr. Yellow Jacket and his wife and all their children. The ball was a hornet's nest, and the irate family were pouring out of their home pell-mell.

Bumper felt a sharp sting on the end of his ear, a sting like the pricking of a thousand needles, and another on the tip of his nose. With that he gave a squeal of pain, and threw the ball far from him. The next he scampered away after the others, pursued by a dozen angry Yellow Jackets.

It was not until they were at a safe distance that they stopped. Then Spotted Tail turned to Bumper, and said: "What an idiot you were! Or didn't you know it was Mr. Yellow Jacket's home?"

Bumper was on the point of confessing his ignorance when he thought of the consequence. A king should know everything, and to admit he didn't know a hornet's nest from a ball would be a terrible blow to his pride. So he suppressed the groan that the pain on his ear and nose caused, and said indignantly:

"Know it was Mr. Yellow Jacket's home! Why, what an idea! But somebody had to pull it down, or Fuzzy Wuzz and the children might get stung. It was better that I should suffer than they, wasn't it?"

Which speech they all applauded, and said that Bumper was as brave as he was wise.

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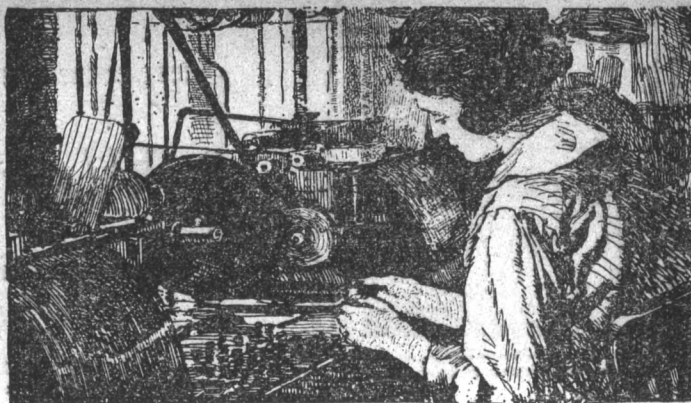
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"Mr. Mayor and gentlemen," began Sam T. Slackputter, the redoubtable sleuth of Petunia, "I've got to have more salary or I'll quit. What with chasing hogs, getting up at all hours of the night to track down criminals, janitoring the city hall, and so on, the pathway of a peace officer hain't no bed of roses at the best. And now it's got so bad that them there motorcycle riders don't pay any attention to the majesty of the law. When I command 'em to halt they merely run over me and go on like runaway shooting galleries, leaving me with my pants tore and justice insulted to her very face. The city must pay me at lease seventy-five dollars a month and keep me in pants, or I resign."



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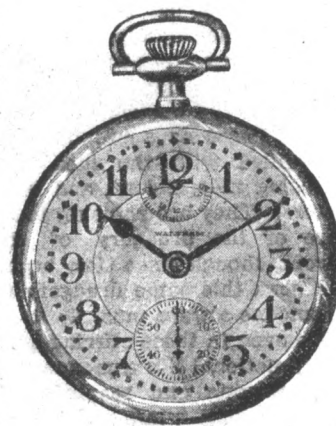
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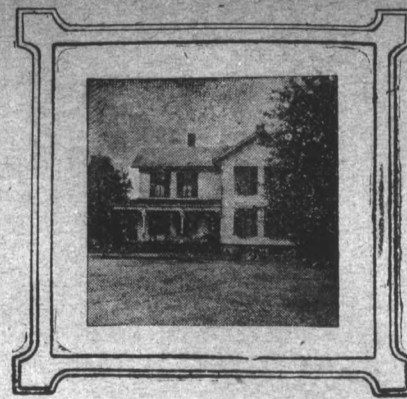
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Woman's Interests

Peace Time Patriotism



PROBABLY no American school boy or girl with a spark of imagination ever studied the history of our Revolution or of the Civil War without wishing they might have lived in those stirring days. Life then was filled with romance and action, there were chances for heroism and brave deeds, history was in the making and the folks who lived then weren't tied down to prosaic, humdrum, tiresome, stupid, everyday living. So we've all thought at one time or another, and I must confess to having carried such an impression up to the present time.

The times we are living in are even more vitally important than any epochs which have preceded, yet none of us find today exciting or interesting. Indeed, many of us find 1919 almost unlivable, and are pining for those stupid, but safe and easy, days of 1913. History is in the making as never before, but we shrink from making it. It isn't being made in an exciting, slapdash way that gives us a chance to be Light Horse Harrys or Barbara Frietchies. Today's history calls for men and women, youths and maidens, boys and girls, who will "carry on," and few seem to heed the call.

Yet that is all the world needs, just

the willingness to do our bit right where we stand. It's not a bit heroic in appearance, but it demands the highest sort of heroism to do it. There is nothing thrilling to stay right in our own place and plow fields, or keep house, or work in mines, or drive locomotives or run a drill press, and try to solve our own individual problem in a way to help the other fellow solve his, but it is the only thing that will straighten out the world and bring us out of the chaos into which we seem to be plunging headlong.

Instead of this balanced, rational way of working out our salvation, we have a world turned upside down. The masses are drifting first this way, then that, working three days and loafing four, trying out the doctrine of every agitator who poses as a prophet, and seemingly filled with the idea that they are being independent, and their own masters. They are refusing to do any share of the drudgery of the world's work, though since time began there has been this same drudgery to do, and someone always must do it.

I suppose even in those stirring days of our early national life someone had to do the plowing and reaping, the cooking and sewing, while the heroes

we study about rushed around gathering glory. But I never really thought much about that side of it until lately when the necessity for doing homely tasks has been brought so strongly to my attention. I suppose even George Washington and General Grant and Robert E. Lee had to eat and be clothed, and someone had to see that their wants were provided for. Come to think about it, there are only a very few names handed down to us as history makers, and there must have been a whole lot of other folks doing something. What they were doing were the very simple, humdrum tasks of regular life, work that is so common it has no glamour, but is really of greater importance than fighting battles and making peace treaties. Someone had to do it then, and evidently they did do it or we wouldn't be here today.

Somebody must do it today if we are going to survive as a nation. We want men and women who are willing simply to "carry on." It's hard to keep right on the job doing good work and doing it six days out of seven when the fellow at your elbow can do slipshod work two or three days out of the week and make more money than

you get for faithful service. But it's the only thing that is going to save the country. And a few are going to save the situation. Every once in a while you come across a man or a woman who has the true vision. A few are holding steadfast, living a sane, balanced life in the midst of a disordered world. They are doing their own part faithfully and well, taking disappointments and losses as a part of the game, rejoicing if a bit of good fortune comes their way, but refusing to whine if things seem to stack up against them. And these few are the country's salvation.

In these history-making days, which our descendants will find so interesting to read about, but which we find so hard to live, I like to think of Jehovah's reply to Elijah's complaint, that he alone was left to worship the true God, "Yet have I reserved me seven thousand in Israel who have not bowed the knee to Baal."

Scattered through America, the modern promised land, there are ten times seven thousand who have not bowed the knee to the Ball of inefficiency and shiftlessness. It is this remnant that remain steadfast which will save our country.

DEBORAH.

Is the Water-Power Electric Plant Practical?

QUESTIONS relating to the installation of a private water-power electric plant are frequently asked. An impression seems to prevail that such plants may be installed very cheaply, and that, with the free water power, farms may be fitted with power for work, and lights for house and buildings at practically no expense. Michigan's abundant water supply is here, we all know, and it looks as though it should be an easy thing to furnish all the power necessary to homes so fortunate as to be on or near one of these many streams.

But as usual, in this year of our Lord, 1919, appearances are very deceiving. When you begin to delve below the surface and get actual facts and figures, costs mount up so that even the dealers will tell you it is cheaper to put in a gasoline engine

and pay for the fuel than it would be to install a water-power plant.

"I am spending a large part of my time dissuading farmers from putting in small water-power plants," one dealer said. "In a few, very few cases, conditions are such that a water-power plant would be advisable. These cases are where the stream has a good fall, it should be not less than ten feet. But the idea that any man who has a creek meandering through his flat farm has at once a cheap source of supply for electric power is all wrong. The cost of building a dam and reservoir to store up water to run his plant would be prohibitive. Even with the fall a dam to divert the water to the wheel must be built, and anyone who knows the cost of concrete can figure out what that would mean."

This idea that water power, as a

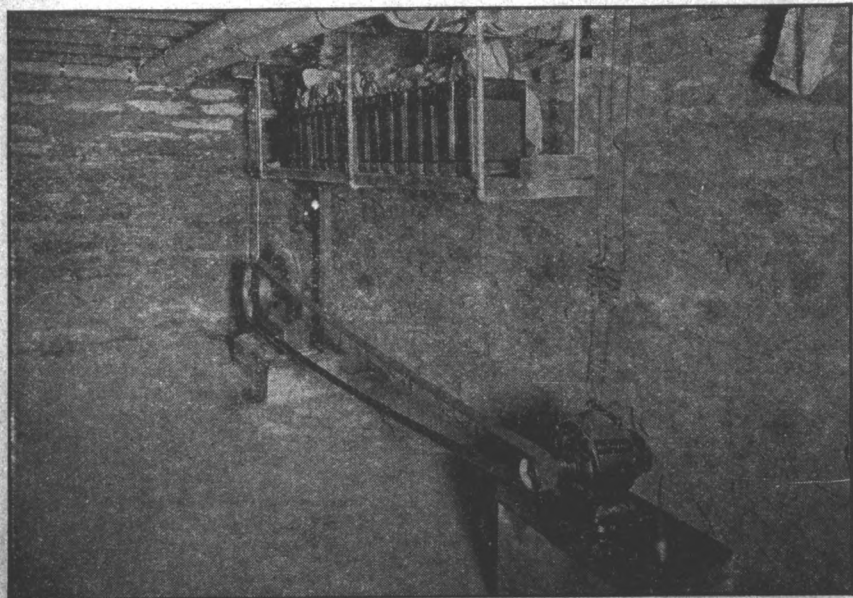
general thing, is not practical, seemed to be common to all dealers. The hydraulic ram as a means of furnishing the water is impossible. This can be used only to supply the house and barn with water, but could not furnish sufficient force to generate electricity. A water wheel would need to be purchased and installed. An overshoot wheel might be used in a small plant, but the turbine is more often installed. Add to the cost of the wheel the cost of a dam, for a dam must be built to turn the water to the wheel. Then figure on at least \$300 more for your generator and switchboard, another \$100 for wiring your buildings, and on top of that \$75 for fixtures, and the idea of an inexpensive plant begins to fade.

Of course, when once installed, you do not have to buy gasoline to run

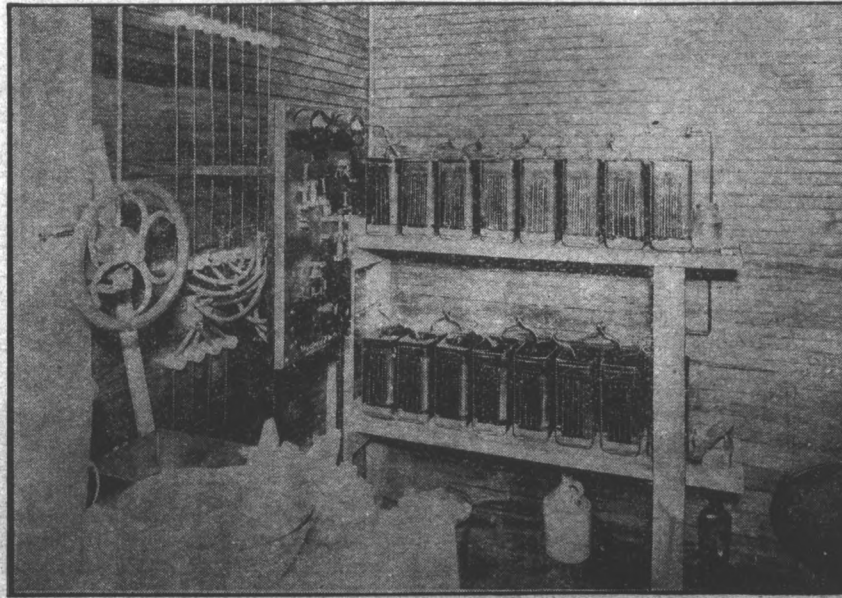
your plant. You have your power constantly on supply without expense, but the initial cost of installing the water power system scarcely makes up for the little saved in paying for power. A few such plants are installed in Michigan. The late Fred Postal had one on his farm near Evart, Michigan. And at Traverse City, E. S. Pratt, lately deceased, dammed up a creek near his home and put in a water wheel. He also put a hydraulic ram in a spring near by and forced the water into the house by this means.

There can be no doubt, however, as to the great advantage which would be gained if every home was furnished with electricity. The most popular method of securing this tireless worker is through power generated by a gas engine. In fact this is about the

(Continued on page 638).



Water Wheel, Generator and Batteries in a Farmhouse Cellar.



The Wheel Regulates the Speed of Water Wheel and Generator.



NOW is the time to consider the Leader-Traherm Water System

When winter comes are you going to have the old job of thawing out the frozen pump or carrying water through the snow to house and barn? Or will you investigate the labor and money-saving possibilities of the Leader-Traherm Water System? It gives you a constant supply of water always ready at the turn of the faucet.

Leader-Traherm Water Systems are made in a number of sizes and may be operated by means of a gasoline engine, electric motor or belt. Write today for complete information and name of a dealer near you.

KERR MACHINERY CORPORATION

Kerr Building, Detroit,

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's Caustic Balsam

IT HAS NO EQUAL

For the Human Body

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

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

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
OTTO A. BEYER.
Price \$1.75 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet R.
THE LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

**ReSan
Indoor Closet**

More comfortable, healthful, convenient. Takes place of all outdoor toilets, where germs breed. Be ready for a long, cold winter. Have a warm, sanitary, comfortable, odorless toilet in the house anywhere you want it. Don't go out in the cold. A boon to invalids. Endorsed by health officials everywhere.

Guaranteed Odorless
The germs are killed by a chemical in water in the container. Empty once a month as easy as ashes. The original closet. Guaranteed. THIRTY DAYS TRIAL. Ask for catalog and price.

ROWE SANITARY MFG. CO.
21111 Rowe Bldg., Detroit, Mich.
Ask about Re-San Washstand and Rolling Bath Tub.
No Plumbing Required.

Mention The Michigan Farmer When Writing Advertisers

THE PROPER WAY TO MEND GLOVES.

BY ADDIE FARRAR.

IN these days of rising glove prices, it becomes necessary that we make our gloves last as long as possible, therefore the careful mending of them becomes apparent. There is a right and a wrong way to mend gloves. If the rip is at the top of the fingers, look carefully to see how the other seams are sewn, and then place the kid in its natural position, the two raw edges close together. Now take a very fine needle with thread the color of the glove (cotton or linen thread is better than silk) and go in and out of the original little holes. The good or bad results of glove mending depend upon matching the color of the glove with the thread and the putting of the needle in the same little holes. The stitch which is an imitation of machine stitching, is obtained by a fine backward stitch.

Certain makes of gloves, instead of having two raw edges brought together, have one side hemmed over the other and then stitched with a row of back stitching. French gloves have two raw edges brought together and are finely over-stitched crossways, and although this requires a little patience the result is worth the time. First sew over and over in slanting stitch and then cross over each slanting stitch. Finish by pressing the work done under a row of fine back stitching. A quicker way of doing this is to overcast in fine thread, but the work is not so neat or so nearly like the new glove.

Oftentimes the ends of the fingers will almost completely wear out. If the tear or the hole is a small one, it can be mended neatly by catching the two edges and button-holing them together on the wrong side. If the gloves are in a very bad condition with the tips all worn, it is better, if the fingers are long enough, to clip the ends and then hem them. If the tips are past repairing, turn the gloves inside out, and after cutting the tip off, work in close buttonhole stitches round and round, tightening the stitches with each row, and decreasing until you can close it up. This will be most satisfactory with black kid gloves or with lisle thread or woolen gloves.

