

MICHIGAN FARMER

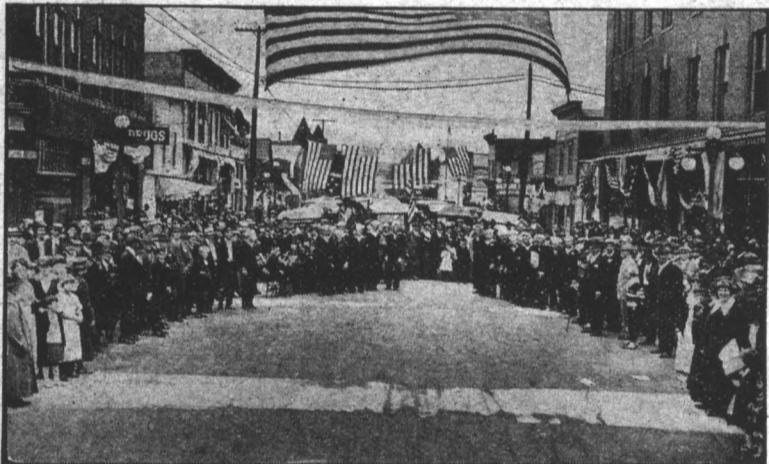
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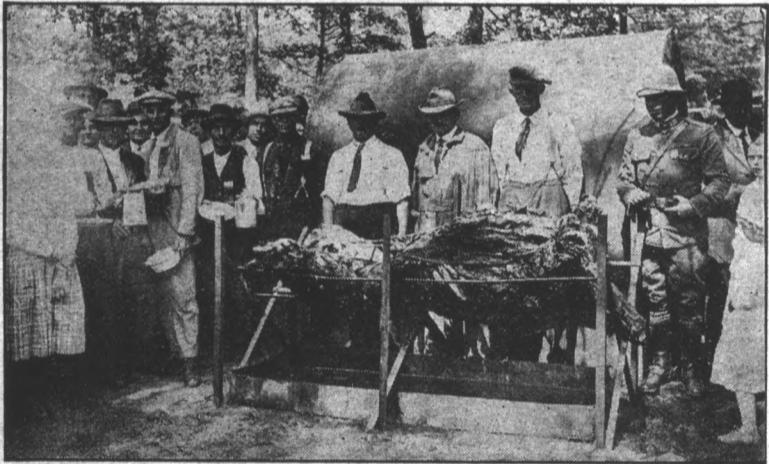
Snapped on Michigan Farmer Automobile Tour.



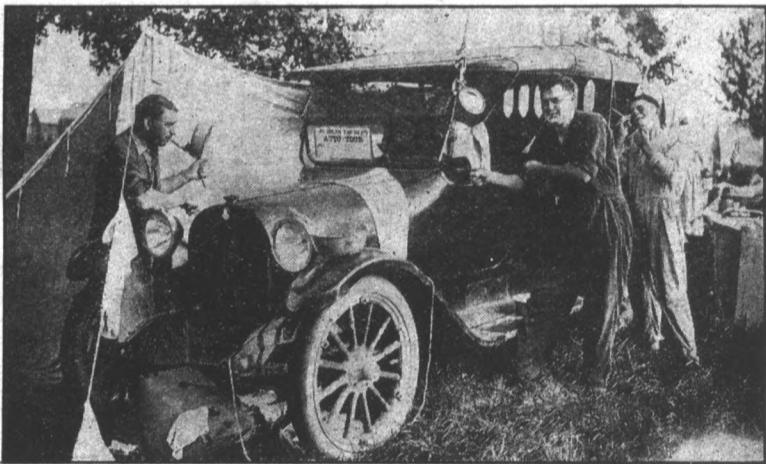
Tourists, neighboring farmers, city residents and jackies holding up traffic and business in Main Street of Harbor Springs.



Tourists in these two cars completed their supper at an early hour and are here shown almost ready to retire for the night.



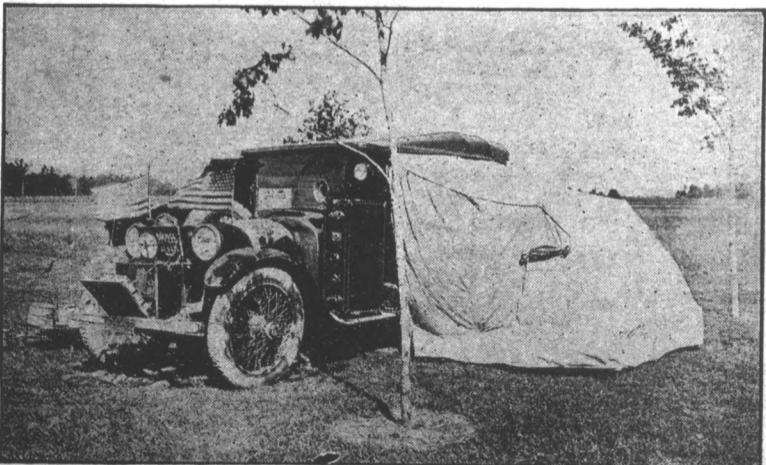
Northwestern Michigan Shorthorn Breeders' Association serve the tourists with barbecued beef during the stay at Traverse City.



A Farmer-Teacher and his aids giving an unusually fine demonstration while their wives are preparing breakfast.



The largest semaphore in the world was inspected while on the way to the Soo near Pickford in Chippewa County.



Michigan Farmer Official Car camped the last night of the tour on the Grand Rapids and Indiana Demonstration Farm.

The Michigan Farmer

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DETROIT, SEPTEMBER 11, 1920

CURRENT COMMENT

The Wheat Market Outlook

IN SPITE of the numerous influences which have sought to bear the wheat market since the new crop commenced to move, growers have very generally been strong holders of the grain and the market has held comparatively steady against the combined onslaught of speculators who have sold short; millers who had hoped to lay in supplies at lower prices and the general program to reduce living costs. The strong statistical position which has developed in this grain, as given in our market notes in this issue, seems to indicate that this general tendency toward conservative marketing on the part of growers is warranted by the situation. Certainly a continuation of conservative marketing by producers is necessary to a stabilization of prices at a point which will be compensatory to the grower under present high production costs, and wheat growers are using good judgment in their policy of moderate marketing, governed by the trend of quotations.

The stabilization of prices at a point which will cover the high cost of production and return the grower at least a living profit is also just as advantageous to consumers in the long run as it is to growers, as next year's crop is now in the making and the acreage sown will be much more liberal than would have been the case if the speculators, the millers and the advocates of cheaper prices for foodstuffs had succeeded in forcing the market down to a point which they would have deemed satisfactory. In the end the law of supply and demand would have largely fixed the price of this bread-stuff to the consumer, but it would most likely have been a case in which the law would have operated as defined by Gray Silver, Washington representative of the American Federation of Farm Bureaus, who recently defined supply as something which operates in the fall when the farmer has crops to sell, and demand as a factor which is in evidence only after others are in possession of his products. But it is better for all concerned for the law to operate for the stabilization of prices at a fair level, which can only be accomplished through conservative marketing by original holders under present methods of distribution.

Due to favorable soil and climatic conditions, and the check in the decline of wheat values, together with a statistical situation which seems to indicate only a normal carry-over, present indications are that a normal acreage of wheat will be sown in the winter wheat sections, which is of

more vital interest to consumers than is a further present cheapening of prices, since production conditions were never so difficult and future production is more than normally dependent on the prospect of a compensatory price for the product when grown.

The State Fair

THE Michigan State Fair is bringing out larger crowds than any year in its history. This year nearly two hundred

and fifty thousand people entered the gates on Labor Day. One of the outstanding features of the exhibits was the magnificent display in the Horticultural building. Among the county displays Oceana won first honors, with Oakland a close second. Kent, Charlevoix and Isabella followed in the order named. Among the out of state exhibits that of J. E. Hansbly of Cedar Springs, Ontario, won first honors. U. P. Hedrick of Geneva, N. Y., judged the exhibits. Those who have attended the fair for years pronounced the exhibits the finest ever seen in the building.

The cattle, sheep and swine exhibits were equal, if not superior, to those of 1919. Michigan breeders were strong in evidence with credible entries in nearly every breed and class. A number of herds of cattle and swine from outside states promise to give the Michigan herds a lively battle for first place in many classes. Altogether it is one of the best balanced live stock exhibits ever presented in the state. The only real unpleasant feature of the livestock show is the fact that many of the exhibitors were compelled to shelter their stock in tents, but this will likely be overcome before another year.

The Michigan Agricultural College, co-operating with the Michigan Crop Improvement Association, had a particularly credible exhibit of oats, rye, wheat, barley and other farm seeds. Michigan stands second to no state in the Union when it comes to crop improvement work. Another exhibit which attracted the attention of many visitors was that of the United States Department of Agriculture, which devoted special emphasis to the problems of forest conservation, the planting of timber to withstand weathering and protecting forest trees against destructive pests.

An unusually fine display of poultry, under the management of Prof. C. H. Burgess and his assistants from the college, attracted crowds of visiting farmers as well as city folks who have fond dreams of small poultry farms and independence. Special interest is being taken in the egg-laying contest, which continues during the duration of the fair. This is one of the best educational features ever staged at a fair, for it is demonstrating to the people what valuable results may be obtained from the careful selection of hens for the laying flock. If available, awards will be published next week.

1920 Apple Prices

ALL sections of the United States report an unusually small volume of sales of apples for this season of the year. The prevailing uncertainty over the price outlook, together with financial stringency and high cost of operation, has made buyers extremely cautious. The crop is unusually large, the August first estimate for the total farm crop being 213,187,000 bushels against yields of 147,457,000 in 1919 and 169,911,000 in 1918. The estimate of the yield of the commercial crop on August 1 was 32,588,000 barrels, compared with 26,174,000 barrels in 1919. The comparatively wet season over most of the apple belt has resulted in an improvement in the crop yield during the summer. The early apple crop was larger

than usual and prices went through a decided slump, some eastern growers hauling back apples from shipping points to use for hog feed because of inability to sell them at any price whatever.

The commercial crop is not uniformly good. The Northwestern states have about two-thirds of a normal yield and are especially short of Jonathans. The crop of the middle west and eastern states is unusually good. The commercial crop for the seven states—Michigan, New York, Pennsylvania, Virginia, Ohio, Indiana and Illinois—is about twice as large as it was last year and makes up practically half of the total crop of the country.

Owing to the high price of containers and of the labor involved in packing there is a decided tendency to sell in bulk in the eastern sections. This is expected to produce considerable pressure upon the market in the early fall months, as such apples cannot be held to advantage. Storage rates have been increased 65 cents per barrel in some of the eastern storages and all of the available space has been sold out for weeks.

Growers assume that the increased freight rates will be passed on to the consumer, resulting in a higher level of prices on that account. Barrels are costing \$1.50 and baskets \$4.00 a dozen. Pickers in New York state are expecting as high as 30 cents per barrel, making the total cost of picking, grading, packing and delivery from 80 cents to \$1.00 per barrel. As a partial offset to these high costs ocean apple refrigerator rates have been lowered from \$4.00 to \$3.00 per barrel, thus giving slight help to the export outlook.

Early sales in various sections of the country differ widely. Reported sales include the following ranges: Michigan, \$4.50 to \$5.50 per barrel for orchard run of merchantable fruit; Illinois, Jonathans, \$3.00 per bushel; Wine Saps, \$8.00 per barrel f. o. b.; Missouri, Jonathans and Grimes Golden, \$7.50 and \$8.00 per barrel; Iowa, Jonathans, \$6.50, and Ben Davis, \$4.50 per barrel, on the table for No. 1 and No. 2; New York, Baldwins and Greenings, \$5.00 per barrel delivered at car or warehouse; Baldwins, tree run, culls out, \$2.00 per hundredweight. These were mostly early transactions. Dealers are now said to be indifferent to New York Baldwins and Greenings at \$4.00 per barrel.

Not enough transactions have been closed as yet to make reliable quotations possible. It is evident that apple dealers will endeavor to break the market to a very low point before they will purchase large quantities. The prices now being offered in many districts leave little for the grower after paying for labor and containers.

The Rock of Experience

NEVER were men better advised than in the parable of the house built upon the rock. The slowly and carefully erected structure endured because of the substantial foundation. Organized farmers can use this same sensible advice in building up their marketing associations. Right in line with such counsel is the recent action of the American Federation of Farm Bureaus. Before making a step in the direction of organizing a national exchange for the marketing of grains a committee of seventeen was appointed to inspect the workings of the co-operatives of California and other states to learn what rocks the farmers of the west coast have discovered and built upon that may also be used in the proposed grain exchange. That committee is now in California. This journal is fortunate in having a representative with the committee. He will send us articles covering the findings of the members. This series will start with the next number, in which will be given a gen-

eral survey of co-operation in California. Every Farm Bureau man should read and preserve the articles for further study and he should interest his neighbor in them to the end that the building of the proposed grain exchange, if it is undertaken, be started upon the rock of intelligence and faith born of real experience.

HON. JAMES WILSON

HON. JAMES WILSON, for fifteen years secretary of the United States Department of Agriculture, serving in that capacity in the cabinets of Presidents McKinley, Roosevelt and Taft, died August 26. He had been in failing health several months. Mr. Wilson was an Iowa farmer for years before he was appointed secretary of agriculture. He was born August 16, 1835. His father was a Scotchman, who left Ayrshire in 1852, and he and his family settled near the present town of Traer, Iowa. Mr. Wilson began farming in 1861, and at the same time began his political career, being elected a member of the Iowa legislature. In 1872 he was elected a member of congress, where he served three terms. For six years previously to becoming secretary of agriculture he was director of the Iowa Experiment Station and professor of agriculture at the Iowa Agricultural College. In 1897 President McKinley appointed him secretary of agriculture.

DORR D. BUELL

MICHIGAN agriculture lost one of its capable leaders when Dorr D. Buell died at Lansing, Tuesday, August 31, after an illness of six weeks. Mr. Buell was born on a farm near Union City, Branch County, in 1882. After completing his education, he located in Elmira, Michigan, where he established successfully a private bank. His farm near Elmira was well known. His specialties were seed potatoes and pure bred livestock. It was in 1918 that the organization of the Michigan Potato Growers' Exchange required his services. His work there was suc-



cessful in making that organization one of the most efficient co-operative marketing exchanges in the country. During the few months that he was in charge of the Michigan State Farm Bureau marketing department he laid a foundation for marketing farm crops and the purchase of farm supplies that has demonstrated its effectiveness through the period of his illness so well that it is obvious that it will endure. For more than two years his big purpose in life was helping his fellow farmers. His death is a distinct loss to Michigan agriculture.

CLUB LEADER DIES

ERNEST LYONS, who has so ably directed the work of the Boys' and Girls' Club department of the Washtenaw County Farm Bureau since the department was started in April, 1919, died Wednesday, Sept. 1, in St. Joseph's hospital, Ann Arbor, following an illness of three days.

Cooperatives Protected in Michigan

The State's Laws Give Protection to No-stock Non-profit Associations.

By James N. McBride

MICHIGAN is among the few states having a non-capital stock non-profit co-operative law. While other states not having such a law are asking for the Volstead Act to allow collective selling, this state is conducting two of its largest co-operative associations without fear of legal attacks. The Michigan Milk Producers handle product approximating ten million dollars per year with prices made by a Milk Commission. Federal officials have looked in on the workings of the Milk Producers and Commission and gone their way without legal criticism. The Michigan Potato Growers' Exchange is organized under this same act, and rivals some of the California exchanges in volume of business done.

The incorporators under this act give notice to the world that they have no corporation assets or liabilities because there are no stockholders, just members who associate in an agency for selling and buying, and the essential difference between co-operators organized in this way is that profit or loss is upon the individual product handled and not in any way related to ownership of shares in this selling agency.

Like a bank, this form of co-operation is always a debtor and not a creditor, having no assets except what is loaned to it. Ready funds are derived from collateral notes, a plan the writer initiated in Michigan when state market director, but the idea was borrowed from Denmark. This method of financing allows producers to loan their credit without taking any capital away from its primary producers. In a sense it is like a city using funds for municipal water works and creating a sinking fund for their retirement. The co-operative law of 1915, for example, takes capital from the producer and a portion of it away from the community and requires the cost of selling stock together with other costs to come out of the farmer.

One reason of the superiority of city business financing is that the money is retained in the community and builds up the industry. Among farmers, money taken off the farm to outside places does not have this home effect. Agriculture largely needs its capital to reproduce and should use flexible credits to market as do most other industries.

THE Sherman law with its rigid anti-trust paragraphs was modified by the Clayton act exempting agricultural and horticultural organizations not for profit and not having a capital stock. These exemptions have withstood legal attacks because the ordinary corporation is organized to benefit proportionately its stockholders when having shares of stock. The Clayton amendment made a distinction that the aid of a selling agency without shareholders intended to benefit the producers of the goods marketed, based on product and not on shares owned, was fundamental.

First the Capper-Hersman and later the Volstead bills have attempted to make a class distinction of corporations without the difference demanded by the Clayton amendment. Some of the best constitutional lawyers have feared that the exemptions demanded by agriculture would not be upheld by the courts and that agricultural bodies would be restrained for a long time and delayed, as are the Federal Mortgage Loan Banks at the present time. All the way down the line the U. S. Supreme Court decisions have held

there must not be class distinctions in this country. Where discriminations must be made they must be based on forms of organization and not of the persons or industries that compose the corporation.

Aaron Sapiro, the counsel for fourteen co-operative organizations in California, in his recent Chicago address said: "I take the liberty here of saying once and for all a marketing association with capital stock is an absolute blunder from an economic standpoint. If you are organizing a bank with money to lend you need money capital. If you are organizing a marketing association you need something to sell. The base of a marketing association is a contract with the grower under which the grower agrees to provide with the things to sell. Where buildings and appliances are necessary, a separate corporation which leases to the marketing association but does no marketing itself, is formed and leases at a fixed rental or income on the investment. Then you go into the marketing proposition clean when you have that without capital but with the most

effective kind of an association in America."

MICHIGAN bean growers have for many years felt the depression caused by two conditions, first future sellings and the neglect of not only actual foreign imports but of a possibility of imports to be used to depress the market and allow the beans to get out of the hands of the grower and later to advance; second, dumping beans on the market by growers beyond the ability of the trade to absorb. Prices have to be lowered in self protection by the local elevator and then this is the opportunity of the speculator, who has used foreign beans to bid down the market to a point that affords a probable good speculation. Foreign beans are the shifting weight on the scale beam of prices to be shoved forward when buying and backward to zero when selling.

The Sapiro plan of handling the bean crop, for example, would be for the grower to sign up for five years with a co-operative elevator to sell his crop. A valorization board made up,

say, of one member each for five states, together with a representative selected by the Secretary of Agriculture and one from any three of the Federal Reserve District banks would give the exact facts of supply and demand and establish prices. The grower would receive a minimum price on delivery and all growers in the pool for the same grade receive the same price at the end of the selling period.

If marketings were too free or in excess of trade demands, stocks would be withheld. A large surplus might compel an acreage adjustment the year following. In this way futures selling would be prevented and the real damage done by foreign beans largely avoided. As has been stated, the actual import of beans is less menacing than the promise of still more. The reflex of the valorization price plus the twenty-five cents per bushel duty would be quite as effective as an additional duty.

One of the deterrents of bean marketing is the financing necessary to buy stock and add to this the labor cost of picking when the market is unstable. The method of financing the wool pool through warehouse receipts at local banks can well be followed by bean growers. From a banking standpoint, ten cars of beans owned by one hundred growers with their warehouse receipts plus their individual credit is a better bank risk than if all hypothecated by the elevator owner.

A Premium for These Eggs



THE producers of farm products are gradually learning that there are fundamental principles underlying every good marketing system. Two of these principles are, first to have the quality suited to the consumer's needs, and second to keep the grade of the product uniform. Members of egg circles have been quite faithful to both these principles. They have maintained good quality in their product by better feeding and regular gathering of the eggs and the grading has been so superior to the common methods of offering eggs to the trade that the output of the circles has been eagerly sought. And the good thing about the plan is that the members find the increased price to be sufficiently compensatory to pay well for the additional trouble in making the eggs right. The experiences of these circles and those of similar organizations in other agricultural lines are bound to be fruitful. Once the necessity of producing good goods and of grading the goods honestly is thoroughly inculcated in the minds of growers then it is certain that the horizon shall be partly cleared for a view of the way out of present marketing difficulties.

THE financing of a crop on the way to market must be borne by that crop and indirectly the grower is doing that now. The elevator owner has had to take these risks and has simply charged them back in price, and to him as long as this was or could be done, there was no incentive to co-operate or institute market reforms.

The spread between the producer's price and that paid by the consumer involves costs and risks that are greater liabilities to the dealer than to the grower because the latter can do what big industries do which they describe as "administration of supply to a compensatory demand." The grower whose profit would be finally determined by the pool price over the selling period would be conservative in not crowding the market. California bean growers have criticised Michigan men for selling while the former state was withholding from the market. The criticism is faulty from the fact that there has been as yet no working plan devised for sellers' minds meeting.

To use this rather new term, "administration of supply," which can only be done by the producer is not yet an established fact. This "administration" can be done only by co-ordination of co-operatives. The convincing of the individual farmer as to co-operation has been largely done. The task now is to convince the local units to work together. This will be the power and also the glory of the Farm Bureau. No state is more able than Michigan from a legal standpoint, and from a forward looking Farm Bureau to accomplish marketing reforms.

The California plan is and has been the Michigan plan, but if the real truth must be told, Denmark initiated and tested out co-operation and price making. A most readable little pamphlet has been printed by the American Farm Bureau Federation, 5 South Wabash Ave., Chicago, entitled "Co-operative Marketing," by Aaron Sapiro of California. This address is presumably for Farm Bureau members and ought to be in their hands.



Lundy Bros. Herd of Milking Shorthorns.

UNDER the benign influence of alfalfa, corn, small grains and natural pasture grasses, Genesee has acquired a position in the front row of Michigan's agricultural counties. Its agrarian interest is strenuously progressive. Riding from Flint to Grand Blanc through Burton to Davison and Richfield, and then over to Clinton, Flushing, Montrose, Vienna and Mt. Morris with County Agent Smith, and meeting many of the leading farmers along the route should give one a fairly good idea of the progress of the county in dairying, live stock feeding and general farming. The building of silos to preserve the corn crop for feeding and the growing of alfalfa has regenerated the cattle business. The labor situation has influenced many farmers to sell some of their cattle, while many others have solved the labor problem on their farms by utilizing more of their land for pasture and meadows and feeding more good cattle. As a general proposition live stock improvement is making substantial progress, both in cattle and hogs. Popular opinion and high-priced feeding materials are giving purebred sires full sway in many communities of the county.

The countryside as a whole affords a striking example of agricultural development attempting to keep pace with that of the cities. The growth of the industrial plants in Flint, and the consequent increase in population has encouraged many farmers to grow vegetables, fruit and to keep poultry on farms where field crops predominated many years ago. Dairy cattle have steadily increased in numbers, due to the enlarging demand of the city for milk, cream and butter. Beef cattle are being improved and more farmers are looking about for purebred stock. Years ago the county's population of sheep was greater than it is now, but in recent years there has been a marked revival of popular interest in the sheep industry, especially along the lines of feeding lambs for market. There has also been an increased interest in the production of pork on the grass, forage and grain basis. Although gas and oil-power is being widely introduced the topography of a large percentage of the land will always require more or less horsepower for the most economical net results in crop production. In agricultural and business organization Genesee county is one of the leaders in the state. The County Farm Bureau, with its eighteen hundred and fifty members, stands for bet-



A 25-pound Three-year-old from G. S. Spillane & Son's Herd.

ter farming, a more highly organized production and more systematic marketing of farm products. The Grange, Farmers' Club, local cooperative buying and selling organizations are all cooperating to put across an agricultural program directed toward the betterment of the farmer's physical surroundings and livelihood. In all kinds of agricultural organization the county is beginning to excel. County breeders' associations, boys' and girls' clubs, and other associations are having a quality as well as a quantity influence on production, and visits at the homes of the agricultural leaders in the county testified to the widespread interest in these undertakings.

ONE of the results of the present economic conditions the Circuit Rider has observed in Genesee and other leading Michigan counties is the fact that there is too much absentee



Eva L. Stephens and Her Prize Duroc Jersey.

landlordism. Strange as it may sound, the high cost of living is correcting this evil by compelling the absentees to return and till their own acres or else sell them. When these farms were selling at lower prices and taxes were lower they could rent them advantageously and live in the towns and cities on the proceeds. But as the cost of living scaled up in the towns and cities, and taxes increased both on the farms and city property, the renting process failed to work out as formerly. Owners have begun to go back to the farms and tune them up for larger production. They are confronted with the problem of either living on the farm or selling it. These conditions have resulted in a real back-to-the-land movement—on the part of owners. As one wise old farmer put it when his son and his wife returned to his farm after he had been working in an automobile factory in Flint, "They found the lures of Flint to consist of what Adam and Eve were led to believe concerning the outskirts of Eden, and now they are returning to the garden."

SIDNEY S. SMITH, County Agricultural Agent of Genesee county, was born and raised in Oakland county. After graduating from the Michigan Agricultural College in 1912 Mr. Smith taught school for five years. About two and one-half years ago he accepted his present position. There is nothing exciting about his daily work, but before we had gone five miles along

Our Farm Bureaus

After Getting His Second Breath the of Genesee Now Winding Among

the road two farmers buttonholed him. One had a field of potatoes affected by the blight, and the other, a manager of a local cooperative association, had called a meeting and wanted him to come out and straighten out several matters that had fussed up some of the members. As we turned the next corner a young farmer pounced on him and besought his assistance in culling his flock of hens. "It takes a lot of steady plugging and hammering," said this young county agent; "but once you get them interested in your work and show them the way, it makes you feel that your efforts are appreciated."

After one has spent two days in a county with fifteen or twenty of these young men in the different counties of the state and gone over their problems in a thoroughly practical way, he begins to have visions of a few years hence, when the returns are in from their combined endeavors. Then the people of the country will sit up and take notice. In the writer's humble opinion it would pay some of the big men in Michigan's agricultural affairs to leave some of their scientific dignity at East Lansing and get out and browse a bit along the beats of these young county agents, and see and hear what they are doing. Albeit, they might also hear a few things about their own work that would enable them to broaden the scope of their experiments at the college.

Smith has made a fine record in Genesee county. He is a good judge of live stock, and one of his pet projects is the improvement of the herds and flocks of the county. Organization work has demanded considerable of his time during the past few months, but once this is completed and production problems can be given proper attention he has an aggressive campaign ready for action. Better crops, better live stock and better farm homes are his idea of a better agricultural county.

GENESEE county is well organized for cooperative buying and selling. Nearly all of the organizations are doing a profitable business and the number of new members who have joined during the past few months is sufficient to make the undertakings profitable. In one or two instances the management has held back from joining the State Farm Bureau plan of organization, but similar cases may be found in practically every county. Some of these old stand-patters want to reap

the benefits of the larger cooperation without assuming any of the responsibilities and risks. And when these old obstructionists decide to stand-pat, Gibraltar is the Leaning Tower of Pisa by comparison. The same with farmers who hold stock in a certain foreign corporation which controls the elevators in a number of Michigan communities. But since stock dividend checks have become as rare with them as plug hats and wrist watches there is some argument to move them.

One of the leading cooperative elevators in Michigan is at Grand Blanc. It did a business of nearly \$700,000 the past year and came through with a surplus of \$8,500 to carry over. The officers and directors are: L. R. Perry, president; Burt Harris, manager; F. J. Sawyer, E. C. Storrs, Harry H. Baker, Edwin Somers, George Leach, I. E. Parsons, directors.

At Flushing the Farmers' Cooperative Elevator did a business of nearly \$375,000 during the year. The officers and directors are: Wm. Mullan, president; Elmer H. Penoyer, Wm. R. Tower, Calven D. Beecher, Frank Holser, James McGraw, C. Allen, directors.

At Brent Creek the Farmers' Cooperative Elevator did a business of more than \$175,000 during the past year. The officers and directors are: A. J. Bailey, president; George Zintel, manager; James A. Hess, Peter Gross, Joseph Birkmier, Wm. Streng, Homer Jacobs, E. A. Bailey, directors.

The farmers of the county are well organized for live stock shipping, as the following list of associations indicate. Grand Blanc handled more than \$152,000 worth of live stock. W. M. Hofman is president and W. J. Perry manager.

At Davison W. W. Billings is president and Harry Potter the manager. The volume of business the past year amounted to \$100,000.

At Flushing the volume of business amounted to more than \$150,000 for the year. N. A. Morris is manager and A. J. Cronk, secretary.

Fenton, Linden, Montrose and Mt. Morris did a business of approximately \$250,000 for the year. All of these associations have light expenses and the business is handled on a close margin.

ONE of the first stops among the farmers of the county was at the home of I. E. Parsons, of Grand Blanc. Here we found a splendid two hundred and sixty-acre farm devoted primarily



From the Herd of F. J. Wilbur.

and Their Work

Circuit Rider Finds the Old Cow Paths Some of Michigan's Best Farms.

to dairying and breeding purebred Jersey cattle. At the head of the Parsons herd is Hood Farm Torono, a bull of superb individuality and productive blood lines. The herd numbers about thirty-six cows and heifers through which Hood Farm Torono and Pogis blood predominates. Mr. Parsons is a graduate of M. A. C. and has been breeding Jersey cattle nearly fourteen years. He is secretary-treasurer of the Genesee County Farm Bureau and one of the men who have a real vision of the possibilities of organized agriculture. He is willing to do his part toward bringing about the many changes needed to give the farmer independence from other business interests. Always active in cooperative work it is only natural that he should have been selected by the farmers of the county as one of the men to guide the destiny of their organization.

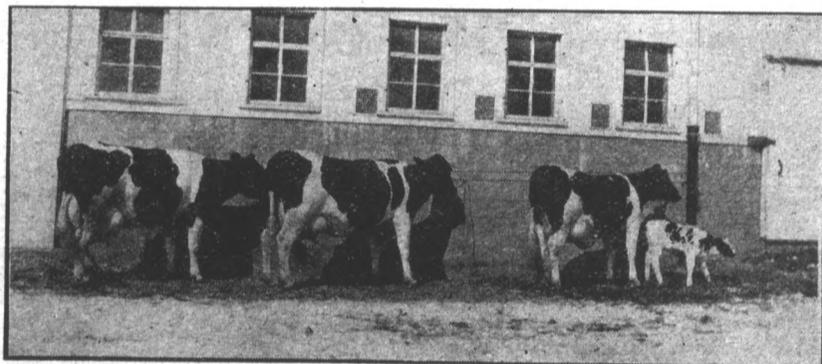
Fay Meyers, of Grand Blanc, has one of the best one hundred and thirty-acre farms in the county. Mr. Meyers is building up a herd of registered Guernsey cattle. At present the herd numbers about twenty head of purebred animals. For a herd sire he has Pencoyd Patriot, a bull purchased from the famous Roberts Farm in Pennsylvania. Among the females some of the most popular blood lines of the breed predominate. All of the young stock is well grown and kept under excellent sanitary conditions. Mr. Meyers has a good foundation herd and is an enthusiastic Guernsey booster.

GENESEE county boasts of two of the leading Aberdeen-Angus herds in Michigan. Our first visit was at the Angus Home Stock Farm of F. Perry & Sons near Davison. The number of visits at the Perry home must necessarily be regulated by one's capacity for storing away food. Hats off to some of our county agents. They know how to plan their trips to harmonize with the food-serving history of their counties.

The Angus Home herd of Doddies was founded more than twenty-five years ago by Mr. Perry, and he has taught his sons cattle lore which has held an influence in keeping them on the farm. Some men know how to raise cattle. Some men are successful in bringing up sons who know how to raise good cattle. Too few men have the secret of doing both. Mr. Perry found the secret in making partners and students of his boys. Together they are working into an enviable position among the Angus breeders of the state.

At present the herd numbers more than sixty. For a herd sire they are using Bunker Bean, a perfect type of the compact, short-legged Dottie, who has impressed his individual trademark upon all of his calves in the herd. Bunker Bean is a son of Elgon and out of Blackcap of Iverness. For a junior herd sire the Perry's are using Enchantress Erica, a two-year-old son of Black Rosegay. This young bull, like Bunker Bean, is a compact and short-legged animal that would be hard to defeat in the show ring. Another young bull that the Perry's are expecting to use in their herd is a son of Enlate, the famous Iowa bull. This young bull is an exceptionally good individual and shows every indication of developing into an outstanding sire.

Among the females in the herd is Blackbird 37th, the dam of Black Monarch 3, three times grand champion bull of Michigan. She is teeming with the blood of the most famous animals of the breed. Her sire was one of the famous show yard winners and the sire of many champions. Among the other females in the herd Trojan Erica,



Four Generations of Holsteins in D. D. Aitken's Herd.

Blackbird and Blackcap breeding is prominent. One twenty-three-year-old cow, Penzance Daisy, is still breeding and at present nursing a fine calf. Angus Home Stock Farm consists of three hundred and twenty acres of productive land, the pastures being given good care and the animals are comfortably housed.

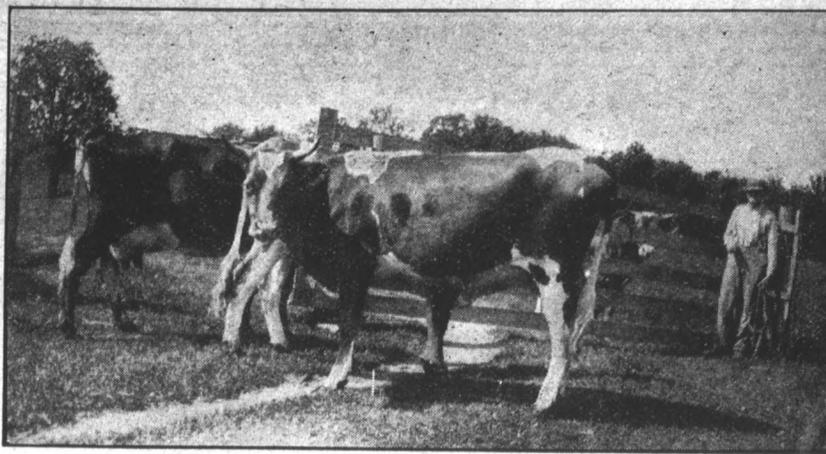
Another Genesee county Aberdeen-Angus breeder who has developed one of the best herds in Michigan is F. J. Wilbur, of Clio. On the Wilbur farm we looked over animals of extreme size and superb quality, bred along lines of the famous Ballindalloch herd of Scotland. No herd in the state can show animals with better heads and larger bodies and above all with better calves. Some of the animals may lack the fin-

ish and refinement of the smaller, more compact individuals of the breed, yet one who believes that the Ericas and a few other popular families of the breed possess about all that is attractive in Aberdeen-Angus pedigree could profit largely by the study of the history of the different breeds of cattle and noting the results that have followed the practice of breeding for extreme refinement of type and compactness of carcass. Mr. Wilbur is a stickler for size, when combined with quality and popular blood lines.