Gloves are apt to tear around the thumb, and the annoying part of it is that the harder you try to repair it, the worse it seems to become. The French needle worker takes a very fine needle, the finest that can be induced to take the thread or silk, and button-holes the raw edge all around, doing this very closely and taking as little as possible of the kid, just enough to hold the stitches firm. A second row is then buttonholed, taking instead of the kid, the top stitches of the first row and continuing in this way until the hole is filled. If the work is well done and the thread a perfect match, it will never show.

When buttons are lost and you cannot match them, put on an entirely new set. When the fastener tears a hole in the wrist of the glove, reinforce the under side with a bit of kid from an old glove, buttonholing it in such a way that while it is firm, the stitches and mending are not visible.

Woolen gloves may have the worn tips renewed by taking wool of the same color and crocheting new finger tips. Silk gloves must be carefully watched for any tears or breaks, and immediately darned with very fine silk. If the thin places on the finger tips are darned before the hole appears, the gloves will last twice as long. With gloves of the same color of silk, I have often repaired them by using a portion of the good parts of the fingers of the old pair to patch a better pair, making the joining in such a way that it never shows.



Durable-DURHAM Hosiery is a product of industrial democracy—never of Child Labor. We have no strikes or lockouts.



Full of warmth and full of wear

HERE is comfort for cold weather. Durable-DURHAM fleecy-lined Hosiery is warm, and because of this it is the sensible hosiery for winter wear. Every pair has soft, thick, fleecy lining. They have the strength to give long wear—and stay good-looking through many wearings and washings.

Durable-DURHAM Hosiery includes not only Fleecy-lined but other styles for every member of the family—for work, dress, or play—for every season of the year. The

children's stockings are made doubly strong to stand the hardest wear and tear. Styles for men and women include all fashionable colors and come in all weights from sheer mercerized to the heavy fleecy-lined.

Every pair is extra strongly reinforced at points of hardest wear. Legs are full length; tops wide and elastic; sizes are accurately marked. Soles and toes are smooth, seamless and even. The Durham dyes will not fade.

DURABLE DURHAM HOSIERY

FOR MEN, WOMEN AND CHILDREN

MADE STRONGEST WHERE THE WEAR IS HARDEST

Ask for Durable-DURHAM Hosiery and look for the trade mark ticket attached to each pair. You should be able to buy it at any dealer's. If you do not find it, please write to our sales department, 88 Leonard Street, New York, giving us the name of your dealer.

Durham Hosiery Mills, Durham, N. C.

Sales Office: 88 Leonard Street, New York

Sleepless Nights

and coffee-drinking are closely linked together with many people.

If your case is like that, try

Instant Postum

—a wholesome cereal drink with a really rich coffee-like flavor that meets the test of taste, just as the beverage itself meets the test of health.

Economical, Ready Instantly, Delicious

Made by
Postum Cereal Company
Battle Creek, Michigan

Sold by Grocers and General Stores

When You Write to Advertisers Please Mention This Paper.

CALUMET



—gives better bakings that go further. It strikes straight at the root of extravagance—waste—and reduces living cost in a sane, sensible, way.

Calumet Baking Powder never fails to properly raise all bakings—produce the best results.

Makes Most Palatable and Sweetest of Foods

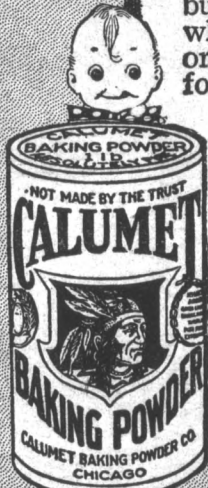
Calumet bakings *do* go further, because they are deliciously good, are never thrown away. And because they have greatest of keeping quality—stay moist, tender and oven-fresh for days.



You save when you buy it—moderate in cost. You save when you use it—has more than the ordinary leavening strength—therefore you use less. You save materials it is used with—no failures.

Generations of good cooks have used Calumet—because it positively proves its superiority and economy. It comes to you from the largest, most sanitary Baking Powder Factory in the world—absolutely pure and as perfect in leavening power as the day it left the big Calumet Plant.

Contains only such ingredients as have been officially approved by United States Food Authorities. Sold by your grocer under a definite money-back guarantee, if it doesn't prove "best by test"—in your own kitchen, in any baking.



BEST BY TEST

FOR A DELICIOUS CUP
OF TEA COMBINED
WITH ECONOMY IN USE

"SALADA"

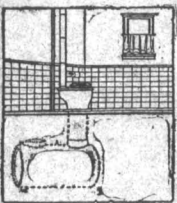
Is so full of good qualities, as to
measure up to every desire of purse
and palate— "TRY IT TODAY"

"ARE YOU GUILTY"

of maintaining a fly and disease breeding outhouse in your community?

"PROTECT"

the health and morals of your own family and neighbors by installing



Waterless Odorless **WOLVERINE** INDOOR Sanitary Convenient

Made in all sizes and styles for Homes, Schools, Factories and Public Buildings.

Send for Catalog **Dall Steel Products Company** 310 Main St. Lansing, Michigan, U. S. A.

NERO COFFEE
Michigan's most popular coffee
ASK YOUR GROCER

Mention The Michigan Farmer When Writing Advertisers

HOOSIER STOVES & RANGES FREE

To try in your home 30 days free no matter where you live. Show your friends, send it back at our expense if you don't want to keep it. Million members of families enjoying the comforts and pleasures of "Hoosier" Stoves & Ranges, perfect bakers and heaters, beautifully finished, smooth latest design, guaranteed for years. Write for our big free book showing photographs, describing large assortment of sizes and designs of Steel and Cast Ranges, Cooks, Soft and Hard Coal Heaters, to select from, explaining our free trial. Send postal note.



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

Water-Power Electric Plant Practical?

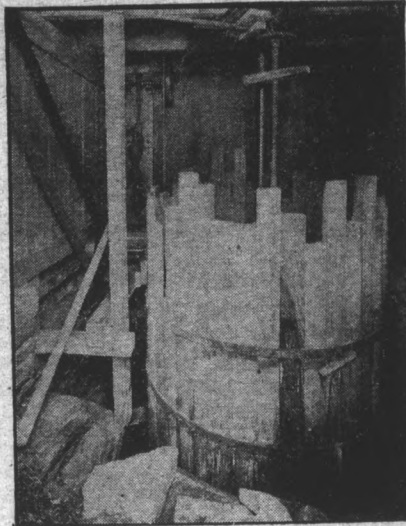
(Continued from page 636).

only source of power available to the great majority of farmers.

The installation of a plant of most any type involves an investment of from \$400 to \$800. But unlike the au-

battery is not a delicate, complicated affair, as is sometimes claimed, and its operation is very simple. The battery consists of a set of sixteen glass jars each containing a series of lead plates suspended in a solution of water and sulphuric acid. In charging, the sulphuric acid is driven out of the plates and into the solution, and in discharging the sulphuric acid passes back into the plates.

The function of the battery is to retain the electricity that has been generated at convenient times so that it can be used at any time, day or night. Caution should be used in selecting a battery to make sure there is ample capacity to take care of the needs of the place, for many mistakes have been made in battery choice by choosing too small a battery. A properly-sized battery should be able on one charge to take care of its entire load under normal use for one week. Why? The life of a reliable battery is approximately five hundred times its capacity, and reason will show you that a battery which demands a recharge every day will last but five hundred days, while one that will take care of its work for a week will have a ten-year minimum. **C. N. ALBRECHT.**



Farm Water Plant Located in a Barn Basement.

tomobile, the upkeep is low, the running expense for the average farm plant being as low as \$20 a year.

The biggest story about electricity on the farm is in its application. Primarily it has been used for lights, but although electricity produces a clean, safe, and most convenient light, yet the power factor is equally as valuable. The cream separator, the automatic water supply, the vacuum cleaner, the electric washer, the flat iron, the toaster, electric fan, and the portable motor for driving fanning mill, corn sheller, grindstone, etc., are truly wonderful. Then, too, there are the electric churn, the sewing machine, the incubator and brooder, and a thousand other things yet to be developed, all waiting to be of service to the farm that is electrically equipped.

The vital part of a lighting plant is the battery, without it no plant is complete, yet nothing has in the past carried with it so much misunderstanding as has a storage battery. The storage



Regulating Water Power Plant from the Kitchen.

Jimmy Wants a Home

A MILE out of town in a miserable two-room shack lived an old home. man with a yard full of junk, the He was very eager to go onto a shanty filled with rags and filth, and farm where there would be horses in the midst of it all a pitiable little and cows. It seems that his father boy. had once had an old white horse which

The county authorities decided that Jimmy still thought of with much affection. So when the farm home had such a place or with such a person. been found for him and he was fitted They called for the Michigan Children's Home Society to give the kiddle out for the journey, he set out in company with the superintendent with a chance. A traveling nurse was sent happy heart.

to bring him in—and such a sight as the poor little fellow presented! He A young farmer met them at the station with a splendid team of horses. was pinched and bloodless, weak and Jimmy was delighted, and the last the wizened, his body covered with vermin, scabs and dirt. superintendent saw of him was as he drove the team himself, taking hold of the lines with his new father, and calling back a happy, laughing good-bye.

He was a loyal little fellow. He yearned for his father and always Everything went finely; they loved thought of him and spoke of him with the boy and he was in the seventh affection. Since that time, some two heaven of joy for several months. And years ago, the father passed away. He then word came that the foster father was nearly blind, and both physically and morally unfit to care for a child. had to leave the farm and the state on account of his health. So Jimmy

Jimmy is a most lovable boy. He lost his home and father a second measure. After he was washed and reclothed and his mind set at rest—for Another home was found for him not at first he was like some frightened far away, and the hope grew again little animal—he began to eat good that he was at last to find that for food which he had never known before, and to be like other children. be. Word came unexpectedly that the

For a long time he would ask the new father had died and that the boy superintendent upon every meeting, must be removed. So Jimmy lost his when he was going to take him back to his father. But gradually he settled home and father a third time. The into the new kind of life, became attached to his new friends, and finally nurse went for the lad with instructions to transfer him to another home

which had been recommended to the society as a good place for a child. Consequently this little plant, so often transplanted, was placed once more in the hope that here he might find a permanent place in the affections of the new family.

No such good luck for this little unfortunate; for Jimmy is a little kid, never having recovered from the stunting effects of his first half-starved years, and so he cannot do as much work as the new family want a boy to do. If the society had realized that

such would be the attitude of the family the boy would not have been placed there. Now he will be removed. And what next? What is there ahead for Jimmy? Isn't there a good farmer and his wife with big hearts, big enough to include Jimmy, somewhere in Michigan?

Jimmy is only one of several boys waiting for a good home down on the farm. Only high-grade, big-hearted people need apply. Anyone interested should write The Michigan Children's Home Society, St. Joseph, Michigan.

Crooked Trails and Straight

(Continued from page 633.)

a schedule of trains of the Texas, Arizona & Pacific for July. This was the twenty-ninth of June. Certainly Soapy had lost no time getting the new folder as soon as it was issued. Why? He might be going traveling. If so, what had that to do with the mystery agitating him and his friends?

Curly turned the pages idly till a penciled marking caught his eye. Under Number 4's time was scrawled, just below Saguache, the word Tin Cup, and opposite it the figures 10:19. The express was due to leave Saguache at 9:57 in the evening. From there it pushed up the divide and slid down with air brakes set to Tin Cup three thousand feet lower. Soapy could not want to catch the train fifteen miles the other side of Saguache. But this note on the margin showed that he was interested in the time it reached the water tank. There must be a reason for it.

Stone came back hurriedly from the corral, to find Curly absorbed in the Sentinel.

"Seen anything of a railroad folder? I must a-dropped it."

"It was stuck in the paper. I notice there's liable to be trouble between Fendrick and the cattle interests over his sheep," the reader answered casually.

"Yep. Between Fendrick and Cullison, anyhow." Stone had reclaimed and pocketed his time table.

Incidentally Flandrau's doubt had been converted into a lively suspicion. Presently he took a gun, and strolled off to shoot birds. What he really wanted was to be alone so that he could think the matter over. Coming home in the dusk, he saw Stone and young Cullison with their heads together down by the corral. Curious to see how long this earnest talk would last, Curly sat down on a rock and watched them, himself unobserved. They appeared to be rehearsing some kind of a scene, of which Soapy was stage director.

The man on the rock smiled grimly. "They're having a quarrel, looks like. . . . Now the kid's telling Soapy to go to Guinea, and Soapy's pawing around mad as a bull moose. It's all a play. They don't mean it. But why? I reckon this dress rehearsal ain't for the calves in the corral."

Curly's mind was so full of guesses that his poker was not up to par that night. About daybreak he began to see his way into the maze. His first gleam of light was when a row started between Soapy and Cullison. Before anyone could say a word to stop them they were going through with identical corral quarrel.

Flandrau knew now they had been preparing it for his benefit. Cranston chipped in against Sam, and to keep up appearances Curly backed the boy. The quarrel grew furious. At last Sam drove his fist down on the table and said he was through with the outfit and was going back to Saguache.

"Yo tambien," agreed Curly. "Not that I've got anything against the

horse ranch. That ain't it. But I'm sure pining for to bust the bank at Bronson's.

"Round and round the little ball goes. Where it will land nobody knows. I've got forty plunks burning my jeans. I've got to separate myself from it or make my roll a thousand."

The end of it was that both Sam and Curly went down to the corral and saddled their ponies. To the last the conspirators played up to their parts.

"Darned good riddance," Stone called after them as they rode away.

"When I find out I'm doing business with four-flushers, I quit them cold," Sam called back angrily.

Curly was amused. He wanted to tell his friend that they had pulled off their little play very well. But he did not.

Still according to program, Sam sulked for the first few miles of their journey. But before they reached the Bar 99 he grew sunny again.

"I'm going to have a talk with Laura while I'm so near," he explained.

"Yes, that will be fine. From the way the old man talked when I was there, I expect he'll kill the fatted yearling for you."

(Continued next week.)

A New Grange Song

HOW TO MAKE HENS LAY.

BY J. H. BROWN.

(Tune: Auld Lang Syne).

A Pennfield farmer had two hens,
And neither one would lay;
Tho' he fed 'em both on ensilage
And the best alfalfa hay.

CHORUS:

You've got to join the Grange, my dear,
You've got to join the Grange.
If you want to make your old hens lay,
You've got to join the Grange.

He paid four bits for storage eggs
For his wife to make a cake.
The eggs were poor, the cake was worse,

And they both had the tummy-ache.

But these two hens kept up their strike
'Til they made the farmer sick.
So he sold both hens to Tommy Jones,
Up north of Battle Creek.

Now Tommy had a fertile farm,
And kept a herd of cows,
Two horses, a dog and one old cat,
And a couple of Berkshire sows.

He added these hens to his other stock,
And fed them every day;
And took advice of a poultry expert,
But the blamed old hens wouldn't lay.

Brothers Smith and Minges met him one day;
And to them, said he, "Ain't it strange,
These two Plymouth Rock hens won't lay?"

"They will," they replied, "Join the Grange."

"I'll do it!" Tom said; "take all four degrees.
Just give it to me any old way."
So they did it last Friday in Battle Creek Grange;
And Tommy gets four eggs a day.



Have a Home the Neighbors Will Envy

IT'S up to you to get out of life at least as much as you put into it. That's a duty you owe yourself, your family.

Why tolerate a dark, gloomy home, when it would be so bright and cheery if you had a

Carbide Lighting **COLT** and Cooking Plant

Not only would your Colt Plant give you an abundance of the prettiest, brightest light in the world for every room in the house and for the barns, but the same gas cooks the family meals, does the ironing, eases the work for everyone.

Young folks demand the modern things. Their elders are certainly entitled to them.

Hundreds of thousands of home-owners know from experience that the Colt Plant gives more and better service at less cost than any lighting plant on the market.

Write us for the names and addresses of neighbors who have used the Colt Plant for years.

J. B. COLT COMPANY, 288 Fourth Avenue, N. Y. City

19

SMOKE YOUR MEAT THE "WRIGHT" WAY

Thousands of Farmers are Using Wright's Condensed Smoke (made from seasoned Hickory Wood). A small brush, thirty minutes and a \$1.00 bottle Wright's Smoke, smokes a barrel of meat. Smokes it thoroughly and gives the meat a delicious flavor. No fooling with fires. No danger of meat spoiling. No drying out or shrinkage. Easy, cheap, quick and satisfactory method.