The present herd sire, Black Ballindalloch Lad, is a 2,300-pound five-year-old bull of Ballindalloch type; the kind of a sire that is sure to be in demand

NO man in America is doing more to promote the dairy industry in general than D. D. Aitken, of Flint. Although president of the Holstein-Friesian Association of America, and an enthusiastic breeder of black-and-white cattle, Mr. Aitken has never failed to give other breeds of dairy cattle due credit and to do everything within his power to encourage better business methods on the farm and in the management of the breeding herd.

Healthy dairy cattle and yearly production are two of Mr. Aitken's pet hobbies. With disease-free herds and credible yearly production records there is no limit to the profits of breeding purebred dairy cattle in Michigan. To prove that he believes in practicing what he preaches, Mr. Aitken has one of the best equipped, light and sani-



Some of Fay Meyer's Guernsey Cattle.

tary breeding plants in the country. At present seventeen of his cows are being tested for semi-official yearly records. The herd consists of about fifty animals. All of the young stock is maintained in good growing condition and kept in clean and well-ventilated pens. No effort has been spared to bring out the best that is in the parent stock and to keep the animals vigorous and healthy. The picture of four generations of animals from this herd indicates lines of constructive breeding so essential to establish type and heavy production at the pail. No such results can come from promiscuous matings of sires and dams from different families of the breed.

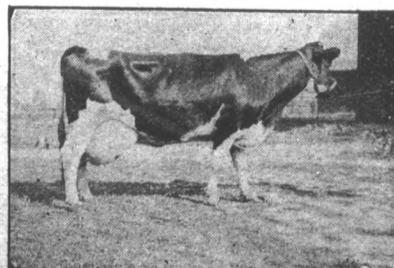
One of the most interesting visits among the live stock breeders of the county was at the farm of G. L. Spillane & Son, near Clio. Here we looked over some of the best producing Holstein cows in the country. Any breeding establishment that can show five young cows with production records which total more than one hundred thousand pounds of milk per year is a credit to the dairy industry. The five cows in this hundred thousand pound a year herd are Flint Pauline, Flint Vassar Bell, Flint Maplecrest Rosina Girl, Butter Boy Flint Bell and Crest Farm Johan Pauline. These five animals afford proof sufficient that dairy type and heavy milk production go hand in hand when proper attention is given to the selection and mating of breeding stock.

Flint Pauline, during the past two hundred and ninety-one days, has produced 26,145 pounds of milk and 1,060 pounds of butter. She is seven years old and a wonderfully good individual from the standpoint of type as well as production. Another good individual, possessing real dairy type and having a good production record is Butter Boy Rosina 2nd, with a seven-day record of 29.27 pounds of butter. Size, quality and production considered, she is unquestionably one of the remarkable cows of the breed. Another excellent cow is Vale Cornucopia Fayne, with a seven-day record of 32.70 pounds of butter. That grand old foundation dam, Butter Boy Rosina, a daughter of De Kol 2nds Butter Boy third, is the dam and granddam of a majority of the best cows in the herd.

For a herd sire the Spillanes are developing King Bortjnsea, a son of King Ona whose dam Ona Britton DeKol, produced 1,345 pounds of butter in one year. King Bortjnsea's dam, Flint Bortjnsea Pauline, has a seven-day record of 33.11 pounds of butter and sev-



Bunker Bean Heads F. Perry & Sons' Angus Herd.



Walter T. Hill's 25-pound Four-year-old.

OUR SERVICE DEPARTMENT

ALFALFA FOLLOWING SWEET CLOVER.

One of the fields that I cut for hay this year had quite a lot of sweet clover in it. What would be the best way to prepare this field for alfalfa? I want to put it to rye this fall. Would you advise me to seed it to alfalfa or sow sweet clover again and then the alfalfa. I have been told that sweet clover was hard to get rid of when once started. What is your advice?

Barry Co.

C. F. W.

The best and most enduring stands of alfalfa are secured, as a rule, when seeded the season after a cultivated crop, such as corn, beans, potatoes, or beets. The land is usually free of grass and weeds after it has been devoted for a season to crops requiring cultivation.

Light soils which are deficient in organic matter and fertility can be put in shape to receive alfalfa more successfully by planting to sweet clover. A sweet clover crop is one which will do better than alfalfa under adverse conditions, such as may be found on light soils or following a pasture crop.

Sweet clover can be gotten rid of without difficulty by cutting before seed is formed. If cut close to the ground very little second growth will develop. In handling this crop for hay it should be cut with the mower-bar set 10 or 12 inches high, before the bloom appears. Shoots, from which the second crop will form, start from the stems, and it is necessary to leave a considerable length of stem.

Both alfalfa and sweet clover do best when planted on a firm seed bed. We would advise rolling several times before planting with ordinary roller or using the cultipacker both before and after seeding.

I think you will have best success ultimately with alfalfa by following with another year of sweet clover before seeding to alfalfa. If ground is not comparatively free of grass and weeds, I think you will find it advisable to plant potatoes, corn, or beans, after the sweet clover, and seed to alfalfa the year following.

The use of lime is advisable for alfalfa and sweet clover alike. The usual application is two tons of ground limestone or several cubic yards of marl, applied when fitting the seed bed.

Culture for the inoculation of alfalfa, etc., may be secured from the Department of Bacteriology, of the Michigan Agricultural College, East Lansing, Mich. The price is 25c per bottle and one bottle contains sufficient material to inoculate a bushel of seed. Directions for application accompany the material.

J. F. Cox.

SELLING HENS FROM A DISEASED FLOCK.

After reading articles in your paper concerning tuberculosis in chickens, we have come to the conclusion this is what ails our chickens, as they have these symptoms and are gradually dying off. We have decided that we ought to get rid of the whole flock, thoroughly disinfect the coop and park and start with new stock next spring. Can you advise me if the hens which are apparently free from disease would be fit for human consumption, also whether this spring's chicks are liable to contract it, even if kept separate.

Bay Co.

E. L. J.

Hens that are apparently free from tuberculosis would be fit for human food even if a few birds in the flock had the disease or had died of it. We see no reason why a hen showing all the signs of health and vigor would not be fit for food even if occasionally other hens in the flock had been sick. However, if many of the birds have been sick and died of tuberculosis and

the entire flock of healthy birds is to be marketed for food we believe that it would be best to call in a veterinarian and have him pass on the fitness of the carcasses for human consumption. There are chances that there will not be much appetite for chicken in a family if they know that the bird to be eaten is at all questionable. And of course a breeder would never wish to sell poultry for meat unless they were of sufficient quality to use at home. The veterinarian could easily judge the quality of the flock by personal inspection and he might be able to save you the market value of many birds when they are killed. You have the right idea about starting over with new stock after a thorough disinfection of the premises.

Young chicks hatched this spring from such stock may be entirely free from tuberculosis if they are vigorous stock and have been raised on clean ground. If they are lacking in vitality it would pay to get rid of them.

K.

TILE DRAINAGE.

I would like to know what size tile I need to drain forty acres of clay land. The upper forty rods of this land has three and one-half feet of fall, while the remaining forty rods has two feet of fall.

H. A.

Osceola Co.

The size of tile to be used depends first upon the extent of the area to be drained; second upon the fall, and third upon the depth of the drain and the character of the soil and subsoil.

First as to the area to be drained; to illustrate more fully, a farmer proposes to drain twenty acres of land through one outlet and wishes to determine the size of tile for the main drain. He finds that there is an area of as much as twenty acres of land adjoining, that sheds its surface water from rainfall and water percolating through the soil upon and into the land of the twenty acres he wishes to drain. That is the natural outlet is over or through this area. Therefore, the tile for the main drain and sub-drains should be large enough to receive and carry the water shed onto the land.

For a simple rule for those who wish to construct drains through the low places of the farm, a practical drainage contractor gives the following as a result of his experience: "On an average the fall usually is about six inches in 100 feet. With ordinarily accurate work in securing a regular fall, a three inch tile drain will carry the water of six acres, a four inch tile will drain eight acres, a six inch tile twenty acres and an eight inch tile eighty acres." The above rule is for ordinary not thorough drainage.

In thorough work, the following brief estimate of the number of acres drained by different sizes of drain tile to be used in the construction of drain is taken from a table prepared by Prof. R. C. Carpenter:

Rate of inclination	3 in. tile	4 in. tile	6 in. tile	8 in. tile
1 ft. in 50...	8.4	17	47.7	98
1 ft. in 100...	5.7	11.9	33.1	69.2
1 ft. in 150...	4.5	9.5	26.6	56
1 ft. in 200...	3.9	8.5	23.8	48
1 ft. in 250...	3.5	7.5	20.4	42.4
1 ft. in 300...	..	6.9	18.4	38.2
1 ft. in 400...	..	5.9	16.5	34.6
1 ft. in 500...	..	5.2	14.8	30.1
1 ft. in 600...	..	4.8	13.3	28
1 ft. in 800...	..	4.1	11.4	24
1 ft. in 1000...	10.2	21.2

The above table is intended for accurate, thorough drainage, but it is better practice, in our judgment, in ordinary work to use larger sizes of

tile in proportion to the number of acres to be drained. To make sure of sufficient capacity in the drain to carry the water of ten acres, we advise the use of 4 inch tile instead of 3 inch tile.

Second, the inclination or fall is an important factor in determining the size of tile to be used. The greater the fall the greater will be the rapidity of the water flow, increasing correspondingly the amount of water discharged through the drain. A 4 inch drain may have fall enough to carry as much water as would flow through a 5 inch drain laid with much less fall. A main drain may be laid at almost a level grade and do good work, but the size of the tile should be larger. If we were able to go over the farm to be drained it would be possible to give the sizes needed, but with the use of the table we believe that you should have no trouble with your drainage work.

H. W.

VETCH FOR SEED.

How much winter vetch seed should I sow, and when, to get a crop of seed next year?

Alpena Co.

C. H. S.

The vetch can be sown any time up to the middle of September; in fact, it is usually sown with rye, because it is almost impossible to cut the vetch when sown alone. The stem is very weak and it will lay flat on the ground. The rye helps hold it up so that it can be harvested, then they have a special machine for separating the vetch seed from rye. I do not think it would be practical to sow the vetch alone. It would cost too much to harvest. A mixture of one bushel of rye and twenty pounds of vetch seed would be a good combination where you wish to especially grow vetch for seed.

C. C. L.

FARMING ON SHARES.

A rents out some fields of his farm to B, and B is to furnish part of help and pay part of threshing bill. B's credit isn't good. If B doesn't pay his part of threshing bill is there any way that A could be made to pay it? A. S.

If from the contract it is possible to tell whether it is a partnership, a contract of hiring, or a lease, we could tell then the answer to the question. It looks on the face of the question very much like a partnership, in which case both of the partners are liable to the creditors for the full amount.

If it is not a partnership and A hired the thresher, and the work was done on his credit, A would undoubtedly be liable for the full bill.

J. R. R.

LINE FENCES.

1. Can my neighbor compel me to build fence now in the busy time of harvest? I have corn in my side and he has hay, but he has his hay cut now and wants me to build fence, or he will turn his stock in to pasture it. Can he make me stop my harvest and make a fence so he can pasture it?

2. When I build my part of line fence I intend to put woven wire in place of barbed wire which it was built of before. Can I make him put up woven wire on his half of line? It is all barbed wire now.

G. M.

1. After a line fence is built each party is bound to maintain his share of the fence at his peril, and the other can turn his stock against the fence without liability to the neighbor as long as he keeps his own half in repair. No exception is made because of harvest time or the like.

2. The fence being once divided either party may build his half of the fence of any material that will make a lawful fence, regardless of what his neighbor's half is built of—stone, wood,

woven wire, or barbed wire, ditch, stumps, or anything that will turn stock, and that is not excessively dangerous.

Therefore the subscriber may rebuild his half of woven wire but he cannot compel his neighbor to do the same with his.

J. R. R.

COLORING THE GOVERNMENT WHITEWASH FORMULA.

Could I use government whitewash as a filler and cover it with prepared paint? Or would it be best to mix Venetian red with the government formula?

Eaton Co.

M. D. R.

I cannot imagine how much Venetian red it would take to cover this barn to make it look like red paint, therefore would not wish to advise you, but you can experiment and see how much the cost will be.

You cannot expect that this government whitewash will last as long on a building as regular paint, as it is not absorbed by the wood as much as paint and consequently it will not remain as long, and whether it would pay to go to the expense of coloring it I would not be able to say. One would have to experiment with it and see how much extra it would cost and then find out how long it will last. If this can be done it would certainly cheapen the painting material very much.

C. C. L.

FIXTURES PASSING WITH LAND.

I would like information through your valuable paper relative to the ownership of an electric light plant installed on a farm. The farm is sold and no mention made of the lighting plant. Admittedly the wiring goes with the house, but do the batteries also?

I. G.

The wiring would be of little value without the batteries. Is the purchaser of a house entitled to the keys to the doors as well as the doors themselves? The answer is that what the owner annexed as a permanent improvement to the land passes with it, though not in fact annexed to it. Also, that without which the land could not be used in the manner intended in the erection of the construction passes with the land. The batteries clearly pass with the land.

J. R. R.

EFFECT OF DEATH ON CONTRACT.

A rents a farm, the owner agreeing to furnish part of the stock, repair fences, and so forth. The owner dies, and his administrator refuses to make the repairs. What can A do? J. P.

If the contract is a partnership it is terminated by the death of either partner, and all the survivor could do would be to wind up the partnership.

If it is a lease the administrator is liable on the contracts of the deceased and judgment may be recovered for breach, to be satisfied out of the funds coming to the hands of the administrator.

J. R. R.

TRESPASSING STOCK.

My neighbor has such poor fences between his farm and the one beyond that stock comes across his land onto mine. There is no fence between me and my neighbor.

J. M.

The owner of stock is bound by the common law to keep his stock at home at his peril, and the exception made in favor of adjoining owners who have had a division of their line fence has no application between either of them and a third party, therefore the stock of the distant neighbor coming across the intermediate land onto the subscriber's farm may be empounded as strays and held for redemption until the damage is paid for.

J. R. R.

Wool, Grain Rates, Roads, Declining Prices and Tuberculosis—By E. E. Reynolds

AMERICAN Farm Bureau Federation delegates returning from their Western trip to the Washington headquarters, report a very enthusiastic meeting of the Federation at Denver. The Salt Lake City meeting, which was held to discuss methods of solving the wool situation, was attended by many prominent wool growers from all the leading wool producing states.

At this meeting, Gray Silver, Washington representative of the American Farm Bureau Federation, made a report in which he stated that there was an abundance of wool, but not an excess of the better kinds most used in this country. There is a large quantity of low grade American wool that in former years has been consumed by Germany and Austria. There is a bill now in Congress providing for granting Germany a credit against the account of the alien property held in this country. There is nearly a billion dollars' worth of such property, in addition to the merchant ships held by the United States, whose valuation about equals the claims filed by citizens against aliens, or about \$600,000,000, leaving a net credit on Germany's account of nearly a billion dollars.

"We as farmers," says Mr. Silver, "desire that Germany be given credit against that billion dollars instead of turning over the money, that she may buy our agricultural products in the way of raw materials for her factories. If Germany and Austria could buy the lower grades of wool which they are willing to do, that would clean up the surplus or low grade wool and leave the wool market in good condition. Congress alone has the power to act in this matter, consequently farmers should pool their wool and carry it along until Congress has time to act. In pooling their wool and holding it in warehouses, farmers can use their warehouse receipts as collateral for loans. This privilege was given them by the Federal Reserve Board, last spring, when, through the efforts of the American Farm Bureau Federation's Washington office, the board required the banks to accept warehouse receipts in the farmers' hands to enable them to carry wool until the market situation improved."

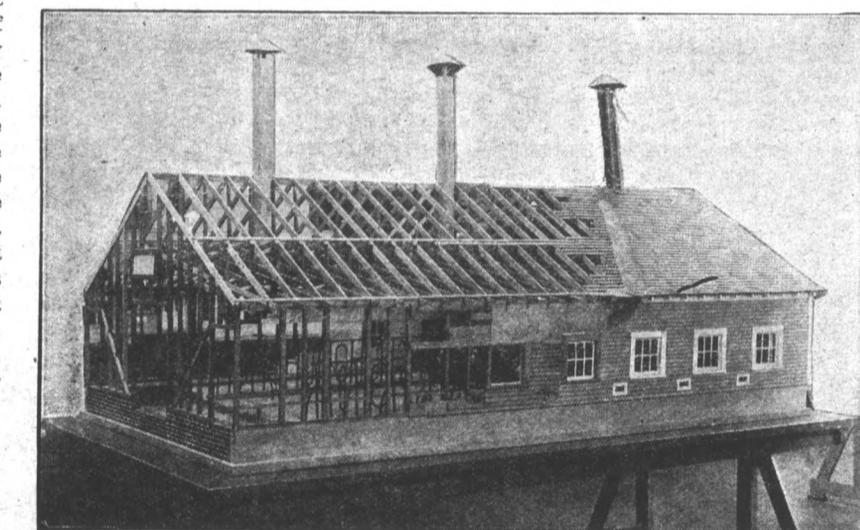
It is the belief of Mr. Silver that the United States, in order to protect itself, must promote the international relations of the farmers in a business way, because the country is safe only when we grow enough for our own needs and a surplus for other nations. In justification of this assertion it may be said that six of the biggest crops produced in this country are priced in markets beyond our shores.

THE ACTION taken by the Interstate Commerce Commission in ordering a readjustment of lake-rail rates on grain so as to make possible the carrying of grain by lake boats at a profit, came "as a great relief to the farmers of the Middle West who have lost heavily because of the inability to move their crops to market," say Farm Bureau Federation officials. Delegation after delegation has come to Washington to appeal to the Commission for cars and the Federation has worked incessantly for some measure of relief. Finally the Federation proposed the plan for rate readjustments which would put the lake boats back into the grain carrying trade. Governor W. L. Harding of Iowa, J. R. Howard, Gray Silver, and other representatives of the American Farm Bureau

Federation made a strong appeal before the Interstate Commerce Commission, and since the Commission had already looked into the matter and was favorably impressed, quick results followed. The benefit to be derived from this arrangement agreed to by the roads will come not alone from the release of grain cars loaded for the East, but the elimination of the long empty return trip to the West. By utilizing lake boats for the long haul the available supply of grain cars can be shuttled back and forth between the grain region and the upper lake ports at the western end and between Buffalo and the seaboard at the eastern end, and thereby greatly increase the effective car supply. The Farm Bureau men are also working on a plan for greater utilization of the Barge canal between Buffalo and the Hudson river.

STATE and Federal appropriations reaching a total of \$250,000,000 may be expended for highway construction during the current fiscal year, according to a statement given out by Thomas H. MacDonald, chief of the Bureau of Public Roads, the need of Federal action this year is emphasized

by Mr. MacDonald. The last installment of Federal aid funds, amounting to \$100,000,000, became available July 1. A deduction of \$3,000,000 will be made to provide for the expense of administering the Federal Aid act by the Department of Agriculture. The balance of \$97,000,000 will be divided among the states in proportion to their population, area and mileage of post roads. "State highway departments should know at least a year in advance what funds are to be available in order that plans may be made for future construction," says Mr. MacDonald. "Unless further Federal action is taken in the coming year, the states will be left in doubt as to the future policy of the government and the amount of money they must be prepared to spend. Such a contingency would involve a serious setback to the progress of road construction and should be avoided by early congressional action."



Visitors at the Michigan State Fair Are Studying Carefully this Government Model of a Dairy Barn.

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TUBERCULOSIS eradication work under the accredited herd plan is proceeding very satisfactorily in most states, according to Dr. J. A. Kiernan, chief of the Tuberculosis Eradication Division of the Federal Bureau of Ani-

mal Industry. "Iowa has been especially slow in taking up this work," says Dr. Kiernan. "Some thirty-five states were started in tuberculosis eradication work before Iowa got into the game. The first appropriation for this work was made by the last legislature. Notwithstanding that they got a late start, however, the Iowa farmers are now right up in the front rank in this movement. In all parts of the state they are taking favorably to it. This campaign includes three projects: The accredited herd plan, eradication of tuberculosis in circumscribed areas, such as a county, and the eradication of tuberculosis of swine. A man is put into a county with the expectation of keeping him there for a few weeks, then transferring his services to another county. These men have been kept so busy that the State and Federal inspectors told the people in each county that if they were interested in cleaning up all the tuberculosis in their county, the way to do so was to cooperate by employing an inspector by means of an appropriation from their county funds. The people were willing to do this. They went before their county boards, who were also willing

to go ahead, but waited for legal advice from the attorney general. This official told them that they had no authority to appropriate money raised by taxes for this purpose."

Dr. Kiernan says this situation prevails in several states, and the law enacted by the Alabama state legislature last year to meet this objection is suggested as a pattern for other state legislatures to follow. This new Alabama law provides that "county boards of revenue or county commissioners may appropriate as much money as shall be deemed necessary for the control or eradication of any infectious, contagious or communicable diseases of live stock or the control of the cause of such diseases of live stock. This fund shall be used in cooperation with the State Live Stock Sanitary Board or the Federal Bureau of Animal Husbandry."

"We figure," continues Dr. Kiernan, "that two things are stimulating interest in this work in Iowa: First, the percentage of tuberculous cattle and swine shipped from Iowa is very large, compared with other states, as shown by records of the official meat inspection establishments. Somebody must stand these losses of condemned ani-

mals, and the producer is the ultimate loser. The other factor is that tuberculosis among the people is particularly severe in those counties where the farmers have shown the greatest activity in eradication work."

"There is no longer a question as to whether you can eradicate tuberculosis. It has been fully demonstrated in the District of Columbia, where ten years ago 16 per cent of all the cattle were affected with tuberculosis. The last fiscal year, ending June 30, there was not one case of tuberculosis among the cattle that were in the district one year. Three head of cattle brought into the district from other sections during the year reacted to the tuberculin test. Some of the herds in the district when the work started had as high as 75 per cent of tubercular animals.

"Another reason why they are eradicating tuberculosis is that at the present time there is no market for cattle for dairy purposes or for breeding unless it can be demonstrated that not only the individual animals offered for sale, but the herds out of which they are taken, are free from tuberculosis. The requirement under which most cattle are bought now being to pass a tuberculin retest within sixty days, makes it unprofitable for the seller of cattle to offer any that he doesn't know is in a healthy condition.

"At the present time the various states and the Federal government have at their command more than 300 veterinarians who are inspectors, but this is only a nucleus of the expected organization that will be available within a few years. There are 7,000 veterinarians who are approved by the Federal government to tuberculin test cattle for interstate shipments, and the plan is to build up this organization so that it will be available in the tuberculosis eradication campaign.

"One of the outstanding features in this tuberculosis eradication work is that there is no Federal law compelling anyone to have his cows tested. The campaign is built on the proper understanding of the necessity of eradicating tuberculosis by the live stock owners themselves and their cooperation in exterminating it. In all the campaigns the live stock owners have assumed the responsibility of freeing their herds from disease and have supported every move made by the Federal organization in carrying on the work."

Minnesota stands first in tuberculosis eradication work, according to the latest report, with 500 accredited herds and 1,056 once tested free herds. Pennsylvania has 284, Ohio 114, Michigan 149, and Iowa 47 accredited herds. New York state, like Iowa, has been backward in the work, having 49 accredited herds, an insignificant number compared with the large number of dairy herds in the state.

THE committee on Statistics and Standards of the United States Chamber of Commerce sees no need for being "panicky" over the present industrial and financial situation. It reports a widespread feeling that business will probably continue good for the remainder of the year. "The problems which now confront the farmer," the committee says, "are what the future holds for him in the way of prices for his products and whether adequate transportation will be forthcoming to move harvest yields to market. Upon

(Continued on page 308.)

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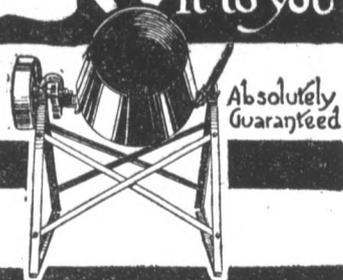
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Send me Men's Dress Shoes and Work Shoes. I will pay \$7.29 and postage for both pairs on arrival, and examine them carefully. If I am not satisfied, will send both pairs back and you will refund my money. Order No. AX996.

Size, Work Shoes.....Size, Dress Shoes.....
Name.....
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\$20.00
Brings it to you



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The "Jim-Dandy" Concrete Mixer

The "Jim Dandy" is absolutely the lowest priced good concrete mixer on the market. It is specially designed and built for farm use and you'll find that it is exactly the mixer you've been waiting for.

Try it five days

Send us just \$20 cash now; we will ship the mixer all ready for business—when it comes, use it FIVE DAYS and if you are not satisfied that it is all O. K. and decide not to keep it, write us and we will send your \$20 back and tell you where to ship the machine.

Write today

Drop us a postal asking for our circular illustrating and describing the four models in which this Jim Dandy Mixer is built and giving complete details of our easy payment plans and the free trial proposition.

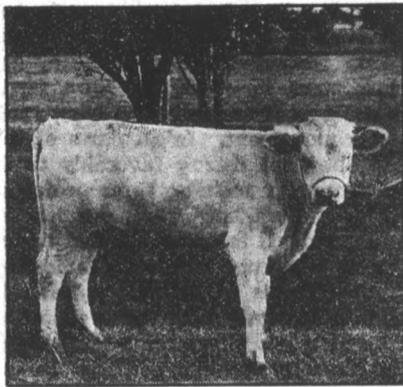
Superior Manufacturing Co.
926 Concrete St. Waterloo, Iowa

For Sale cheap. 12 H. P. Appleton portable gas engine suitable for filling silos. G. G. JACKSON, Birmingham, Mich.

Mention The Michigan Farmer When Writing Advertisers

en hundred and twenty-three pounds of milk. Their senior herd sire has recently been sold and some of the cows in the herd are being bred to King Flint the sire at Walter T. Hill's farm.

At Genrida Farm near Davison, we visited Walter T. Hill and looked over his herd of forty-five Holstein cattle. Among the females in the herd are fifteen daughters of Johan Hengerveld Lad that show wonderful uniformity of type and heavy milking qualities. Mr. Hill has one thirty-pound cow and sev-



One of Lundy's Shorthorn Calves.

eral with records above twenty-five pounds of butter in seven days.

For a herd sire he has King Flint, a son of Maplecrest Korndyke Hengerveld and out of a thirty-three-pound dam. King Flint is one of the leading bulls of the state and has been used extensively by the leading breeders of Genesee county. Mr. Hill has a splendid two hundred and forty-acre farm and a good set of buildings and equipment for handling his herd. He is following the same general lines of breeding that have proved so successful in the herds of Mr. Aitken and Spillane & Son, and is sure to make breed history within the next few years unless something unforeseen occurs to neces-

sitate changes in his present methods of breeding and handling his herd.

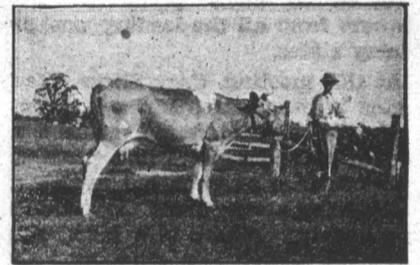
LUNDY BROTHERS, of Davison, have an excellent herd of milking Shorthorn cattle headed by Imported Kelmescott Viscount, bred by Hobbs & Son, of England. This bull is a roan of good type and from lines of milking blood that are unexcelled in his native land. Among the females in the herd are Daisies, Mysies, Oxford and Diamond lines of blood. Lundy Brothers own and operate four hundred acres of excellent farm land and find the milking type of Shorthorns exceedingly well suited to their system of farming. At present they have about thirty females and plan to increase the size of their herd as rapidly as they can breed and develop suitable females. They are breeders of Duroc Jersey and O. I. C. swine, and have good herds of both breeds.

Over near Flushing we visited the one hundred and thirty-five-acre farm of Samuel Jones and looked over his herd of Shorthorn cattle. Mr. Jones has recently sold a number of cattle, but has some of the good ones left. The present herd sire is a son of Butterfly Sultan, and most of the females are of Scotch and Scotch-topped breeding. He now has sixteen females on his farm. Like many other breeders of purebred cattle Mr. Jones has reduced the size of his herd to meet with labor conditions.

F. D. Stephens, of Davison, has a herd of eighty head of Duroc Jersey swine headed by Stephen's Orion Cherry King, a young boar of good size and large, strong bone. Among the brood sows in the herd Cherry King, Rasin's Pride and Pathfinder blood predominates. Mr. Stephens has the right ideas about breeding and selling purebred swine, and does not develop a boar pig that fails to measure up to his

ideas of what a breeding boar should possess in type and quality.

A VISIT to the farm of Clair Wynkoop, near Flushing, afforded a good illustration of profitable poultry keeping in connection with general farming. Mrs. Wynkoop has a flock of about one hundred and thirty White Wyandotte birds that Mr. Foreman the poultry expert from M. A. C. has pronounced the best in the state. During the past year the income from this flock has amounted to more than one thousand dollars. Mrs. Wynkoop has figured all of the feed grown on the farm at current market prices and purchased necessary supplemental feeds.



Fay Meyer's Guernsey Dolly Peoirs

The feed bills and other expenses have amounted to five hundred dollars, or one-half of the total income, leaving a labor income of something like five hundred dollars from the flock. These figures include the sales from the flock, the cost of feeds and hatching and other incidentals, but have given no credit for the eggs and chickens used for the family table. This is quite a tidy sum to add to the net income from an eighty-acre farm where no specialty other than poultry is being handled. Mrs. Wynkoop has practiced Foreman's system of culling the flock.

Boys' and Girls' Clubs are being conducted under the leadership of Kelsey B. Smith. Mr. Smith has several pig and calf clubs in different parts of the

(Continued on page 307.)

News of the Agricultural World

PACKERS TO SELL STOCK YARDS.

THE five big meat packers have filed with the Supreme Court in Washington plans and specifications for the disposal of their stockyard interests, as required by the Federal Department of Justice. The value of the stock represented by the statement submitted to the District Supreme Court was placed at between \$30,000,000 and \$40,000,000, and it is planned by the packers to sell their stockyards to F. H. Prince & Company of Boston. The Boston firm proposes to organize a holding company to take control of the interests to be acquired with the sanction of the courts, according to an affidavit submitted by Frederick H. Prince, head of the company, to the court. It would not be practicable, he said, to try to dispose of the yards separately, owing to the uncertain financial conditions, and the holding company planned the gradual selling of the interests which it would control under the proposed arrangement.

One of the features of the plan is the provision that securities of the holding company, given in part payment, shall not represent as much as 50 per cent of the capitalization of the company. It also provides that the yards shall be preserved in their present location and condition for ten years, in order that the co-operation now maintained between the packers and the yards might not be interrupted. This is desired, it is claimed, as a necessary part of the plan to prevent the public from suffering because of a peremptory disarrangement of the yards and houses.

Associate Justice Siddons directed that the packers file with the court any amendments to the proposed plan by

September 21. After that date the Department of Justice will be given opportunity to file any objections the officials may have to the plans or the amendments of the packers. After any amendments have been filed and the Department of Justice has objected to their admission, the court will hear arguments on the whole matter on October 7.

E. E. R.

WILL FIGHT MEREDITH RULE.

United States Circuit Court Judge Page recently entered a temporary restraining order in the district court of Chicago, prohibiting the Secretary of Agriculture and United States District Attorney Charles F. Clyne from proceeding in any way to enforce the secretary's order of August 12th, directing a reduction in commission rates charged by live stock commission merchants. The bill was filed by W. W. Wilson & Co.

Hearing on the permanent injunction is set for September 8, 1920. In the interim the aforesaid officials of the government are prohibited from any acts of interference with the business of the complainants. All commission merchants similarly situated are protected under the order.

The Chicago Live Stock Exchange announces that: The Secretary of Agriculture issued an order under authority of war time measures dated August 12, 1920, forbidding live stock commission men to conduct their business in accord with existing peace conditions, ordering them to desist from charging rates of commission that have become necessary and are required to enable commission men to maintain the quality of service de-

manded by producers and patrons of the Chicago market.

Would Disorganize Service.

Compliance with the secretary's order would so disorganize the service rendered by commission men that patrons of the market would immediately be adversely affected.

During the great war much federal legislation was enacted to perfect an immense fighting machine, subordinating many lines of production and industry to its support and maintenance.

Those enabling laws were not contested during the war and were strictly observed, and although the necessity for their enforcement has long since passed, have not been repealed. Many industries are released and restored to private ownership and control; wheat and transportation can be cited as conspicuous examples.

The Department of Agriculture, however, persists in strict enforcement of some war time measures, notwithstanding that its action in nowise contributes to the aid or maintenance of the government, and likewise does not in the least affect production or distribution.

Will Test Meredith's Order.

Requests have been telegraphed and presented in person to Secretary Meredith by representatives of commission men to rescind the order, which he has refused to do. In preservation of their constitutional rights and the high standard of service required of them by their patrons, the live stock commission men have decided that they will test the validity of the Secretary's order and one of the prominent Chicago houses, W. W. Wilson & Company, has been selected to file a petition for an injunction to restrain the Secretary from enforcing his order.