Curing Meat Before Smoking is very important. Wright's HAM PICKLE is a scientifically prepared sugar cure that gives perfect results. A \$1 jar and 27 pounds of salt cures a barrel of finely flavored hams and bacon.

Wright's FARM BUTCHERING SET (Nine regular butchers' tools, including saw and cleaver) should be on every farm. We buy in carload lots and Re-sell at Cost—\$3.95. Send for instructive booklet: "The New Way of Smoking Meat."

All Wright Products are Guaranteed. Sold by All Drug and General Stores.

E. H. WRIGHT CO., Ltd., Established 1895 Kansas City, Mo. 817 Broadway

Vaseline Carbolated
Reg. U. S. Pat. Off.

PETROLEUM JELLY

An invaluable first-aid dressing. Helps to prevent infection. Sold by drug and general stores everywhere—10c. Booklet containing valuable advice—free.

CHESEBROUGH MFG. COMPANY
(Consolidated)
27 State Street New York

Indoor Toilet
Convenient - Sanitary

The Comfort Closet for Homes, Factories, Stores, etc. A comfortable, sanitary, indoor toilet entirely protected from cold, stormy weather.

Valuable for Women
and children in winter. Easily installed in any room. Easily cleaned. Plumbing unnecessary. Only closet with porcelain container.

Entirely Odorless
Scientifically ventilated. Contents dissolved by chemicals and easily disposed of. Approved by U. S. Health Bureau and Board of Health.

30 DAYS FREE TRIAL. Booklet FREE. Agents make \$200 to \$1000 Weekly. Exclusive territory. Comfort Chemical Closet Co., 671 Factory Bldg., Toledo, O.

High Power Mantles
for Gasoline Lamps and Lanterns

Made to give service. Will last longer and stand tougher usage than any other mantle known. Made in our own factory by special patented process. Buy from your dealer or order direct from nearest office. Price per doz. \$1.50.

THE COLEMAN LAMP CO.
Mfgs. of The Famous "Quick Lite" Mantles, Lamps and Lanterns.
Chicago, St. Paul, Toledo, Los Angeles, Dallas, New York

THIS IN-DOOR TOILET 1/2 OFF

Regular \$30 outfit for only \$22.50. Practical, successful, convenient closet without either water or sewerage, guaranteed odorless, sanitary; always ready; installed in 15 minutes in any room. Prevent disease germs in your home. Order today or write for circular. **REMEMBER, 60 DAY TRIAL FREE!**

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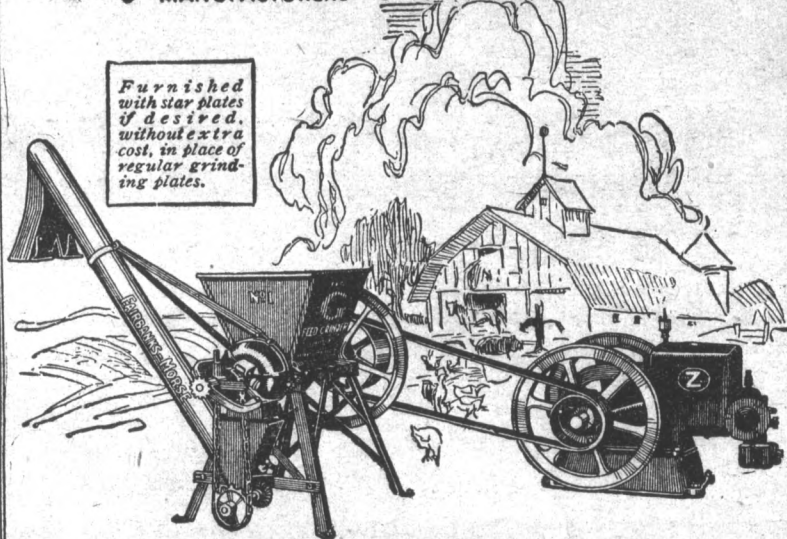
WITH a "G" Feed Grinder you can have fresh feed always on hand. Ground feed is hard to keep fresh, especially if not dry and well matured.

¶ Fairbanks-Morse "G" Feed Grinders grind all grains—wet or frozen grains—handle cobs.

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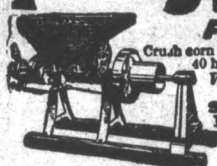


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STOVER
FEED MILLS



Crush corn in husks, grind any grain. 3/4 to 40 h. p. Cap. 3 to 150 bu. per hour.
WRITE TODAY FREE
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1508 Ideal Ave., Freeport, Ill.
Stover Samson Windmills, Engines, Pump Jacks, etc., since 1868. **FREE Catalog**

ABSORBINE

TRADE MARK REG. U.S. PAT. OFF.



Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. \$2.50 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse Book 2 R Free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers, Allays pain. Price \$1.25 a bottle at dealers or delivered. Book "Evidence" free. **W. F. YOUNG, INC.**, 268 Temple Street, Springfield, Mass.

Bone Spavin

No matter how old the case, how lame the horse, or what other treatment failed, try

Fleming's Spavin and Ringbone Paste, \$2.08 a Bottle

(War tax paid). One application usually enough, intended only for established cases of Bone Spavin, Ringbone and Sidebone. Money back if it fails. Write for **FLEMING'S VET-POCKET VETERINARY ADVISER**. It's FREE

FLEMING BROS., 252 Union Stock Yards, Chicago, Ill.



Free Catalog in colors explains how you can save money on Farm Truck or Road Wagons, also steel or wood wheels to fit any running gear. Send for it today.
Electric Wheel Co., 35 Elm St., Quincy, Ill.

A HORSE CAN TRAVEL WHERE AN AUTOMOBILE CANNOT GO

Often in the deep snows of winter an automobile cannot get through the drifts, but the horse can travel anywhere if he can secure footing. There is just one thing will insure safe footing on any road anywhere any time, no matter how icy or slippery, and that is the

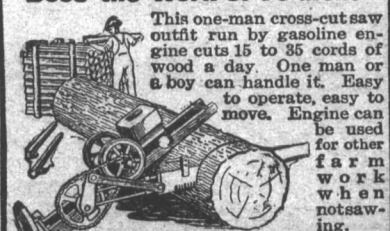


Whatever the occasion; a hurried trip to the doctor, an important call to town, a load of produce to be delivered—your horse is ready when you are ready. The wise horse owner will go to his horse shoe early and have the safe, reliable **RED TIP SHOES** put on. Then he can laugh at the weather. No sleet storm, no sudden freeze will hold him back. His sharp, strong **RED TIP CALKS** can be adjusted in 20 minutes, and he is ready for the road. Avoid substitutes. **LOOK FOR THE RED TIP**

THE NEVERSLIP WORKS
New Brunswick, N. J.

Saws at 4c a Cord

Does the Work of 10 Men.



This one-man cross-cut saw outfit run by gasoline engine cuts 15 to 35 cords of wood a day. One man or a boy can handle it. Easy to operate, easy to move. Engine can be used for other farm work when not sawing.
PHILLIPS ONE DRAG SAW
Fast money-maker and big labor saver. Works anywhere in any weather. Write for description and money-saving offer.
THE PHILLIPS DRAG SAW & MFG. CO.
703 Kemper Bldg., Kansas City, Mo.

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

Farmers and Industrial America

(Continued from page 613).

the nation by the throat and say "give" under the threat to paralyze the industries of the country and bring untold suffering to its people if their terms are not complied with. Our liberties have been too dearly bought to yield to demands now so "rashly important." Our boys did not go to France to fight for the cause of freedom and humanity, and then be content to see their own country in the grip of an industrial revolution which, if successful according to the wish of its leaders, would be the death blow to our free institutions. I am in hearty accord with the stand taken by the President in his statement to the United Mine Workers, published last Sunday morning, and I trust there will be no faltering anywhere along the line. To yield would be to permit the perpetration of both a great moral and legal wrong.

And now, what is the relation of the farmer to the government in such a crisis? There is as yet no binding legal relation which would compel his personal service or personal contribution in aid of the government, and my hope and belief are there will be no need of aid of this character. But there is a relation which good citizenship implies. Out of that comes the moral support which a great conservative, sound thinking and fearless constituency can give the government in the exercise of its proper functions, in the maintenance of law and order, in its protection of the rights of the individual citizen. This constituency is the farmer class. It constitutes a large part of the general public. For that reason, too, as well as for its peculiar character and place in the body politic, it is a force which, in any threatened industrial disturbance or upheaval, must be reckoned with.

I do not despair of a better day when the force of capital and the forces of labor, led respectively by men of brain and heart, will come together in a spirit of mutual respect and cooperation and, with just regard for the rights of each and of the public, will make amicable adjustment of all differences. I think every good citizen should by precept and example, so far as it is in his power to furnish an example, do what he can to hasten that day. But, meanwhile, the law should afford some remedy.

I make bold to suggest for your consideration one remedy, not complete, perhaps, but one that may afford some relief from what is likely to become, if it is not now, an intolerable condition among an intelligent and progressive people; and that is a compulsory investigation, by a lawfully constituted board or tribunal, of any controversy affecting the public interest between employers and employees engaged in our great industries and in interstate commerce, making either a lockout or a strike, pending such investigation, a criminal offense with severe penalties, the findings and recommendations of the investigating board or tribunal to be published in order that the public might be able to judge of the merits of the controversy and express intelligent opinion thereon. Against the weight of public opinion, neither side, it is believed, would long contend; and meanwhile, the public and the parties will in many cases have been saved from irreparable loss or injury.

I know that labor leaders urge that, because of delay, this plan would prevent the effective use of the strike weapon for redress of alleged grievances. But this is at most the class contention again. It ignores the loss and distress which falls with tremendous weight upon the public.

Whether it be this or some other remedy, it is in my opinion, bound to

come. To permit these most harassing, uncertain and destructive conditions to continue will be a sad reflection on the capacity of the American people to govern themselves. When the remedy is found, it will be simply the much needed application again of the ancient principle—"The safety of the people is the supreme law."

I am loath to conclude without one further observation on the relation of the farmer and the government. Hitherto it has been said of the farmer that he is the most independent and self-reliant of our citizenship. He has earned the tribute and is not yet in need of a paternal government. While he should avail himself of much valuable information disseminated by the Department of Agriculture concerning plants, animals, crops and soils, through bulletins and year books, he should not come to depend on the government for full relief from every untoward condition. He should realize that only through reliance on his own thinking, his own resources, his own devices, will most of the problems which confront him find their real solution. I am not much in sympathy with an appropriation carried in the Agricultural Appropriation bill for the "eradication of weeds." The old way was to plow them out or hoe them out, or, if they were too "close in the hill," pull them out. I doubt if the Department of Agriculture can improve on the old cornfield plan.

Cooperation, and not usurpation, should be the watchword in farm demonstration work, with the initiative always on the part of the state or the agricultural college of the state in the program or plan for such work, instead of being left to the secretary of agriculture. For who should know better the conditions of soil or climate which will justify any given experiment or the expenditure of the necessary funds, than the home experts who have studied them, or the home folks who have known them as a part of their daily life. In any event, self-reliance and individual initiative must still continue to be the mainspring of the success and progress of the farmer as they are of genuine progress in every other walk of life—in society itself. These qualities, combined with respect for law and lawfully constituted authority, are the foundations on which we have built. They are the secret of the strength of our great republic.

DANGER OF BOTULINUS POISONING ENTIRELY DESTROYED BY FIVE MINUTES' BOILING.

THE poison formed by bacillus botulinus is destroyed by five minutes' boiling, according to extensive tests carried out in the Laboratory of Bacteriology and Immunity, of Leland Stanford Junior University, and reported in the Journal of American Medical Association. All danger of this poisoning from products canned by the cold pack method may be easily averted in this way. You need not feel uneasy about using any of your vegetables or fruits which you have canned this summer by the cold pack process if you take this simple precaution.

No canned products should be used which show any one of the following signs of spoilage:

1. Gas bubbles in the jars, the tops of the jars blown, and a squirt of liquid as the top is unscrewed.
2. An odor somewhat resembling rancid cheese.
3. A mushy or disintegrated appearance of the solid parts of the contents of the jars.

Do not test for spoilage by tasting but discard all products showing these signs.

NOV. 15, 1919.



FEATURES OF HOG TRADE.

FLUCTUATIONS of anywhere from fifty cents to \$1 per one hundred pounds in a single day remind the observer of the old-time Board of Trade grain markets, and the constant ups and downs of the hog market in Chicago bewilder owners of hogs and cause them to wonder what steps to take about marketing their holdings. Some farmers have lost faith in the future of the market and hastened their pigs to market, sacrificing them by so doing, while others are holding on in the hope that they will be repaid for following this course. Recent big booms in hog prices came as a complete surprise to most stockmen in the corn belt, and it helped to hold the marketing of hogs prematurely in check, the prevailing opinion being that the packers saw the necessity of doing something to stop the sale of mere pigs. There are plenty of young hogs in the country, according to the most reliable advices, and owners greatly prefer to mature them properly. Probably the receipts will become larger in volume after Thanksgiving, but unquestionably every hog is going to be needed to meet the enormous domestic and foreign requirements. Eastern packers are buying hogs in the Chicago market rather more freely, but their purchases are still much too small to make active competition between buyers, and their supplies come mainly from their home territory. By January the eastern demand for western hogs is expected to become larger in volume. Reports from Iowa are that hogs are more plentiful than ever before, and it is recalled that at auction sales made on Illinois and Indiana farms last winter farmers bid recklessly against each other for brood sows. At the present time the export trade in lard and cured hog meats is checked materially by the longshoremen's strike in New York. After the recent boom in hogs which landed the best at \$15.25, resulting in much increased receipts in the Chicago market sharp reactions took place, prices going much lower. The bulk of the hogs sell within a range of ninety cents, with prime heavy butchers, light butchers and light bacon hogs selling at the same prices.

W. F.

RETAILER NOT BENEFITED.

HOUSEWIVES in New York City complain that recent heavy declines in the prices of live hogs are not reflected in the cost of meat to them at the butcher shops. In the last two weeks market reports from the west show pork prices have been going down rapidly. The housekeeper feels she should get the benefit of this drop, in many instances says she does not.

New York wholesale dealers in meat say the price of ham has dropped on an average of ten cents a pound recently. Retail dealers say the prices of some kinds of pork are lower but that pork loins still are high because the housekeeper demands them or something just as good.

Retailers say it takes about ten days or two weeks for their prices to take a definite drop after western prices have gone down. They say their prices don't take a drop until the wholesaler gets rid of what meat he has on hand at the old price.



Is Every Animal At Its Best?

Don't let your stock lose their Summer's gain through November neglect. Your animals are now going on dry feed—hay and grain.

It's a big change from the succulent, nutritious grasses of summer pastures which supply the needed laxatives and tonics.

Keep your animals' bowels open and regular—drive out the worms—keep their blood rich and keep their digestion good by feeding



Dr. Hess Stock Tonic

A Conditioner and Worm Expeller

Keep your stock up on their appetites. Don't allow them to "get off feed" and in a run-down condition.

Condition your cows for calving by feeding Dr. Hess Stock Tonic before freshing. Then feed it regularly to increase the flow of milk. It lengthens the milking period.

Buy Stock Tonic according to the size of your herd. *Here's a suggestion for your guidance:* Get from your dealer two pounds for each average hog, five pounds for each horse, cow or steer, to start with, feed as directed and then watch results.

Why Pay the Peddler Twice My Price?

You buy Dr. Hess Stock Tonic at an honest price from a responsible dealer in your own town who guarantees it, and who refunds your money if it does not do as claimed.

25-lb. Pail, \$2.25; 100-lb. Drum, \$7.50
Except in the far West, South and Canada.

Smaller packages in proportion.