Good Pastures Are Necessary

How They May be Maintained

THE farm labor problem and the high prices of feeding materials ought to convince more men of the importance of good pastures. Even though it has been found profitable to maintain cattle on silage and alfalfa as the main ration throughout the year, a good pasture is necessary in order to bring the young stock to proper maturity and provide cheap growth during a portion of the year.

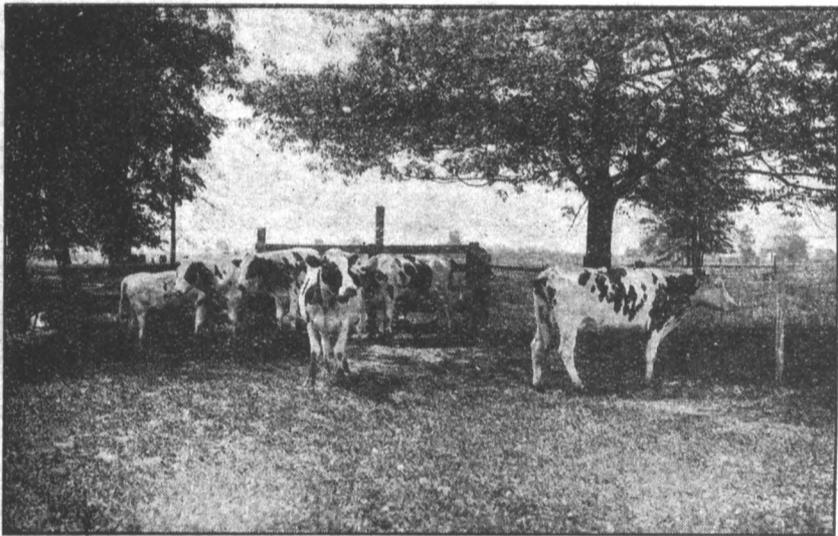
On farms where herds of purebred breeding cattle are maintained, good pastures are indispensable. The cow that is to live long and breed every year must have robust health, and this can be attained and maintained only under outdoor conditions with good pastures and adequate shelter. There are two considerations which one should weigh carefully before deciding to abandon permanent pastures and depend upon growing crops throughout the year. First, what is the actual cost of the year's keep? It may come as a surprise that it is in the summer that greater economies can be introduced; that more acres in pasture would accomplish this by putting on more pounds of growth and fat and at the same time prepare the cattle for better gains during the winter feeding period.

This is not an argument against feed-

velopment of any farm the most fertile and easily cultivated acres are the first to grow general farm crops and contribute their part to the farm income. The rough and poorly drained portion of the farm is utilized for pasture; the owner seldom devoting any attention to fertilizing or draining and seeding new grasses so that the weeds are held in check and new grasses have a fair opportunity to gain a foothold and produce maximum crops of desirable herbage.

One of the most frequent causes of the decline of pasture grasses is early grazing and overstocking before the young grass has made a proper start in the spring. The first green grass does the animals but little good and the one thing a forage plant needs to stimulate root growth after the rest period is the development of leaf surface. If allowed to grow until the herbage furnishes good picking for the cattle, and the roots are developed sufficiently to go through periods of dry weather in good shape, the pasture will furnish more uniform grazing throughout the entire season. Obviously, too early and too close grazing must be avoided if one is to get maximum profits from pastures.

In the central states it will usually



Good Pastures Furnish the Cheapest Feeds.

ing silage and alfalfa during the grazing season. Even with the best of pasture grasses supplemental feeds are needed as an insurance against summer drouths. Animals fed liberal rations of silage and alfalfa hay will make cheaper gains and more rapid growth if they have access to good pasture grasses. In reality on good farming land there is little cheap grazing and many close students find that one of our greatest farm problems is that of building up our grazing land so that the yields of grasses may keep pace with the yields of other farm crops.

Pasture varies in its quality and yield, perhaps, more than any other phase of soil production and a standard is yet to be formulated. In England and France pastures have been improved until they yield what seem almost fabulous crops of grasses to be converted into animal products. Farmers in America need to make a more careful study of the pasture problem, even though we are finding it profitable to depend more and more upon silage and alfalfa as an insurance against drouth as well as a means of enabling us to increase the stock carrying capacity of our farms.

ONE reason why pasture lands yield comparatively small returns on our American farms is because the greater proportion of the land so used is of inferior quality as compared with that devoted to crop production. In the de-

velopment of any farm the most fertile and easily cultivated acres are the first to grow general farm crops and contribute their part to the farm income. The rough and poorly drained portion of the farm is utilized for pasture; the owner seldom devoting any attention to fertilizing or draining and seeding new grasses so that the weeds are held in check and new grasses have a fair opportunity to gain a foothold and produce maximum crops of desirable herbage.

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In the central states it will usually

Careful grazing will increase the carrying capacity of pasture more than allowing the grasses to reach full ma-

The Cycle of Service

In its issue of June, 1920, Petroleum Age says:

"The announcement made May 25th, advancing the tank wagon prices of gasoline and kerosene in all Standard Oil Company (Indiana) territory was a disappointment to the oil men. They say the advance in the price of gasoline was less than was expected, or at least hoped for. The refiner is asking 23c for the cheapest straight-run, and this makes the cost to the jobber 25c in Chicago. To this must be added 3c for the cost of doing business. As a result the new price is still too low for a profit on gasoline."

The Standard Oil Company (Indiana) distributes through tank wagons and service stations, completing the cycle of service from refiner to consumer.

The present low price for gasoline in the Middle West is due in large measure to the efficiency of the Standard Oil Company (Indiana) in refining and distributing its products.

The Standard Oil Company (Indiana) maintains an elaborate research department, which has enabled it to increase the amount of high grade gasoline obtainable from crude oil.

The efficiency of the manufacturing department, plus the all but perfect system of distribution, enables the company to render an unique but necessary service to everyone in the Middle West who, either directly or indirectly, relies upon automotive machinery for power.

The Standard Oil Company (Indiana) has maintained, and will continue to maintain, the lowest possible price for petroleum products consistent with proper security to its stockholders.

Standard Oil Company

(Indiana)

910 So. Michigan Avenue, Chicago, Ill.

2206

Dairymen replied "Amen!"

Gentlemen:—Your Suction-feed Separator is a wonderful machine. It skims clean at any speed, is easy to clean, runs smoothly, oils itself without mussiness, and delivers cream of even density at all speeds. It never gets out of balance as the disc-bowls do.

I cheerfully recommend the Sharples Suction-feed to anyone wanting the best cream separator on earth.

**Yours very truly,
(Signed) L. C. SWEET
Alden, Minn.**

MR. Sweet's letter covered Sharples Suction-feed advantages so definitely from the actual user's viewpoint, that a copy was sent to several thousand other users of the Sharples Suction-feed Separator. Each user was asked to comment on the letter. The response was unanimous:—"We say the same."

One type of Sharples Suction-feed Separator is electrically operated with current from farm lighting system.

It is costing you more to be without the Sharples Suction-feed than it would to buy one. Write for catalogue, addressing nearest office. Dept. 18

Sharples

SUCTION-FEED CREAM SEPARATOR

THE SHARPLES SEPARATOR COMPANY
West Chester, Pa.

Branches: Chicago San Francisco Toronto



Skims clean at any speed

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"There are no substitutes for dairy foods."

A Newly Invented SAW RIG
COSTS so little no one with wood to cut can afford to be without it. Will saw your winter's wood in a few hours. Does all practical work any other saw rig can and makes unnecessary the expensive, cumbersome rigs used in the past. For a small part of their cost you can now own the

OTTAWA SAW RIG

Powerful 4-cycle motor. Suitable for driving belt driven machinery. Easy to operate, light to move, simple to handle. Users say they make \$11.00 per day cutting wood for the neighbors. 30 Days' Trial 10-Year Guarantee. Let the Ottawa do your sawing 30 days to prove our claims. Free Book. **OTTAWA MFG. COMPANY** 291 Main Street, OTTAWA, KANSAS. Ottawa Ships 'em Quick.

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at the World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught. Write today for free catalog. **JONES NAT'L SCHOOL OF AUCTIONEERING** 28 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

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Come to the Sweeney School of Auto, Tractor & Aviation Mechanics—greatest in the world. Pack your grip—say good-bye to \$4 a day—and strike out for the big money. **Eight Weeks of the Sweeney System** trains young men mechanically inclined to make and repair autos, tractors, gas engines, auto tires, etc. No previous experience. Use tools instead of books. 35,000 graduates. **FREE** Send name for 12-page catalogue. Hundreds of pictures of men working in Million Dollar Trade School. Pack your grip—come today. I guarantee railway fare round trip if you find a single misrepresentation. Emory J. Sweeney, Pres.

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67 SWEENEY BLDG. KANSAS CITY, MO.

turity. An increase of fifty per cent of the grasses and clovers may be noted in the stock carrying capacity of pastures has been attained in two seasons from proper spring and late summer management. Where Kentucky bluegrass and white clover predominate and the stand is sufficient without allowing the seed crop to mature the pasture may be grazed uniformly during the season. In some sections where bluegrass and white clover mature late in July the plants, if not grazed, dry up and furnish but little grazing during the late summer and autumn months. On the other hand, if the plants are grazed moderately a week or two before seed maturity growth continues until late in the season, and thus they produce grazing of high quality at a time when other grasses are deteriorating. Grasses and clovers cannot produce profitable grazing unless one provides suitable conditions for their growth. It is just as important, therefore, to maintain the fertility of pasture soils and to use judgment in allowing the stock to harvest the crops as it is to fertilize planted crops and harvest them at the right time.

PASTURES may be fertilized in several ways. Feeding supplemental feeds such as silage and hay, and judicious grazing will constantly add to the fertility of pasture lands. If fertilizer is applied directly the kinds and amount to use will depend upon the conditions of the land and the season when they are applied. Sometimes lime is needed before the desirable grasses will make a good stand. On low, wet land underdrainage should be provided before any attempt is made to fertilize and reseed. There is no way of estimating the value of underdrainage in increasing the yield of natural grasses, because the more desirable varieties gradually come in and replace the coarse, rank growing varieties as soon as the soil conditions are favorable. In some cases a system of tile drainage has changed a low, wet marsh into a productive pasture and increased its value for grazing purposes to a level where it may yield two hundred and fifty pounds per acre of growth and fat, and many larger yields are on record. As a general rule acid phosphate supplies the element of plant food most needed to encourage the growth of pasture grasses and clovers. An application of lime to correct soil acidity, followed with an application of acid phosphate and a liberal seeding of desirable varieties of grasses and clovers is about the best treatment one can give an old pasture. If the land can be plowed and seeded, all the better, but if not, good results may be attained by discing and liming and then, after the first rain, sowing the acid phosphate, discing again and seeding.

A FEW shade trees left growing on the high knolls in a pasture will aid materially in the concentration of soil fertility gathered by the stock from the entire area over which they graze. One has only to ride through the country in the summer to note the benefit to grasses from trees left on hilltops. Cattle do not spend more than one-third of their time grazing where the grasses and clover are good. The rest of the time they spend lying down or standing in the shade fighting flies. They choose the shade in which to rest, particularly if it is on high ground where a breeze is always stirring. Besides flies are less troublesome on high ground where a good breeze is blowing. It is these high places that need the fertilizer, and if a few trees are left on the crest, for many rods down the slope a big improvement in the quality

of the grasses and clovers may be noted. If the trees are on low land the shade will encourage the growth of rank grasses, and if the trees are along the banks of a stream the fertilizer left by the cattle finds its way into the water. This explains in part the difficulty of maintaining the productivity of rolling pastures after years of grazing. The grasses that gather fertility from the hilltops are eaten by the cattle and carried down to the low lands where the fertilizing elements are deposited and in many instances, washed away into the stream and lost. Without expense the fertility might have been evenly distributed; that gathered from the low lands carried to the hilltops if shade trees had been left there to attract the cattle. One thing we must understand in scientific management of pasture lands, and that is that there is a constant removal of plant food from place to place as sure as though the crops are harvested and hauled away in a wagon or transferred from place to place. If we can so plan the management that the plant food is distributed evenly over the places where it is needed most we have made a long step toward improving conditions.

MONEY FROM VETCH.

IF you will allow me, I would like to say a few words to C. E. S., of Ogemaw county, through the columns of your paper, and also throw in my own testimony on the side of vetch, which I think is one of the most valuable plants raised on the farms of the United States today.

C. E. S. says he got, last year, five and a half bushels of vetch and sixteen and a quarter bushels of rye per acre. At our prices here that would be as follows: Five and a half bushels of vetch at \$15 per bushel, \$82.50; sixteen and a quarter bushels of rye at \$1.40 per bushel, \$22.75, making a total of \$105.25.

Now, \$105.25 per acre was certainly a good cash crop, as last year's crops were poor on account of lack of moisture, and it requires far less labor to put it in and harvest than any other farm crop. Why not put in your whole farm? You can raise it on the same land year after year, and take it off, and your land will steadily grow more fertile, because the vetch plant is able to store large quantities of nitrogen in the soil by the action of the bacteria in the root tubercles.

I have a piece of sand land which, when it came into our possession would not raise a crop that would pay for plowing the land. I commenced sowing vetch and rye on it, taking off three crops. Each crop was better than the one before. Last year I put twenty fifty-bushel loads of rotten manure per acre on it and planted it to potatoes. The tops covered the ground, and if we had had a normal amount of rain I think I would have harvested two hundred, and perhaps two hundred and fifty or three hundred bushels of potatoes per acre.

When I commenced sowing the vetch I didn't inoculate the seed, which should be done if you want a full crop the first year. Vetch will do no good the first year, even on good land, unless the seed or land is inoculated it will take three or four years to work up to a full crop. It can be done though, by sowing it on the same land year after year.

I found it a good cash crop. I put a little advertisement in this journal and got more orders than I could fill.

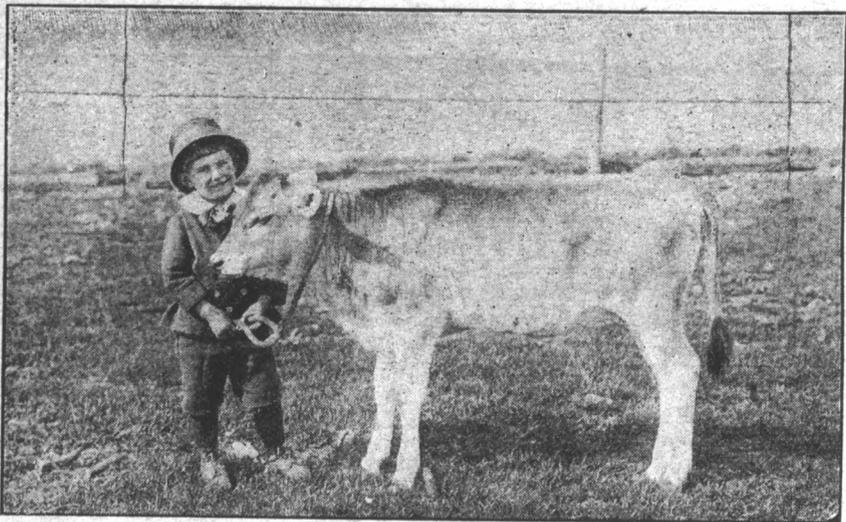
A. A. LAMBERTSON.



Diluted Milk Best for Feed

THIS purebred Jersey heifer calf is an unusually vigorous youngster and has made a remarkable growth, free from the bowel disorders calves are heir to. The milk fed, whether whole or skimmed, has contained about a quart of water for each gallon of milk, resulting in a mixture of water twenty per cent, and milk eighty per cent. This is in accord with the practice of Dr. J. F. Devine, of New York state, who has had remarkable success with channel island calves. The milk of these breeds has a high content of both fat and casein and skimming removes the leavening fat and results in a caseous liquid difficult to digest and often developing into a cottage cheese

in the stomach, so resistant as to produce an inflammation and death in fits. The addition of water, which may be warm enough to bring the noon feeding up to the warmth of the morning and night rations, results in food of a natural composition and perfectly adapted to the calf's digestion, as the concentrated, untreated milk of these breeds is not. I hope those having herds of the island cattle and experiencing bowel troubles with the calves will try this method, maintaining, also, the usual cleanliness and regularity of feeding. Overfeeding is a danger, but we have found that much more of the compound can be fed than was possible with straight milk.—John H. Winter, Veterinarian, Hillsdale County.



This Fine Calf Fed on Milk Diluted Twenty Per Cent.

Seek Uniform Lime Laws

National Association Impresses Need of Uniform Inspection; Also Suggests Local Warehouses

MANY states have laws covering agricultural lime. No two agree, however. One requires a guarantee of lime content in terms of carbonate, another in magnesium as well as calcium. Some refer only to burnt lime and others differ in various ways, causing the dealers much trouble and confusing the farmer.

To remedy this situation, Professor Elmer O. Fippin, manager of the agricultural department of the National Lime Association, with headquarters in Washington, has drafted a uniform agricultural lime inspection law for enactment by state legislatures. This proposed measure is limited to liming materials suitable for sweetening the soil and does not include land plaster, which has no capacity to sweeten the soil, its primary function being to supply certain nutrients, thereby putting it in a class with fertilizers.

Under the provisions of this bill every dealer in agricultural lime in the state would be required to secure an annual license covering each brand or kind of liming material he handles, and each applicant for a license would be compelled to present a certified guarantee as to the chemical and physical composition of the material handled. Each package, or car or vehicle in which bulk lime is transported shall have delivered with it a tag or label setting forth the guarantee as to the chemical composition and mechanical fineness, with the brand and name of the manufacturer. The chemical analysis is to be given in terms of the actual lime elements.

In reporting the physical character of a liming material the use of the new system of standard screens devised by the United States Bureau of Standards is provided.

Provisions are made for taking samples, and the brands licensed and guar-

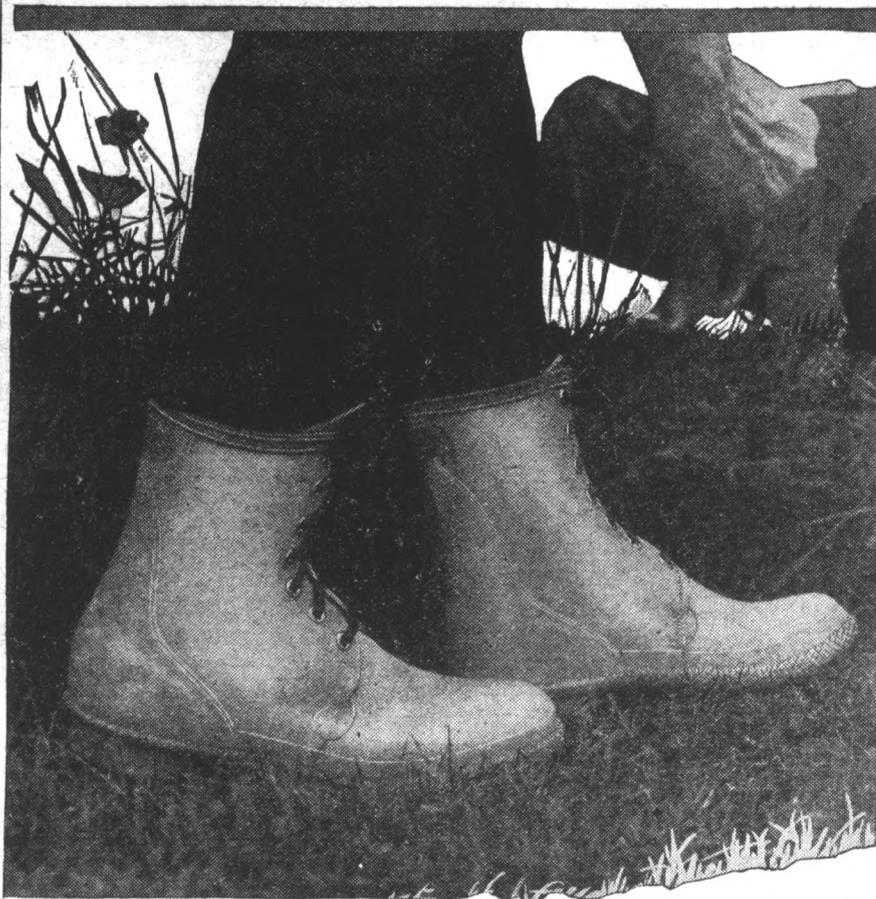
anteed by the act are to be reported in a bulletin for distribution to farmers. Penalties for violations of the act are left to the individual wishes of each state.

Professor Fippin says this proposed uniform agricultural lime inspection bill will be submitted to the lime producers and the agricultural colleges and experiment stations for suggestions and revisions, which will lead to the development of a uniform law effective in providing uniform lime inspection and labeling legislation acceptable to the legislatures of every state in the Union. This will not only be of benefit to the lime manufacturers and dealers, but will enable the farmers to secure an intelligent understanding of the kind and comparative value of the lime he purchases for use on his land.

Acting upon the suggestion of President Charles Warner, of the National Lime Association, in regard to the need for local storage houses for agricultural lime, Professor Fippin is working on a plan for a lime storage plant for local distribution, that will be inexpensive and serviceable. The Ohio Experiment Station has been working along the same line, but Professor Fippin does not consider their plan as presented in the blue-print as practicable for the purpose intended.

There are two associations of lime producers organized for the promotion of the use of lime for agricultural purposes, the National Lime Association and the National Agricultural Limestone Association. As their interests do not conflict in any way, it would seem to be best that these two lime producers' associations combine their activities, and by so doing make their work more effective in developing a larger use of lime for agricultural purposes.—E. E. R.

"SNAG-PROOF" Rubber Footwear



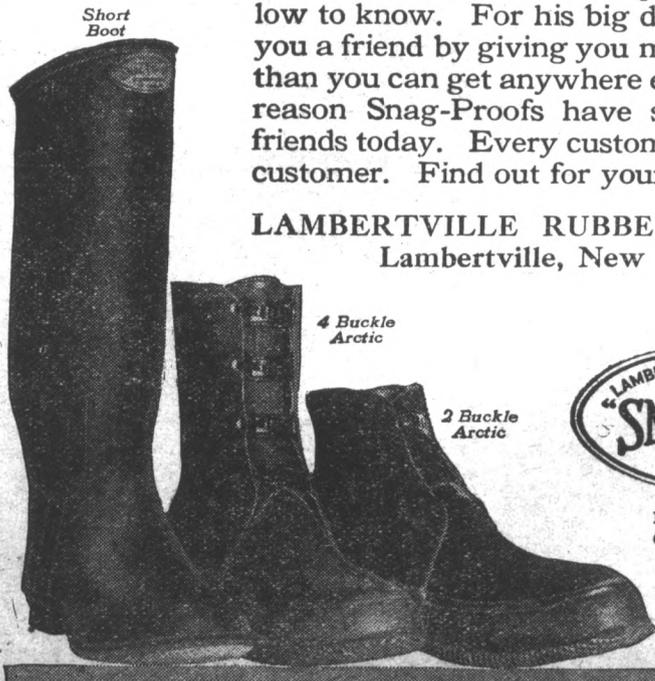
Here's A Happy Combination of Warmth, Comfort and Economy

THE PENNSY, lighter than a boot, warmer than a shoe. The ideal rubber footwear for all work around the farm. You'll get more service and save more money by wearing Pennsies this Fall. Made out of the finest grade rubber and fabric, absolutely water-tight, springy, tough, natural fitting and warm.

The Pennsy is a Snag-Proof product. You know that means the best in rubber footwear. For nearly fifty years the Snag-Proof label on rubber boots, shoes and arctics has meant the utmost in quality. You just ask anyone who has ever tried Snag-Proof—he'll tell you that for comfort, fit and service, Snag-Proof footwear *can't be beaten*.

Do you know the Snag-Proof dealer in your town? He's an exceptionally fine fellow to know. For his big desire is to make you a friend by giving you more satisfaction than you can get anywhere else. That's the reason Snag-Proofs have so many warm friends today. Every customer is a satisfied customer. Find out for yourself.

LAMBERTVILLE RUBBER COMPANY
Lambertville, New Jersey



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The Best Roofing Investment—

The only economical roof is one that combines low cost with long service.

You will always find that combination in Barrett Everlastic Roofings. And their economy is still further increased by quick, inexpensive laying and almost entire freedom from upkeep cost.

No matter what steep-roofed building you are planning to cover, one of the four styles of Everlastic is exactly suited to the job.

In roll roofing you have a choice of two styles—one plain-surfaced, the other handsomely coated with red or green crushed slate.

There are also two styles of Everlastic Shingles, one single and one in strips of four—both surfaced with crushed slate in artistic natural art-shades of red or green.

All four styles of Everlastic are fully described in our illustrated booklets, which we will send free on request. It will pay you to send for them.

Everlastic "Rubber" Roofing

This is one of our most popular roofings. A recognized standard among "rubber" roofings. Famous for durability. Made of high-grade waterproofing materials, it defies wind and weather and insures dry, comfortable buildings under all weather conditions. Tough, pliable, durable and low in price. It is easy to lay, no skilled labor required. Nails and cement in each roll.

Everlastic Slate-Surfaced Roofing

A high-grade roll roofing, surfaced with genuine crushed slate, in two natural shades, red or green. Needs no painting. Handsome enough for a home, economical enough for a barn or garage. Combines real protection against fire with beauty. Nails and cement with each roll.

Everlastic Multi-Shingles (4-Shingles-in-One)

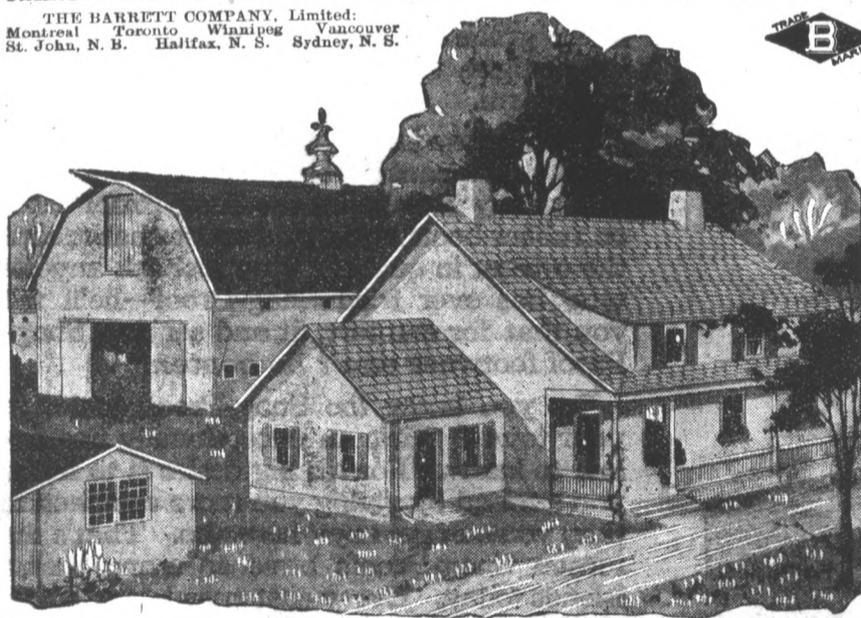
Made of high-grade thoroughly waterproofed felt and surfaced with crushed slate in beautiful natural slate colors, either red or green. Laid in strips of four shingles in one at far less cost in labor and time than for wooden shingles. Gives you a roof of artistic beauty worthy of the finest buildings, and one that resists fire and weather. Need no painting.

Everlastic Single Shingles

Made of the same durable slate-surfaced (red or green) material as the Multi-Shingles, but cut into individual shingles, 8 x 12 inches. Laid like wooden shingles but cost less per year of service. Need no painting.

The Barrett Company

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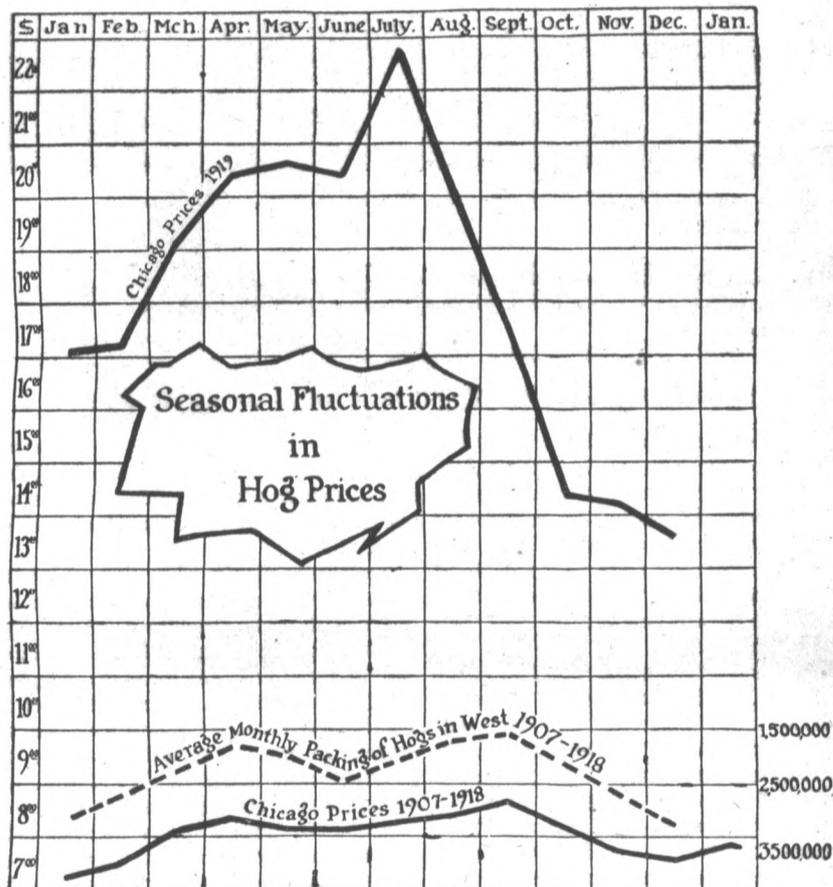


Fluctuations in Hog Prices

THE chart presented this week shows the monthly average prices of hogs at Chicago for the eighteen years 1901 to 1918, inclusive, and the average number of hogs packed in the west by months from 1906 to 1918, inclusive. For the sake of comparison the price of 1919 is also given. The curve for supply is inverted to show more clearly the degree of inverse correlation between supply and price. While the two sets of figures do not cover strictly identical periods, a sufficiently large number of years are included in each to give assurance as to the dependability of the comparison. Western packing includes about three-fourths of the total for the entire country.

The curve for prices reflects on the average quite accurately the periods of greatest scarcity or greatest abundance of hogs is quite easily preserved, the price during the winter packing season, where the run is the heaviest, is usually maintained at a level somewhat higher than would prevail if the possibility of carrying the surplus from the period of abundance into the period of scarcity did not exist. Likewise, the price in the periods of scarcity does not rise so high as it would

months of age when they weigh from 200 to 250 pounds. Since hogs, unlike grain, must be marketed within a short time after they are ready, whether prices are satisfactory or not, the result is the big run starting early in November and tapering off by March 1. They are too light to go in August and September and are kept cheaply on forage crops and grass. Old corn is too scarce or too high priced to stimulate its use for early fattening. As soon as the new crop is ready it is used heavily, and in a short time the hogs begin to crowd the markets. As they were born within a short time they naturally go to shambles within a comparatively short time. The packers use every contrivance to beat down prices to a low level, in order to reduce to a minimum the risk of carrying the surplus, to lower their investment and carrying charges and to obtain the advantage of the greatest possible advance in price over initial cost on the stuff put away in their cellars. Prices decline rapidly as a rule when the run starts and the packers begin their bear campaign. As the run subsides, prices rise, particularly during March, and usually reach a peak some time in April when farmers are



were it not for these accumulations which are then placed upon the market.

The average difference between January, the low month of the year, and September, the high month, is the difference between \$7.20 and \$8.65, or \$1.45 per hundred weight, an increase of 20 per cent. However, December is the logical low month of the year because of the large receipts. The fact that it has averaged above January during the corresponding year is due to the gradual upward tendency of prices during the period covered. The supply varies much more than the price. The average December winter packing in the west has been 3,352,000 hogs, while the September average at 1,567,000 is less than half as great.

The fact that normal prices show the two high spots, one in April and one in September, is due to the control which the seasons exercise over the normal times of breeding hogs. Over 50 per cent of the pigs are farrowed during the spring months—March, April, and May. The common practice is to finish these for market by the time they are eight or ten

busy with spring work, and the fall-born pigs are too young. Such pigs come on the market during May and June with a down turn in prices as a result, but since this crop is smaller than that born in the spring, it does not provide so large a surplus over fresh meat requirements. It does not carry prices down as far as in winter. When this run slackens, prices rise to their high point for the year. This peak usually is reached some time during late August or early September. Packers are often accused of supporting the market for live hogs at such times in order to establish a higher level upon which to sell the product stored during the winter period of accumulation.

The price curve, for 1919, shows that the break which started in late July was one or two months earlier than the normal time for that event when prices are not skewed out of shape by abnormal foreign financial conditions, labor disturbances and government drives upon prices.

Supply and demand in the long run have more to do with the determination (Continued on page 329.)

Flash Light and Battery



Yours Without Cost

The best flash light money can buy. 6 1/2 inches in length, comes equipped with 2-cell battery ready for use. Throws a clean, white light that wind cannot blow out. Lessens fire risks. Just the thing to light you on your short trips to barn and cellar.

If you will send us two yearly subscriptions your own may count as one, accompanying order with \$2.00 remittance, we will send you this Handy Flash Light ready for use all charges prepaid.

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A gang of RED SEAL Batteries handled as one. Handiest thing in battery lines you ever saw. Best for Every Farm Use—Farm Engines, Fords, Trucks, Tractors, Bells, Blasting, etc.



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Grow More Nitrogen

EXPERIMENTS show that commercial nitrogen cannot be used profitably to furnish any very considerable amount of the nitrogen required by field crops; this means that the nitrogen problem must be solved largely through the establishment of a nitrogen-gathering and nitrogen-saving system of farming, according to the New York State College of Agriculture. Atmospheric nitrogen should be utilized through the growing of legume crops, as beans, and conserved by the proper preservation and return to the soil of farm manure and other forms of farm-produced organic matter.

Manufacturers of fertilizers say that even though this is true, farmers should still "use a little nitrogen in fertilizers to start the crop." The benefit to be expected from this practice will depend on how efficiently the home supply has been utilized. Where the organic matter in the soil has been depleted, and particularly where a supply of fresh organic matter has not been recently added, the farmer may expect not only an increased early growth, but a somewhat larger yield from the use of nitrogen. Under such conditions, commercial nitrogen may return a small profit on the investment if purchased as nitrate of soda, sulphate of ammonia, or any of the other standard nitrogenous materials.

The fertilizer manufacturers' idea in making their recommendations, is, according to the college, not to sell more nitrogenous fertilizing materials, but a larger proportion of mixed fertilizers. The fact that a little nitrogenous fertilizer may be used profitably for given crops does not justify the use of a mixed fertilizer in preference to acid phosphate.

The cost of this small amount of nitrogen in a mixed fertilizer makes it prohibitive even from the standpoint of a "crop starter." At present fertilizer prices, the nitrogen in a 2-1-2 mixture costs sixty-two cents a pound. This means that one pays for the nitrogen content at the rate of \$192 a ton for nitrate of soda. Since nitrate is selling for about \$65 the college points out that the farmer pays the difference—\$127—for the mixing of each ton of nitrate of soda purchased in this mixed fertilizer. When purchased as the low grade 1-8 mixture—which fortunately, the fertilizer organization is attempting to have abandoned—the two per cent of nitrogen costs at the rate of \$347 a ton of nitrate of soda.

Thinks Farmer a Poor Accountant

THE average farmer is a poor economist in many ways. Too many times he tries to force the market price for the products that he sells to a higher level, when he is already getting a good market price for his products. Each farmer wants the market price of farm produce to correspond to his particular cost of production, never stopping to ask himself the question, "Am I producing these articles as cheaply as is possible?" The farmer should aim in every instance to improve the quality of his product and lower the cost of production in every way. If your neighbor can raise one hundred bushels per acre on the same kind of soil which you farm, and you are able to raise but fifty bushels per acre, it is not reasonable for you to ask twice as much per bushel as your neighbor in an effort to get the same income from the land.

The thing to do is to find some way of raising one hundred bushels per acre instead of fifty bushels. It would be impractical to think of regulating it from either of the extremes as there is too wide a variation. The average farmer does not keep any accounts of his farming and for this reason he does not know just what his production is



"The Mark of a Perfect Baker"

Producer of Good Cooking —and Smiles!

You always have "good" luck when you bake in a Joy Eclipse oven, for the temperature is so even and so easily regulated to just the degree you want. And think of the convenience of a piping-hot-all-over top, of cooking and ironing at the same time without heating up the oven or over heating the kitchen.

Convenience, economy of fuel and labor, absolute dependability of good cooking results, beauty and cleanliness of white enamel and smooth rounded corners—those are reasons why you will like and want the Joy. See your dealer. He will be glad to show you the many desirable features. Write for Catalog No. 193 and Eclipse Cook Book.

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Cook entire meal at the same time, quickly, easily—no shifting or huddling of pots and pans over two lids.

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Not just "open" or "shut," but regulates heat to just the degree you want.

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Protect your soil and your next year crop profits against injury by excessive water standing on land all winter. Can work land earlier in spring. Add 2 to 3 weeks to growing season. Do farm terracing now. Get



THE Martin Farm Ditcher, Terracer & Road Grader. All-steel, adjustable, reversible; no wheels, levers or cogs to get out of fix. Cuts new farm ditches or cleans old ones to 4 feet deep; builds farm terraces, dykes and levees; grades roads. Does the work of 100 men. Every farm needs one. Send your name for Free Book and Special Introductory Offer. **Owensboro Ditcher & Grader Company, Inc.** Box 515 Owensboro, Ky.

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SAVAGE



The .250-3000 Savage
Bolt Action Model 1920

HERE IT IS!

THE rifle you have always wanted—A Savage Bolt Action. It is the handiest, daintiest, most perfectly modelled little shooting-iron that a gun-crank ever got his hands on.

And it is the strongest, simplest, most dependable weapon that an explorer ever took onto an Arctic ice-floe or into a tropical jungle. And it only weighs six pounds. There's nothing patched-up about it—nothing renovated, or adapted or compromised. It isn't a cut-down musket, or a war-baby reborn.

IT IS A BRAND NEW HUNTING-RIFLE—newly designed from muzzle to butt-plate—built symmetrically around the wonderfully effective cartridge it shoots, and combining every desirable feature of the best military rifles with

the special refinements which the hunter needs.

Its action is the simple military bolt—but re-dimensioned and improved. It has bigger, stronger locking lugs than the Service rifle. It has a shotgun type safety located on top of the tang—the natural, convenient place. The patented magazine design makes it possible to use soft nose, Spitzer point bullets without danger of deforming the points.

The great popularity and success of the .250-3000 Savage determined the cartridge for which this rifle should be designed. This cartridge is loaded with an 87 grain Spitzer point, soft nose bullet 3000 feet a second, accurately enough to make possibles on the 800 yard target and hard enough to penetrate $\frac{3}{8}$ inch boiler plate.

SPECIFICATIONS

22 inch tapered high pressure steel barrel with integral front sight base, checked pistol grip stock and fore-stock pistol grip capped, oil finished one-piece stock, corrugated trigger, corrugated steel shotgun butt-plate, white metal front and flat top sporting rear sights, magazine capacity five cartridges, weight 6 pounds.

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For your future's sake—for the the Good of your business you should see the show of shows the National Dairy Show.

The Whole World is at your elbow and you will be face to face with the leaders—get the breeders best and latest ideas the result of years all in 10 short days.

See the Grove City Plan and how it worked out—see the State Herd Contests—the Thousands of PURE BRED CATTLE—the JUDGING and the Bull and Calf Clubs.

See the Government Display—the Foreign Ideas. Butter and Cheese from Holland, Denmark and Argentine.

YOU CAN NOT AFFORD TO MISS IT.

One thought from one exhibition or Brother Breeder may mean a fortune as it did with a certain visitor last year.

Come and compare notes with the other winners. To be among those present means giving yourself and your business a real chance—this 14th Annual Event will be the biggest one—it's worth the trip—times over.

THE NATIONAL DAIRY SHOW

Oct. 7th to 16th.

UNION STOCK YARDS - CHICAGO

LET'S GO.

When Writing to Advertisers Please Mention
The Michigan Farmer

costing him. Some farmers say that they have tried keeping accounts but became discouraged at the showing they were making and quit it. It seems to me that the farmer would be anxious to continue keeping records after he had learned this much, as this is the only method by which he can find out just where the leakage is taking place. If you had a barrel filled with some liquid and you determined by measuring that it was slowly leaking, you wouldn't say, "Well, I would not look for the leak, because I do not want to find it." No, you would immediately look for the leak and find some way to stop it. Why not do the same thing with your farming if it is not paying as much as it should?

There are too many farmers that do not combine business ability with farming. They depend too much on simply selling their labor after it has been converted into crops. The most progressive farmers that we have are good business men and financiers. They see into the future and are able to meet the conditions when they arise. They are not easily influenced by temporary depressions in market conditions, as they are usually shrewd enough to sit tight and wait for the positive reaction that usually follows.

One thing that many farmers are doing and have been doing for some time is robbing the soil of its fertility. They will be compelled to stop this before a great time, as they are taking too much from the soil and failing to put anything back.

The farmers of today do not have the large families that they did one or two generations ago. At that time in nearly every family there were some large grown-up boys to assist with the work on the farm. But at the present time the farmer usually sees his boys and girls go to town as soon as they get old enough to be of a great deal of help. They confine their children much the same as they were in their youth. Times have changed wonderfully and the youth of today expects those pleasures and enjoyments that belong to this age. The parents that say, "What was good enough for me is good enough for my children," are treading on dangerous ground. What was good enough for you is not good enough for them, neither will the things that we enjoy now be good enough, nor will they satisfy our children when they grow up.

Have things convenient for the women folks. Have water in the house and a gasoline engine for washing and churning and running the separator. Have things handy around the barn, good harness, good horses, good farming implements, good fences. Furnish the boy with a good horse and buggy, and with work within reason. Do not expect too much of your boys, but trust them and make them partners of yours by taking them into your confidence and allowing them to have some things for their own. If you have things about the home and farm that are convenient and handy, and have pleasant and friendly relations existing among the members of the family, the young people will take an added interest in the farm.

One of the most disastrous things with which the farmer has to contend is the prevention of the loss of his animals from the various animal plagues, such as hog cholera, swine plague, tuberculosis, contagious abortion, etc. He reads of sanitation and hygiene in all the farmers' papers and is acquainted with all of these procedures, yet he fails to use the ordinary preventive measures with which he is acquainted. He does not clean up his premises and keep them clean. A few farmers employ professional help in the prevention of these conditions, but more of them do not.—GEORGE H. CONN.

STOCKMEN OWN EXCHANGE.

A STATE live stock exchange has been started by the live stock marketing department of the Illinois Agricultural Association which will be a medium through which feeders and breeders can purchase and sell their stock. Two lines of buying and selling in the exchange are now ready for operation. Lee Divine will handle the hog feeder buying, and E. M. Clark will assist in the buying and selling of grade and purebred dairy cattle. The exchange hopes to be in a position soon to purchase feeder cattle. After these lines are well under way, it is probable that the exchange will act as a medium through which to buy and sell purebred live stock.

This exchange will operate through the eighty-seven county farm bureau organizations of the state, and probably similar to their present county exchanges. A monthly bulletin will be issued to all farm bureau offices containing the "for sale wants" of all the state, and it is likely that this list will be advertised. The "for sales and wants" will come to the I. A. A. office and the exchange will act as a clearing house. It is the plan to charge enough for this service to make it self supporting. A committee of four men who are chairmen of the live stock and dairy committees of the state, farm advisers and the Illinois Agricultural Association will work out the details of the exchange. These men are John T. Montgomery, farm adviser of Henry County; Sidney B. Smith, farm adviser of Macon County; G. C. Johnstone of Bloomington, and Henry McGough of Maple Park.

NATIONAL WOOL POOL URGED BY SHEEPMEN.

ALL Rocky Mountain and Pacific coast states will be represented at the meeting for the purpose of organizing a national wool pool which will be held at Manhattan, Kans., Sept. 21-22, in connection with the meeting of the presidents and secretaries of the Mid-West section of the American Farm Bureau Federation. The wool plan involves the organization of state wool pools and the fusion of these into a national selling organization. It is believed that a national wool selling organization will do away with the competition of the different state pools against each other and would permit the farmers to get a better price for their wool.

SULPHUR AS A FERTILIZER.

Sulphur may be added to the triumvirate of fertilizers now generally applied to Michigan soils, if investigations directed by Dr. M. M. McCool, of the soils department at M. A. C. show that this element should be given a place along with the phosphorus, potash and nitrogen already used.

Results from field tests are variable and soils experts have not yet reached a conclusion. Some of the tests carried out by Dr. McCool and G. M. Grantham in Cass and Van Buren counties have shown questionable improvement, but in order to determine whether sulphur is of value in the humid sections further experiments are being made in other parts of the state this summer.

In order to obtain wider data on the results of such experiments in Michigan, Dr. McCool advises farmers to apply acid phosphate in liberal amounts to all but a very small part of the field. Then to a strip of the remainder they should add sulphur at the rate of forty pounds to the acre, as a top-dressing for alfalfa or clover, and observe the results.—HENSHAW.



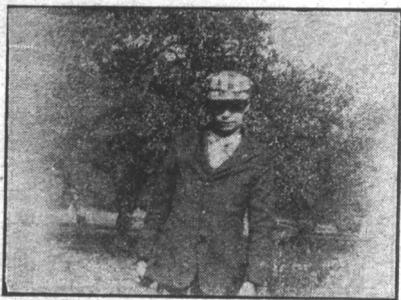
OUR FARM BUREAUS

(Continued from page 298.)

county and some of his club members have been among the prize winners of the state. Vern Diehl, of Davison, a fourteen-year-old boy, exhibited the champion sow of Michigan in 1919. His champion club sow, Wonder Girl 45, was bred by George H. Thompson, and is a remarkably good individual of the Duroc Jersey breed. In 1918 Eva L. Stephens, of Davison, a fourteen-year-old girl, exhibited the state champion club sow. Mr. Smith was away on his vacation when the Circuit Rider visited Genesee county, but a review of his work will appear in a later issue of the Michigan Farmer.

THE members of the Genesee County Farm Bureau made a wise choice of men to guide the work during the next two years. The members of the new executive committee are all men who have made a success of farming and been active in cooperative and organization work for the betterment of agriculture.

Watson Billings, president of the executive committee, owns and operates a two hundred and twenty-acre farm near Davison, where he breeds pedigree grains and feeds upward of seven hundred sheep annually. He has been active in Grange work and served



Vern Diehl, Age 14, and His State Championship Sow.



three years as president of the old County Farm Bureau.

M. T. Cooney, of Gaines, director, has a large farm and practices general farming and stock feeding. He is an influential farmer and has been active in various cooperative undertakings.

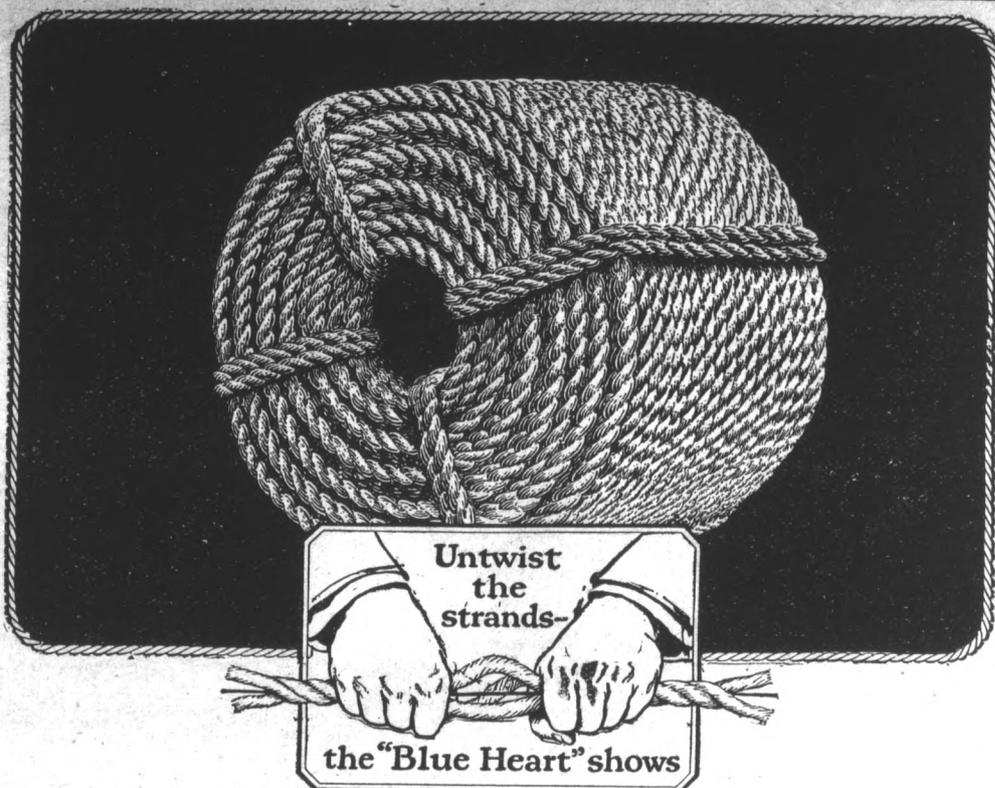
Allen McCandlish, of Flint, director, owns and operates a splendid farm near the city and practices general farming. He has always been one of the boosters for the farm bureau and active in community betterments.

Wilbur Short, of Swartz Creek, director, practices general farming on a large farm near Swartz Creek. For a number of years he has been active in cooperative work and has a host of friends among the farmers of that section of the county.

W. C. Pliter, of Clio, director, owns and operates one of the best small farms in the county. He is thoroughly qualified to represent the farmers of his district in all matters relating to the upbuilding of the agriculture of the county.

Calvin D. Beecher, of Flushing, director, conducts a general farming and stock feeding business. He is a good farmer and a live wire among the farmers of the county. For years he has been prominent in cooperative movements.

O. G. Anderson, of Grand Blanc, director, owns and operates a splendid dairy farm. He has been prominent in cooperative work and is qualified to deal with the many problems confronting the County Farm Bureau.



A rope built to deliver more strength than you require

H. & A. "Blue Heart" Manila Rope meets every test in every kind of weather

Here is a rope so tough, so strong, that a piece the size of your thumb will carry a 3-ton load without breaking.

A rope that will stand the heaviest strains and live through season after season of work in every kind of weather.

H. & A. "Blue Heart" Manila Rope—spun from the toughest of manila fibre—is guaranteed to deliver more strength than is specified as standard by the United States Government Bureau of Standards. If it doesn't you are entitled to a new rope.

Use it over pulleys; let it pull your heaviest loads—and see it stand up under work that would frazzle and break ordinary rope.

A rope may outwardly look strong, and capable of standing any strain—and on the inside be ground to powder—ready to break with a sudden weight.

H. & A. "Blue Heart" Manila Rope is built to stand these intense strains—to deliver more strength than you require.

And yet the cost is no more than that of ordinary rope!

A rope whose strength is insured There are many fibres used in rope making, of varying strength and durability. Manila, the strongest, the toughest, has numerous substitutes which closely resemble it.

The public, confused by this similarity in appearance, has had to buy in the dark and trust to the honesty of the maker for good rope.

The eye cannot detect adulterations. What looks like excellent rope will often fray to pieces when comparatively new.

How, then, can you tell? There's an easy way. Pick up any piece of rope in your hands, untwist the strands, and—

If you find a thread of blue running through the center, a Blue Heart, then you will know that you have found a good rope, a rope built to deliver more strength than you require.

Then you will know that you have found genuine H. & A. "Blue Heart" Manila Rope.

Let H. & A. "Blue Heart" Manila Rope do your heavy work

A halter made of H. & A. "Blue Heart" Manila Rope has three times the strength of a leather halter. A piece of H. & A. "Blue Heart" Manila Rope the size of your little finger will carry the weight of fifteen or twenty men.

And with this strength you get a rope that is flexible, smooth-surfaced, easy to handle, and that resists water.



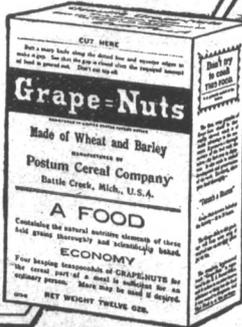
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There's no waste to Grape-Nuts

and it saves sugar, for it contains its own sweetening

No cooking is necessary and the likable flavor of this wheat and malted barley food is equaled only by its economy.

Grocers everywhere sell Grape-Nuts.



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Make \$40 a Day

Wood will be in demand this winter. You can make big money with the Phillips One-Man Drag Saw—Saws 15 to 35 Cords Daily

Fells trees—makes ties. Engine also runs other farm machinery. "I ran my Phillips Saw one day and made \$36.80 sawing stove wood lengths. All done with one man—easily.—J. A. Coverdale." Just send name—a card will do—for free folder and money saving prices.

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Complete line of steel roofs and chutes for silos. Paints for all kinds of farm buildings at money-saving prices direct from manufacturer to buyer. Write for prices and special agents' proposition.

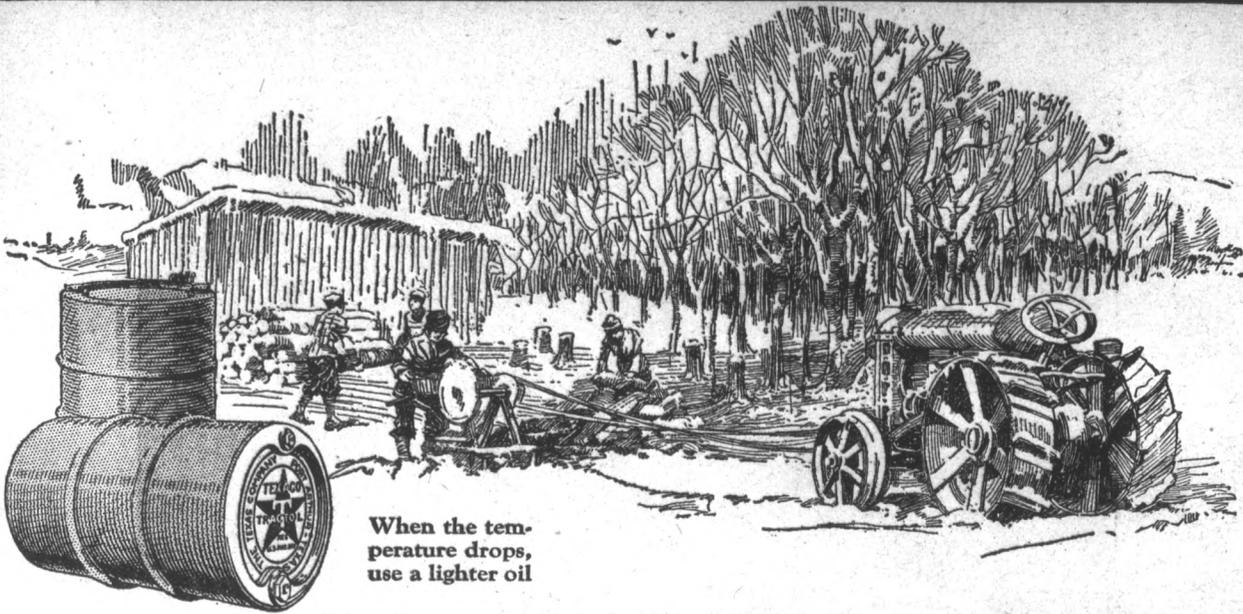
HOOSIER SILO CO. Dept. M-27 Muncie, Ind.

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Grade "B" is intended for large engines in severe summer conditions. Grade "C" for large engines in winter. By winter, frost temperature (about 40°F) is understood. For smaller engines Grade "C" is used in summer, while Grade "D" is recommended for winter use.

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COMPARE

—Then Buy

Play safe. Compare several of the leading makes of cream separators, point for point—before you act. Any dairyman can choose right if he follows this plan. The danger comes in accepting claims which do not "square up" with performance.

If you start in to seriously consider comparisons, here are some of the commanding features that you'll quickly note about the United States—the separator that holds and sustains the world's record for close separation:

- 1—Perfected Disc Bowl a marvel of close skimming, easy cleaning and assembling.
- 2—Crank or power can be attached on either side.
- 3—Fewer revolutions of crank make turning easy.
- 4—The only practical and reliable Bell Speed Indicator.

Be your own judge and jury—you are the one who pays. We'll be glad to send you all of our booklets; write

Vermont Farm Machine Corporation

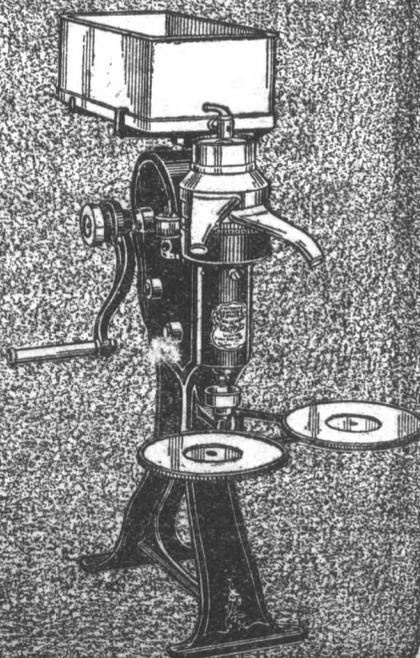
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Chicago, Ill.
53 W. Jackson Blvd.

Salt Lake City, Utah
Portland, Ore.

UNITED STATES CREAM SEPARATOR WITH PERFECTED DISC BOWL



WOOL, GRAIN RATES, ROADS, ETC.

(Continued from page 299.)

the solution of this latter problem hangs the volume of business in all agricultural sections, which means by far the greater part of the country. From every state and every section comes the complaint of the lack of cars as the greatest of all handicaps to the transaction of business, and one of the moving causes of the continuance of high prices.

"While ranges and pastures, save here and there, are generally in good shape, the live stock industry is not in a prosperous condition on the whole. The general statement is that the feed is much too high in proportion to the price of live stock. Especially that feeders, who buy feed and do not raise it for their live stock, are operating at a loss. There is a general belief that there are fewer cattle and hogs in the country than at this time last year, but probably as many sheep. Experience has shown, however, that these estimates are necessarily not very dependable at times. In some census years they have been very far from the mark on the basis of taking census returns as the correct estimates. The poultry and dairy industries are steadily increasing in all sections, despite the high prices for feed."

THE decline in prices of farm products is causing the farmers tremendous losses. This is the assertion of Sherman J. Lowell, master of the National Grange, who recently spent some time at the Washington Grange headquarters, after speaking in New England and several other states. "I have never seen the farmers hit worse by the drop in prices and the stagnation of their markets than I have experienced on this trip," Mr. Lowell said. "Potatoes have slumped so that New Jersey growers are facing losses of a serious character. The tomato market has gone all to pieces, and thousands of bushels are rotting on the vines, while other thousands are rotting on the loading platforms, because the growers are asked to prepay freight, when their last shipment did not bring enough to pay freight charges."

Mr. Lowell said that when he was in New Jersey the growers were receiving \$2.40 a bushel for their potatoes, which left them a small profit. Since then there has been a slump of \$1 a bushel, bringing the price down to \$1.40. It costs not less than \$2 a bushel to grow these potatoes. The seed and fertilizer cost \$175 an acre before the ground was plowed. Potato pickers have a union, which has established a charge of 65 cents a barrel for picking up the potatoes after they are dug.

Coming down into Maryland, Mr. Lowell found the tomato growers in the midst of just as bad a situation as was confronting the New Jersey potato growers. They were being offered 25 cents a five-eighths bushel basket, which did not pay the cost of the basket. Growers refuse to pick at this price, and will plow under their crops. "Problems of this kind," he said, "will be taken up at the meeting of the National Grange in Boston, November 10, at which 10,000 farmers are expected to be present."

FOR WHEAT GROWERS' POOL.

As a probable deterrent to future undesirable wheat speculation, the formation of a co-operative pool among Australian wheat growers was advocated recently in a report of the Victorian Royal Commission on the cost of living. It was pointed out that, while the wheat harvest is produced in one month of the year, it is consumed by degrees on outlay and remuneration for risk.



Take A Vacation This Fall!

HERE are Thompson's ideas on farming.

"I've been watching my neighbors for many years. Some farmers 'dig in' the year around. They make money, but—

"Last fall when I got back from two weeks' shooting my neighbor, Hutchins, tried to get me riled because I'd been loafing.

"I didn't answer him. It wasn't any use, but I don't mind saying that Hutch is envious because we get more done and treat ourselves better than he does. We all get in a rut if we stick too close to our job. He never leaves the farm except to go to town.

"And you ought to to see the deer I brought back. I sent some venison over to Hutchins just for the fun of it."

Remington for Shooting Right

Men like Mr. Thompson appreciate Remington High Power Auto-loading and Slide Action Rifles. They have great respect for the unquestioned responsibility and experience behind all Remington products.

For more than 100 years it has been the practice of Remington to keep in advance in improvements and to keep faith with the sportsman and the dealer on the basis of actual performance

behind all firearms and ammunition.

The first Remington was produced in the shop of a farmer-blacksmith in 1816. Not entirely on that account, but because of practical merit, Remington rifles have always held a strong position with folks on the farm.

Any one of the Remington dealers in your town will be glad to serve you. There are over 88,000 of them throughout the country.

Send for General Catalog

REMINGTON ARMS COMPANY, Inc.

Largest Manufacturers of Firearms and Ammunition in the World

Woolworth Building, New York City

Successor to The Remington Arms Union Metallic Cartridge Company, Inc.



Chart of Recommendations for TRACTORS
(Abbreviated Edition)
How to Read the Chart

The correct grades of Gargoyle Mobiloils for tractor engine lubrication are specified in the Chart below.

A means Gargoyle Mobiloil "A"
B means Gargoyle Mobiloil "B"
BB means Gargoyle Mobiloil "BB"
Arc means Gargoyle Mobiloil Arctic

These recommendations cover all models of tractors unless otherwise specified.

Where different grades of Gargoyle Mobiloils are recommended for summer and winter use, the winter recommendation should be followed during the entire period when freezing temperatures may be experienced.

This Chart is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and constitutes a scientific guide to Correct Tractor Lubrication.

If your tractor is not listed in this partial chart, consult the Chart of Recommendations at your dealer's, or send for booklet, "Correct Lubrication for Tractors," which lists the Correct Grades for all Tractors.

NAMES OF TRACTORS	1920		1919		1918		1917		1916	
	Summer	Winter								
Allis-Chalmers (General Purpose)	A	A	A	A	A	A	A	A	A	A
Allis-Chalmers (All Other Models)	A	A	A	A	A	A	A	A	A	A
All Work	A	A	A	A	A	A	A	A	A	A
Appleton	BB									
Aurum-Turner (18-30)	BB									
Aurum-Turner (22-45)	BB									
Aurum-Turner (15-30) (Waukesha Eng.)	BB									
Aurum-Turner (All Other Models)	BB									
Avery (5-10)	A	A	A	A	A	A	A	A	A	A
Avery (Motor Cultivator & Planter)	A	A	A	A	A	A	A	A	A	A
Avery (All Other Models)	A	A	A	A	A	A	A	A	A	A
Bates Steel Mule	B	B	B	B	B	B	B	B	B	B
Bean-Track-Pull	B	B	B	B	B	B	B	B	B	B
Big Bull	B	B	B	B	B	B	B	B	B	B
Buckeye (Findlay, Ohio)	B	B	B	B	B	B	B	B	B	B
Case (9-18)	B	B	B	B	B	B	B	B	B	B
Case (10-18)	B	B	B	B	B	B	B	B	B	B
Case (10-20)	B	B	B	B	B	B	B	B	B	B
Case (12-25 & 20-40)	B	B	B	B	B	B	B	B	B	B
Case (15-27)	B	B	B	B	B	B	B	B	B	B
Case (All Other Models)	B	B	B	B	B	B	B	B	B	B
Cletrac	BB									
Cleveland	BB									
Coleman	B	B	B	B	B	B	B	B	B	B
Common Sense	B	B	B	B	B	B	B	B	B	B
C. O. D.	BB									
Craig	BB									
Creeping Grip	B	B	B	B	B	B	B	B	B	B
E. B. (9-16)	B	B	B	B	B	B	B	B	B	B
E. B. (Reefer)	B	B	B	B	B	B	B	B	B	B
E. B. (All Other Models)	B	B	B	B	B	B	B	B	B	B
Flour City (20-35)	B	B	B	B	B	B	B	B	B	B
Flour City (All Other Models)	B	B	B	B	B	B	B	B	B	B
Fordson	BB									
Gas Pull	BB									
Grain Belt	BB									
Happy Farmer	BB									
Hart Parr	BB									
Heider	BB									
Heston	BB									
Hollis	BB									
Holt Caterpillar (Model 18)	BB									
Holt Caterpillar (Model 45)	BB									
Holt Caterpillar (All Other Models)	BB									
Huber	BB									
Illinois	B	B	B	B	B	B	B	B	B	B
Indiana	A	A	A	A	A	A	A	A	A	A
K. C. Prairie Dog	BB									
La Crosse	B	B	B	B	B	B	B	B	B	B
Liberty	B	B	B	B	B	B	B	B	B	B
Lightfoot	B	B	B	B	B	B	B	B	B	B
Lincoln	B	B	B	B	B	B	B	B	B	B
Mogul (8-16)	B	B	B	B	B	B	B	B	B	B
Mogul (All Other Models)	B	B	B	B	B	B	B	B	B	B
Moline Universal	BB									
Monarch	BB									
National	BB									
Neverslip (10-18, 10-6)	BB									
Neverslip (All Other Models)	BB									
New Age	BB									
Nilson	BB									
Oil Pull (14-28, 10-20)	B	B	B	B	B	B	B	B	B	B
Oil Pull (12-20, 16-30)	B	B	B	B	B	B	B	B	B	B
Oil Pull (20-40)	B	B	B	B	B	B	B	B	B	B
Oil Pull (All Other Models)	B	B	B	B	B	B	B	B	B	B
Parrett	B	B	B	B	B	B	B	B	B	B
Pomona	B	B	B	B	B	B	B	B	B	B
Royce	B	B	B	B	B	B	B	B	B	B
Rumely (8-16)	B	B	B	B	B	B	B	B	B	B
Russell (Giant)	B	B	B	B	B	B	B	B	B	B
Russell (All Other Models)	B	B	B	B	B	B	B	B	B	B
Sandusky	BB									
Square Top (15-30)	BB									
Square Top (18-35)	BB									
Titan	BB									
To-Bo	B	B	B	B	B	B	B	B	B	B
Townsend	B	B	B	B	B	B	B	B	B	B
Trundair	BB									
Turner Simplicity	BB									
Twin City (Model 15)	BB									
Twin City (Model 16)	BB									
Twin City (Model 12-20)	BB									
Twin City (Model 20-35)	BB									
Twin City (All Other Models)	BB									
Vale	BB									
Wallis	BB									
Wallis (Junior)	BB									
Waterloo Boy	BB									
Wheat	BB									
Whitney	BB									
Whitney (Senior)	BB									

Tractor Shortage

A problem which every farmer must face

FOOD is the reconstructor of nations. In their efforts to regain a normal peace production, European Peoples are bidding their bottom dollar for food—and machinery to produce food.

Here in America, lack of man power has for some time caused a scramble for farm machinery. Authoritative sources predict a serious shortage of tractors.

This condition makes it more important than ever that the farmer get the utmost service from his tractor. New tractors may be hard to get. In any case the replacement cost will be high.

In the conservation of the tractor no one thing is more important than scientific lubrication.

Working constantly in a cloud of dust and grit, farm tractors demand lubrication of the highest quality. These lubricants, to be efficient, must be scientifically cor-

rect for the engine of the particular make of tractor on which they are used.

The Vacuum Oil Company has for years been recognized as an authority on scientific lubrication. Gargoyle Mobiloils when used as specified in our Chart of Recommendations have time and again proven their superior value in actual savings of oil and fuel and in greater power delivered.