DR. HESS & CLARK, Ashland, Ohio

Dr. Hess Instant Louse Killer Kills Lice

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

Dr. Hess Poultry PAN-A-CE-A

Will Start Your Pullets and Moulded Hens to Laying

It Does More and Goes Farther Than Any Product Known



Wise Stockmen Everywhere are **TIX-TON** Users

Tix-Ton ANTISEPTICS

the year around keep stock healthy and free from disease germs, worms, and ticks. A \$5.00 box makes \$60.00 worth of medicated salt, or stock conditioner—saves you big money. Send \$2.00 for a box of "TIX-TON-MIX" by parcel post. It will medicate a barrel of salt. For hogs, sheep, cattle, horses, and poultry.

PARSONS CHEMICAL WORKS, Grand Ledge, Michigan
Write for Club Offer

Soy Beans

I want 1919 crop soy beans. Send samples, state quantity offered.

EDW. E. EVANS,
West Branch, Mich.

CORN Good Yellow Ear Corn in carload lots. Write for prices.
THEO. HURT & SONS, Melrose, Ohio.

CULL BEANS FOR FEED

Our lots or less. Ask for prices.
YOUNG-RANDOLPH SEED CO., OWASSO, MICH.

For Sale 10-20 Mopul Tractor plows and steering device. Used one year, A-1 condition. First \$800 takes it.
M. PATRICK, Grand Ledge, Mich.

Used Potato Bags in excellent condition direct to the grower at wholesale prices.
LINCOLN BAG CO., Springfield, Ill.

Flemish Giant Rabbits, dark steel black. Gays 2 months old, \$3.00 & \$2.00 each. Pedigreed stock.
DAVID RAY, 709 Norris St., Ypsilanti, Mich.

TOWER'S FISH BRAND REFLEX SLICKER

is the wet weather service uniform for the regular men who make every day count.

Look for the **Reflex Edge**

A.J. TOWER CO.
Boston Mass — Established 1836

Please Mention The Michigan Farmer When Writing to Advertisers.

LOUDEN

Quick Detachable Water Bowls Increase Milk Yield Save Labor



WM. LOUDEN
Originator of
Modern Labor
Saving Barn
Equipment

There can be no more profitable equipment in the barn than the Louden Water Bowl for cows. It is not a matter of guess work but of actual demonstration that cows increase their milk yield greatly where Louden Bowls are installed, are in better health, and absolutely all the labor of watering cows is eliminated, for cows water themselves any hour of the day or night.

A cow needs from 10 to 12 gallons of water per day when in full milk flow. She needs water during the day to produce the evening milk; and during the night, or just before retiring, to produce the morning's milk. Experience has shown that cows in barns provided with Louden Bowls drink most heartily between the hours of 8 and 9 p.m.

Louden Water Bowls Have Many Exclusive Advantages

which commend them to dairymen. They are free from trouble-making attachments—have no collar connections, no supporting lever, no set screws to remove. Bowls can be easily and quickly lifted off and sterilized by simply raising nose piece inside of bowl, no wrench or tool of any kind required. Water starts flowing automatically when cow starts drinking—stops when cow stops—there's no waste.

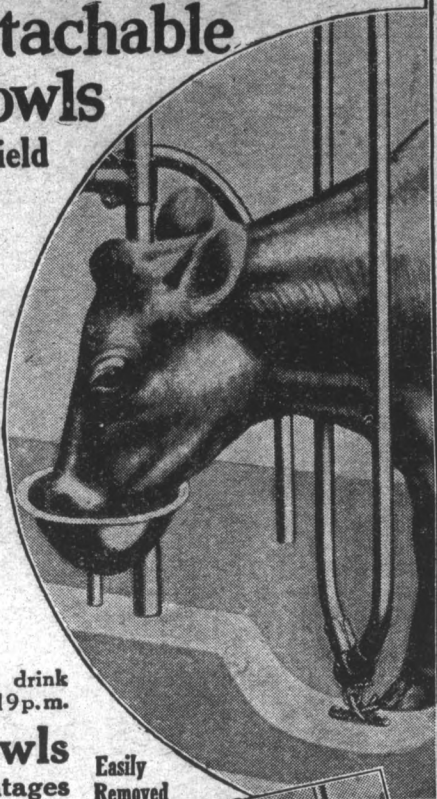
Louden Bowls are easily installed in any barn—no expert needed. Increased milk flow, and labor saved actually pays for them in a few weeks' time.

224-Page Illustrated Catalog Postpaid No Charge—No Obligation

Write for this book. It shows the full line of Louden Labor-Saving and Profit-Making Barn Equipment, including Stalls and Stanchions, Litter and Feed Carriers, Animal Pens of all kinds, Water Bowls, Hay Unloading Tools, Barn and Garage Door Hangers, Power Floists, Ventilators, Cupolas—Everything for the Barn.

If you're going to remodel or build—we also want to send "Louden Barn Plans"—not a catalog—112 pages with barn building illustrations and information on every page. Postpaid—no charge. Let Louden experts work out preliminary blue prints of the ideas you have in mind. Costs you nothing.

THE LOUDEN MACHINERY COMPANY
1916 Court St. (Established 1867) Fairfield, Iowa
Branches: St. Paul, Minn. Albany, N. Y. Chicago, Ill.



Easily
Removed



Easily
Cleaned



Dairying and Fertility

THERE is no getting away from the fact that those of us who are selling milk to the city trade or to the condensary are removing from our farms many dollars worth of fertilizing constituents which the selling of the cheese or butter would leave on the farm. The effect of selling whole milk as compared with the sale of butter or cheese is a question of much importance to dairy farmers who are interested in building up and maintaining the fertility of their farms. By a study of the composition of milk, cheese and butter we find that a ton of each product contains the following quantities of the three important fertilizing elements.

On the other hand, the difference in the prices paid for milk, cheese and butter is usually more than enough to offset the fertility account and leave a substantial balance in the farmer's pocket. It is by no means uncommon to find the farms on which whole milk is sold to be gaining in fertility faster than those from which butter or cheese is sold. This may be due to better methods of crop growing or to the more up-to-date methods of saving and applying farm manures. Then, there is always considerable loss in handling farm manures, so the figures quoted would have to be revised according to the methods the farmer employed in handling the manure on his farm.

	Nitrogen.	Phos. Acid.	Potash.
Milk	10.60	3.80	3.60
Cheese	70.00	13.00	3.90
Butter	2.00	1.00	.40

Providing we have a farm supporting thirty cows producing an average of six thousand pounds of milk per cow per year, we would sell in the milk, cheese and butter, allowing that the milk would produce four and one-half pounds of butter or eleven pounds of cheese per one hundred pounds, the following:

	Nitrogen.	Phos. Acid.	Potash.
Milk	954.00	342.00	324.00
Cheese	574.00	106.00	36.00
Butter	8.00	4.00	1.60

Figured at the pre-war value of the different elements, or twenty cents per pound for nitrogen, and five cents per pound for phosphoric acid and potash, the value of the fertility removed by the sale of milk, cheese and butter from the thirty-cow dairy producing an average of six thousand pounds of milk per cow would be approximately for one year as follows:

	Nitrogen.	Phos. Acid.	Potash.
Milk	\$190.80	\$17.10	\$16.20
Cheese	114.80	5.30	1.80
Butter	1.60	.20	.08

These figures show approximately the difference in the value of nitrogen, phosphoric acid and potash removed from the farm by the thirty-cow dairy that is producing six thousand pounds of milk per cow per year.

The above figures though large should not cause a man to waste a lot of time thinking about the problem of selling milk or whole milk to the cheese factory provided he could get a better market for his milk or cheese. Any of these elements may easily be replaced through feeding a few tons of concentrates or buying commercial plant foods. Of course, in feeding the young stock the skimmilk from the dairy there is a still greater gain in fertility through the plant foods and the organic matter that goes back to the land from the rough feeds and bedding materials, but there is always a slight loss of minerals when the animals are finally sold. Then, too, the

On the majority of farms where the whole milk is sold more purchased grain feeds are fed, not because it is necessary, but because it pays to feed the cows more grain when a higher price is obtained for the milk. In my own business I find that selling whole milk pays from twenty-five to thirty-five per cent better than selling cream or making cheese, and that I can afford to purchase more grain feeds for my cows. By growing potatoes in rotation with the food crops for the cows I can afford to buy liberal quantities of fertilizers for the potato crop so that there will be an excess left in the soil for the succeeding crops in the rotation.

The farmer who plans his crop growing system so that one acre of clover, alfalfa, soybeans or mixed clover and timothy hay per cow kept on his farm is raised each year will never need to have any trouble in maintaining an adequate supply of nitrogen and organic matter in his soil. If he buys suitable concentrates and feeds his cows heavy grain rations, saves all of the manure made and retates his crops wisely, his problem will eventually be that of buying mineral plant foods to balance up the excess of nitrogen. Likewise he will find it possible to grow a cash crop such as potatoes or beans, one acre to each cow kept on the farm, from which he can derive as great annual profit per acre as he does per cow from the sale of milk. Some of the mineral fertilizers may be needed, but not in any excessive amounts.

While the selling of butter and whole milk presents some rather interesting figures for study in deciding which branch of dairying to practice, yet they are a little misleading to one who has had only a limited experience in building up soil fertility with dairy cattle. In actual farm practice we

(Continued on page 644).



BOWSHER'S
HEAVY-DUTY
GRINDERS
FOREMOST AMONG BETTER GRINDERS
Crush and grind all the grains that grow; fine for hogs or coarser for cattle feeding. Corn in husk, Head Kafirs, and all small grains.

Strength, Durability and Service radiate from every line of these Masterful Grinders. Simple but effective in adjustment.
LIGHT RUNNING—LONG LIFE—EXTRA CAPACITY
CONE-SHAPED BURRS
10 sizes—2 to 25 H.P. or more. Also Sweep Mills.
It pays well to investigate. Catalog FREE.
The D.N.P. Bowsher Co., South Bend, Ind.

EASIEST RUNNING MILL MADE

Kelly Duplex Mills require 25% less power, do as much, or more, work as any other mill of equal size. Grind ear corn, shelled corn, oats, wheat, kafir corn, cotton seed, corn in shucks, wheat oats or any kind of grain. For speed and complete grinding the

KELLY DUPLEX
Has No Superior
Easily operated. Never chokes. Fully guaranteed. Any power. Especially adapted for gasoline engines.
FREE CATALOG.
DUPLEX MILL & MFG. CO., Box 308, Springfield, Ohio

SOLAR
LIGHT YOUR HOME
LIKE DAY—Cost 1c
for 5 hours. Pure white 60 candle power light from common Kerosene.
SOLAR MANTLE LAMP
approved by government experts. Burns gas, gasoline or electricity. Entirely new. Every home interested. AGENTS MAKE MONEY. Weeks free trial. Write quick selling plan, territory and trial offer.
SOLAR LAMP CO., 245 Solar Bldg., Kansas City, Mo.

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TILE SILOS**
"The Fruit Jar of the Field"
Dickey silos are guaranteed
Send for Catalog No. 9
W. S. DICKEY CLAY MFG. CO.,
MACOMB, ILL.
Kansas City, Mo. Chattanooga, Tenn.

SAVES
Send for
Our Free Book
Tells how to raise your calves the "Milkless Way." Ryde's Cream Calf Meal produces healthy, sound and profitable animals without milk. A perfectly balanced calf ration—the richest substitute for milk. Sell your milk—use Ryde's and save money.

Our Money-Back Offer
Get a sack from your dealer. If, after feeding it as directed, you are not absolutely satisfied, he will refund your money.

Write for booklet, "MILK-LESS CALVES," and name of our nearest dealer.
RYDE & COMPANY
5436 W. 12th St., Chicago

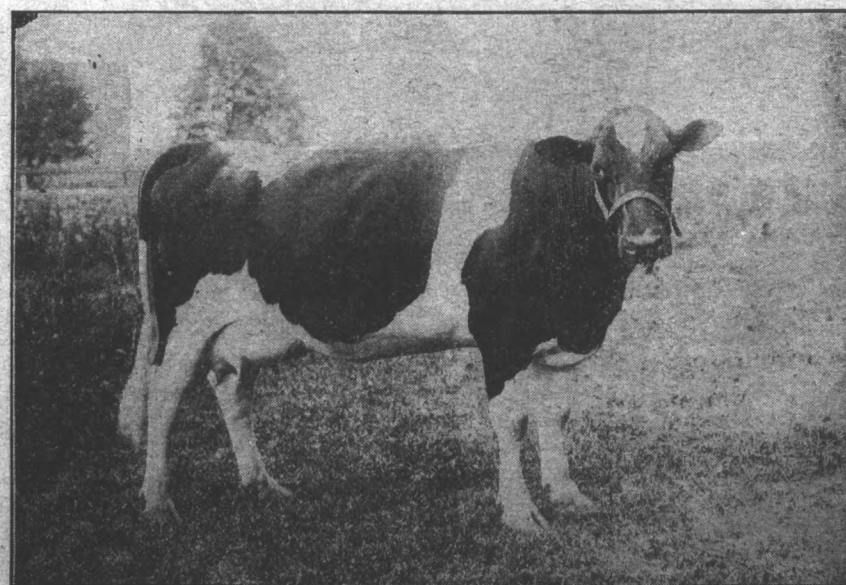
Try it at Our Risk

**Only \$2 DOWN
ONE YEAR
TO PAY**

\$38 Buys the New Butterfly Jr. No. 2 1/2. Light running, easy cleaning, close skimming, durable.
NEW BUTTERFLY
Separators are guaranteed a life-time against defects in material and workmanship. Made also in four larger sizes all sold on 30 Days' FREE TRIAL and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money.
Albaugh-Dover Co., 2155 Marshall St., Chicago

ECONOMY FEEDER
A perfect working self-feeder for hogs. A 100-lb. pig pays for it. Saves on purchase price, time, floor space, repairs and feed. Will feed 40 hogs. Sold direct, \$18.50. Money refunded if not satisfied. For further information address: THE ECONOMY FEEDER CO., Box 536, New Washington, O.

Milch Goats For Sale. Saanen and Nubian Buck for service. J. W. Dasef, Stanton, Mich.



Maryland Walker Colantha Produces 18.50 Pounds of Butter at 24 Months.



WATERING COWS IN WINTER.

WHEN cows are given ice cold water in winter the heat from their bodies must warm the water and it takes feed to make the heat. Often they will not drink much ice water from a tank where the ice has been broken up with an axe. A tank heater takes the chill from the water and the cows not only enjoy it but they will drink larger quantities and this has a direct relation to the amount of milk produced.

When cows have to drink from an outside trough several hundred feet from the stable they seldom drink enough water during cold weather. They eat expensive feed without taking the water into their systems which is needed for health and the production of large quantities of milk. Sometimes this condition can be improved by using galvanized pails as individual watering troughs beside the manger of each cow. Then the cow always has water available in spite of the outside storms. She will drink more often and give more milk.

Some dairymen have watering systems installed in their dairy barns and find them practical, both as to the amount of work saved in watering the stock and the increase in the milk produced.—K.

RUSHING LAMBS TO MARKET.

CONTINUED extremely large supplies of sheep and lambs in the seven leading western markets, including Chicago, Kansas City, Omaha, St. Louis, St. Joseph, Sioux City and St. Paul, have swollen the year's aggregate receipts to upward of 1,900,000 head in excess of the receipts for the corresponding period last year, and recent liberal offerings on the Chicago market forced severe reductions in Chicago lamb values, despite the large trade requirements. The best lambs have sold sharply lower, as well as the less desirable flocks, but the declines in feeder lambs are usually less than those in killers. Some late shipments from Washington have shown up, as well as some choice Canadian lambs, which topped the market. With the closing of the range shipping season, farmers desiring feeder lambs are obliged to depend mainly on "warmed-up" lambs sent to market only half fat. From all accounts, plenty of lambs and sheep are going to be fed the coming winter. Colorado flockmasters are feeding the usual numbers and Nebraska and Texas, as well as the states of the middle west, will do their full share of the feeding, reasonable prices for corn encouraging them. About 100,000 sheep have passed through Fort Worth recently bound for the fine ranges of west and southwest Texas. The sheep districts of that state are reported as in prime condition, and sheepmen are bringing in large flocks. One sheepman has purchased 10,000 head of fine Montana wethers and taken them into the Del Rio country, intending to market them as fat sheep next spring. Wyoming sheep raisers are abandoning that state and engaging in the industry in the cut-over districts of northern Michigan. Two such men on a recent day had 4,000 head of western feeding lambs from Channing, Michigan, on the Chicago market, the flock having been shipped from Wyoming about a month ago. The two men are owners of 4,500 breeding ewes on the upper peninsula of Michigan. They were engaged in the Wyoming sheep industry for ten years but were obliged to make a move this year by the drouth.—W. F.

"They like it"



Of course they like it. It's better than mother's milk—never too rich nor too thin—always just right.

Pratts CALF MEAL

is made by experts and guaranteed by one of the most reliable feed manufacturers in the country. Only after years of experimenting—of making every possible test—has this feed been

compounded. As a result it is a perfect blend. Calves thrive on it. They grow into healthy and valuable animals—easy to sell at a profit. Feed your calves what they like. It's Pratts.

PRATT FOOD COMPANY

CHICAGO

PHILADELPHIA

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Auction Sale

of Oxford Sheep at Feed Barn, Elsie, Mich. Tuesday, Nov. 18, 1 o'clock. Will sell 40 yearling and lamb rams and 50 choice breeding ewes (bred). This flock is one of the best bred ones in America. Only choice rams of best Canadian breeding has been used. Also will sell five (5) Scotch Shorthorn bulls of herd-heading caliber.

Aug. Miller, Auct.

H. B. PETERS & SON, Props.

SHEEP

Whittum Farm Shropshires 50 good ones including 30 imported ewe and ram lambs. None better to start a new flock or improve the old one. 10 imported, one and two year old rams.

THE WHITTUM FARM, Eaton Rapids, Mich.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS

"The Sheepman of the East" I sell and ship everywhere and pay express charges. I will start one man in each town. Write for club offer and descriptive price list. Oxford, Shropshires, Rambouillet and Polled-Dorsets.

PARSONS, Grand Ledge, Michigan R

BUY A SHEEP

Wait a minute, buy Hampshires. The American Hampshire Sheep Association wants to send you a dandy little booklet with list of breeders. Some near you. Write COMFORT A. TYLER, Secretary, 22 Woodland Ave., Detroit, Mich.

Shropshire and Hampshire Rams

In order to finish the ram trade quickly I will give you your choice of a dozen very good yearlings at \$35.00.

KOPE-KON FARMS, COLDWATER, MICH., S. L. WING, Prop.

The Ingleside Farm, Ionia,

can still furnish 20 yearling registered Shropshire rams and 18 yearling registered ewes.

HERBERT POWELL, Ionia, Mich.

300 Breeding Ewes

Choice Michigan Natives. Black faces and delaines 1 to 4 years old. Mostly 2 year olds in good condition in lots of 10 to a carload. Almond B. Chapman, South Rockwood, Mich. Telegraph Address Rockwood.

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

Shropshire ram lambs of good quality and some ewes all registered.

DAN BOOHER, R. 4, Ewart, Mich.

80 Reg. Shropshire Ewes yearling and ram lambs for sale.

Jno. Grieve, Fowlerville, Mich. R. F. D. No. 3.

Wool-Mutton Shropshire Rams

For sale cheap. Royally bred; strong, robust fellows. Also few ewes.

A. H. FOSTER, Allegan, Mich.

Registered Shropshire bred ewes, 1 to 3 years old. Large, healthy, well fleeced representatives of this flock gave satisfaction in 15 states, last season rams all sold.

C. Lemen, Dexter, Mich.

Registered Shropshire sheep, 30 rams and 40 ewes.

HARRY POTTER & SON, Davison, Mich.

For sale, Reg. Shropshire rams yearlings and 2 yr. olds \$30 to \$50, one 4 year old ram sired by Coopers (8120). I will pay return express if they are not as I represent them.

C. V. TRACY, Ithaca, Mich.

Reg. Shropshire Ram Lambs with both size and quality.

C. K. Topliff, Eaton Rapids, Mich.

Reg. Shropshires Yearling Rams and ram lambs. Special price on lots of two or more.

B. D. KELLY & SON, Ypsilanti, Mich.

Shropshires Registered ram lambs sired by Imp. Butter. Also choice bred ewes.

W. B. McQUILLAN, R. 7, Howell, Mich.

For Sale Oxford ram lambs, registered in your name, delivered \$30. GEO. T. ABBOTT, Phone 783 Deckerville, Palms, Mich.

For Sale Registered oxford Down yearling rams and lambs also a few choice ewes.

D. P. Beasore, R. F. D. No. 1 Eaton Rapids, Mich.

For Sale Yearling Black Top Delaine Merino rams from the well-known Chas. Kleckler flock. Prices and stock right. See them on the farm 1/2 mile east of Cohoctah. JOHN WRIGHT, WORTH, GEORGE GERRINGER, Cohoctah, Mich.

CHOICE delaine rams, also "F" type stock rams of high quality, large, oily fleeces, shearers, write.

S. H. Sanders R. No. 2, Ashtabula, O.

Polled Delaine Rams for sale. Good heavy shearers.

F. L. BROKAW, Eagle, Mich.

Hampshire and Rambouillet rams for sale yearlings and lambs.

A. A. WOOD & SON, Saline, Mich.

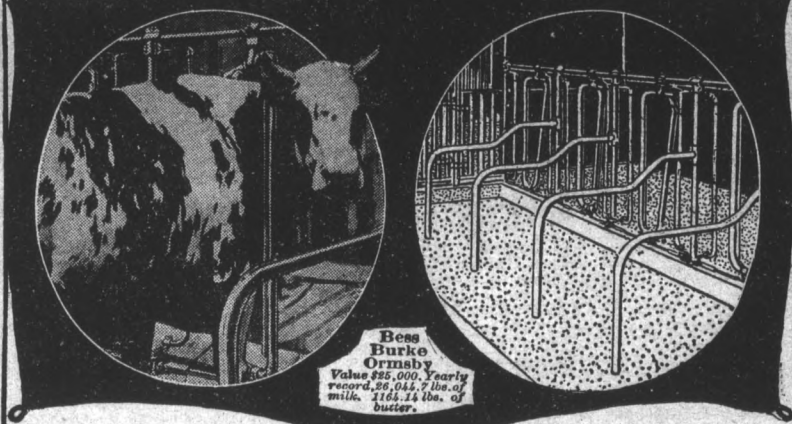
FOR SALE Registered Hampshire yearling rams and ewes.

OTTO C. KNAB, R. 3, Monroe, Mich.

60 Good Breeding Ewes For Sale

HILLOREST FARM, Kalamazoo, Mich.

PUT YOUR COWS in DREW stalls



Profit for the DAIRYMAN

It makes no difference whether you are milking few cows or many, grades or registered—Drew Stalls and Stanchions will **decrease your labor** and **increase profits**.

They keep the cows satisfied—which means **increased milk production**. For twenty years we have been building and improving Dairy Barn Fixtures. They are built **RIGHT**, that is why we receive such **statements** as this:

"My father bought a Drew Carrier 18 years ago and I broke a wheel yesterday. Can I get a new one? Haven't had no trouble with it before." How's that for service?

Drew Fixtures have exclusive features of superiority in construction and design, but **cost no more than others**.

Drew Special Barn Floor Plans Free. Our Experts are at your service. Send for the Drew Idea Book Today.

DREW CARRIER COMPANY
Established 1899 WATERLOO, WISCONSIN

The Drew Line

Stalls
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BREEDERS' DIRECTORY

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Wildwood Farms Angus

Bulls in service are, Black Monarch 3rd, Grand Champion Bull, Michigan State Fair 1914, 1915, 1916.

Imp. Edgar of Dalmeny, Grand Champion Bull, Michigan State Fair 1918.

President Wilson 4th, Grand Champion Bull, Michigan State Fair, 1919.

We offer for sale 6 choice young bulls by Black Monarch 3rd.

Edgars Calves, are as yet too young to offer for sale but are a promising lot of calves, and are going fast.

A visit will interest you, write for particulars to

WILDWOOD FARMS ORION, MICHIGAN

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

WOODCOTE ANGUS

1919 Winnings to Date				
Mich. State Fair	12 1sts	2 cham.	1 1st ch.	
N. Y.	9 1sts	2 "	2 "	
West Mich.	11 1sts	3 "	2 "	
Saginaw	10 1sts	4 "	2 "	

Every Animal Bred At
WOODCOTE STOCK FARM, Ionia, Mich.

Cloverly Angus, 5 cows with calves, rebred; 2 bred cows; 1 two year old, 2 yearling heifers. Price \$2800. 6 yearling bulls, \$225 each. Geo. Hathaway & Son, Ovid, Mich.

For sale at reasonable prices, several Aberdeen Angus bull calves and yearling bulls sired by Lord Ida 2nd No. 248330. Lang Bros., Davison, Mich.

REGISTERED GUERNSEYS

Those choice heifers we adv. have gone to good homes. We have a fine bull calf—worth the money.
J. M. WILLIAMS, North Adams, Mich.

REGISTERED GUERNSEYS

2 bulls, 2 bull calves. Priced to sell.
F. E. ROBSON
Room 307, M. C. R. R. Depot, Detroit, Mich.

For Sale Several very fine pure blood Registered Guernsey bulls. Wonderful bargains.
O. A. Carlisle, Perkins Corporation, Mishawaka, Ind.

GUERNSEYS

First Prizes and Gold Medals were awarded to Guernsey milk and Guernsey cream at the 1919 National Dairy Show. Guernsey products are consistent winners at local as well as national contests. Write for our free booklets.
The American Guernsey Cattle Club, Box 135, Peterboro, N. H.

QUALITY ECONOMY QUANTITY

REGISTERED GUERNSEYS

Young bulls of quality for sale, backed by generations of large producers. All tuberculin tested. Come and look them over.

AVONDALE STOCK FARM, WAYNE, MICH.

Guernsey Bull For Sale

Bennie of the Ridge No. 41637. His dam is Trixey of the Ridge B. F. 53738 in class E. E. Granddam Abbie of Riverside 81612 B. F. Champion Guernsey cow of Michigan. Herd of federal and state accredited list.
E. J. SMALLIDGE, Eau Claire, Mich.

GUERNSEYS—REGISTERED BULL CALVES

Containing blood of world champions.
HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.

GUERNSEYS must reduce herd, so offer a few choice females of Glenwood breeding also bulls, all stock of A. R. breeding, herd tuberculin tested.
T. V. HICKS, Battle Creek, Mich.

Registered Guernsey Bull for sale, 2 years old.

KRESTEN THOMSEN, Rudgate Farm, Birmingham, 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.

FEEDING RYE.

I have seven horses, two colts, four calves, three heifers, fifteen cows, nine pigs, one sow, ten geese, about 200 hens and chickens. I have one 10x30 silo and two 12x36 silos. They are not yet filled, but I believe that I will have enough corn to fill all three of them. I have about 1000 bushels of rye, less than 100 bushels of oats, and between 1,000 and 2,000 bushels of ear corn. I have a feed grinder as well as a corn-on-the-cob grinder. Would you advise selling the rye or to grind it with oats or corn, or corn-on-the-cob, or both? If you would advise selling, what kind of feed would you advise buying? If you think it best to keep it, how would you advise feeding? How many oats should a horse get to a feed?

Genesee Co.

G. G.

Taking into consideration the present prices of all feedstuffs I would advise feeding your rye. Of course you must get it ground no matter what kind of live stock you feed it to. It should not be fed without being ground. As long as you have a corn-and-cob grinder I think it would be better to feed the corn in this way, that is, grind it, cob and all. If you would mix your corn-and-cob meal, ground rye and wheat bran in equal parts by weight, it would make a very good ration to feed with your cornstalk silage. Even then there would be some deficiency in proteins and a little oil meal or cottonseed meal would help out the ration very materially. But these products are so exceedingly high and so hard to get, and in all probability you would have practically as economical a ration without them. However, you could not expect the cows to give quite as much milk.

You do not say what kind of hay you are feeding with your ensilage. If you have clover or alfalfa you can get along quite nicely without the oil meal or cottonseed meal, but if you have timothy hay these products ought to be provided. But with quite a liberal amount of wheat bran you will have a fairly economical ration.

Four quarts of good oats three times a day, or twelve quarts per day, is about the right amount for a one-thousand-pound horse, a larger horse would require a little more.

C. C. L.

ESTABLISHING A PERMANENT PASTURE.

I am writing to ask advice in regard to establishing a permanent pasture. What ought I to sow, and quantity per acre? The field I have selected has a variety of soils, sand, clay and a heavy black soil. It produced a good crop of wheat this year and has a good seeding of red June clover and timothy. How should I proceed to get a good stand of permanent pasture grasses and still have the use of this field for pasture next year?

E. H.

The first thing in establishing a permanent pasture is to use a number of good grasses of such varieties that you will have a continuous supply of succulent growth from early spring till fall. The second thing is to seed heavily in order to get a thick mat of grasses, one that occupies the entire ground.

Grasses should have a very fine seed bed. I would plow this field this fall and just as soon as it can be worked in the spring, disk, harrow, roll it and get a good fine bed and seed it heavily with timothy, orchard grass, red clover, alsike clover, red-top and meadow-fescue. You can put in other grasses if you choose, the more the better.

This pasture ought not to be pastured the first year, because the tramping of the cattle will destroy the plants before they are well established. Light animals, like calves and sheep, can be turned on, but it must not be pastured close. A real good plan is to clip the grass with a mower if it is weedy or if it gets too high. It is best to keep the stock off until the second year. Later in the season you can cut a crop of hay and by next spring it will be well established so that you can use it as pasture without harm.

L.

MODEL COW STALL.

Some years ago you printed directions for building what I think you called the model cow stall. I saw one in use and thought it was the best stall I ever saw. Would like to use one now. Will you print the directions for building it, again.

H. D. M.

It is a little difficult to tell in a letter how to build this stall. A grain and ensilage manger is on the level of the floor of the stall, above that is the manger for hay, with slats facing the cow at an angle of forty-five degrees. This enables one to put in the feed of ensilage and grain, and also the hay, at one time. All other stalls one must wait until the ensilage and grain is eaten up before feeding hay.

The cow is tied with a chain around the neck, giving her considerable liberty. The cow is kept clean in this sort of stall by placing a two-by-four edgewise directly in front of the hind feet as she stands when eating ensilage and grain. The bedding is placed so as to fill the stall level with the top of the two-by-four. Now, when the cow lies down she has to step ahead and lie upon this elevated bed. This keeps her from getting stable soiled. With a little pains used in adjusting this two-by-four to accommodate different sized cows, they can be kept absolutely clean from stable soiling.

L.

DAIRYING AND FERTILITY.

(Continued from page 642).

and that more depends upon our methods of cultivating, rotating our crops and applying the farm manures than upon the selling of comparatively small amounts of fertilizing elements from the farm. It makes a lot of difference how our land is handled. I approve of keeping the skim milk at home and feeding it to young stock, but if conditions are against such a system of dairy farming a man can sell milk or cheese and not deplete the fertility of his farm, provided he understands how to handle his soil to get results.

C. B. FORD.



"Top-Notch" HOLSTEINS

The young bulls we have for sale are backed up by many generations of large producers. Buy one of these bulls, and give your herd a "push". Full descriptions, prices, etc. on request. McPherson Farms Co., Howell, Mich.

GET A BETTER BULL WINNWOOD HERD

BREEDERS OF Registered Holstein-Friesian Cattle We have bull calves ready for service and a new crop of baby bulls coming all of Maplecrest breeding. We have one of the largest pure bred herds in Michigan and this will be the last chance to buy sons of Flint Maplecrest Boy, cheap. For his daughters start to freshen this winter and they will all go on yearly tests. We own them all and will develop them. Don't wait, a bankable note is the same as cash to us and our price will be right. Tell us your wants.

JOHN H. WINN, (Inc.) Lock Box 248, Roscommon, Mich.

A Fine Herd of Reg. Holstein

yearlings. Consisting of 10 richly bred heifers and the 8 months old bull, Sir Johanna Ormsby Fietertje. This is a great foundation for a herd and a fortune. I also have 5 cows, two to five years old, fresh or soon due. I am going to sell these before Nov. 15th. It is your move if you want them. L. E. CONNELL, Fayette, Ohio.