The Charts shown here will tell you exactly what grade of Gargoyle Mobiloils will enable you to get most power and longest service from your auto, truck and tractor.

Gargoyle Mobiloils are put up in 1- and 5-gallon sealed cans, in 15- 30- and 55-gallon steel drums, and in wood half-barrels and barrels.

Write for "Correct Lubrication," a booklet containing complete automobile and tractor charts and other valuable data.



Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container.

VACUUM OIL COMPANY, New York, U. S. A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

DOMESTIC BRANCHES: New York Philadelphia Detroit Minneapolis Kansas City, Kan. Boston Pittsburgh Chicago Indianapolis Des Moines

Chart of Recommendations for AUTOMOBILES
(Abbreviated Edition)

How to Read the Chart

The Correct Grades of Gargoyle Mobiloils for engine lubrication are specified in the Chart below.

A means Gargoyle Mobiloil "A"
B means Gargoyle Mobiloil "B"
E means Gargoyle Mobiloil "E"
Arc means Gargoyle Mobiloil Arctic

These recommendations cover all models of both passenger and commercial vehicles unless otherwise specified.

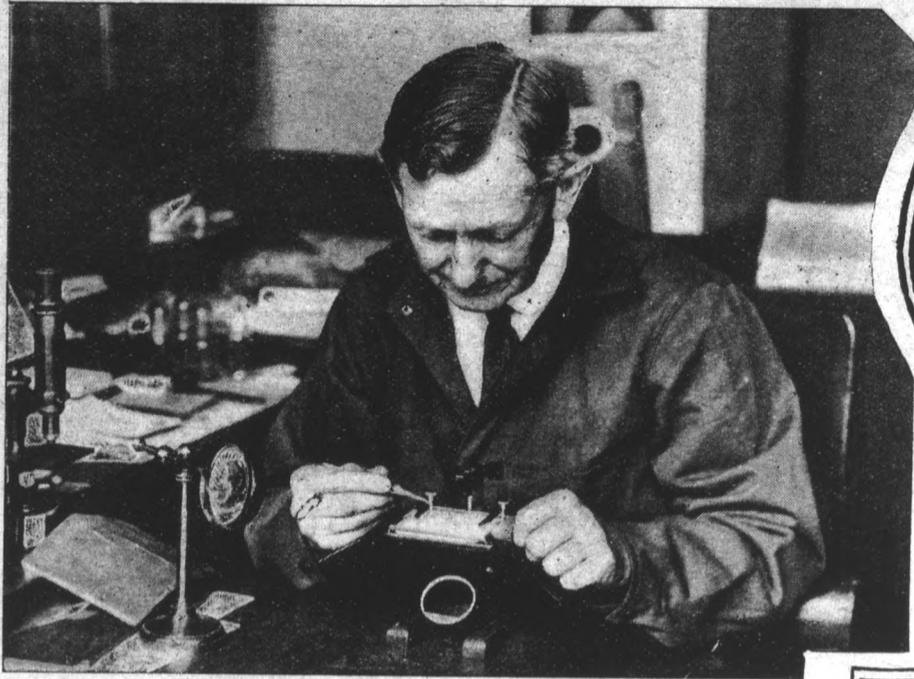
Where different grades of Gargoyle Mobiloils are recommended for summer and winter use, the winter recommendation should be followed during the entire period when freezing temperatures may be experienced.

This Chart is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and constitutes a scientific guide to Correct Automobile Lubrication.

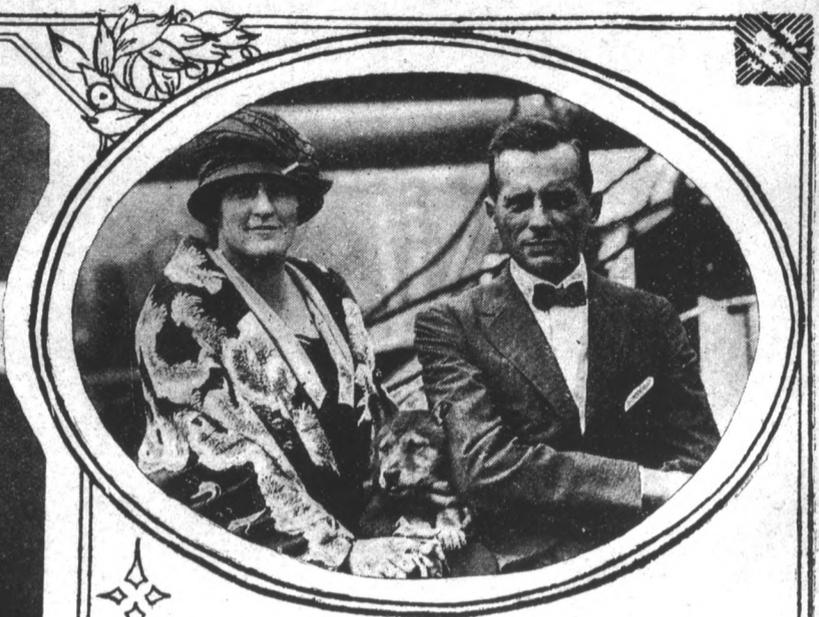
If your car is not listed in this partial chart, consult the Chart of Recommendations at your dealer's, or send for booklet, "Correct Lubrication," which lists the Correct Grades for all cars.

NAMES OF AUTOMOBILES AND MOTOR TRUCKS	1920		1919		1918		1917		1916	
	Summer	Winter								
Allen	A	Arc								
Anderson	A	A	A	A	A	A	A	A	A	A
Armstrong (1 ton)	A	A	A	A	A	A	A	A	A	A
Auburn (All Other Models)	Arc									
Auburn (6 cylinder & 6-30)	Arc									
Auburn (6-39 hp (Twelve-Valve Eng.))	Arc									
Buick	A	A	A	A	A	A	A	A	A	A
Cadillac	A	A	A	A	A	A	A	A	A	A
Chalmers (6-40)	A	A	A	A	A	A	A	A	A	A
Chalmers (All Other Models)	A	A	A	A	A	A	A	A	A	A
Chandler Six	Arc									
Chevrolet (8 cylinder)	A	A	A	A	A	A	A	A	A	A
Chevrolet (E. A.)	A	A	A	A	A	A	A	A	A	A
Chevrolet (E. B. & 1 ton)	A	A	A	A	A	A	A	A	A	A
Chevrolet (All Other Models)	Arc									
Cleveland	A	A	A	A	A	A	A	A	A	A
Clyde (100 hp)	A	A	A	A	A	A	A	A	A	A
Clyde (All Other Models)	Arc									
Cole (6 cylinder)	A	A	A	A	A	A	A	A	A	A
Cole (8 cylinder)	A	A	A	A	A	A	A	A	A	A
Cummins	A	A	A	A	A	A	A	A	A	A
Dodge Brothers	A	A	A	A	A	A	A	A	A	A
Edison	A	A	A	A	A	A	A	A	A	A
East	A	A	A	A	A	A	A	A	A	A
Federal (Model S-K)	A	A	A	A	A	A	A	A	A	A
Federal (Special)	Arc									
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	A	A	A	A
Garford (V-8 & 6)	A	A	A	A	A	A	A	A	A	A
Garford (All Other Models)	A	A	A	A	A	A	A	A	A	A
Grant (6 cylinder)	A	A	A	A	A	A	A	A	A	A
Grant (8 cylinder)	Arc									
Grant (All Other Models)	Arc									
Haynes (6 cylinder)	A	A	A	A	A	A	A	A	A	A
Haynes (8 cylinder)	A	A	A	A	A	A	A	A	A	A
Holmes	B	B	B	B	B	B	B	B	B	B
Hudson Super Six	A	A	A	A	A	A	A	A	A	A
Hudson (All Other Models)	A	A	A	A	A	A	A	A	A	A
Hupmobile	A	A	A	A	A	A	A	A	A	A
Jordan	Arc									
Jumbo	A	A	A	A	A	A	A	A	A	A
King (8 cylinder)	A	A	A	A	A	A	A	A	A	A
Kissel Kar (Model 40)	A	A	A	A	A	A	A	A	A	A
Kissel Kar (All Other Models)	Arc									
Kline Kar	Arc									
Leaning	Arc									
Liberty	A	A	A	A	A	A	A	A	A	A
Locomobile	A	A	A	A						

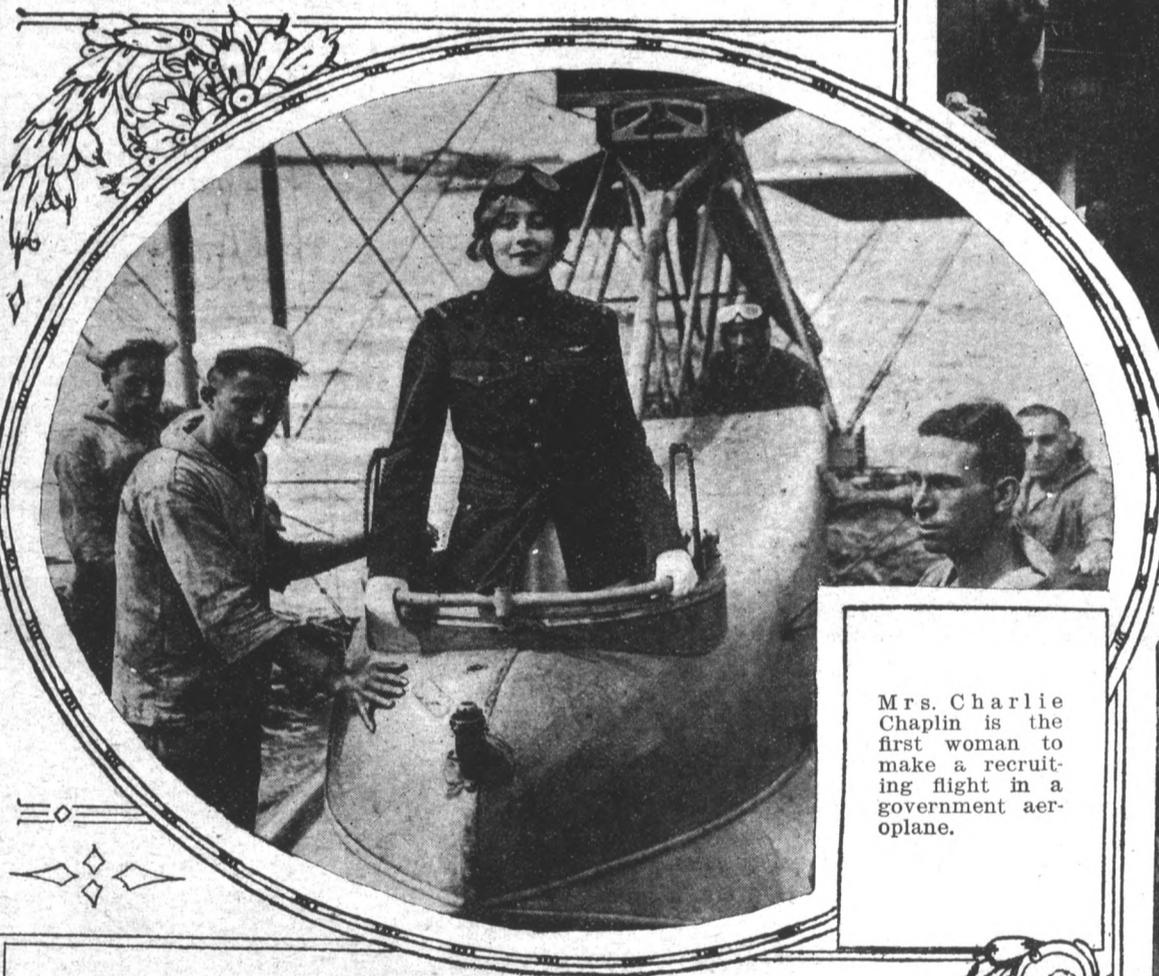
WORLD EVENTS IN PICTURES



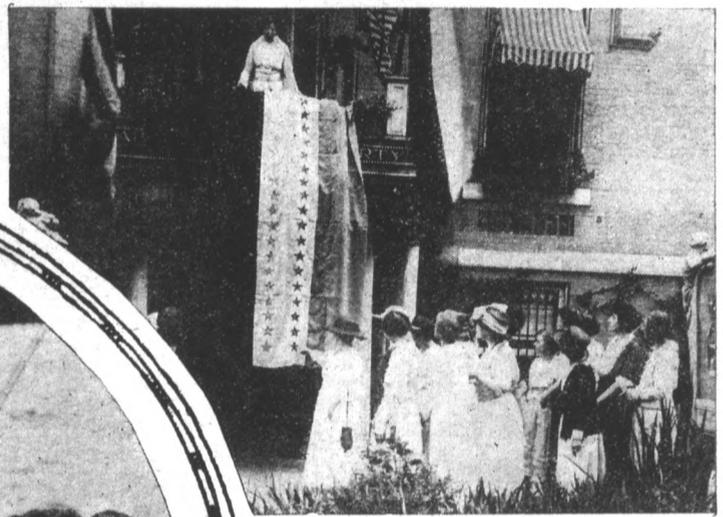
This chemist discovered solutions which may double the life of leather used in the manufacture of shoes.



Compelled to flee from Asiatic Russia when the Bolshevist Army advanced upon Vladivostock in 1919.



Mrs. Charlie Chaplin is the first woman to make a recruiting flight in a government aeroplane.



Unfurls suffrage flag with thirty-six stars, which means that the women of the country now have the privilege of voting.



During the recent fighting in Poland many prisoners were captured by the Poles. Here is a group of typical Bolshevist soldiers taken in the fighting around Warsaw.



A scene in Borneo, showing how natives protect their children from the wild boar, scorpions, snakes and crocodiles. The baby is swaddled up and hung on a rattan vine stretched from tree to tree.

Laugh at Your Fuel Bills

When you install the

MUELLER

The "Big 3"

PIPELESS FURNACE



YOUR fuel bills cut $\frac{1}{3}$ to $\frac{1}{2}$. No more dirt-scattering, air-poisoning stoves. Comfortable warmth in every room *guaranteed*. Your whole house healthfully ventilated with clean, moist, warm air.

That's your measure of satisfaction when you install the Mueller. No "ifs" or "doubts", this one-register furnace is a proved success. A supreme success because three big, exclusive construction features insure its efficiency. Study them.

The "BIG 3"

Your Guide to Heating Comfort

1 Large and Properly Proportioned Register Face—Insures delivery of big volume of warm, moist air and rapid distribution of heat to every room in the house.

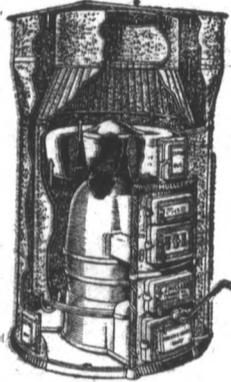
2 Spacious, Unobstructed Air Passages—Permit withdrawal of

large volume of cool air from rooms while delivering an equally large volume of warm air into them.

3 Vast and Scientifically Designed Heating Surface—Insures full benefit from fuel burned. Prevents hard firing, over-heated castings and big fuel waste.

Install Your Mueller Now

Write today for free Mueller booklet which tells you why the Mueller is different from all other pipeless furnaces. Explains how it works—how it heats every room upstairs and down—burns hard or soft coal, coke, wood, lignite or gas and saves $\frac{1}{3}$ to $\frac{1}{2}$. Shows how quickly installed and easily operated. Gives full details of *guarantee* to heat every room in your house comfortably. Send for this book today.



Sectional View of Mueller Pipeless

L. J. MUELLER FURNACE CO.

Makers of Heating Systems of All Types Since 1857
195 Reed Street, Milwaukee, Wis.

DISTRIBUTORS:
L. J. Mueller Furnace Co.,
278 Jefferson Ave. East, Detroit, Mich.
23 other distributing points. Immediate shipment to any part of the country.

Did You Ever Wish to Live On an ORANGE GROVE In Sunny California?

NOW Is Your Opportunity— 38 Groves to be Sold at Auction Beginning October 14, 1920

Trip to California FREE to Purchasers

An opportunity like this seldom presents itself during a man's lifetime.

To close an estate we have been commissioned to sell at Public Auction, 337 acres of Orange Groves, divided into 38 separate parcels, or individual groves of assorted sizes.

These groves are located in the famous Riverside Orange District, in sandy loam soil, with an abundance of water and a practically frostless belt where Smudge Pots HAVE NEVER BEEN USED. They have recently received \$20,000 worth of fertilizer, plowed in furrows, and have been consistently watered.

Average age of trees from 9 to 16 years, and they are free from black scale, red scale, red spider and other pests. These facts permit the handling at A MUCH LESS COST PER ACRE than ordinary Orange Groves.

FRUIT is of high quality—about 60 per cent running to famous "SUNKIST" brand, commanding top market prices. Groves range in size from $\frac{3}{4}$ to $2\frac{1}{4}$ acres with average of 5 to 10 acres each. Some have houses and buildings on them. Fruit from one of these groves captured Sweepstakes Prize at San Bernardino, California, Orange Show for MOST PERFECT ORANGE.

SALE of these Groves will be by PUBLIC AUCTION commencing Oct. 14, 1920. Liberal and convenient terms may be arranged. PLAN YOUR CALIFORNIA TRIP to be here in time to examine the groves before the Auction.

Three railroads nearby and one electric road on property. R. F. D. and deliveries from Riverside stores, only 3 miles away. 53 miles from Los Angeles, reached by trolley, railroad or auto boulevard. Write or wire for full and complete information to

HART and BALL

Los Angeles' Progressive Auctioneers,

XXX1026-1028 South Figueroa St., Los Angeles, Calif.

References: Helman Commercial Trust & Savings Bank, or Union Bank and Trust Co., both of Los Angeles.

Will Churches Face the Facts?

Our Weekly Sermon—By N. A. McCune

MUCH REGRET has been expressed over the alleged failure of the Interchurch World Movement. But there need be no lamentations over it. The Interchurch Movement did not fail. It did not go on as far as we wish it might, but much was accomplished, nevertheless. The method of the Interchurch was, first of all, to find out the facts. That is the accurate and the common sense way of going at anything. And the facts are sometimes very disconcerting things to face. For hundreds of years water from Lenzem, Mecca, has been sent to all the Mohammedan princes of the world. For the water of the Holy Well is holy, so all good Mohammedans believe. But one day it occurred to an English surgeon to make an analysis of the water of the Holy Well. He found that it is sewage, seven times more dense than London sewage. The holy well has been the cholera centre of Arabia for centuries. Would the pious Mohammedans believe this? They would not. But they would have been delighted if they could have killed the English physician.

SOME of the things that the state and county and city surveys brought out were almost as disconcerting as that. For instance, New York has more young folk under twenty years of age than any city in the world, and one-half of them receive no religious instruction whatever. Isn't that fine breeding ground for bolshevists and other reds? We have heard much about overchurching. But the rural survey of a state as thickly populated as Ohio shows that there are large areas where there is not a country church open. In some instances no church has ever been built. In other localities there are churches but they are hopelessly inefficient. In one township there are 2,100 people. One church is in the middle of the township, but it ministers to exactly 134 people. Another community, noted for its productive soil and excellent farms, has 1,100 young people. In this community there is a church building, but no resident minister. And on the other hand there is village after village, with one hundred people or so, containing six churches. It has been shown that there is a direct relationship between the financial prosperity of a community, and the state of its church or churches. The present secretary of agriculture says so, and the facts bear him out. As tenantry increases, the rural church declines, land values tend to decline, production is diminished, while illiteracy, illegitimacy, crime and physical degeneration mount up. There are sections in rural New York where there has been no religious service for years. Some of the men did not know what the church census man meant when he asked them what denomination they preferred.

SEVEN out of ten children in the United States do not receive any religious instruction, outside of their homes. And it is to be feared that the home does not count much, in a very large percentage of cases. The average teaching period in the Protestant Sunday School is twenty-five minutes, and the average number of hours devoted in the church to actual religious instructions is thirteen hours per year. No wonder so many young people drift away from the church. It simply means nothing to them. Set over against this 13 hours yearly instruction that the Protestant child receives there are 216 hours per year for the Catholic child, and 326 hours for the Jewish boy and girl. More money is paid out for janitor work in the

average church than for maintaining the Soundy School and other educational boards.

HOW, in all this there is an element of danger. It is possible to judge everything by counting noses. Lists of figures are not everything. Spirit and cause count more than the multiplication table. The poet has said,

"My good blade carves the casques of men,

My tough lance thrusteth sure,

My strength is as the strength of ten
Because my heart is pure."

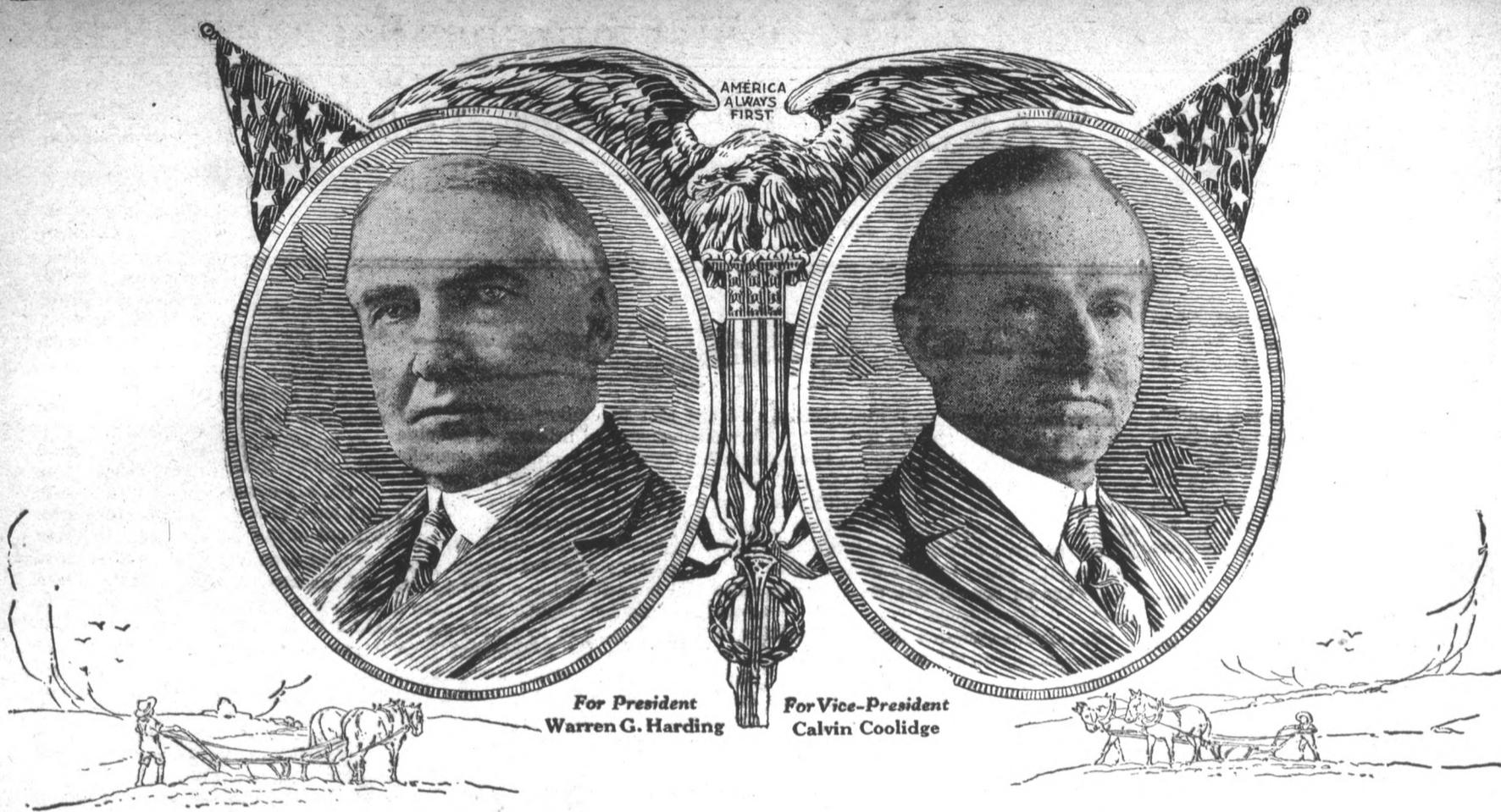
And the Psalmist says, "One shall chase a thousand." But these facts and hundreds more must be faced. The strength of the God of Hosts must be summoned to meet them. If America is to be saved, it will not be done by laws and more laws, nor by machine guns. It will be saved by the hearts of its people. And surely there is a call for sacrificing labor now. The superfluous churches in the vilages must be closed. The empty churches in the open country must be opened. Young men must enter the rural parsonate who had not heretofore considered it. Our want of the heroic spirit often amazes the foreigner who comes to make his home among us. He has been oppressed, and he has heard of the equal opportunity that exists in America, for all men. But lo, on coming here he finds us giving small thought to democracy or fraternity. We are all very busy in business. The magic word "sacrifice" is seldom heard. A young Russian immigrant girl committed suicide a few years ago in Chicago. She said she could find no one who had high ideals, and the women whose hate she trimmed would not speak to her on the street. A new list of facts is a renewed call to service. The toil and suffering of the pioneer fathers may have to be repeated, in a new way. The great causes are not dead. President Poincare said, "Only the dead have a right to rest." Richard Castler was one of the early factory reformers in England. He did not believe that little children should work ten to fourteen hours a day in a factory. Castler died penniless and alone. Among his last words were, "The noblest martyrdom is an old age, impoverished by the generous sacrifices of youth." The interchurch surveys have shown us ourselves. They have held up the mirror. We can see ourselves as we are, in the church, and outside the church. It is a steam gauge, and shows where the pressure is low, and where the fire in the boiler has gone out entirely. It is for us now to fire up, and if need be to relight the fires. And this any church or any community, by the grace of God, can do.

Sunshine Hollow Items

By Rube Rubicon

Hank Hopkins says that few city men cannot drive by a farm and with one sweep of the hand manage the place better than the farmer who is living upon it. He says it is true that farmers seldom offer advice while in town on how to run the hash house, peanut stand, bank or village government. Hank says that reciprocity would be appreciated by Sunshine Hollow folks.

Lawrence Morgan and Alexander Tooley have been fighting again. Lawrence told Alexander that he could fly away if he flapped his ears. Alexander told Lawrence that if he had four times as many brains as he had he would still be half witted. Then they started soaking each other just as the dinner bell rang. So they quit, as both said they were hungrier than they were mad.



The Republican Party and the Farmer

To the Farmers of the Nation:

Next November you will join with all other good citizens in choosing a president of the United States for the four years beginning March 4, 1921.

You must choose either Warren G. Harding, the Republican nominee, or Gov. Cox, the Democratic nominee. There is no third choice. One or the other of these two men will be elected. The affairs of the nation during the next four years will be directed either by a Republican or by a Democratic administration.

Which will best serve your interests, both as a citizen and as a farmer?

Let us look at it for a moment from the purely farm standpoint.

Your experience of the past seven years, and especially during the past three years, tells you what you may fairly expect from a Democratic administration.

Your industry, the greatest in the nation, was singled out as the target for a price fixing policy which has limited the prices of the things you had to sell while leaving you exposed to the exactions of profiteers in practically every other line of production, distribution and speculation.

You have been told what you could receive for your staple products, either directly or indirectly; you have been subjected to restraints as to shipping; and all sorts of exactions and annoyances.

But there has been no limit placed upon what others might charge you for the things you have had to buy.

The result of this unwise, unsympathetic policy, while discouraging and harmful to the farm producer, has not helped the consumer. On the contrary, it has made conditions worse for him, because it has tended to curtail production and at the same time has stimulated speculation and profiteering.

The Republican party is not a class or sectional party; its policies are intended to upbuild the entire nation. But it believes that it is essential to the welfare of all our people that the farmer, whose industry is the very foundation of our national prosperity, should have his fair share of the wealth which his labor and enterprise create. It believes that if our agriculture is to be maintained the farmer must have an absolutely square deal.

The Republican party therefore, by its platform and by the utterances of its candidates, is pledged to a thoroughly sympathetic, practical, helpful at-

titude toward American agriculture. It promises a well thought out, constructive program which will help make farming more profitable and therefore make our farms more productive.

In contrast with this helpful attitude of the Republicans the Democratic party offers no protection to the American farmer against the cheap farm products of foreign lands; on the contrary, it re-affirms its tariff-for-revenue-only policy which throws the American market wide open to the dairy products, grains and meats produced on the cheap land and by cheap labor of foreign countries. It promises no relief from the price-fixing and price drive policies which have cost the farmers hundreds of millions of dollars during the past two years and have helped no one but the speculator and the profiteer. Nor does it even recognize the existence of the violent fluctuations in the prices of farm products—more violent and unreasonable during the past three years than ever before in our history—which have caused you such heavy and unnecessary losses.

Pledges of the Republican Party

Here are the formal pledges of the Republican party as set forth in the agricultural plank of the national platform. Read them carefully, for they are of vital interest to you.

Practical and adequate farm representation in the appointment of governmental officials and commissions.

The right to form co-operative associations for marketing their products, and protection against discrimination.

The scientific study of agricultural prices and farm production costs at home and abroad, with a view to reducing the frequency of abnormal fluctuations, and the uncensored publication of such reports.

The authorization of associations for the extension of personal credit.

A national inquiry on the co-ordination of rail, water and motor transportation, with adequate facilities for receiving, handling and marketing food.

The encouragement of our export trade.

An end to unnecessary price fixing and ill-considered efforts arbitrarily to reduce prices of farm products, which invariably result to the disadvantage both of producer and consumer.

The encouragement of the production and importation of fertilizing material and for its extended use.

The extension of the federal farm loan act so as to help farmers to become farm owners and thus reduce the evils of farm tenantry, and also to furnish such long-time credit as farmers need to finance adequately their larger and long-time production operations.

Revision of the tariff as necessary for the preservation of a home market for American labor, agriculture and industries. (Note that the pledge to the farmer is just as specific as to labor and capital.)

Harding's Endorsement

Senator Warren G. Harding, the Republican nominee, in his speech of acceptance took advanced ground on behalf of agriculture. He said:

"I hold that farmers should not only be permitted but encouraged to join in co-operative associations to reap the just measure of reward merited by their arduous toil.

"Our platform is an earnest pledge of renewed concern for agriculture, and we pledge effective expression in law and practice. We will hail that co-operation which will make profitable and desirable the ownership and operation of small farms and which will facilitate the marketing of farm products without the lamentable waste which exists under present conditions.

"A Republican administration will be committed to a renewed regard for agriculture and seek the participation of farmers in curing the ills justly complained of and aim to place the American farm where it ought to be—highly ranked in American activities and fully sharing the highest good fortune of American life.

"Becoming associated with this subject are the policies of irrigation and reclamation so essential to agricultural expansion, and the continued development of the great and wonderful west."

Mr. Harding pledges federal co-operation with state governments in building and improving farms-to-market roads rather than national highways, to cheapen and facilitate the quick shipment of crops.

Republican National Committee,
Auditorium Hotel, Chicago, Ill.

Please send me, free and postpaid, copy of Senator Harding's Address on the present day problems of the farmer.

Name

Address

Send for a free copy of Senator Harding's address in which he discusses at length present day problems of the farmer.

REPUBLICAN NATIONAL COMMITTEE, Auditorium Hotel, Chicago

Advertisement

THE VALLEY OF THE GIANTS

A ROMANCE OF THE REDWOODS

By Peter B. Kyne

Bryce took his father's hand. "I'm in trouble, John Cardigan," he said simply, "and I'm not big enough to handle it alone."

The leonine old man smiled, and his smile had all the sweetness of a benediction. His boy was in trouble and had come to him. Good! Then he would not fail him. "Sit down, son, and tell the old man all about it. Begin at the beginning and let me have all the angles of the angle."

Bryce obeyed, and for the first time John Cardigan learned of his son's acquaintance with Shirley Sumner and the fact that she had been present in Pennington's woods the day Bryce had gone there to settle the score with Jules Rondeau. In the wonderful first flush of his love a sense of embarrassment, following his discovery of the fact that his father and Colonel Pennington were implacable enemies, had decided Bryce not to mention the matter of the girl to John Cardigan until the entente cordiale between Pennington and his father could be reestablished, for Bryce had, with the optimism of his years, entertained for a few days a thought that he could bring about this desirable condition of affairs. The discovery that he could not, together with his renunciation of his love until he should succeed in protecting his heritage and eliminating the despair that had come upon his father in the latter's old age, had further operated to render unnecessary any discussion of the girl with the old man.

With the patience and gentleness of a confessor John Cardigan heard the story now, and though Bryce gave no hint in words that his affections were involved in the fight for the Cardigan acres, yet did his father know it, for he was a parent. And his great heart went out in sympathy for his boy.

"I understand, sonny, I understand. This young lady is only one additional reason why you must win, for of course you understand she is not indifferent to you."

"I do not know that she feels for me anything stronger than a vagrant sympathy, Dad, for while she is eternally feminine, nevertheless she has a masculine way of looking at many things. She is a good comrade with a bully sense of sportsmanship, and unlike her skunk of an uncle, she fights in the open. Under the circumstances, however, her first loyalty is to him; in fact, she owes none to me. And I dare say he has given her some extremely plausible reason why we should be eliminated; while I think she is sorry that it must be done, nevertheless, in



a mistaken impulse of self-protection she is likely to let him do it."

"Perhaps, perhaps. One never knows why a woman does things, although it is a safe bet that if they're with you at all, they're with you all the way. Eliminate the girl, my boy. She's trying to play fair to you and her relative. Let us concentrate on Pennington."

"The entire situation hinges on that jump-crossing of his tracks on Water street."

"He doesn't know you plan to cross them, does he?"

"No."

"Then, lad, your job is to get your crossing in before he finds out isn't it?"

"Yes, but it is an impossible task, partner. I'm not Aladdin, you know. I have to have a franchise from the city council, and I have to have rails."

"Both are practicable, my son. Induce the city council to grant you a temporary franchise tomorrow, and buy your rails from Pennington. He has a mile of track running up Laurel Creek, and Laurel Creek was logged out three years ago. I believe that spur is useless to Pennington, and the ninety-pound rails are rusting there."