CLUNYSTOCK FARM

A Semi-Official Bred Bull to Head Your Herd Maplecrest Application Pontiac No. 132652, heads Your Herd His dam's record is 1344.3 lbs. butter, 23,421.2 lbs. milk in 365 days, and 35,103 lbs. butter and 516.6 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.

Wah-Be-Me-Me Farms Holstein-Friesian Cattle

Herd Headed by Segis Pontiac De Nijlander A 32 lb. grandson of Michigan's great 35 lb. champion cow, Pontiac De Nijlander. His dam, Oak Valley Korndyke Beets Segis Fan, 32.06, also a Michigan prize winner on nearly production and a prize winner in the National Ass'n. Write for list of bull calves from 18 lbs. 2 year olds to over 30 lb. dams.

HOLSTEINS OF QUALITY

Cows all sold. Have 15 choice heifers some bred to a 33 lb. and 35 lb. bulls. Some open, will breed anytime to suit purchaser to a grandson of May Echo Sylvia. Record of two recent dams of herd size is 35 lb. butter and 612 lb. milk in 7 days. E. C. HARDY, Rochester, Mich.

Registered Holstein: bull calf born Nov. 17, 1918. A good individual straight and thrifty. His dam an untested daughter of a 24 lb. cow. Size's dam has yearly record 802 lbs. butter 18022 lbs. milk at 2 1/2 yrs. of age. W. B. READER, Howell, Mich.

For Sale: Bull calf two months old, beautifully marked, mostly white. Size, son of 31 lb. bull and A. O. dam. Dam a 55 lb. milk. A bargain at \$75.00. V. J. Brown & Son, R. 3, Jonesville, Mich.

For Sale: Bull calf from a 24.32 lb. 9 year old and sired by 31 lb. bull, also 2 from 16 1/2 jr. 2 year olds sired by same bull. Wm. GRIFFIN, R. 5, Howell, Mich.

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.

WANTED: 20 registered Holstein or milking Shorthorn heifers. Give full particulars and price. CORNUCOPIA CATTLE CO., Ft. Morgan, Colo.

Registered Holstein Bull Calves grandson's of King Dollar from 1 to 3 mos. old, straight and thrifty from good producing dams. Being bred, ing, priced to sell. Herd T. B. tested. Write for prices and pedigrees. Carasco Stock Farm, Carasco, Mich.

Registered Holstein heifers bred to a double grand son of the great May Echo Sylvia 41 lbs. butter and 606 lbs. milk in 7 days. C. H. Giddings, Gobleville, Mich.

\$100 Liberty Bonds or terms get 5 mo. old 1/2 white good individual grandson of Flint Henr. Sr. 27.09 lb. butter, 561 lbs. milk and cal. F. A. 20.12 lb. butter 512 lb. milk. M. L. McLAULIN, Redford, Mich.

\$125 buys choice Reg. Holstein Bull nearly 1 yr. old. Color 3/4 white; breeding, Pontiac and King Segis. Guaranteed. B. B. Reavey, Akron, Mich.

Beautiful Holstein bull calf nearly white born Oct. 23 1919. Price \$75.00 reg. and del. Better write for him. J. ROBERT HICKS, St. Johns, Mich.

AUCTION SALE

22 thoroughbred Jersey cows and heifers Nov. 19 1919. FRANK L. NELLIS, Prop. 3 Miles South and 2 miles East of CHELSEA, MICH.

JERSEYS

Bred heifers, bull and heifer calves of the choicest breeding, from high producing prize winning stock, moderate prices. C. S. Bassett, Drexel Place, Kalamazoo, Mich.

AUCTION SALE REGISTERED HOLSTEINS NOV. 20th 1919

At Farm 6 Miles East Of Milan, 1 Mile Southeast Of Oakville, Mich.

11 females, 3 males; 3 good horses; 150 S. L. Wyandotte chickens. All farm tools including No. D 11 Whirlwind Silo Filler, 2 Roll Clyclone Corn Husker, New Holland Feed Grinder, 7 H.P. New Way Engine.

Sale begins 10 A. M.; Cattle Sale 1.30 P. M. H. W. GREEN Proprietor, CHARLES THOMPSON, Auctioneer



37% FAT

What does it mean?

SIMPLY this: It costs less to feed Jerseys than any other breed and they produce the richest quality of milk (butter fat average of 5.37%). Jersey Milk churned into butter and cheese bring the highest prices on the market.

Jerseys are the real "cow investment"! They start producing at an earlier age than any other breed and are still great milkers long after other cows have gone dry.

Let us give you some surprising information about Jerseys in our free booklet "Profitable Facts About Jerseys". Write today for it.

The American Jersey Cattle Club 32-M West 23rd St., New York, N. Y. An Institution for the Benefit of Every Jersey Owner

JERSEYS

MICHIGAN JERSEYS

Michigan's Jersey cattle are the pride of its farms. A herd of pure-bred Jerseys adds good will to a farm because Jerseys are recognized as valuable, tangible assets. Every man who is so fortunate as to own a good herd of pure-bred Jerseys points with pride to his "Money Makers." Even to the man who does the milking, there is something in the inbred beauty and easy handling qualities of a Jersey that appeals.

Beauty alone would not be enough, but when beauty is combined with persistency, economy, and big dairy profits, then there is every reason for choosing Jerseys.

That's why we are Jersey-men!

ILLIE Farmstead Jerseys. A few heifers bred to L. Frechen this fall, also yearling heifers; and two or three R. of M. cows. Colon C. Little, Coopersville, Mich.

BUTTER BRED JERSEY BULLS CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

The Wildwood Jersey Farm Bulls for sale by Majesty's Oxford Fox 134214 and Eminent Lady's Majesty 150934, and out of R. of M. Majesty dams. ALVIN BALDEN, Capac, Mich.

Jersey Bulls For Sale From R. of M. stock. Oxford Lad-Raleigh-St. Lambert breeding. Meadowland Farm, Waterman & Waterman, Ann Arbor, Mich.

Maple Lane R. of M. Jersey Herd. For sale Blue Belle's Premier son of Sophie's Premier that sold for \$1750 this fall. Bulls and bull calves. R. O. Red cockerels. IRWIN FOX, R. 3, Allegan, Mich.

For Sale. Young Jersey bulls sired by Grandson of Sophie 19th. For descriptions and delivered prices address F. Chapman & Son, Vandalia, Mich.

Your choice of nine Jersey cows out of nineteen, also yearling bull, dam's record 1450 lbs. milk. E. A. LIVINGSTON, St. Johns, Mich.

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

HARWOOD HEREFORDS

Young stock both sexes for sale. "Keep On 508019" heads the herd. Write us your wants. Visitors welcome. JAY HARWOOD, Ionia, Mich. Farm six miles south of Ionia.

Herefords Polled and Horned blood lines combined and Prime Lad 9th breeding. Prices reasonable. COLE & GARDNER, Hudson, Mich.

HEREFORDS: young stock of either sex for sale. RALPH S. SMITH, Kewadin, Mich.

HEREFORDS

3 Prince Donald, 3 Farmer and one Polled bulls from 7 to 13 months old, for sale.

ALLEN BROS. PAW PAW, MICHIGAN

Herefords. Just purchased 8 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.

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

BIDWELL SHORTHORNS For Beef and Milk Registered bulls, cows and heifers. Good Scotch and Scotch-Topped for sale. In prime condition. Modern sanitary equipment. Herd under state and federal supervision. Farm 10 minutes from N. Y. C. depot. 1 hour from Toledo, Ohio. Automobile meets all trains. Write

BIDWELL STOCK FARM Bor B, Tecumseh, Mich.

Richland Stock Farms 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.

For Sale Shorthorns of Quality Scotch and Scotch Topped descendants of Archers Hope, Avondale, Maxwell Sutton and White Hall Sutton. Model Type, by the Osceola Co. Shorthorn Breeders Ass. John Schmidt, Sec. Reed City, Mich.

Ionia Co. Breeders Ass'n Have for sale Reg. Shorthorns, Herefords, Angus, Holsteins, Jersey, Red Polls and Brown Swiss Cattle. Shropshire, Hampshire and Rambouillet sheep. Poland China and O. I. C. swine. FRED W. BRICKLEY, Sec., R. 3, Ionia, Mich.

--SHORTHORNS-- Two reg. bulls 6 and 9 mos. old, color red and red and white, Bates breeding, will crate and ship, satisfaction guaranteed, or money refunded. Write or come and see. Wm. D. McMULLEN, R. 11, Adrian, Mich.

MEADOW HILL 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.

NO STOCK for sale at present. Kent Co. Shorthorn Breeders Ass. L. M. LEONARD, Sec., Caledonia, Mich.

MILKING SHORTHORNS Clay bred bull calves. Davidson and Hall, Tecumseh, Mich.

Special Offer Shorthorns—Cows \$250 to \$300. Bulls \$200 to \$250. Wm. J. Bell, Rose City, Mich.

SHORTHORN BULL CALVES FOR SALE. Chas. Metzger & Sons, Ithaca, Mich.

Milking Shorthorns of best Bates breeding 2 bulls 7 mo. old and 2 heifers 3 and 7 months old for sale. E. H. Kurtz Mason, Mich.

Milking Shorthorns No stock for sale. ROSEMARY FARMS, Williamston, Mich.

For Sale Several choice young Shorthorn cows and heifers Airdrie Duchess and Rose of Sharon families. E. S. Batcheler, R. 6, Howell, Mich.

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

Reg. Shorthorns: Yearling bulls in prime condition. R. \$120 and \$140. Shipped, with papers, on receipt of price. E. J. Knickerbocker, R. 2, Homer, Mich.

2 cows \$300 each, 1 bred heifer \$250, 2 heifer calves \$100 each. Bulls all ages, \$100 and up. Central Mich. Shorthorn Assn., Oscar Skinner, sec., Gowen, Mich.

Red Polled Bulls For Sale also cows and heifers. G. A. Calhoun, Bronson, Mich.

HOGS Registered Berkshire Boars: ready for service. A few R. gifts and sows bred for May and June farrow. Also spring pigs. CHASE STOCK FARM, Marlette, Mich.

Registered Berkshire pigs for sale and also sows with pigs; call or write KRESTEN THOMSEN, Rudgate Farm, Birmingham, Mich.

Duroc Opportunity

What would the earning capacity of a Brookwater Boar be in your herd? A mid-west breeder states that the Brookwater boar he used added from \$75 to \$100 to every gilt bred to him. It paid this man to use one of our boars it will pay you.

We have several that we are offering at prices which appeal to the small breeder who must of necessity be a conservative buyer. We have a few that are good enough to be used in high class herds at prices in keeping with their individuality and breeding. Money invested in a good herd boar very speedily increases the value not only of what you sell but what you keep. Send for price list or better, visit the farm.

BROOKWATER FARM, Ann Arbor, Mich. HERBERT W. MUMFORD, owner. J. BRUCE HENDERSON, Manager.

DUROC JERSEYS Boars sired by a son of King the Col. E. D. HEYDENBERG, Wayland, Mich.

Big type Poland China boars for sale. Sired by Big B Giant No. 287367 C's Orange No. 23123 and Relish's Col. Jack No. 322507. L. L. Chamberlain, Marcellus, Mich.

DUROC BOARS ready for service; excellent breeding and individuality. The large growthy kind, also Aug. & Sept. boar pigs, prices very reasonable. R. U. S. H. E. C. O. S., Oakwood Farm, Romeo, Mich.

DUROC JERSEYS CAREY U. EDMUNDS, Hastings, Mich.

DUROC BOARS of size, quality and breeding. All are sired by State Fair Winners. Come see herd. NEWTON BARNHART, St. Johns, Mich.

Mr. Boar Buyer. The best bargains in the state in boars, breeding, individuality and price considered, is at Michigan Farm. All ages. Sired by Panama Special, Brookwater Orion Specialty, and the Principle 10th. Satisfaction guaranteed. O. F. Foster, Mgr., Pavilion, Mich.

Pleasant View Durocs Spring boars and gilts. Well bred and individually good. Prices reasonable. Inspection invited. W. C. BURLINGAME & SON, Marshall, Mich.

Duroc spring boars. Sired by Orion Cherry King Col. 2nd, first aged boar at State Fair. These boars priced reasonable. W. C. Taylor, Milan, Mich.

Registered Duroc Boars We have a choice lot of spring boars, sired by Michigan Cherry Col. No. 18478. Ira Jackson selected this boar to head our herd. Our prices are within every farmers reach. The Jennings Farms, Bailey, Mich., R. F. D. No. 1

Duroc Jerseys Two good yearling boars that are good enough to head the best herds in Michigan, also spring boars large enough for service. Sired by the Grand and Junior Champion boars. F. J. DRODT, R. 1, Monroe, Mich.

Duroc Jerseys For sale: spring and fall pigs of both sex. CHAS. BRAY, Okemos, Ingham Co., Mich.

Registered Duroc-Jersey boars, ready for service. Prices right. Dixboro Duroc-Jersey Club. Address: Glen Freeman, R. 1, Plymouth, Mich.

Raise Chester Whites

Like This the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at 6 months old. Write for "my plan"—More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

Chester Whites, spring and fall stock for sale either sex. At Saduwa fair we won highest honors against strong competition. F. W. ALEXANDER, Vassar, Mich.

THE WORLD'S CHAMPION

big type O. I. C's. Stock of all ages for sale. Herd headed by Callaway Eld, 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 Grandell's prize hogs, Cass City, Michigan.

O. I. C. and Chester White Swine Strictly Big Type with quality. Spring pigs of March and April farrow. A choice lot of boars. Will only spare a few more gilts at present. Will ship C. O. D. and record them free. Newman's Stock Farm, Marlette, Mich. R. No. 1.

Big type O. I. C. boars of good size and quality also a few choice gilts. Will ship C. O. D. and register free. Elm Front Stock Farm, WILL THORMAN, Prop., Dryden, Mich.

O. I. C. 20 Choice Young Boars and a few fine gilts. Clover Leaf Stock Farm, R. 1, Monroe, Mich.

O. I. C's. I will ship C. O. D., pay the express and record free of charge every boar sold in Oct. and Nov. F. C. Burgess, R. 3, Mason, Mich.

O. I. C's. Last spring boars all sold. Have an extra good lot of last spring gilts, good fall pigs not akin. Good stock, registered free, 1/2 mile west of Depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C's. Am offering a few September pigs that combine size and quality. C. J. THOMPSON, Rockford, Mich.

O. I. C's. One June boar and fall pigs not akin. Also Shorthorn bull calf 7 mos. old. Stock registered free. JOHN O. WILE, Alma, Mich.

O. I. C's. Big type serviceable boars, summer farrowed boars, gilts, long bodies, short nosed, open or bred. G. P. ANDREWS, Danville, Mich.

Boars also sows and pigs. Real Big Type Poland Chinas. Bred big for 25 years. Sired by Migh. Buster by Giant Buster, litter 14 out of Mow's Miss Queen 2nd, some breeding, also by Butler's Big Joe by Rust's Big Joe, out of a Wonder Queen, nuf said. Write us your wants, we will treat you right, our prices are low. J. C. BUTLER, Portland, Mich.

Additional Stock Ads. on Page 647

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, November 13.

WHEAT.

The wheat market has continued through the past week without changes of importance. The flour situation has eased up somewhat following the announcement of the Grain Corporation that supplies purchased for export will be resold in this country. Farmers are not delivering heavily at this time, as shown by the visible supply figures which indicate an increase of only 45,000 bushels for the past week. One year ago No. 2 red wheat sold on the local market at \$2.23½. Present Detroit prices are:

No. 1 red	\$2.27
No. 1 mixed	2.25
No. 1 white	2.25
No. 2 red	2.24
No. 3 red	2.20

CORN.

Financial conditions, especially the high money market, was partially responsible for recent declines in corn values. Dealers watch weather conditions closely as delivery of grain from farms is an important consideration in establishing values. The transportation situation is also giving trouble and makes market conditions somewhat uneven over the country. The government, through the railroad administration, promises to relieve the car situation as soon as the grain is offered in sufficient volume to require special equipment. The federal crop report for November places this year's production at over 300,000,000 bushels above last year's crop. During the past week the visible supply decreased 117,000 bushels. Chicago is paying for No. 2 mixed \$1.54@1.55; No. 2 yellow \$1.55@1.59; December \$1.30½; May \$1.24½. Detroit prices are:

No. 3 corn	\$1.58
No. 3 yellow	1.60
No. 4 yellow	1.58
No. 5 yellow	1.57

OATS.

While values have receded from the high point reached last week, the market continues firm following reports of foreign buying. Receipts from farming localities show some increase over a week ago. The visible supply decreased 187,000 bushels during the week. One year ago standard oats were quoted on the local market at 70c per bushel. Present prices at Detroit are:

No. 2 white	76½
No. 3 white	75½
No. 4 white	74½

RYE.

A slightly easier tone prevails here and values are down from last week's high point. The visible supply increased nearly 1,000,000 bushels during the week. At Detroit No. 2 is quoted at \$1.38 per bushel.

BEANS.

It appears that the public is paying just a little more attention to beans and the feeling of interest is slightly manifest in the higher values buyers seem willing to pay. The change, however, is small, and farmers continue to hold back their supplies, believing that the dealer should pay what it costs to produce this crop. At Detroit a fair demand has developed and immediate and prompt shipment are now quoted at \$7 per cwt. New York quotes Michigan beans firmer and the new crop is quoted on that market at \$7.25 f. o. b. Michigan points. The New York quotation for choice pea beans is \$7.75, and for common to fair do \$7@7.50. Chicago tradesmen quote a little higher prices, with evidence of more attention being given the market. Choice to fancy hand-picked pea beans are quoted there at \$7.50@8; red kidneys \$13@13.50.

FEEDS.

Quotations are unchanged as follows: Bran \$46; standard middlings \$51@51.50; fine middlings \$61@61.50; coarse corn meal \$60@62; cracked corn \$66; corn and oat chop \$53@55 per ton in 100-pound sacks.

SEEDS

This market is only moderately active at last week's prices. Prime red

clover spot and December \$30; alsike \$29.25; timothy \$5.50.

HAY.

Demand is sufficient to care for all deliveries at the following prices: No. 1 timothy \$28.50@29; standard and light mixed \$27.50@28; No. 2 timothy \$26.50@27; No. 3 timothy \$23@25; No. 1 clover \$26.50@27.

Pittsburgh.—Moderate supplies and a good demand are maintaining prices at recent levels as follows: No. 1 timothy \$28.50@29; standard timothy at \$27.50@28; No. 1 clover mixed \$29@29.50; No. 1 clover \$31@31.50.

POTATOES.

The potato market is gaining in strength, both in the large marketing centers and in producing sections. All important markets report from steady to higher prices. Michigan growers are receiving from \$1.75@2 per cwt. for round whites, U. S. No. 1 in bulk at warehouses. Deliveries are moderate. Detroit's market is firm with Michigan U. S. No. 1 stock, well graded quoted \$4.10@4.25 per 150-lb. sack, and \$2.55@2.65 per cwt. in bulk. Chicago's market is firm at slightly higher prices. The above grade is selling there at \$2.80@2.95 per cwt. The same description brings \$4.35@4.50 per 150-pound sack in Cleveland and \$4.35@4.40 in Pittsburgh.

BUTTER.

The market has advanced since last week. Export demand continues and additional shipments have been made

to eastern ports for European trade as soon as strikes are settled. At Detroit fresh creameries have advanced to 63½c per lb. The Chicago market is higher at 55@63½c for creamery. A steady tone is reported in New York where the range for creamery stock is 61@71c. Western extra creamery brings 70c in Philadelphia, where the market is steady.

EGGS.

Receipts of eggs have decreased and dealers show a greater inclination to take hold of the market. Local prices have advanced to 63@66c for fresh eggs and 46½@51c for storage stock.

WOOL.

A wide variety of grades were involved in the heavy trading in wool in Boston last week, where sales aggregating 4,000,000 pounds were made. An important feature of the trading was the increased attention given to medium grades. There was a heavy turnover of three-eighths blood and quarter-blood. Small lots of fine staple and delaines were held at fancy prices. The majority of these grades are held by consignors who show little desire to sell.

DETROIT CITY MARKET

Dullness prevails on the city markets these days. Apple prices range from \$1.50@3 per bushel; potatoes at \$1.70@1.80; Keifer pears at \$2@2.50; onions \$2.50@2.75; turnips \$2; live hens 25c per pound; springers at 27c; fresh eggs at 66c.

Live Stock Market Service

Reports for Thursday, November 13th

BUFFALO.

On today's market good grades of hogs were selling at \$14.75@14.85 and pigs at \$15.50. Lambs brought \$15 and calves \$20.

DETROIT

Cattle.

Receipts 2,400. Market steady. Common little thin cattle hard to sell.

Best heavy steers	\$12.00@13.00
Best handy wt bu steers	9.75@10.75
Mixed steers and heifers	8.75@9.25
Handy light butchers	7.75@8.25
Light butchers	6.00@7.00
Best cows	7.75@8.25
Butcher cows	6.75@7.25
Cutters	5.75@6.25
Canners	5.25@5.50
Best heavy bulls	7.00@7.50
Bologna bulls	6.00@7.00
Stock bulls	5.00@5.50
Feeders	9.00@10.00
Stockers	7.00@8.50
Milkers and springers	65@150

Veal Calves.

Receipts 1,525. Market steady. Best \$18.00@19.00. Others 8.00@17.00.

Sheep and Lambs.

Receipts 14,090. Market steady.	
Best lambs	14.00
Fair lambs	11.50@12.50
Light to common	7.00@10.00
Fair to good sheep	6.50@7.00
Culls	3.00@4.00

Hogs.

Receipts 9,850. Market 25c lower. Mixed \$14.50. Pigs 14.75.

CHICAGO.

Hogs.

Estimated receipts today are 50,000. Market fairly active at 25@50c lower. Bulk of sales \$14@14.50; tops \$14.50; heavy 250 lbs up, medium, good and choice \$14@14.50; medium 200 to 250 lbs, medium, good and choice \$13.90@14.40; light 150 to 200 lbs, common, medium, good and choice \$14@14.35; light lights 130 to 150 lbs, common, medium, good and choice at \$13.75@14.35; heavy packing sows 250 lbs up, rough \$13.25@13.50; pigs 130 lbs down medium, good and choice at \$13.75@14.50.

Cattle.

Estimated receipts today are 19,000. Market slow and steady. Beef steers, medium and heavy weight 1100 lbs up, choice and prime \$18.25@20.50; do medium and good, \$11.25@18.25; do common \$8.75@11.25; light weight 1100 lbs

down, good and choice \$14.65@20; do common and medium \$8@14.65; butcher cattle, heifers, common, medium, good and choice \$6.75@15; cows, common, medium, good and choice \$6.65@13.50; bulls, bologna and beef \$6.75@11; canners and cutters, cows and heifers \$5.75@6.65; do canner steers \$6@8; veal calves, light and handyweight medium, good and choice at \$17.75@18.75; feeder steers, common, medium, good and choice \$7.25@13; stocker steers, common, medium, good and choice \$6.25@10.25; do cows and heifers, common, medium, good and choice \$6.25@8; do calves, common, medium, good and choice \$7.75@10.50; western range cattle, beef steers, medium, good and choice \$11@15.50; do cows and heifers, medium, good and choice \$7.50@13.

Sheep and Lambs.

Estimated receipts today are 31,000. Lambs are steady; sheep strong; top lambs \$15. Lambs 84 lbs down, medium, good, choice and prime \$12.25@15; do culls and common \$8.75@12; spring lambs, medium, good, choice and prime \$9.75@11.75; ewes, medium, good and choice \$7@8.40; ewes, cull and common \$3@6.75; breeding ewes, full mouths to yearlings \$6.50@11.75; yearling wethers, medium, good and choice \$10.50@13.25.

BUFFALO.

November 12, 1919.

Cattle.

Receipts 10 cars, best grades 25@50c higher; others are unchanged. Prime heavy steers \$15.50@15.60; best shipping steers \$14@15; medium shipping steers at \$11.50@12.50; best yearlings 950 to 1000 lbs \$14@15; light yearlings, good quality \$12@13; best handy steers \$11@11.50; handy steers and heifers mixed \$9.50@10; western heifers \$9.50@10.50; best fat cows \$9.50@10.50; butchering cows at \$6.50@7.50; cutters \$5.50@6.60; canners at \$4@5; fancy bulls \$8@9; butcher bulls \$6@7; common \$5.50@6.50; best feeders \$10@11; medium feeders \$8@9; stockers \$6@7; light common \$5@6; milkers and springers \$75@150.

Hogs.

Receipts 15 cars. Market is lower. Heavy and yorkers \$15.25@15.35; pigs \$15.50.

Sheep and Lambs.

Receipts five cars. Market strong. Top lambs \$14.50; yearlings at \$10@10.50; wethers \$9@9.50; ewes \$7.50@8.

Calves.

Market steady. Tops \$19; fair to good \$16@18; grass calves \$5@7.

SHIP YOUR

POULTRY, VEAL and HOGS

TO

J. W. Keys Commission Co.

470 Riopelle St., Detroit, Mich.

Eastern Market

You Will Get a Square Deal
and Returns Daily.

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.

Holmes, Stuve Co., 445 Riopelle St.

Commission Merchants. Dressed Beef, Hogs, calves, Poultry, Live & Dressed, Provisions, etc. Correspondence Solicited. Ref. Wayne County & Home Savings Bank, Bradstreet, Detroit, Mich. Cad. 2878

HAY Ship To The Old Reliable House

Daniel McCaffrey's Sons,

623-625 Wabash Bldg., Pittsburgh Pa.

POULTRY

BARRED ROCK

COCKERELS \$3.00 to \$5.00

Heavy laying breeding. They will pay you well. WRIGHT BROS. R. 2, Box 40, Ypsilanti, Mich.

Barron's 303 egg stock, S. C. W. Leghorn ecls, March hatched. Bourbon Red Turkeys, Toms and Hens. Write for prices. Mrs. E. L. Garlock, R. 7, Howell, Mich.

Barred ocks egg contest winners, eggs from strain with records to 290 a year. \$2.00 per setting prepaid by P. P. Circular free. FRED ASTLING, Constantine, Mich.

Barred Plymouth Rock Cockerels, large, from prize-winning laying strain, \$5.00 each. J. A. BARNUM, Union City, Mich.

Buff Leghorns, and White Leghorns, 100 early hatched Cockerels from great laying strains \$1.50 to \$3.00. Dr. WILLIAM S. SMITH, Petersburg, Mich.

B. P. ROCKS cockerels, \$3.00 each; pullets, \$2.00 each. A. A. WOOD & SON, Saline, Mich.

Cockerels and yearling hens, Orpingtons, Rocks, Reds, Wyandottes, Leghorns, Spanish, Minorcas, Campines. Tyrone Poultry Farm, Fenton, Mich.

Fowler's Buff Rocks: Cockerels, cock birds and pullets. Write for prices. R. B. FOWLER, Hartford, Mich.

For sale "Buy the Best" eggs for hatching from 200 egg strain Barred Plymouth Rock. \$2.00 per 15, \$5.00 for 45 eggs. H. B. PROCTOR, Grand Haven, Mich.

Fine White Rock Cockerels for sale. \$3.00 to \$4.00 until New Years. Also White Holland Toms. Write Mrs. Elsie M. Robinson, Petersburg, Mich.

R. I. Red Cockerels Both combs. 6 to utility, better than the average, \$3.50 each. Good Extra good breeders \$5 each. Satisfaction or your money back. Circular free. INTERLAKES FARM, Box 39, Lawrence, Mich.

White Pekin Ducks and White Chinese Geese. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

Rhode Island Reds, R. C. Large fancy cockerels at 4 lbs. each. BURT Sisson, Inlay City, Mich.

Silver, Golden and White Wyandottes. Choice quality cockerels and pullets \$3.00 to \$5.00 each until Dec. 15. O. W. Browning, R. 2, Portland, Mich.

Single Comb White Leghorn Cockerels, Ferris 200-264 egg strain April and May hatch, \$2.00 and up. Alvah Stegenga, Portland, Mich.

White Wyandottes, White Rocks, Barred Rocks, S. C. Cockerels from great laying strains, \$4.00 to \$10.00. H. J. Paton, Route 3, Box 115, Ypsilanti, Mich.

White Wyandottes Cockerels and pullets \$2.00 to \$3.00 each. Special prices on pairs, trios, and larger lots. FRANK DeLONG, R. 3, Three Rivers, Mich.

Turkeys Giant Bronze, Vigor and health made this strain a great success. Oct. 15 young toms weighed 18-21 lbs. Going at fall prices. N. EVAI YN RAMSDALL, Ionia, Mich.

For Sale Mammoth Bronze Turkeys, big boned young thoroughbred. Write for prices. Mrs. Milla Dillsworth, R. 2, North Star, Mich.

LIGHT AND EGG PRODUCTION.

Some poultrymen claim to have increased egg production in the winter by the use of artificial light in the laying houses. If electric lights are not available there are oil lights manufactured which are strong enough for that purpose. The lights are started before the sun is up in the morning so that the birds can start scratching, and then they are allowed to burn for about an hour in the evening to prolong the day. Now that the days are becoming the shortest of the year it may be profitable for some poultrymen to try lighting the houses. A gallon of kerosene will keep the lamps going quite a few hours in an ordinary poultry house. Some of the experiment stations have found the lighting of the houses pays and it remains for the farmer to find out if the number of eggs gained is worth the trouble of managing the lights.

GRAND RAPIDS

The potato market is higher at \$1.45 per bushel, daily receipts in Grand Rapids being 1,500 bushels. Local growers are holding their crop for higher prices and only long hauls by motor trucks keeps the price from advancing sharply to still higher levels. Reports from the Michigan potato Growers' Exchange at Cadillac last week were a daily movement of 125 cars billed to 60 different destinations. The market is a little stronger at \$2.30 @2.35 per sack and \$2.20 bulk per cwt. Central Lake Marketing Association reports 125 cars will be shipped this fall. The best yield is 300 bushels per acre. The fall-sown crops of wheat will go into winter better than any for many years. The area sown is larger in western Michigan than last year. White cabbage is very firm at \$1.25 per cwt. The crop in this section is lighter than last season. Red is also very scarce at \$1.75. The crop of turkeys is fair in this section of the state and is being marketed at 27 cents per pound live weight. Ducks and geese are somewhat scarce.

FEDERAL CROP REPORT.

THE Crop Reporting Board of the Bureau of Crop Estimates, Department of Agriculture, makes the following estimates from reports of its agents and correspondents:

Corn.—Production 2,910,250,000 bu., as compared with the December, 1918, estimate of 2,582,814,000, and an average of 2,749,349,000 during the 1913-1917 period.

Wheat.—Production, 918,471,000 bu., as compared with 917,100,000 bushels in 1918, and 790,634,000 bushels average for 1913-1917. Price is \$2.132 as compared with \$2.066 in 1918. Weight per measured bushel, 56.3 pounds, as against 58.8 last year and 58.2 the ten-year average.

White Potatoes.—Production, 352,025,000 bushels as compared with 400,106,000 bushels in 1918, and an average of 366,046,000 bushels for the 1913-1917 period. Yield an acre 87.9 as compared with 96.8 average.

The price on November 1 was \$1.588 as compared with \$1.272 in 1918. The quality in 1919 was 86 per cent as compared with 85.6 per cent in 1918.

NEWS OF THE WEEK.

(Continued from page 612).
Tuesday, November 11.

AMERICAN labor leaders claim pledged support of foreign labor representatives in case it is needed in the present struggle.—The U. S. Department of Justice warns miners that the full authority of the government will be used to uphold the injunction of the federal courts. This injunction is served upon thirty-three more union leaders.—The courts may be asked to decide prohibition elections in Ohio.—The supreme council will permit Field Marshall Von Mackensen to return to Germany from Saloniki.—The Poles have decided to issue an invitation to all belligerent parties in Russia to cease fighting November 25 and to send delegates to Warsaw for a Peace Conference December 25.

SHORTHORN SALE.

Attention is directed to the announcement of a Shorthorn dispersion sale appearing on page 622, which was received too late to classify with the cattle ads.