"But will he sell them to me?"

"Not if you tell him why you want them."

"But he hates me, old pal."

"The Colonel never permits sentiment to interfere with business, my son. He doesn't need the rails, and he does desire your money. Consider the rail-problem settled."

"How do you stand with the mayor and the council?"

"I do not stand at all. I opposed Poundstone for the office; Dobbs, who was appointed to fill a vacancy caused by the death of a regularly elected councilman, was once a bookkeeper in our office, you will remember. I discharged him for looting the petty-cash drawer. Andrews and Mullin are professional politicians and not to be trusted. In fact, Poundstone, Dobbs, Andrews and Mullin are known as the Solid Four. Yates and Thatcher, the remaining members of the city council, are the result of the reform ticket last fall, but since they are in the minority, they are helpless."

"That makes it bad."

"Not at all. The Cardigans are not known to be connected with the N. C. O. Send your bright friend Ogilvy after that franchise. He's the only man who can land it. Give him a free hand

and tell him to deliver the goods by any means short of bribery. I imagine he's had experience with city councils and will know exactly how to proceed. I know you can procure the rails and have them at the intersection of B and Water streets Thursday night. If Ogilvy can procure the temporary franchise and have it in his pocket by six o'clock Thursday night, you should have that crossing in by sunup Friday morning. Then let Pennington rave. He cannot procure an injunction to restrain us from cutting his tracks, thus throwing the matter into the courts and holding us up indefinitely, because by the time he wakes up, the tracks will have been cut. The best he can do then will be to fight us before the city council when we apply for our permanent franchise. Thank God, however, the name of Cardigan carries weight in this county, and with the pressure of public sympathy and opinion back of us, we may venture, my boy, to break a lance with the Solid Four, should they stand with Pennington."

"Partner, it looks like a forlorn hope," said Bryce.

"Well, you're the boy to lead it. And it will cost but little to put in the crossing and take a chance. Remember, Bryce, once we have that crossing in, it stands like a spite-fence between Pennington and the law which he knows so well how to pervert to suit his ignoble purposes." He turned earnestly to Bryce and waved a trembling admonitory finger. "Your job is to keep out of court. Once Pennington gets the law on us, the issue will not be settled in our favor for years; and in the meantime—you perish. Run along now and hunt up Ogilvy. George, play that 'Suwanee River' quartet again. It sort o' soothes me."

CHAPTER XXV.

IT was with a considerably lighter heart that Bryce returned to the mill-office, from which he lost no time in summoning Buck Ogilvy by telephone.

"Thanks so much for the invitation," Ogilvy murmured gratefully. "I'll be down in a pig's whisper." And he was. "Bryce you look like the devil," he declared the moment he entered the latter's private office.

"I ought to, Buck. I've just rased the devil and spilled the beans on the N. C. O."

"To whom, when, and where?"

"To Pennington's niece, over the telephone about two hours ago."

Buck Ogilvy smote his left palm with his right fist. "And you've waited two hours to confess your crime? Zounds, man, this is bad."

"I know. Curse me, Buck. I've probably talked you out of a good job."

"Oh, say not so, old settler. We may still have an out. How did you let the cat out of the bag?"

"That remarkable girl called me up, and accused you of being a mere screen for me and amazed me so I admitted it."

Ogilvy dropped his red head in simulated agony and moaned. Presently he raised it, and said: "Well, it might have been worse. Think of what might have happened had she called in person. She would have picked your pocket for the corporate seal, the combination of the same, and the list of stockholders, and probably ended up by gagging you and binding you in your own swivel-chair."

"Don't Buck. Comfort and not abuse is what I need now."

"All right. I'll conclude my remarks by stating that I regard you as a lovable fat-head devoid of sufficient mental energy to pound the proverbial sand into the proverbial rat-hole. Now, then, what do you want me to do to save the day?"

"Deliver to me by six o'clock Thursday night a temporary franchise from the city council, granting the N. C. O. the right to run a railroad from our drying-yard across Water street at its intersection with B street and out Front street."

"Certainly. By all means! Easiest thing I do! Sure you don't want me to arrange to borrow a star or two to make a ta-ra-ra for the lady that's made a monkey out of you? No? All right, old dear! I'm on my way to do my damndest, which angels can't do no more. Nevertheless, for your sins, you shall do me a favor before my heart breaks after falling down on this contract you've just given me."

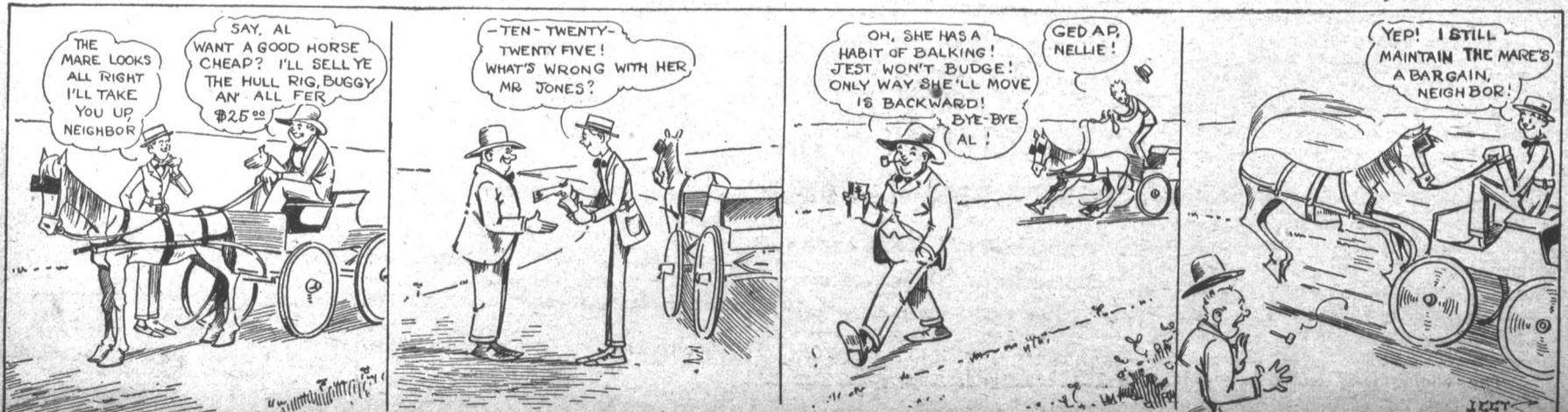
"Granted, Buck. Name it."

"I'm giving a nice little private, specially cooked dinner to Miss McTavish tonight. We're going to pull it off in one of those private screened corrals in that highly decorated Chink restauraw on Third street. Moira—that is, Miss McTavish—is bringing a chaperon, one Miss Shirley Sumner. Your job is to be my chaperon and entertain Miss Sumner, who from all accounts is most brilliant and fascinating."

"Nothing doing!" Bryce almost roared. "Why, she's the girl that bluffed

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—By Frank R. Leet



the secret of the N. C. O. out of me."

"Do you hate her for it?"

"No, I hate myself."

"Then you'll come. You promised in advance, and no excuses go now. The news will be all over town by Friday morning; so why bother to keep up appearances any longer. Meet me at the Canton at seven and check dull care at the entrance."

And before Bryce could protest, Ogilvy had thrown open the door and called the glad tidings to Moira, who was working in the next room; whereupon Moira's wonderful eyes shone with that strange lambent flame. She clasped her hands joyously. "Oh, how wonderful!" she exclaimed. "I've always wanted Miss Shirley to meet Mr. Bryce."

Again Bryce was moved to protest, but Buck Ogilvy reached around the half-opened door and kicked him in the shins. "Don't crab my game, you miserable snarley-yow. Detract one speck from that girl's pleasure, and you'll never see that temporary franchise," he threathend. "I will not work for a quitter—so there." And with his bright smile he set out immediately upon the trail of the city council, leaving Bryce Cardigan a prey to many conflicting emotions, the chief of which, for all that he strove to suppress it, was riotous joy in the knowledge that while he had fought against it, fate had decreed that he should bask once more in the radiance of Shirley Sumner's adorable presence. Presently, for the first time in many weeks, Moira heard him whistling "Turkey in the Straw."

CHAPTER XXVI.

FORTUNATELY for the situation which had so suddenly confronted him, Bryce Cardigan had Mr. Buck Ogilvy; and out of the experiences gained in other railroad-building enterprises, the said Ogilvy, while startled, was not stunned by the suddenness and immensity of the order so casually given him by his youthful employer, for he had already devoted to the matter of that crossing the better part of the preceding night. Also he had investigated, indexed, and cross-indexed the city council with a view to ascertaining how great or how little would be the effort he must devote to obtaining from it the coveted franchise.

"Got to run a sandy on the mayor," Buck soliloquized as he walked rapidly uptown. "And I'll have to be mighty slick about it, too, or I'll get my fingers in the jam. If I get the mayor on my side—if I get him to the point where he thinks well of me and would like to oblige me without prejudicing himself financially or politically—I can get that temporary franchise. Now, how shall I proceed to sneak up on that oily old cuss's blind side?"

Two blocks farther on, Mr. Ogilvy paused and snapped his fingers vigorously. "Eureka," he murmured. "I've got Poundstone by the tail on a downhill haul. Is it a cinch? Well, I just guess I should tell a man!"

He hurried to the telephone building and put in a long-distance call for the San Francisco office of the Cardigan Redwood Lumber Company. When the manager came on the line, Ogilvy dictated to him a message which he instructed the manager to telegraph back to him at the Hotel Sequoia one hour later; this mysterious detail attended to, he continued on to the mayor's office in the city hall.

Mayor Poundstone's bushy eyebrows arched with interest when his secretary laid upon his desk the card of Mr. Buchanan Ogilvy, vice-president and general manager of the Northern California Oregon Railroad. "Ah-h-h!" he breathed with an unpleasant resemblance to a bon vivant who sees before him his favorite vintage. "I have been expecting Mr. Ogilvy to call for quite a while. At last we shall see what we shall see. Show him in."

The visitor was accordingly admit-



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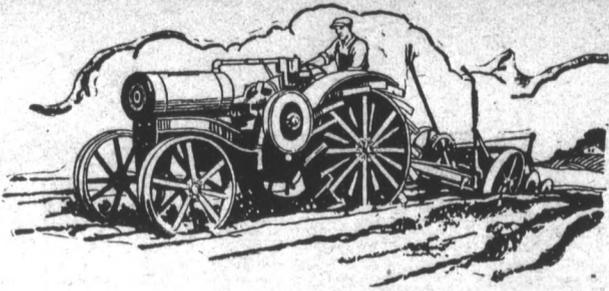
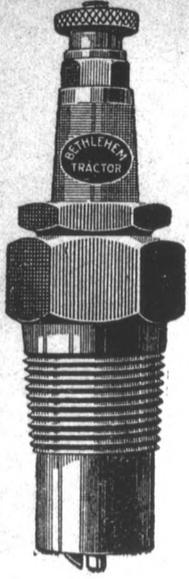
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ted to the great man's presence and favored with an official handshake of great heartiness. "I've been hoping to have this pleasure for quite some time, Mr. Poundstone," Buck announced easily as he disposed of his hat and overcoat on an adjacent chair. "But unfortunately I have had so much preliminary detail to attend to before making an official call that at last I grew discouraged and concluded I'd just drop in informally and get acquainted." Buck's alert blue eyes opened wide in sympathy with his genial mouth, to deluge Mayor Poundstone with a smile that was friendly and guileless, confidential, and singularly delightful. Mr. Ogilvy was a man possessed of tremendous personal magnetism when he chose to exert it, and that smile was ever the opening gun of his magnetic bombardment, for it was a smile that always had the effect of making the observer desire to behold it again—of disarming suspicion and establishing confidence.

"Glad you did—mighty glad," the mayor cried heartily. "We have all, of course, heard of your great plans and are naturally anxious to hear more of them, in the hope that we can do all that anybody reasonably and legally can to promote your enterprise and incidentally our own, since we are not insensible to the advantages which will accrue to this county when it is connected by rail with the outside world."

"That extremely broad view is most encouraging, Buck chirped, and he showered the mayor with another smile. "Reciprocity is the watchword of progress. I might state, however, that while you Humboldters are fully alive to the benefits to be derived from a feeder to a transcontinental road, my associates and myself are not insensible of the fact that the success of our enterprise depends to a great extent upon the enthusiasm with which the city of Sequoia shall cooperate with us; and since you are the chief executive of the city, naturally I have come to you to explain our plans fully."

"I have read your articles of incorporation, Mr. Ogilvy," Mayor Poundstone boomed paternally. "You will recall that they were published in the Sequoia Sentinel. It strikes me—"

"Then you know exactly what we purpose doing, and any further explanation would be superfluous," Buck interrupted amiably, glad to dispose of the matter so promptly. Again he favored the mayor with his bright smile, and the latter, now fully convinced that here was a young man of vast enterprise whom it behooved him to receive in a whole-hearted and public-spirited manner, nodded vigorous approval.

"Well, that being the case, Mr. Ogilvy," he continued, "what can we Sequoians do to make you happy?"

"Why, to begin with, Mr. Poundstone, you might accept my solemn assurances that despite the skepticism which, for some unknown reason, appears to shroud our enterprise in the minds of some people, we have incorporated a railroad company for the purpose of building a railroad. We purpose commencing grading operations in the very near future, and the only thing that can possibly interfere with the project will be the declination of the city council to grant us a franchise to run our line through the city to tide-water." He handed his cigar-case to Mayor Poundstone and continued lightly: "And I am glad to have your assurance that the city council will not drop a cold chisel in the cogs of the wheels of progress."

Mr. Poundstone had given no such assurance, but for some reason he did not feel equal to the task of contradicting this pleasant fellow. Ogilvy continued: "At the proper time we shall apply for the franchise. It will then be time enough to discuss it. In the meantime the N. C. O. plans a public dedicatory ceremony at the first

breaking of ground, and I would be greatly honored, Mr. Mayor, if you would consent to turn the first shovelful of earth and deliver the address of welcome upon that occasion."

The mayor swelled like a Thanksgiving turkey. "The honor will be mine," he corrected his visitor.

"Thank you so much, sir. Well, that's another worry off my mind." With the tact of a prime minister Buck then proceeded deliberately to shift the conversation to the weather and asked a number of questions anent the annual rainfall. Then he turned to crops, finance, and national politics and gradually veered around to an artistic word-picture of the vast expansion of the redwood-lumber industry when the redwood-belt should be connected by rail with the markets of the entire country. He spoke of the magic effect the building of such a line would have upon the growth of Sequoia. Sequoia, he felt convinced, was destined to become a city of at least a hundred thousand inhabitants; he rhapsodized over the progressive spirit of the community and with a wave of his hand studded the waters of Humboldt Bay with the masts of the world's shipping. Suddenly he checked himself, glanced at his watch, apologized for consuming so much of his honor's valuable time, expressed himself felicitated at knowing the mayor, gracefully, expressed his appreciation for the encouragement given his enterprise, and departed. When he had gone, Mayor Poundstone declared to his secretary that without doubt Ogilvy was the liveliest, keenest fellow that had struck Sequoia since the advent of old John Cardigan.

Half an hour later the mayor's telephone bell rang. Buck Ogilvy was on the line. "I beg your pardon for bothering you with my affairs twice in the same day, Mr. Mayor," he announced deprecatingly, "but the fact is, a condition has just arisen which necessitates the immediate employment of an attorney. The job is not a very important one and almost any lawyer would do, but in view of the fact that we must, sooner or later, employ an attorney to look after our interests locally, it occurred to me that I might as well make the selection of a permanent attorney now. I am a stranger in this city Mr. Poundstone. Would it be imposing on your consideration if I asked you to recommend such a person?"

"Why, not at all, not at all! Delighted to help you, Mr. Ogilvy. Let me see, now. There are several attorneys in Sequoia, all men of excellent ability and unimpeachable integrity, whom I can recommend with the utmost pleasure. Cadman & Barnes, with offices in the Knights of Pythias Temple, would be just the people, although there is Rodney McKendrick, in the Chamber of Commerce Building—a splendid fellow, Mr. Ogilvy, and most desirable. Also there is Mitchell Ormsby—I forget where his office is, but you can find it in the telephone-book; and if I may be pardoned a dash of paternal ego, there is my son Henry Poundstone, Junior. While Henry is a young man, his career in the law thus far has been most gratifying, although he hasn't had as broad an experience as the others I mentioned, and perhaps your choice had better lie between Cadman & Barnes and Rodney McKendrick. You can't go wrong on either of those two."

"Thank you a thousand times," Mr. Ogilvy murmured, and hung up. "We thought so, Buck, we thought so," he soliloquized. "Yes, Cadman & Barnes or Rodney McKendrick may do, but Lord have mercy on the corporate soul of the N. C. O. if I fail to retain Henry Poundstone, Junior. What a wise plan it is to look up the relatives of a public official! Well! Forward, men, follow me—to Henry's office."

Henry Poundstone, Junior, proved to

be the sole inhabitant of one rather bare office in the Cardigan Block. Buck had fully resolved to give him a retainer of a thousand dollars, or even more, if he asked for it, but after one look at Henry he cut the appropriation to two hundred and fifty dollars. Young Mr. Poundstone was blonde and frail, with large round spectacles, rabbit teeth, and the swiftly receding chin of the terrapin. Moreover, he was in such a flutter of anticipation over the arrival of his client that Buck deduced two things—to wit, that the mayor had telephoned Henry he was apt to have a client, and that as a result of this miracle, Henry was in no fit state to discuss the sordid subject of fees and retainers. Ergo, Mr. Ogilvy decided to obviate such discussion now or in the future. He handed Henry a check for two hundred and fifty dollars, which he wrote on the spot, and with his bright winning smile remarked: "Now, Mr. Poundstone, we will proceed to business. That retainer isn't a large one, I admit, but neither is the job I have for you today. Later, if need of your services on a larger scale should develop, we shall of course expect to make a new arrangement whereby you will receive the customary retainer of all of our corporation attorneys. I trust that is quite satisfactory."

"Eminently so," gasped the young disciple of Blackstone.

"Very well, then; let us proceed to business." Buck removed from a small leather bag a bale of legal-looking documents. "I have here," he announced, "agreements from landowners along the proposed right of way of the N. C. O. to give to that company, on demand, within one year from date, satisfactory deeds covering rights of way which are minutely described in the said agreements. I wish these deeds prepared for signing and recording at the earliest possible moment."

"You shall have them at this time tomorrow," Henry promised.

The head of Henry Poundstone, Junior, was held high for the first time since he had flung forth his modest shingle to the breezes of Sequoia six months before, and there was an unaccustomed gleam of importance in his pale eyes as he rushed into his father's office in the city hall.

"By jinks, Dad!" he exulted. "I've hooked a fish at last—and he's a whopper."

"Omit the cheers, my boy. Remember I sent that fish to you," his father answered with a bland and indulgent smile. "What are you doing for Ogilvy, and how large a retainer did he give you?"

"I'm making out deeds to his right of way. Ordinarily it's about a fifty-dollar job, but without waiting to discuss finances he handed me out two hundred and fifty dollars. Why, Dad, it's more than you make in a month from your job as mayor."

"Well, that isn't a bad retainer. It's an opening wedge. However, it would be mere chicken-feed in San Francisco."

(Continued next week.)

Professor Juggins recently visited Herbert Hooper's farm and Herbert felt that he must apologize for everything on the place, being as the professor was an expert and must know that Herbert wasn't perfect. Finally the professor broke down and confessed that he would be mighty thankful for a farm like Herbert's and would rather have it than his job of professing. It made the Hoopers real encouraged and keeps them from being humiliated whenever they see any of the Juggins folks.

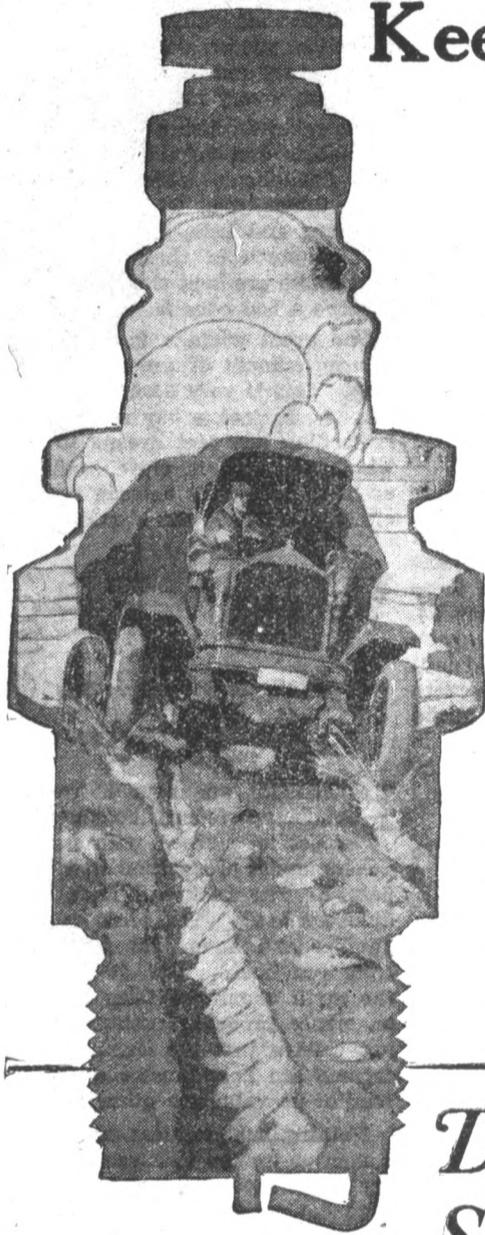
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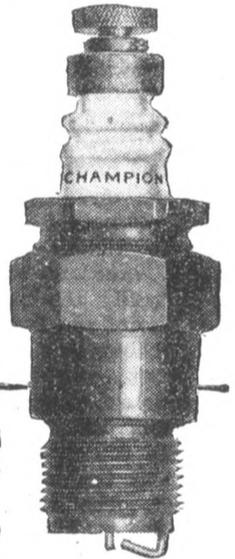
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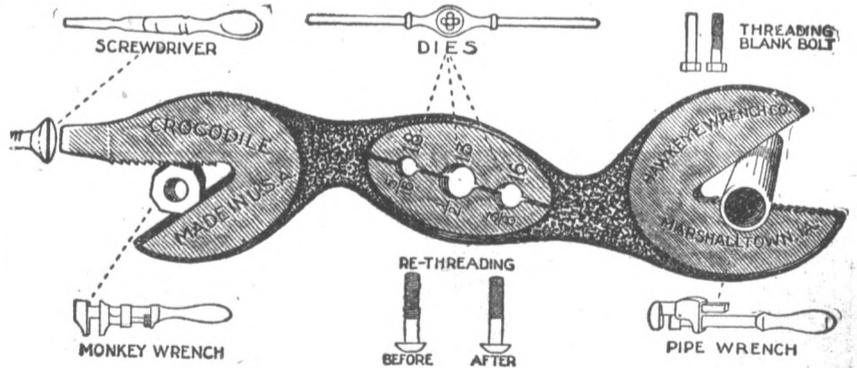
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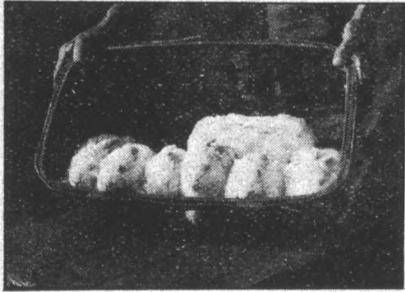
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Our Boys' and Girls' Department

Boys Can Succeed at Rabbit Husbandry

They Only Need to Keep in Mind a Few Simple Rules—By E. I. Farrington



Litter of White Flemish Giants.

IF A BOY should try to follow all the rules for raising rabbits laid down by the experts, he would soon get discouraged. The fact is that rabbit raising is an easy enough matter if a few simple points are remembered.

To begin with, the animals need all the fresh air which they can have. I learned this fact by costly experience. At one time I had a large number of Belgian hares in an old mill. Pens had been constructed at considerable expense, and it seemed as though I had an ideal plant for turning out rabbits at a rapid rate. In fact, I had visions of making the old mill into a rabbit factory. Unfortunately, all my plans went askew because the air was too damp and unwholesome, even with the windows open. A large number of rabbits contracted snuffles, and wet noses were visible everywhere. As all rabbit breeders know, snuffles, which is really the name for hard colds, is one of the most common ailments of rabbits, and one which gives a lot of trouble if unchecked. Finally I built yards out of doors, even though it was winter, and turned the rabbits loose inside the wire fences. Within a few weeks the trouble was practically over. The rabbits raced and leaped in the snow in perfect contentment, and at night burrowed deep in the boxes of hay which I had provided for them.

Hayward Johnson, who is hardly more than a boy, has the largest rabbit establishment in New England, and one of the largest in the world. His animals, even those which are valued at several hundred dollars, spend the winter in hutches in the open air. The hutches are protected by an overhead covering which keeps the snow and

rain from beating in, and which also excludes the hot sun in summer time, which is quite as important. It may not be wise, as a rule, to take rabbits from indoor quarters to the outdoors in midwinter, but every boy who breeds rabbits will find it very much to his advantage to raise the animals in the open air, and to keep them in such a situation, although sheltered from winds. It is a good plan to have a muslin covered frame which can be fitted over the openings in severe weather; and of course there must be an inside box with plenty of hay where the animals can find refuge and warmth.

The next point is the necessity for cleanliness. No boy should try to raise rabbits unless he is willing to clean them out every day and keep their hutches in a sanitary condition. It is not a good plan to stack one hutch on top of another unless there are several inches of open space between the bottom of one hutch and top of the other, with an inclined board covered with tin or roofing paper to shed any liquid which may drain through the floor. Some hutches are made with solid floors, with a box underneath which can be removed and emptied readily.

With tight floors, it is well to use sawdust or some kind of absorbent. I think that the absorbent material sold for use in poultry houses is even better than sawdust. In any event, less harm is done if the hutch is not cleaned out so often.

A good design for a hutch, and one which any boy can make at home, can be obtained by writing to the Department of Agriculture at Washington, asking for the Department's bulletin on rabbit raising.

The third point is the matter of feeding. It is a great temptation for any boy to keep putting food into the hutches, with the result that the rabbits get too much. Over-feeding does more harm, if anything, than under-feeding, although, of course, the rabbits should not be starved. While it is possible to get along with vegetables, greens and grass, it is desirable to feed a little grain, even in summer time. A small handful of oats to a rabbit is about the right amount, and it should be given at night rather than

in the morning, for it is at night that the rabbits naturally eat the most. A doe with young should have grain twice a day, and all rabbits should be given hay every morning.

The rabbits relish a great variety of vegetables and vegetable tops. They like dandelions, chicory and such green things, too. Of course they like cabbages and kale, but it is best not to feed much of these vegetables if the rabbits are kept close to the house, because a bad odor is created.

One great mistake is in putting in a large amount of green stuff at one time. This is very likely to cause bad results. In fact, a boy should go slow in feeding any wet greens to rabbits which are kept in close confinement, at least until they become used to it, although I think the trouble so com-



Black Giants Are Docile Creatures.

monly reported is due more often to the fact that the greens get musty than because they are wet.

If these few points are kept in mind, very little difficulty will be found in raising all the most common rabbits, like Belgian hares, New Zealand Reds and Flemish Giants.

Why Beginners Fail

Mr. Kirby Gives Our Boys and Girls Several Reasons Why Some People Fail with Poultry

IF THERE was ever a time when the inexperienced beginner could expect to succeed with poultry as a commercial proposition that time has passed. The backyard flock is on a different basis. The birds are few in number and have the table scraps from the house. But do not believe the myth about the farm flock living on waste products entirely. And do not believe that the commercial poultryman can keep hundreds of birds on feed of no value for other purposes.

Nothing but practical experience fits a man or woman to succeed with poultry as an income proposition. The college course is all right as far as it goes. It must be backed up by experience gained while working on a poultry farm where modern methods are observed and the account book tells a story of fair success.

The beginner with poultry likes to see a lot of birds right at the start. He is boiling over with enthusiasm and thoroughly infected with chicken fever. Then he seeks a chance to buy a large flock of culls from some other poultryman's flock and forgets that fine foundation stock are sold in pairs, pens or trios and not by the hundreds.

The ownership of a large flock of poor grade poultry furnishes the poultryman with a chance to pay feed bills. It does not guarantee success or aid in the development of high class breeding flocks. Observation of the methods of the best breeders and a study of their life history will prove that they began on a moderate sale and developed their business slowly from year to year. Often they retained their previous business until they had acquired much experience in the management of poultry.

One cause of failure among beginners is a neglect to read carefully the best information that is printed concerning poultry culture. A man may find in fifteen minutes as much valuable knowledge by reading as he can find through his own experiments in several years. Then by putting the knowledge into practice it is clinched and remembered. Facts learned by

reading are of much less value if they cannot be used. There is a chance of cluttering up the brain with information and have none of it so organized that it can be used. The poultryman who reads that blue ointment or sodium fluoride are good for lice may forget the fact if he just reads about it. But after once treating the flock for lice with one of those materials, neither the method nor the material will ever be forgotten. It becomes part of the poultryman's knowledge which is useful.

The beginner often fails from attempting to manage too many breeds. One breed requires a great deal of

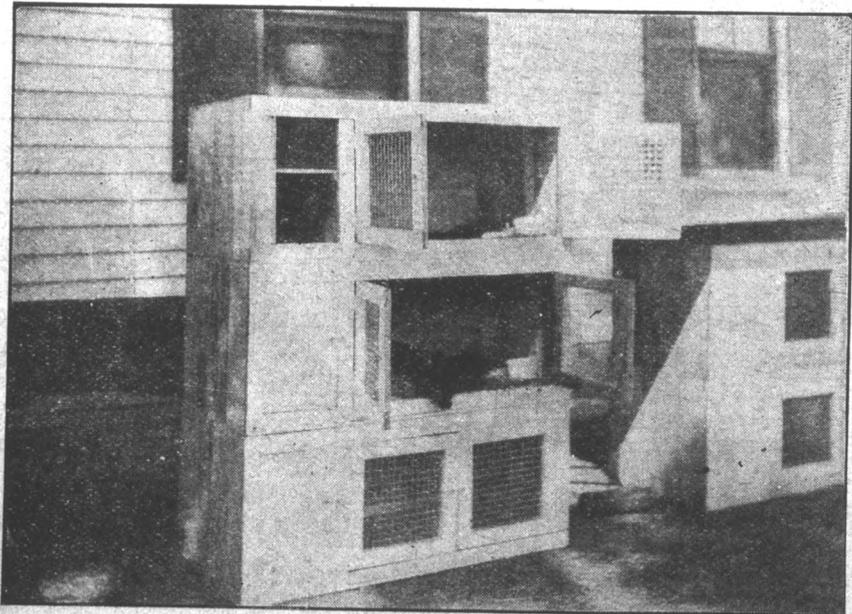


Young Turkeys Need Very Close Attention

time and study. The work of managing the birds is much less complicated if there is only one breed. The scarce and little known breeds offer the beginner less opportunity for success than the more common breeds.

The country contains much good blood of our leading breeds and it is easier to obtain foundation stock of quality. The beginner with such stock soon finds that there is a demand for his surplus among neighbors and friends. A small amount of advertising locates buyers who need new blood for their flocks and the owner of a popular breed has the best chance to sell eggs for hatching and surplus cockerels as well as the yearling hens which are worth more for breeding than for meat.

The beginner who adopts a little



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known breed usually finds it a handicap because of the lack of demand for surplus stock and the difficulty of obtaining high class foundation birds at a moderate price. As the skill in breeding increases it is possible to take on more breeds of fowls if there is enough equipment to make it desirable.

A proper balancing of the capital is necessary. Too much money placed in buildings leaves too little for stock. Too much money in stock and buildings may leave scarcely any for feed and general operating expenses until the poultry return a profit.

At this time there are many small poultry enterprises that are unbalanced. Their incubator capacity may be so large that it has taken much of the available capital. Possibly the buildings have cost so much money that the stock, feed bins and brooding equipment are of poor quality.

The total cost of the necessities of a large poultry business is so large that it means the beginner must begin on a small scale. A little money for each feature of the business is all that can be safely spent. At the present time it is very risky to manage a poultry business on borrowed capital. Even on the farm a large flock of poultry are a risk unless the best of methods are used and nothing is wasted.

The beginner who starts with poultry on a small scale does not lose much money if he decides to stop operations. The poultryman who plunges extensively into poultry production may lose several thousand dollars before he finds that his enthusiasm has burned like a straw stack, making a big blaze for a moment but soon dying down. The right kind of enthusiasm does not burn out quickly or blaze high. It just glows and keeps on glowing in spite of adversity. And finally it begins to prove a winner.

All men and women are not fitted to succeed with poultry as a commercial proposition. Some that think they will like the work find it is very irksome. Beginners who soon find that they dislike their business with the hens had better begin to hedge and slip out as gracefully as possible. They simply cannot force themselves to do the mass of detail connected with the management of hens and chicks unless they like to work with them.

The beginner should realize that he is to engage in a business where there is plenty of competition. Products of an ordinary grade carelessly marketed come into competition with eggs and poultry meat from many farms where the cost of production is not known. Often they represent a surplus from family needs and the owner does not care whether the surplus is profitable or not. The beginner is apt to fail if he is satisfied with the lowest market price for products of average quality.

The feed problem has been the great cause of failures since much of the world started wasting energy in 1914. The beginner must plan to raise as much feed as possible and be a good buyer of the balance. Selling eggs at the lowest price the grocers offer and buying feed at the price charged by the local feed dealer will never make a poultry business profitable. It will be difficult to break even when managing on such a basis.

The beginner with poultry has a chance to succeed. But nothing is gained by putting up the business in such a rosy light that he starts out prepared to blunder along until a discouraging case of blues due to failure starts him on the road out of the business. Then he has hard feeling toward the great American hen and the poultry business has lost a good worker or one that might have been good if he had ever had half a show for success.



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Woman's Interests



Marriage vs. a Career

WE had quite a discussion over it at the mothers' club, whether a mother has a right to be continually "dinging" at her daughter not to get married, and what a dog's life a married woman has, and how tiresome housework is, and how greatly to be preferred to motherhood—and its attendant responsibilities—is a career. We met to discuss "Woman's Part in the World Re-making," and ended in almost coming to blows over woman's age-old job, having babies and bringing them up to become the best sort of citizens.

It was all started by the discontented woman with a fifteen-year-old daughter. There are some women who ought never to marry, or else ought to marry different men. When an aggressive, forward-looking woman who dislikes being tied to one spot, marries a mild, meek-mannered man, who is rooted to one job, one town and one house, and who in spite of his mild manners is extremely "sot," you are bound to have a woman who thinks marriage is a failure. That's why this particular woman came out with,

"I tell Mary not to be fooled into getting married. The minute she does

she'll be chained hand and foot, shut up in a kitchen nine-tenths of the time, and at least two-thirds of the time her wishes in everything will be ignored. I'm going to see she is educated and fitted to earn a good living, and use all my influence to keep her from tying herself down to a home and a life of drudgery."

Now Mary is distinctly the marrying sort, more like dad than mother, a home-loving sort of girl, but immensely popular. She never has to worry for fear no boy will invite her to the class parties, her chief worry is to decide which one of them she'll honor. If she were left alone she'd grow up into a happy, contented woman, and take as keen a delight in cooking a family dinner and polishing the silver as her mother does in writing a brilliant club paper. Everyone in the club knew her mother's nagging was beginning to make a little impression on Mary, and this day her speech struck fire.

"O, I don't know," said the mother of six. "All women aren't unhappily married, and all professional women aren't happy. I'm sure I look as young as any business woman of my age, and

my life is a good deal easier than any working girl's. Think of having to get up and drag off to work in all sorts of weather, no matter how you feel, and of keeping up to the mark for eight or nine hours. I can work hard a couple of hours, and then drop down for a rest. And I'm sure my wishes are always respected. I don't know as your boss ever asks you whether you like things done his way or not."

So the battle was on, and while arguments for and against were being advanced, I kept wondering if any mother has a right to give her daughter such a biased view of marriage. True, lots of marriages are failures, but that isn't the fault of the institution. It's the fault of the two parties entering into that particular contract. And when a woman is forever decrying marriage it sounds to outsiders like a confession of failure on her part. It's true, too, that a mother has to sacrifice no end of her own wishes to do her full duty by her children. But who is to say that if she carried out her own desires she would be any better off, or the world would be a whit improved thereby? Many a mother neglects her family because she thinks

she has a higher duty to humanity in carrying on some pet scheme of her own. But humanity at large never knows that particular woman exists, and often the humanity she is trying to reach would be better satisfied if she'd let them alone and spend her energy in keeping her children mended up.

It may be that occasionally women are "called" for certain positions, but the average girl is almost bound to marry, so why bring her up with the idea that it's the best thing in the world for her? Why fill her mind with the thought that it means surrender of her own wishes, unless you want her to be thoroughly selfish? After all it resolves itself onto the question of whether we are here solely to develop the individual—the ego—to the highest point intellectually, or whether we are put here to advance the human race. If it is the former, let's stay single and tend strictly to personal culture. But if we believe our highest privilege is to add something to the sum of civilization, let's sink self, and give our attention to developing the coming generation.

DEBORAH.

The Community Nurse

A QUESTION which the residents of many small towns and farming districts of Michigan are being called upon to consider is that of the employment of a community nurse. This is one of the issues which the late war was instrumental in bringing to the front. With the cessation of hostilities, Red Cross workers turned their attention to peace conditions and peace problems. In the treasury of every Red Cross chapter and in the treasury of every auxiliary, funds were deposited, and some decision as to how these funds could be best used was necessary. Home aid to soldiers and sailors and their families would not necessitate the use of all this money—indeed, but a small part will be needed for this work. Out of this situation, then, has grown the community nurse proposition.

In the cities, with better equipment, with more stringent health regulations, with medical examination of pupils in the schools, and with expert specialists more readily available than in rural neighborhoods, the likelihood of permanent physical disability of any kind, through ignorance or neglect, is diminished many times. And it is for this very reason that the community nurse proposition has been brought up in the small towns and rural communities.

This article is not, primarily, a defence of the community nurse proposition. Its purpose is to call the attention of the readers of this journal to a question which, sooner or later, they must take a part in deciding. Like the consolidated school question, which is at present being brought forward in many localities, the community nurse movement is an innovation of great and far-reaching import. Incidentally, the influenza epidemics which for two winters have swept the land have set some people thinking

along the line of the community nurse idea.

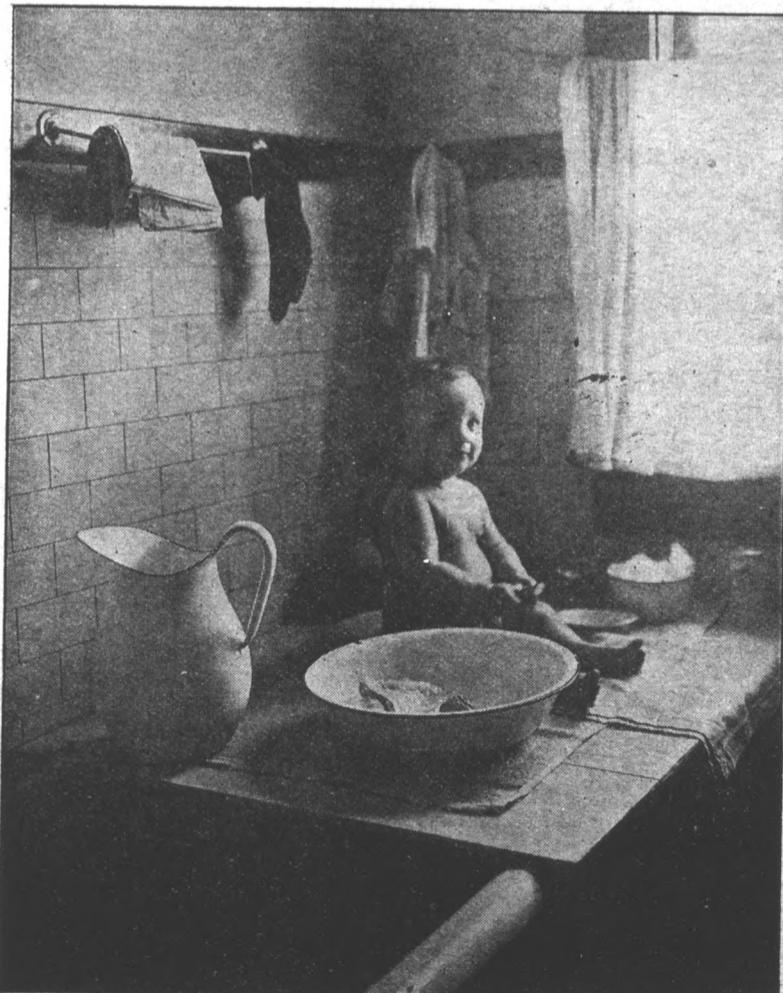
Hillsdale county has had a community nurse for a year. One nurse in a county can do little more than examine the children of the schools

occasionally. A nurse for every two or three townships could do much more. The Hillsdale county medical association has declared unanimously in favor of the community nurse idea. It is possible that the community

nurse movement is destined to result in a fight of more than usual bitterness. In its very nature the question is such that it arouses in opposition the forces of prejudice, ignorance, and superstition. There is a fear that the privacy of the home will be violated and that personal liberty will be interfered with.

Like all movements, too, there is an economic phase. The Red Cross fund is only a nucleus—a financial starting point. Funds must be raised in other ways to keep the movement going after it has once been launched. In these days of high taxes, tax-payers steer clear, as far as possible, of anything that may incur a new and an additional pull on the purse strings. So far as the present phase of the movement in Michigan is concerned, however, all financial contributions are voluntary. Our Ohio neighbors have passed a state law which makes compulsory the employment of a community nurse in every county of the state.

Speaking broadly, whatever stands for the upbuilding of humanity is worthy of our support. The community nurse movement is a humanitarian movement. It stands for the one-hundred-percent-fit idea; it stands for more enlightened homes; for more of happiness and less of misery. We can only judge of a movement by its fruits. When thoroughly tried out, the community nurse idea has not been found wanting. It is in localities where the system is firmly established, that the most enthusiastic advocates are to be found. When you are called upon to decide this question, study it well, that you may decide wisely.



The community nurse can suggest to the farm mother convenient arrangements for the care of the child. Infant care and feeding is but one phase of a community nurse's work.

Stout women and large plaids, bright colors and shiny materials are not affinities.

FIRST AID TO PLUMPNESS.

ARE YOU too thin for a "perfect thirty-six?" And would you add more pounds if you could? Don't write and ask the beauty specialist how to do it. Ask the young miss in white in the picture with the cup to her lips. She gained three and one-half pounds the first week she tried the only reliable cure.

You've guessed it. Drink milk. She drank a quart a day, and gained three and a half pounds the first week. And her friends with her can add their testimonials, too, though they didn't gain at quite such an astonishing rate.

They are from the North Marquette school, Marquette, Mich., and volunteered to drink a quart of milk a day for eight weeks, in addition to their regular meals. The work was carried on under the direction of Miss Aurelia Potts, assistant home demonstration



Boosters for Increased Dairies.

leader, with the co-operation of Miss Edith Wright, principal of the school, and Mrs. Ickes, school nurse. The Cherry Creek dairy, of Marquette, furnished the milk.

A steady gain each week was shown when the weekly weighing time rolled round, gains running from a quarter of a pound to three and a half pounds a week. The greatest gain for the eight weeks was ten pounds. Gain in weight was not the greatest improvement, however. The children showed a decided improvement in school work and in general appearance.

Similar diet squads have been organized in other parts of the upper peninsula under the supervision of Miss Potts, with equally marked results.

HOUSEWIVES' SEPTEMBER CALENDER.

TOMATOES are coming to the fore, and as no vegetable is more universally liked, nor so easily put to a variety of uses, the wise home canner takes care of as many as possible. Tomatoes may be used in so many ways, as a side dish, in salads, in soups, sauces, and even in desserts, that it is the part of wisdom to have a good supply on hand. Tomato juice, either cooked or raw, may be given to babies, too, as a substitute for the orange juice which we so long thought indispensable.

Tomatoes are really the easiest vegetable to can, but in spite of this, many women have cans spoil. There is no reason for this if they are properly done, and if cans, tops and rubbers are of good quality and sterilized. The first thing in canning is to grade your product, selecting only tomatoes that are smooth, sound, ripe and of uniform size, small, uneven tomatoes and those that are bruised may be used for soup.

If you are going to can by the cold pack method, have ready a kettle of boiling water, put the tomatoes, which have been washed, in a square of cheesecloth or a wire basket, twist up the ends of the cloth and plunge at once into boiling water. Cover the kettle and leave the tomatoes in exactly one and one-half minutes. Then remove—the ends of the cloth should be left outside the cover—and plunge

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Are your rooms cheerful for the long indoor months? Do they look the worse from summer wear? Aren't you a little tired of the color scheme in some of them? Send for a copy of our Free Book, "How to Paint." It settles ever room painting problem right. Pages 37 to 41 tell all about rooms.

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No. 3277. A Popular House Dress. Cut in seven sizes, 36, 38, 40, 42, 44, 46 and 48 inches bust measure. A 38-inch size requires 6 1/4 yards of 36-inch material. Price 12c.

No. 3253. A Becoming Dress. Cut in three sizes, 16, 18 and 20 years. A 16-year size will require 4 1/2 yards of 44-inch material. The width of the skirt at lower edge is 1 1/8 yards. Price 12 cents.



No. 3114. Ladies' House Gown. Cut in four sizes: small, 32-34; medium, 36-38; large, 40-42; extra large, 44-46 inches, bust measure. Size medium requires 5 1/4 yards of 36-inch material, for garment in full length, and 4 1/4 yards for sack length. Price 12c.



Great Majestic

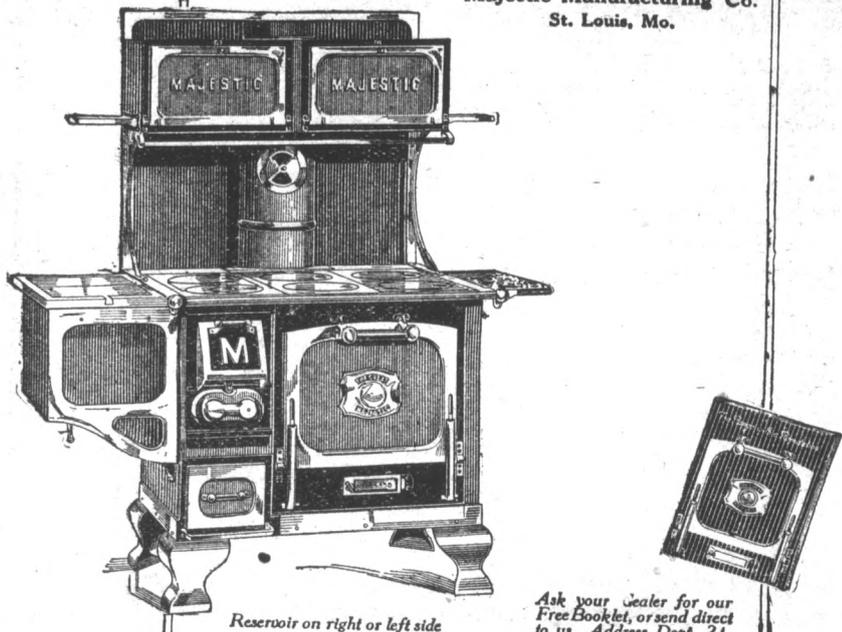
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Great Majestic ranges bring delight and economy to kitchens. For sure-baking and fuel-saving qualities they are exceptional. Heat-tight, unseen-rivet construction gives you easy control over the heat in baking. Very little fuel is required for good baking and water heating.

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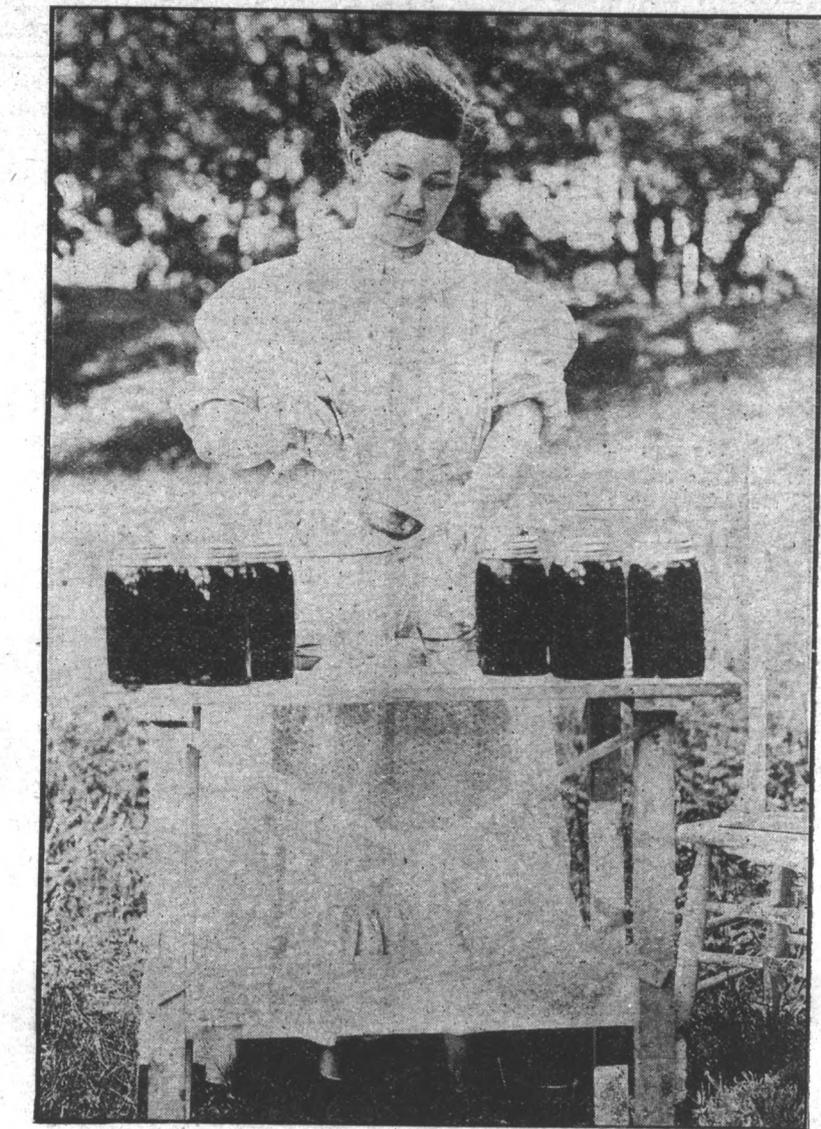


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into cold water for ten seconds or hold whole milk. The sweet may be pure under the cold water faucet that long if you have running water. Remove the core with a thin, sharp knife, pare and pack into jars. Press them down with a wooden spoon, taking care not to bruise, add a teaspoon of salt, add just tops and rubbers, and process 25 minutes.

The rejected tomatoes for soup stock may be washed and cooked until soft, put through a sieve to remove skin and seeds, packed into jars and processed 25 minutes.

Tomato preserves.—For every twelve pounds of tomatoes, either ripe or green, allow eight pounds of sugar, three lemons and one ounce of ginger root. Slice the tomatoes and let lie over night. Drain, put sugar and one pint of water in the preserving kettle; when sugar is dissolved add tomatoes and let simmer until the mixture thick-



Canning Out-of-doors Affords Relief from the Hot Kitchen.

ens. Then add lemons sliced fine and chopped ginger root and cook another half hour.

Tomato ketchup.—This recipe is by Fannie Merrit Farmer, for years at the head of the Boston Cooking School: "Cut up one peck of ripe tomatoes and simmer until soft; force through sieve; add three cups of sugar, one-fourth cup salt, one tablespoon black pepper, one teaspoon ginger, one teaspoon cloves, one-eighth teaspoon cayenne pepper and one quart vinegar. Bring to boiling point and let simmer till of the right consistency. Fill bottles to overflowing, cork and seal."

IF your school is not one of the progressive sort which provides a hot lunch, plan a month's lunches now. Bear in mind that the child needs certain foods to keep it growing, as well as to repair daily waste and furnish energy, and see that your child has a substantial lunch. Plan to furnish some fats, some sweets, a good proportion of starch and some protein, and in addition fruit or a vegetable, like lettuce, celery or ripe tomatoes. The fat may be in the form of butter in the sandwiches or in a bottle of

CLEAN one bedroom. Sweep and dust thoroughly, wipe off woodwork and furniture with a cloth wrung out of warm suds, polish with an oiled cloth, clean windows and wash curtains. If the house is old and the bed is wood, a little gasoline injected into all cracks with an oilcan may save you weeks of work and worry.

It is one thing to clean house and another to keep it clean. Allowing grease to spatter on the cook stove and dishwater on the floor makes an untidy kitchen and takes time to clean up. Laying things down where they are used instead of putting them in place, neglecting to close cupboard doors and drawers and tucking away bits of string and wrapping paper litters up the rooms and makes confusion and much picking up. All this may be saved by a little forethought and system about doing things.

In America today over 13,000,000 children, or one out of every three, are suffering from an insufficient supply of milk.—Dr. McCollum.

HOW MUCH PROPERTY DO YOU OWN?

A BOY or girl will understand better how to value and manage property if once a year a list is made of everything he or she owns; if the actual value of such things as clothing, furniture in one's room is not known, it may be estimated. Investments like Liberty Bonds and War Savings Stamps the increase in value each year, and live stock should be listed at their present value. The total should be added up, and its increase from year to year watched.

Items on September 1, 1920.

Money on hand or in bank... \$.....	
W. S. S. owned	
Liberty Bonds owned.....	
Value of animals owned	
Value of pet stock owned.....	
Value of equipments owned.. ..	
Value of land owned.....	
Value of personal clothing.....	
Value of furnishings of my room	
Value of unsold products.....	

Total value

Get the habit of keeping careful track of everything you own; it will help you to increase your property and teach you business methods.

How Much do I Cost my Parents a Year?

Did you ever stop to think how much it costs your parents to keep you well and comfortable and to educate you to be a useful man or woman? Fill in these items. The totals will surprise you.

Board for year	\$.....
Clothing for year	
Laundry for year	
Doctors' and dentists' bills... ..	
Education	

Total cost

In addition to this money cost there are also the benefits secured by the unpaid labor of mother, father and children. Can you help pay your share? By money? By hearty cooperation in the home?

BOY WINS BIG HONOR.

A calf exhibited by Glen Campbell, nine years old, of Chater, Man., won first prize and grand championship at the recent live stock show at Winnipeg. The animal weighed 1,050 pounds and was sold at auction for fifty cents per pound. Boys' and girls' clubs interested in the breeding of better live stock have recently been organized all over the western provinces of Canada.

LIABILITY TO SUPPORT CHILDREN.

My boy left home a year ago at the age of 19 years with the promise that he would never return to help me another day on the farm. I was paying him a good wage but he was dissatisfied. He had the flu last winter which left him with a cough all winter and now he has consumption. He is back in the neighborhood and his expenses are about \$10.00 a day. According to the law of Michigan, will I have to pay this bill?
P. H. L.

The Compiled Laws of 1915, Sec. 5199, provides that whenever the father shall abandon, neglect, or refuse to maintain his children, the superintendent of the poor may immediately take possession of the goods and land of the father, make an inventory of the property so taken, leave a copy with the father, with a notice to appear before a justice of the peace, etc., and ultimately to sell the property for the child's support; and our supreme court has held by analogy, to the statute, by the common law, one who furnishes support for an infant child, neglected or abandoned by the parent and unable to support itself may supply the child and recover therefor against the parent.
J. R. R.

Lamb feeders have been urgent with their orders for lambs. Notwithstanding the shortage of money in the west, some western growers are offering to sell feeder lambs on time to corn belt feeders.



SEPTEMBER 11TH to 18TH



Learn how to cut fuel bills $\frac{1}{3}$ to $\frac{1}{2}$ —and have your entire home warm and cozy in coldest weather—by attending "Caloric National Prepare For Winter Week" exhibits.

Beginning Saturday, September 11th, and continuing eight days, special "Prepare For Winter" exhibits will be made by thousands of Caloric dealers in all parts of the United States. Visit the Caloric dealer's store in your community—"Heating Headquarters"—and learn WHY the Caloric burns less fuel and heats more uniformly.

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25c 5 P. M. to 11 P. M. 25c

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—controls fire blight as well as scale

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Scalecide kills the hold-over cankers that cause twig and fire blight. It cleanses and disinfects the canker; it causes the old, blackened bark to peel off and new cambium to form. No other spray does this.

What Scalecide Does

Scalecide kills scale, insect eggs and fungous spores that winter over on the bark. It cleans up the trees so thoroughly that their increased vigor is strikingly noticeable the following season. The Fall application kills the adult Pear Psylla before it lays its eggs. A Spring spraying, just as the buds show green, kills aphids. Either of these applications controls blight.

Penetrates and Invigorates

Scalecide is a soluble and miscible oil—not only an insecticide for scale, but it has both fungicidal and germicidal properties. And because the oil globules are broken up into such microscopic particles they are able to penetrate the diseased bark and tissues, and thus reach the bacteria that cause fire blight. Scalecide actually penetrates and invigorates the plant tissues.

Saves Labor

One barrel of Scalecide does the work of three and a half barrels of lime-sulfur. 800

gallons of Scalecide (diluted 1 to 15) goes farther than 1,600 gallons of diluted lime-sulfur, and of course you can put on 800 gallons of Scalecide in much less time than 1,600 gallons of lime-sulfur.

Protects Your Spray Pump

Lime-sulfur eats out the valves and other parts of the spray rig with which it comes in contact. It causes the spray hose to crack and go to pieces. Scalecide, because it is an oil, helps to protect the spray pump from wear and tear and prolongs its life; it makes the pump run easier and develop higher pressure.

Pleasant To Use

Lime-sulfur burns the hands and face, often injures the eyes, takes the hair off the horses and eats the harness—it is extremely disagreeable to use. Scalecide soothes the skin, does not injure the eyes, improves the hair on the horses, softens and cleanses harness—it is pleasant to use.

We Own 26,000 Trees

For ten years we have been conducting spraying tests in our own large orchards, which now total 26,000 trees. The most important result of this practical work with Scalecide in our own orchards has been to discover and confirm many valuable properties of Scalecide: its invigorating effect upon the trees; its economy; its effectiveness against fire blight; and its unequalled effectiveness against insects



and diseases of all kinds that winter on the tree. We recommend Scalecide to you as fruit growers.

Get Scalecide Now

See your dealer now. If he doesn't sell Scalecide, write us for booklet, prices and Guarantee; also give us his name. Use coupon below. Don't delay. Last year fruit growers wanted more Scalecide than we could supply. Address Dep't 13.

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The instrument is fitted with an automatic shutter, which works for both time and "snap shot" exposures, and the best grade of single achromatic lens that can be obtained. It has two finders, one for vertical, the other for horizontal pictures,—in fact, it is as well equipped a camera as could be wished for in the box type. It will produce first-class results in all ordinary amateur photographic work, such as snapshots in good light, time exposures, home portraits, landscape and street photography, and the like. This camera is unusually simple to load and operate. A complete book of instructions is included with each one, and even a schoolboy who never had a camera in his hands before, can make good pictures with the Model B Premo Jr. within half an hour after getting it. Sent charges prepaid for 3 Subscriptions, or for One Subscription and \$1.50 additional.

The Michigan Farmer, Detroit, Mich.

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An Interesting Parasite

By Leo M. Geismar

THIS beneficial insect which seems to appear in varying numbers and at irregular intervals, was first found by the writer during the summer of 1900, while superintendent of the Upper Peninsula Experiment Station. Its description and enlarged illustration by Prof. R. H. Pettit, Entomologist of the Michigan Experiment Station, will be found in Bulletin No. 186 (first report of the Upper Peninsula Station for the year 1900), and also in the annual report of the Michigan Board of Agriculture for the year 1901, page 189-191.

This insect, as stated in the bulletin, was found as early as 1869 by Dr. Riley, who described it as a parasite on potato-beetles in his first report, under the name of "Lydella doryphorae." (Riley first report insects of Missouri, page 111, 1869).

The insect is a fly which somewhat resembles a housefly, except that the back of the abdomen has silvery spots on it and that the face is silvery white. In size it is very little larger than the housefly and the sound of its hum while flying about is sharper and louder, especially while busy searching for potato-beetles. This fly lays its eggs on the bodies of nearly full developed potato-beetle larvae as well as on the adults. The eggs laid on the larvae hatch out and the resulting small grubs bore into the hoses, feeding on the living flesh and the juices of the bodies, but avoiding the vital parts. After the maggot has become full-grown in its living hosts, and after the larvae of the beetle has descended into the ground to pupate, the maggot changes to a puparium, corresponding to the cocoon stage of some insects. From this puparium issues another fly similar to the one which originally laid the egg. This goes on a number of times in a season, each generation of the flies destroying a number of potato-bug-larvae.

During the summer of 1900, there were localities in Alger county in which the Upper Peninsula Experiment Station is located, where scarcely any potato-beetles were seen, while in the vicinity of the experiment station, the beetles were quite numerous and practically every one, as well as as some of the larger larvae, was covered with from one to as many as eight or even more eggs of what appeared to be a parasite. This drew the attention of the writer who soon thereafter was attracted by the peculiar hum and queer antics of several flies while in the act of depositing their eggs on the potato-beetles. The parasite first flies, then walks around the potato-beetle several times, tapping the beetle on the head from time to time until this and the strident tones of the parasite's hum induce the beetle to remain in an apparently dormant condition while the egg is being laid on its back. If the same parasite lays more than one egg upon the beetle, the tapping and humming performance is repeated before each egg is laid. The fly lays its eggs while standing alongside or in front of the beetle. Being lower in stature, it succeeds in dropping its eggs on top the beetles, by rearing itself partly on its hind legs and after extending its ovipositor in front of its body to above its head, it curves it downward and forward above the beetle and drops one egg at a time.

Potato-beetles were rather scarce in the vicinity of the experiment station during the following season of 1901, although no flies nor their eggs could be found. Nor have any been seen or heard of since then, although the writer has carefully watched out for them each year and from time to time, requested farmers in several localities and counties to report to him the pres-

ence of the fly or its work, if found in their neighborhood.

During the present season there were localities in Houghton county where potato-beetles were very scarce, and others in which they were quite abundant. As above related, this same condition prevailed in Alger county during the season of 1900, and this led to the belief that the parasite might be at work again in parts of Houghton county. After a search of about two weeks, evidence of the parasite was found in the vicinity of Dodgeville, where potato-beetles were very numerous and practically every beetle as well as the nearly full-grown larvae were found to be covered with from one to five, or more eggs of the parasite. In either direction from this locality, evidence of the parasite disappeared gradually until in potato fields five miles away the eggs of the parasite were found upon less than one beetle or larvae out of every hundred.

The foregoing observations indicate that this beneficial fly is at work in large numbers in restricted areas only, but within an extensive territory and in several states. They also indicate that the fly either migrates from year to year to other localities or else has other hosts upon which it prefers to rear its young from time to time. That the flies cannot increase to any great extent is due to the poisoning of the potato-beetles, a practice which has become quite general; for the poisoned beetles dry up rapidly and this leaves the young maggots which may hatch out of the fly's eggs without a living host and consequently without food.

Prof. R. H. Pettit thinks that the fly is the same which works on two rapidly disappearing species of cutworms and that it therefore may have more than one host, for in Bulletin No. 186 he states: "An attempt was made to introduce the flies here, in order to get them to work on our potato-beetles, but as no fresh flies emerged, it was impossible. A little later in the season four flies, which the writer is unable to distinguish from the potato-beetle parasite, were bred from cutworms. The cutworms were the last two of a large number of rapidly disappearing predators in a field of oats and peas. They cut the oat stems into sections several inches long and also cut the pea vines. The larvae were brought in on August 1 and the flies emerged on August 8. This would suggest that the parasite has more than one host."

BRITISH WOOL STOCKS.

A STATEMENT by the director of raw wool stocks of Great Britain shows a total of 2,905,554 bales of government-owned wool on hand. The quantity of combing merino wool which is still available for sale is 796,579 bales. This stands out in strong contrast to what has been generally supposed as being the stock of combing wool, clothing and carbonizing stocks being sensibly less than half the quantity of combing wools still unsold. The statement shows some very significant totals, and the merino combing wool available far outweighs both the clothing and carbonizing stocks.

Some very significant figures come under New Zealand wool. The stocks in the United Kingdom ports are 217,688 and the stocks in New Zealand amount to 341,937 bales, all these being New Zealand wools. These totals represent 559,625 bales, virtually a whole New Zealand year's clip. These are all crossbreds, there being no merino New Zealand wool returned at all in the stocks held by the government. The stocks of unshipped Australian crossbred wool are very considerable, amounting to 657,352 bales, and if the New Zealand unshipped stocks are also added, we have 999,289 bales of Colonial crossbred wool which remained unshipped in Australia and New Zealand last June 30.

FAIRBANKS SCALES

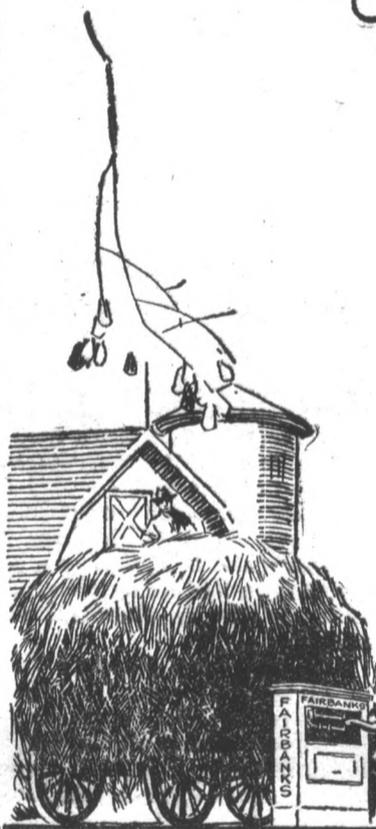


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WHEN YOU INSTALL a Fairbanks Scale for Wagon and Stock use, you establish the standard of accuracy for your neighborhood.

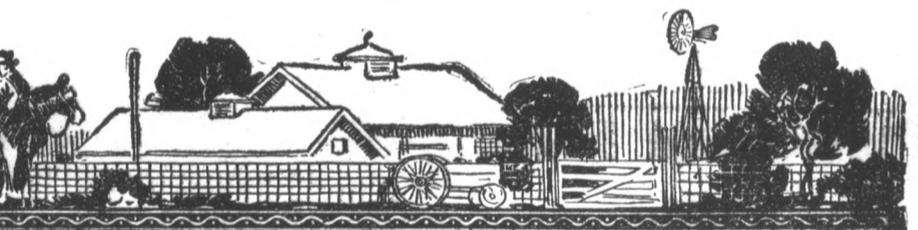
Why? Because for ninety years Fairbanks Scales have been the world's standard, by which the accuracy of all others is judged.

An enviable record, which is the logical result of painstaking, unswerving accuracy in manufacture. This year's farm profits will come from a close scrutiny of the wastes and "guesses" of the past. The first step in learning your exact profits is to know your weights, and to base your transactions on the knowledge which only a Fairbanks Scale reveals.



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Every Farmer Will Want This BIG FREE Book

This free book tells you everything you want to know about installing water systems to supply running water for house and barns—tells you how to figure capacity of water tanks—how to lay piping—irrigation tables, etc. This book also tells you about

HUMPHRYES

Perfected pumps

the pumps that are all their name implies. HUMPHRYES pumps are recognized everywhere as the ideal pumps for service and durability. Don't buy a pump until you have investigated the HUMPHRYES line at your dealers. He has a style and type of pump to meet any requirements from an ordinary cistern pump to power pump. Write for This FREE Book Today

Get posted on pumps and money saving water systems—this free book gives you just the information you need. Remember its free—your name on a postcard or letter brings it free and postpaid.