Winter Layers Need Help—get more eggs

Offset winter conditions—get eggs when prices are highest—supply the natural elements that stimulate egg-making.

Dr. LeGear's Poultry Prescription is especially prepared to insure the vigor and vitality so necessary to thrifty, profitable winter laying. Thousands of poultry raisers bank on feeding this remedy for bigger winter egg yields.

Better Laying Guaranteed

Dr. LeGear's Poultry Prescription is the best conditioner and tonic that you can provide for your flock. It positively makes your hens lay more eggs and gain most in flesh from the feed consumed. For twenty-seven years a practicing graduate veterinarian, Dr. L. D. LeGear propounds his own prescriptions and guarantees results. Sold on a money back guarantee by over 40,000 dealers—never by peddlers. See your dealer today.

Dr. LeGear's
Lice Killer (Powder)
rids your flock quickly
of lice, protects chicks,
etc.

Dr. LeGear's
Diarrhoea Tablets
keeps chicks in normal
condition, regulates
bowels and system.

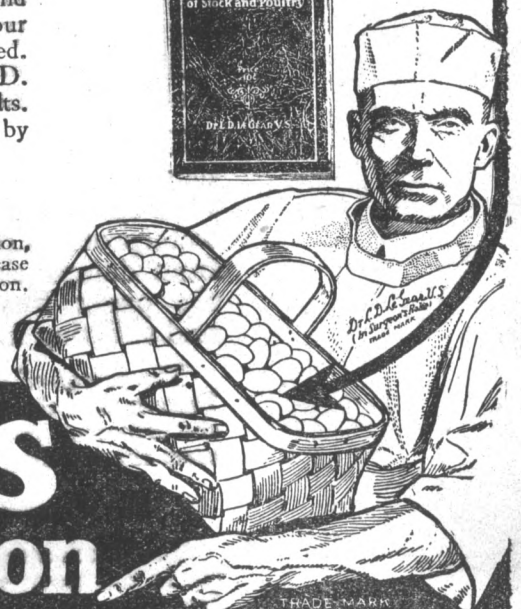
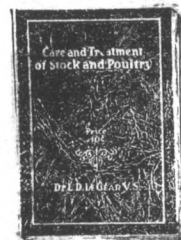
Dr. LeGear's
Stock Powders
produce perfect digestion,
drive out worms, increase
growth and production.

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Dr. LeGear's Poultry Prescription

Get New Stock and Poultry Book

Just completed. 128 pages. A most comprehensive treatise on the care and treatment of Stock and Poultry. Written by Dr. LeGear after 27 years experience as a practicing graduate veterinary surgeon and poultry expert. Send 10c to us today, —we will mail it postpaid.



O. I. C. BOARS FOR SALE

One of the Best Herds in Michigan
Big type, growthy boars of all ages. I ship C. O. D., pay express and register in buyer's name. If you want a real choice boar, guaranteed right in every way, write me.
J. CARL JEWETT,
R. 5, Mason, Michigan.

HOGS.

Big Type Poland China Sale

YOUNG BROS. & GROAT
NILES, MICH. Monday Nov. 17, 1919.

At Young Bros. Farm 3 mi. west of Niles.
Auctioneers: Col. Joe Fleisher, Dunkirk, Ind.
Frank Starkweather, Niles, Mich.
Send for Catalogue. Address:
YOUNG BROS., MAX GROAT,
NILES, MICH. NILES, MICH.

SALE—72 MEDIUM P. C.

All ages. Nov. 12, 1919. Tony B. Fox, Pawnee, Mich.

LARGE Type P. C. the largest in Mich. Spring boars now ready to ship. Boars for the breeders and boars for the farmers. Come and see the real large type with quality. Free livery from Parma furnished visitors. Look up my exhibit at the Great Jackson Co. Fair, Sept. 28, to Oct. 1, expenses paid if not as advertised. W. E. Livingston, Parma, Mich.

Big Bob Mastodon Sire is Caldwell Big Bob Champion of the world, his dam's sire was the Grand Champion at Iowa State Fair. Boars ready to ship. C. E. Garnant, Eaton Rapids, Mich.

L. S. P. C. Ten husky spring boars. Well bred and well fed ready to ship.
F. T. Hart, St. Louis, Mich.

B. T. P. C.'s for sale, our herd boar. Monw's Won-B, der 100215 bred by Monw, extra good one. Price \$100. Spring boars and gilts from prize winning sires and dams. W. Brown & Sons, R. 5, Elsie, Mich.

Big Type P. C. Boars, best breeding, best blood, best quality, best price.
A. A. WOOD & SON, Saline, Mich.

For Sale Medium T. P. C. Hogs

All sizes. J. E. Mygrants, St. Johns, Mich.

P. C. Boars Long bodied, heavy boned, with best of breeding. Satisfaction guaranteed.
R. W. MILLS, Saline, Mich.

Two gilts for sale, sired by C. A. King Joe. Dam is sired by Great Big Half Ton, by Big Half Ton and out of a Disher's Giant Sow. (Breeding.) Bred to Monster Big Bob by Lukken's Big Bob (same breeding as the Grand Champion of the World, Caldwell's Big Bob). A very valuable litter to possess. Fall pigs farrowing now. Book orders early. C. A. Boone, Blanchard, Mich.

BIG TYPE POLAND CHINAS

with quality, that make big money for buyers. Pigs of both sex, of different ages; and bred sows for sale. Write or call anytime.
G. A. BAUMGARDNER, R. 2, Middleville, Mich.

Big Type Poland Chinas. Spring boars by BIG BOB. Out of sows by Grand Master and Hillcrest Wonder. Also Fall Pigs.
HILLCREST FARM, Kalamazoo, Mich.

Large Type Poland Chinas for sale; something good in size and quality. We have sows sired by Big Bob, the Yankee, Gerstale Jones and Gerstale King. Our herd boar is one of the largest and smoothest and of choice breeding. He is proving to be a great sire. We like the good ones and believe you do also. We now have a litter of 10 "Clansmans" and the dam booked again for spring litter to the Clansman. Visitors welcome.
Wesley Hill, R. 6, Lonia, Mich.

LARGE TYPE P. C. If in need of a boar I have them. Sired by Big Ben, good husky fellows. Inspection invited.
J. R. BROWN, R. 7, Cassopolis, Mich.

Big Type Poland Chinas. We aim to keep our herd in size and in quality. We have sows sired by Big Bob, the Yankee, Gerstale Jones and Gerstale King. Our herd boar is one of the largest and smoothest and of choice breeding. He is proving to be a great sire. We like the good ones and believe you do also. We now have a litter of 10 "Clansmans" and the dam booked again for spring litter to the Clansman. Visitors welcome.
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LARGE TYPE P. C. If in need of a boar I have them. Sired by Big Ben, good husky fellows. Inspection invited.
J. R. BROWN, R. 7, Cassopolis, Mich.

Big Type Poland Chinas for sale also a few Bred sows. Write for delivered prices.
Hill Haven Stock Farm, F. Chapman & Son, Props, Vandalla, Mich.

Big type P. C. Choice spring boars from Iowa's greatest herds out of 1100 lbs. sire and mammoth sows; big boned fellows. E. J. Mathewson, Burr Oak, Mich.

BIG Type Poland Chinas. Sired by Smooth Mastodon litter mated to the Ill. Grand Champion. The big boned, deep, long bodied kind at farmer's prices. Wabbe-mame Farms, White Pigeon, Michigan.

B. T. P. C. The best males I ever raised, none better in Mich. Recorded free. Priced reasonable. 170 lbs. to 200.
John D. Wiley, Shoolcraft, Mich.

Large type P. C. Spring boars and gilts now ready to ship. Also one fall yearling boar and fall pigs. CLYDE FISHER, R. 3, St. Louis, Mich.

Leonards Big Type Poland China boars, all ages fall boar pigs at a bargain, none better. Call or write. E. R. Leonard, St. Louis, Mich.

When in need of something right good in A. L. write W. J. HAGELSHAW, Augusta, Mich.

Must make room for brood sows. Will sacrifice L.T. P. C. spring boars, priced for quick sale. Fall pigs either sex. H. M. JEFFRIES, St. Louis, Mich.

L. T. P. C. spring boars long and tall; will be ready to ship after Nov. 1st.
H. O. SWARTZ, Shoolcraft, Mich.

Bargains on big type Poland Chinas, both sex, all ages. Shorthorn calves, either sex, and B. P. Rock cockerels. Robert Neve, Pierson, Mich.

Pine Grove Hampshires, "Quality First" Michigan Boy, Grand Champion boar of Michigan, Bred and owned by us. Many other prize winners at Michigan State Fair 1919. Hog's for sale all ages, both sex. "Lookout Joe", a \$1000 boar heads our herd. GEO. COUPAR & SONS, R. 1, Marlette, Mich.

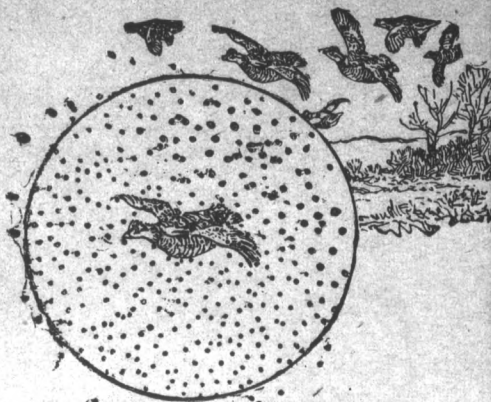
Edgewood Hampshires, spring boars sired by our prize winning and Grand Champion boars. Make the right buy today and get a good one either for Hampshire breeding or for a cross on your other sows. Depew Head, Edgewood Farm, Marion, O.

Spring Hampshire, boar pigs for sale. Fall pigs from new blood lines.
JOHN W. SNYDER, R. 4, St. Johns, Mich.

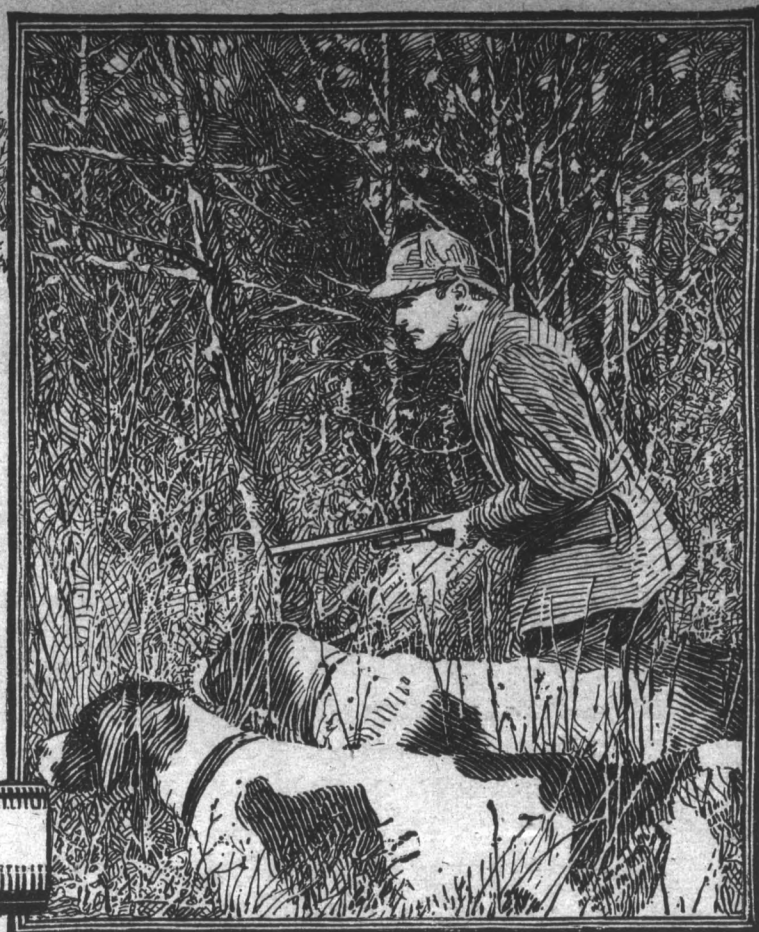
Fairview Stock Farms Tamworths. Registered spring pigs for sale, either sex, from massive ancestors. W. H. Warner, Concord, Mich.

HATCH HERD
YPSILANTI, MICHIGAN
Registered Yorkshires. The World's Bacon Breed. From imported strains.

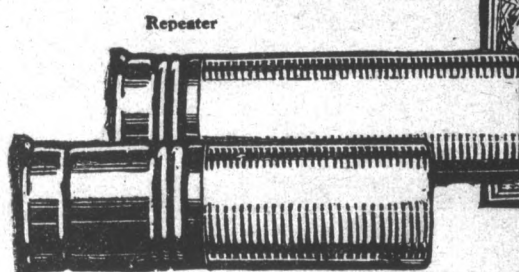
HORSES
Percherons, Holsteins, Angus, Shropshires, Durocs
DORR D. BUELL, Elmira, Michigan.



The hard-hitting Winchester pattern is evenly distributed. No game gets through and no game is mutilated.



A patchy pattern often means a miss, many times a cripple, and sometimes badly mutilated game.



Leader

GAME GETTERS

THE steady game-getting qualities of Winchester Loaded Shells have made them the favorite shells of experienced shooters.

Under all weather conditions they play true to form, shooting a strong, even spread of shot. The Winchester waterproofing process prevents swelling from dampness; special lubrication of the paper fibres prevents brittleness and splitting in dry weather.

The secret of the famous Winchester Shot Pattern is in the control of the gas blast from the exploding powder. This in turn depends upon the wadding in the shell.

The Winchester gas control system

The Winchester system of wadding and loading is the result of repeated experiments to determine the most effective control of the gas blast. The base wads of Winchester Shells are constructed to give what is known as progressive combustion to the powder charge. The ignition spreads to the sides, in all directions, as well as forward.

Under the heat and pressure of this progressive combustion, the tough, springy driving wad expands and fills the bore snugly, completely sealing in the gas behind. In being driven through the bore this wad offers just enough resistance to the gas blast to insure complete combustion of every grain of powder, so that

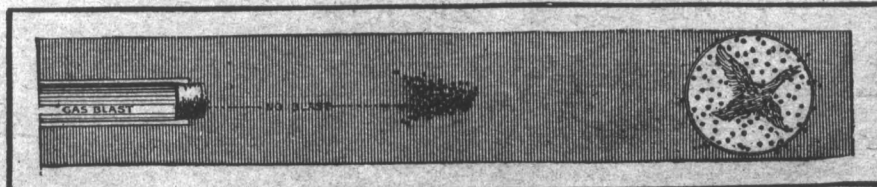
the full energy of the whole powder charge is developed at the muzzle. Thus none of the shot charge leaves the gun until it is being driven by the maximum energy and velocity possible from the load.

At the muzzle, the expanded, snug-fitting driving wad is slightly checked by the muzzle choke or constriction, while the shot cluster travels on unbroken by gas blast or wadding, making the hard-hitting uniform pattern for which Winchester Shells are world famous.

Uniform shells. From primer to crimp, Winchester Shells are so balanced in construction as to insure the maximum pattern possible from any load. The broad fish-tail flash from the primer gives even and thorough ignition; the driving wads completely seal in the gas behind the shot; the stiffness of the crimp or turnover at the shell head is varied exactly according to different loads, great care being taken never to stiffen it to such a degree that it offers undue resistance to the powder explosion.

Clean hits and more of them

To insure more hits and cleaner hits in the field or at the traps, be sure your shells are Winchester Leader and Repeater for smokeless; Nublack and New Rival for black powder. Leading hardware and sporting goods dealers in every community carry Winchester arms and ammunition. They will be glad to assist you in determining the particular load best suited to your purpose. Upon request, we will send you, free of charge, our interesting booklet on Winchester Shotguns and Loaded Shells.



The Winchester system of wadding. The wadding expands evenly, sealing in the gas blast all the way to the muzzle, where the wadding is checked by the "choke" or constriction. The shot cluster travels on ahead unbroken. Actual test target 320 pellets out of 431 or 74% of the shot charges (1 1/4 oz. of 7 1/2 chilled) inside a 30-inch circle at 40 yards.

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