The Humphryes Mfg. Company, Mansfield, Ohio 8

We'll Rebuild Your Lamp with a Coleman Match Lighting Burner

Send your old torch-generating gasoline lamp to our nearest factory branch by parcel post and let us rebuild it into a light better than new and which will give years of service. To make the change economically for you, we must have the entire lamp, all parts without the shade. The Quick-Lite Burner Lights with Ordinary Matches. Does away entirely with the old style lighting torch. For the average make of lamp the cost is only \$3.50. We also clean and test your lamp free. Occasionally lamps of other manufacture require special machine work and extra materials. This means additional cost. Before rebuilding, we notify you of the exact cost and await your acceptance. Address nearest Dept. C31

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Wichita St. Paul Toledo Dallas Los Angeles
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Farms and Farm Lands For Sale

Comfort and Pleasure This Winter

CLEARWATER ON CLEARWATER HARBOR AND GULF OF MEXICO. Wonderful surroundings, surf bathing, mild climate, comfortable accommodations, hotels and cottages. Citrus groves, trucking, chickens and dairying. Good land, sufficient rain, luxuriant growth. Write Board of Trade, Clearwater, Fla.

SUBURBAN HOME

26 A. very fertile soil; new barn; good house; on street car line, 1 mile from city. Write for description to this and other farms. J. H. RUSSELL REALTY BUREAU, 413-414 Myers Bldg., Ashland, Ohio.

FOR SALE improved farms 40-60-80 acres or in any desired quantity including 640 acres, on terms or trade at low prices. D. B. RENNIE, 323 1/2 Genesee Ave., Saginaw. Bell 3531; Valley 630B.

220 Acres \$8500, with 40 Cattle, Horses, Crops, Tools,

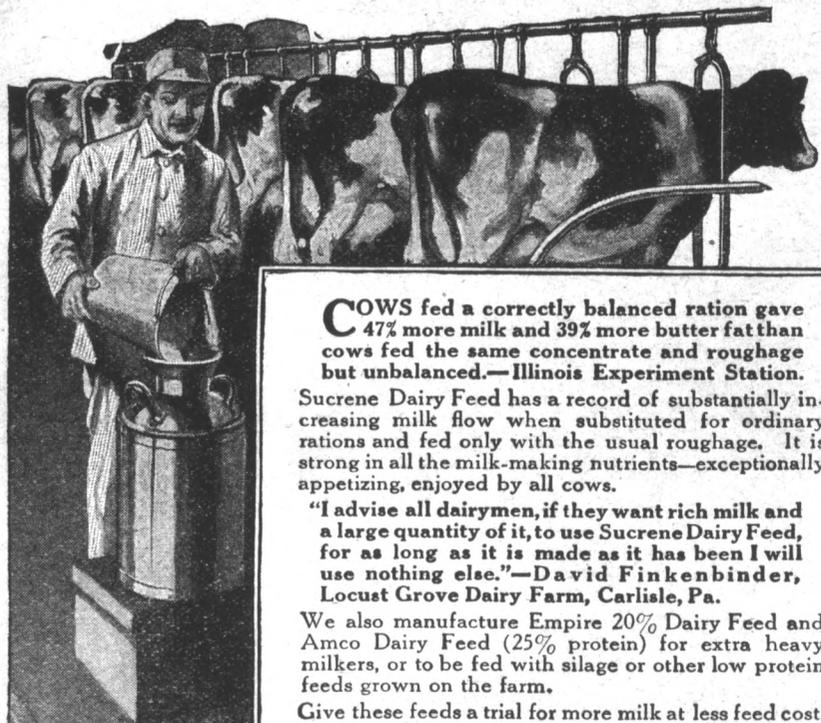
Equipment worth \$5,000; improved road, mile R.R. station; machine-worked fields, 50-cow brook-watered pasture, 1,000 cords wood 100,000 ft. timber, lots fruit; 12-room house, running water; 80-ft basement barn, running water; immediate sale includes livestock, wagons, machinery, tools, lot growing crops, all for \$8500, easy terms. Details this and smaller farm for \$270 page 22 Strout's Big Illustrated Catalog Farm Bargains 33 States. Copy free. STROUT FARM AGENCY, 814 BO Ford Bldg., Detroit, Mich.

For Sale At a Sacrifice, 160 acres fine unimproved land, 2 miles from Beulah, Benzie county, Michigan; well located; suitable for general farming or fruit; \$4,000, easy terms. Address O. J. DELWICHE, Madison, Wis.

FOR SALE OR TRADE farm of 70 acres, near town including stock and machinery, price \$3000. WILLIS BRADLEY, Bedford, Va. R. R.

SUCRENE

DAIRY FEED



COWS fed a correctly balanced ration gave 47% more milk and 39% more butter fat than cows fed the same concentrate and roughage but unbalanced.—Illinois Experiment Station.

Sucrene Dairy Feed has a record of substantially increasing milk flow when substituted for ordinary rations and fed only with the usual roughage. It is strong in all the milk-making nutrients—exceptionally appetizing, enjoyed by all cows.

"I advise all dairymen, if they want rich milk and a large quantity of it, to use Sucrene Dairy Feed, for as long as it is made as it has been I will use nothing else."—David Finkenbinder, Locust Grove Dairy Farm, Carlisle, Pa.

We also manufacture Empire 20% Dairy Feed and Amco Dairy Feed (25% protein) for extra heavy milkers, or to be fed with silage or other low protein feeds grown on the farm.

Give these feeds a trial for more milk at less feed cost. Place an order with your dealer. If he cannot supply you, write us. The coupon brings you full information.

American Milling Company
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American Milling Co., Dept. 44 Peoria, Ill.

Please send illustrated literature checked:

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- Sucrene Calf Meal
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- Sucrene Poultry Feeds
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- Empire 20% Dairy Feed
- Amco Dairy Feed (25% protein)
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My Name.....

P. O. State.....

BREEDERS' DIRECTORY

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

Wildwood Farms Angus

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

Our herd is under State and Federal Supervision.

WILDWOOD FARMS

ORION, MICHIGAN

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

WOODCOTE ANGUS

Imported Herd Bulls
ELCHO OF HARVESTOUN (45547)
by Jason of Balfindalloch (38048)
EDGARD OF DALMENY (45501)
by Escort of Harvestoun (36006)
Woodcote Stock Farm, Ionia, Mich.

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

SPRING DE'LL FARM GUERNSEYS

For sale: Choice of two bulls two and three years old; also bull calves three to twelve months. Registered. Splendid individuals and breeding. Prices right.
WHITE BROTHERS, R. 2, Box 20, La Porte, Indiana.

Pure bred Guernsey bulls from one to four weeks old. Registered \$30. not registered \$25. Orders shipped in rotation received. No excuse for scrub bulls.
WALTER PHIPPS FARM, 80 Alfred St. Detroit, Geo. E. Currie, Mgr.

For Sale: Guernsey bulls from 3 months to 6 months old. Their sire is DOTTIE'S PRINCE No. 44696; his dam has an official yearly record of 647 lbs. butter, fat.
L. J. BYERS, Coldwater, Mich.

GUERNSEYS—Federal Inspected. Headed by only son of Carrie of Hillhurst, exchampion of A. A. class. 5 bulls under 10 mos., 1 a dandy whose dam in class D has given over 50 lbs. milk. No females to spare.
G. W. & H. G. RAY, 4 mi. east of Albion, Mich.

Registered Guernseys a very fine show calf, this bull calf is out of a cow milking 40 lbs. a day, the price will surprise you, better get his pedigree.
J. M. WILLIAMS, North Adams, Mich.

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

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

FOR SALE Registered Guernsey heifers, yearlings and calves.
E. A. BLACK, Route 3, Howard City, Mich.

May Echo Sylvia Bull calf. 2 crosses to May Echo Sylvia, and 3 crosses to King of the Pontiacs. Dam a 2 yr. old daughter of a 29 lb. cow, 6 of his nearest tested dams average 34.49 lb. of butter and 759 milk.
C. H. GIDDINGS, Gobleville, Mich.

For Sale Mixer Saracen, 1st prize Guernsey Bull at Michigan State Fair of 1919. Age 20 mos. Also two young purebred Guernsey cows of excellent breeding. Priced to sell. Write or come to see them.
S. W. SOMMER, Dryden, Mich.

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

-WinnWood Herd- Flint Maplecrest Boy No. 166974

Has Made Good

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

A Few Females For Sale

—OUR JUNIOR HERD SIRE—

Sir Ormsby Skylark Burke No. 264966

A brother to the world champion cow over all breeds.

DUCHESS SKYLARK ORMSBY

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

JOHN H. WINN, (Inc.)

Roscommon, Michigan

Additional Stock Ads on Page 327

Holstein Tour a Success

(Continued from last week).

Washtenaw County.

Leaving Manchester, in the southern part of the county, at 8:30, we called on Schumacher Brothers, Taylor Gage, Reed & Berseeder, and W. L. Rundel, all of whom have small herds of good quality. At Rundel's the sire was exceptionally good and the cows were well grown and straight but without records.

Bazley Stock Farm, near Ypsilanti, was the next stop, and here the entire crowd of Washtenaw County Holstein breeders and visitors from other counties, and there were more than two hundred all told, were the guests of Mr. Bazley for dinner. It was a regular dinner, too—roast beef and all the trimmings. Mr. Bazley is the president of the Washtenaw County Holstein-Friesian Association and a very enthusiastic breeder of the black-and-whites. Tables were spread on the lawn under the trees and there was an abundance for all.

After the program a novel feature was introduced in the form of a judging contest. Arrangements had been made for four teams of three men each from agricultural schools and each team judged three classes, cows, heifers and calves. Mr. Pollock and Mr. Norton made the final placings on the three rings judged and the final scores showed that the judging was close. Two of the boys tied for first place with a score of two hundred and sixty-seven points each and the third boy had two hundred and sixty-six points.

After inspecting Mr. Bazley's fine herd, which numbers about sixty head, we went on to R. J. Bird's and to Carl & Simon Braun's. Here we saw some very fine animals and Mr. Munsell selected three from Mr. Bird's herd for the state sale at Jackson. Arrangements for the Washtenaw county tour were nicely taken care of by County Agricultural Agent H. S. Osler, and John Bazley and L. A. Seamans, president and secretary, respectively, of the Washtenaw County Holstein-Friesian Association.

Livingston County.

In Livingston county the leading Holstein county of the state, and one of the most famous centers of the breed in all the county, some very fine cattle were seen. This county, according to census which is now nearing completion, can boast upwards of three thousand purebred Holsteins, and the great majority of the other cattle are high grades, as the industry has flourished here for nearly a third of a century.

The Livingston tour started with the Kumboss herd, owned by Secretary Hays. "Jim" claims this is the most widely advertised herd in the world, for, as he says, "every time you call your cows you advertise my farm and herd." Mr. Hays has his entire herd

tested with very creditable records and with his customary originality, had painted each cow's record on her side so that it could be seen plainly. Four generations of females, headed by a twenty-eight-pound cow, were on exhibition and made a very fine showing.

Next came the Village Farm, where the McPherson Farms Company has been breeding "Top-Notch Holsteins" for the past twenty-five years. An interesting feature in connection with the herds owned by this company is the fact that herd records are kept, showing the milk produced by each cow during every period of lactation. Here we saw an eighteen-year-old cow that produced in her first fourteen lactation periods more than 174,000 pounds of milk and her fourteen-year-old daughter with 137,000 pounds to her credit in eleven milking periods, these being herd records on twice-a-day milking. Surely these black-and-white milking machines are built of good material to stand the strain so long and produce so continuously.

At Charles Heeg's we stopped for dinner and the program. The Heeg herd is exceptionally good and all the cows have records ranging from twenty-three to thirty-two pounds in seven days.

A visit to the herd of S. H. Munsell is sufficient to convince anyone that he is well qualified to select the animals for the state sale, for he has one of the finest herds in the state. Here we saw seven two-year-old heifers, all by one sire and averaging above twenty-one pounds in seven days.

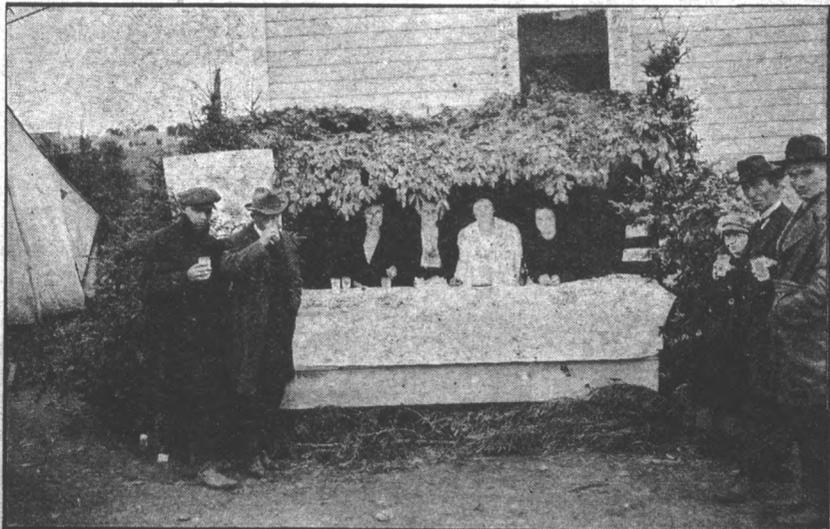
Cluny Stock Farm, owned by R. Bruce McPherson, has more than one hundred head, including a large number of heifers sired by a son of Maplecrest Pontiac Application. The calves here were especially attractive and well grown. The herd includes a large number of good record cows that are now on long-time test.

The last scheduled stop was at Robin Carr's, west of Fowlerville. This herd which includes a number of granddaughters of Hengerveld DeKol, represents exceptionally good type and most of the cows have records above twenty-four pounds. An interesting feature here was a pair of twin cows, each with a record above twenty-five pounds.

After showing his cattle, Mr. Carr took us across the road to see some cattle of his breeding which belonged to a neighbor. There were three granddaughters of Hengerveld DeKol, and they suited Mr. Aitken so well that he returned the following week and purchased them.

Ingham County.

The members of the Central Michigan Association, which includes Ingham county and adjoining territory, assembled at Sycamore Farm on Friday morning for the Ingham county tour. Sycamore herd, which is owned by Fred E. Shubel, has some very heavy



Dairymaids of Cloverland Satisfying Thirsty Visitors.

milking cows, one considerably above seven hundred pounds in seven days.

H. D. Box & Sons have one of the most interesting herds seen during the two weeks' series. Never having tested before, this herd emerged from obscurity last winter by developing the only pair of cows in the world that are mother and daughter and each with better than eight hundred pounds of milk in seven days. Lady Clio Pauline DeKol produced 842.1 pounds and her daughter, Model Lady DeKol, has 8,204 pounds to her credit. They surely are a great pair. Several other cows in this herd deserve mention, and King Lansing, one of the sires owned by the Capital Bull Association and kept on this farm, was one of the best sires seen. A brother of this sire, owned by C. L. Hulett, whose herd was next on the list, is also a bull of show ring quality.

Next we visited the herds by C. W. Wilson, A. R. Black & Sons, and C. A. Daniels, and arrived at the Michigan Agricultural College at noon, where the caravan stopped for lunch on the campus. After the program, the College Holstein herd of about sixty head was inspected and Professor J. E. Burnett gave a demonstration of Holstein type. The college has a herd of exceptional merit, including a very good young son of College Belle Butter Lass, the cow that topped the state sale last January at \$3,250.

Several very good herds northwest of Lansing were visited during the afternoon, including the herds of F. W. Schuesberger, Stortz & Birkholz, F. R. McDonel, Chris Hansen, Creyts Brothers, A. E. Crosby, Edward Stoll and Howell & Drumheller. Rain interfered with the afternoon program somewhat, but altogether it was one of the most satisfactory tours of the series, the herd sires seen during the day being almost without exception remarkably good individuals.

Jackson County.

The Jackson County tour started with the Boardman Farms at nine o'clock on Saturday morning, August 7. Boardman Farms were pioneer breeders in Jackson county, and in fact this is one of the old established herds in the state. Under the active management of H. D. Boardman, Secretary of the Jackson County Holstein-Friesian Association, this herd will be developed rapidly and testing for records will be carried on to a greater extent than in the past.

The second herd visited is owned by Vernon Clough and, though a small herd, is worthy of special mention because of the results secured. Starting with almost nothing seven years ago, Mr. Clough has made rapid strides in a business way and attributes his success entirely to the herd. Herds owned by J. A. Campbell & Son, G. A. Wheeler & Son, and Dennis Cobb & Sons, were inspected before noon and many good animals were seen, and at Campbell's Mr. Munsell selected a heifer for the state sale.

Returning to Jackson, we stopped at Sharp Park for lunch and the program, then proceeding to W. W. Wyckoff's place at Napoleon. Mr. Wyckoff has one of the most interesting and remarkable herds in the state, and to say that he is a most enthusiastic booster for Holsteins is mild indeed. Mr. Wyckoff started in the Holstein business thirteen years ago by purchasing one registered cow, Inez Pietertje, a two-year-old then. He now has six generations of females in the herd, including about forty head, and all are descended from Inez, for he has never purchased another female. The old cow is still hale and hearty and is due to freshen in the fall. She has a record of twenty-eight pounds of butter from six hundred pounds of milk and has six daughters in the herd, four with records ranging from an 18.25-pound junior two-year-old to a twenty-two-pound

HEADLIGHT OVERALLS

UNION MADE

OUTWEAR TWO ORDINARY PAIR



Guaranteed to Wear Twice as Long

as ordinary overalls. Remember, when you price overalls, that the guaranteed double service of Headlights really cuts their selling price in two. Also, they are unusually comfortable, due to the extra yardage of denim that goes into their manufacture.

If Headlights don't last you twice as long as ordinary overalls, and afford greater comfort in the wearing, you get your money back.

LARNED, CARTER & CO., DETROIT
World's Greatest Overall Makers

Factories: Detroit St. Louis San Francisco Port Huron, Mich.
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Facts in
BLACK & WHITE

Purebred Holstein Cattle in the North West

The North Dakota Farmer recommends Holsteins and reports: "The United States Government and the experiment station when selecting cattle for the breeding circuit at New Salem chose this breed as being best adapted to conditions. Holsteins are strong and healthy and do well in any climate. On account of their great yield they are the most economical producers of butterfat."

Send for Free Illustrated Booklets. They contain valuable information for any Dairyman.

THE HOLSTEIN-FRIESIAN ASSOCIATION
164 Hudson Street
Brattleboro Vermont.

OUR HERD SIRE
Model King Segis Glista

By a 30 lb. son of Lakeside King Segis Alban De Kol. His dam Glista Fenelle 32.37 lbs. Her dam Glista Ernestine 35.95 lbs. His three nearest dams average over 33 lbs and his forty-six nearest tested relatives average over 30 lbs. of butter in seven days. Write for prices on his sons.

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

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

LONG DISTANCE HOLSTEINS HERD
SIRE PRINCE ONA
(Prince Ona) 23655 Five dams av 1186 lbs. butter and 24771 lbs. milk in 1 yr. Only 1 good bull calf left, born Nov. 18th '19, dam untested, \$100. State and Federal supv.—a clean herd. A. FLEMING, Lake, 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.

Holstein Friesian heifer and bull calves, purebred registered and high-grade. Price \$20 up. Splendid individuals and breeding. Write us your requirements. Browncroft Farms, McGraw, N. Y.

"TOP NOTCH"

HOLSTEINS
McPHERSON FARMS COMPANY

Officially Produced	343 lbs. milk in 7 days
1 " "	3394 lbs. milk in 30 days
1 " "	120 lbs. milk in 1 day
1 " "	811 lbs. milk in 7 days
1 " "	over 10000 lbs. milk in 100 days
1 " "	105 lbs. milk in 1 day
1 " "	696 lbs. milk in 7 days
1 " "	2639 lbs. milk in 30 days
1 " "	100 lbs. milk in 1 day
1 " "	20854 lbs. milk in 1 year
1 " "	100 lbs. milk in 1 day
1 " "	659 lbs. milk in 7 days
1 " "	18675 lbs. milk in 1 year

Others under test are making large milk records. A fine lot of young bulls from 3 months to 2 years old for sale. Get a "milk" bull, and increase milk production in your herd. Our herds are under U. S. supervision. McPHERSON FARMS CO., Howell, Mich.

HOLSTEIN
BULL CALVES FOR SALE

From dams with good records.
BULL CALVES Sired by 45 lb. BULL.
BULL CALVES Sired by 34 lb. BULL.
BULL CALVES Sired by 33 lb. BULL.
PRICES VERY REASONABLE.
Privilege of return if not satisfied.
A. W. COPLAND,
Birmingham, Michigan.
Herd under State and Federal Supervision.

CLUNY STOCK FARM

A Semi-Official Bred Bull to Head
Your Head
Maplecrest Application Pontiac No.132652, heads
Our Herd
His dam's record is 1344.3 lbs. butter 23,421.2 lbs. milk in 365 days, and 35,103 lbs. butter and 515'6 lbs. milk in 7 days.
One of his sons from our good record dams will carry these great blood lines into **Your Herd.**
For Pedigrees and Prices write to
R. Bruce McPherson, Howell, Mich.

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.

Increase the Efficiency
of your

DAIRY HERD
by using a
Registered Holstein Sire

We have bulls of all ages listed at reasonable prices.
Also grade and pure-bred cows and heifers.
Michigan Holstein-Friesian Asso.
Old State Block,
Lansing, Mich.

Holsteins of Quality

for sale. Heifers from 8 to 24 months old. All registered and sold subject to tuberculin test.

BARGAIN PRICES on pure bred Holstein heifers and young bulls ready for service.

HEREFORDS

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

ALLEN BROS.

PAW PAW, MICHIGAN

Herefords. Just purchased 3 new herds, now have 150 head; we offer you anything desired either sex, horned or polled, any age.

Herefords: 4 Reg. bulls 5 to 8 mo. old. Prices reasonable for quick sale visitors welcome.

HEREFORDS

D. S. Polled Herefords

Herd headed by Renner Bullion, 815983, (18242) son of grand champion Bullion 4th.

For Sale—A few good polled and horned cows bred to this great bull. Also three fine bull calves not related to him. Correspondence solicited.

Cole & Gardner, Hudson, Mich.

The Wildwood Farm

Jersey Cattle, Majesty strain, Herd on State accredited list, R. of M. testing constantly done. Bulls for sale.

BUTTER BRED JERSEY BULLS FOR SALE CRYSTAL SPRING STOCK FARM.

For Sale Jersey bull calves of Majesty breeding from good producing stock. Herd on Government "Accredited List."

Jerseys For Sale, Register of Merit stock of both sex. Smith and Parker, Howell, Michigan.

For Sale. Jersey bull ready for service sired by Flying Fox's Gay Lad. Dam record 472.5 lbs. butter 6875 lbs. milk.

Lillie Farmstead Jerseys 2 R. of M. bull calves, one year old this fall.

BIDWELL SHORTHORNS

a bull that will put weights on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch and Scotch-topped yearlings, reasonably priced.

BIDWELL STOCK FARM, Box D, Tecumseh, Michigan

St. Joseph Valley Shorthorn Ass'n has for sale males and females of all ages and best breeding.

We Now Have

a number of choicely bred scotch females of any age for sale also three bulls from 6 to 18 months old.

Richland Shorthorns

Imp. Lorne, Imp. Newton champion and Sterling Supreme in Service. We offer for quick sale: Five Scotch Bulls, best of breeding.

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

Fairfield Shorthorns. For Sale: cows and heifers bred to Imp. Scottish Emblem 68032E. Open heifers all ages.

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

Shorthorns Scotch and Scotch Topped bulls and heifers priced right. Sultan Champion heads herd, one scotch two yr. old herd bull by Red Cumberland priced right.

Milking SHORTHORNS Clay bred bull calves Herds under Federal Supervision. Davidson & Hall, Beland & Beland, Tecumseh, Mich.

Shorthorns Good Scotch bred bulls, cows and heifers priced right.

Meadow Hills Shorthorns. Herd headed by Silver King, full brother of Lavender Sultan Purdue University's great sire. For sale females of all ages, a few young bulls.

Milking Shorthorns of best Bates breeding, bulls 6 to 8 mo. old for sale.

Shorthorns of Merit Both males and females for sale.

Shorthorn Bulls Eight to ten months old of Scotch and Scotch Topped breeding.

SHORTHORNS—Imp. Mysie Prince in service bred by J. Durno, sire bred by Wm. Duthie. Stock for sale.

For Sale 19 Shorthorn registered good breeding will sell cheap to close out. Apply The JENNINGS FARMS, Bailey, Mich.

Red Polled cattle for sale bulls from 4 to 18 mos. also cows with calves by side and heifer's.

Reg. Red Polled cattle choice young bulls from 6 to 18 mo. old for sale.

Steers For Sale Several bunches of good stock-ers and feeders weighing from 650 to 1050 lbs. Each bunch even in size and color write at once stating your wants.

O. I. C. SOWS FOR SALE

One of the Best Herds in Michigan Young sows due to farrow in September. Spring boars ready for shipment. Choice individuals of BIG TYPE breeding.

J. CARL JEWETT, R. 5, Mason, Michigan.

The World's Champion

big type O.I.C.'s. Stock of all ages for sale. Herd headed by Calloway Edd, the World's Champion O. I. C. boar assisted by C. C. Schoolmaster.

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

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

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

O. I. C.'s Eight young boars and spring pigs for June shipment.

O. I. C.'s Booking orders for spring pigs, we register free and ship C. O. D.

O. I. C.'s 5 last fall boars and 15 last fall gilts bred for fall farrow. Weight 230 to 325 lbs. extra good stock.

Look for Miller Meadows L. T. P. C.'s at Marshall Calhoun Co. Fair Sept. 21-25.

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

Poland China Special

Boar pigs sired by Monster Big Bob and from our best sows, priced right for immediate shipment.

Everything sold previously ad. 25 spring pigs placed on the bargain counter for mo. of Sept.

L. S. P. C.

Our herd is representative of the best in Big Types. Choice boars for sale now.

Big Type Poland Chinas

We have a large number of spring and summer pigs ready to ship sired by such boars as "Hart's Black Prince," "Leonard's Big Bob," the "Model Clansman" and "Prospect Yank."

Bred Sow Sale at Fairgrounds August 5th. Carey U. Edmonds, Hastings, Mich.

Large Type Poland China pigs, both sexes now ready, write for description and prices.

Big Type P. C. Bred gilts, Fall yearlings, prize winners, over 1100 lb. sire and mammoth sows from Iowa's greatest herds.

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

Big Type Poland Chinas with quality, at rate of both sex, and bred sows and gilts.

Big T. P. Chinas for sale. A few tried sows, spring boars. Aug. pigs both sex. Recorded free in buyer's name.

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

Lindhurst Poland Chinas Stock for sale at all times. Public Sale Oct. 23.

POLAND CHINAS W. J. HAGELSHAW, Augusta, Mich.

LARGE TYPE P.C. SWINE. One yearling boar, one fall yearling boar, fall pigs, a few more bred sows.

Leonards B. T. P. C. See exhibit at Mich. State Fair. Get your name on mailing list for public sale Oct. 23. Double immune. E. R. Leonard, St. Louis, Mich. R.3.

Large Type Poland China's. Everything in mind by double treatment. Meet me at Detroit, or Jackson Fairs. A. A. Feldkamp, R. 2, Manchester, Mich.

BARGAINS on Big type spring and summer Poland B China Pigs also yearling Shorthorn bulls, bull and heifer calves.

HAMPSHIRE

Choice Spring boars, popular breeding. Booking orders for fall pigs. All stock Cholera Immuned and guaranteed Breeders. Satisfaction guaranteed.

STEUBEN'S HAMPSHIRE FARM R. 3, Angola, Ind.

Edgewood Hampshires All bred gilts sold. Now booking orders for gilts bred for fall farrow, and pigs for pig club work only.

Hampshires get your boar pigs, now a few bred gilts left new blood lines of quality.

YORKSHIRES BRED GILTS WATERMAN & WATERMAN Packard Rd. Ann Arbor, Mich.

O. I. C. Gilts bred for July and Aug. farrow. Also spring farrowed pigs.

O. I. C. Gilts bred for Sept. farrow and spring pigs.

O. I. C. Gilts bred for Sept. farrow and spring pigs.

O. I. C. Gilts bred for Sept. farrow and spring pigs.

O. I. C. Gilts bred for Sept. farrow and spring pigs.

O. I. C. Gilts bred for Sept. farrow and spring pigs.

O. I. C. Gilts bred for Sept. farrow and spring pigs.



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

Phillips Bros, Riga, Mich.

DUROC JERSEY SWINE for sale 2 yr. old herd boars, yearling boars and boar pigs, also bred sows and gilts.

Duroc sows and gilts bred to Walts King 29499, who has sired more 1st and 2nd prize pigs at the State Fair in last 2 years than any other Duroc boar.

OAKWOOD FARM DUROCS We can furnish you with anything from a weanling pig to a boar of herd heading caliber at reasonable prices.

12 Choice Duroc gilts bred to farrow July and August. Daughters of Michigan Cherry Col. bred to Jacks Cherry Oriob King Number 169259.

Duroc Boars and Gilts for sale at \$25 to \$50 each, crated and registered in buyer's name.

Write Me at once I have just what you want heavy bone registered Duroc Jersey boars ready for service.

Duroc Jerseys of the right type, good blood lines and in good condition at a price you can afford to pay.

Duroc Jersey's Herd headers in boars. Why? Because they are bred right, fed right, grown right and from Grand Champion stock.

DUROC JERSEYS E. D. HEYDENBERG, Wayland, Mich.

DUROCS spring boars. A few gilts bred for Sept. farrow at bargain prices.

DUROC JERSEYS. Spring pigs ready for delivery, \$10.00 each. LAKE SIDE STOCK FRUIT FARM, Pinckney, Michigan.

Big Type Chester Whites. Choice, stretchy spring boars, also tried sows and fall gilts bred for Sept. litters.

CHESTERS two good fall gilts bred to a boar of Wildwood Prince Jr. breeding for Sept. farrow; spring pigs.

O. I. C. BOARS. I two year old, weight 500, Apr. boars. Write for breeding and prices.

O. I. C.'s A few choice late fall and winter boars, also a fine two year old boar.

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 six months old.

O. I. C. Gilts bred for July and Aug. farrow. Also spring farrowed pigs.

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O. I. C. Gilts bred for Sept. farrow and spring pigs.

junior four-year-old. Mr. Wyckoff says he has never lost an animal and never had a reactor during the thirteen years and that is a record in itself.

Leaving here we visited Sharondale Farms and Smith & Hammond, and finished the day with Jud Blake & Son, where Mr. Pollock gave a demonstration of Holstein type. The cow used was a very fine specimen for the purpose. In fact, she took the grand championship at the Jackson County Fair last year.

THE ACRE WE ADDED.

GIVE nature an inch and she will take an ell, and do it so quick it will make your head swim. That is what happened in our cow pasture. We did not get around to cut the brush for a few years, and when we did, we found that it had grown up so that the pasture was producing much less than it had when we stopped trimming it up regularly.

"Cut off that brush, Father, and we can keep half a dozen more cows." So said the young man of the farm, and the idea got a good grip on us. So strong a hold, in fact, that we ground up the tools and spent all our spare time that fall cutting the stuff off. The poles that were large enough for wood, we trimmed and laid in piles to dry, and later we drew them down to the house and "buzzed" them up. They made pretty good wood, too, although the sticks did not have the lasting qualities that wood cut from mature trees does.

The small branches were cut off and for this we found that a sharp bush-hook is the best tool, a good deal better in fact than an axe. A single blow severs a limb an inch in diameter. We piled the brush carefully, taking pains to press them down tight together, and left them to cure out for the burning that came that fall.

All round among the brush we found a good many briars which had borne berries earlier in the season. These we cut with a stout scythe, pulling them together with a pitchfork, adding them to the heaps of branches cut from the saplings. The field looked fine after we had been over it this way.

It looked finer, however, after the brush had been burned and the pole wood hauled away. The most surprising thing about it was the fine quality of the grass which grew in where that brush had been. Without any seed at all a good lot of white clover came in and the cattle ate it with the greatest possible good appetite. So we added our acre to the pasture. More are coming.

ERADICATING CANADA THISTLES.

I would like to get some advice regarding thistle blades. I would like to get some kind of a tool that would cut about two or three inches under the ground and about six feet wide. The objection I have to the thistle blade attachments I have seen for a two-horse cultivator is that they don't cut wide enough to make their use practical in large fields infested with quack grass, Canada thistles, etc.

Osceola Co. H. A. Plowing the ground infested by Canada thistles several times a year is about one of the best ways of overcoming them. We believe it would pay you to write the Minnesota University, St. Paul, Minn., who would be able to give you more information on killing quack grass and Canada thistles. They are overcoming these problems every day.

FLUCTUATION IN HOGS.

(Continued from page 304.)
 tion of live stock prices. Temporary conditions alter relationship for a time and occasionally work immense hardship upon those who are caught by the failure of conditions to work the normal way. On the other hand, there is no benefit in bewailing a perfectly normal event and some of the price changes which take place in the hog market, as well as in other markets, may be so classified. They are as normal though not quite so regular and unvarying as the passing of the seasons. The close relationship between the supply and the price of hogs indicates it to be more important than demand in shaping the course of the market. Producers control the supply, hence it is not out of the way to say that producers have within their hands the chief influence for the stabilization of markets.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Indigestion.—We have an eight-year-old horse that has a splendid appetite, works well, but hangs head as if he was weak, and is very low in flesh. For the past thirty days he has rested. J. L., Decatur, Mich.—Give him 1 dr. of powdered sulphate of iron, 1/2 oz. of ground or powdered gentian, 1 dr. of ground nux vomica at a dose in ground feed three times a day. Increase his feed.

Chronic Leukorrhoea.—Do you know of a remedy that will cure leukorrhoea (Whites), as I have a mare that is infected. Have used several remedies, none seems to do much permanent good. This mare is a hearty eater, even eats bedding. A. H. C., Galien, Mich.—Give her one dram of powdered sulphate of iron and half-ounce dose of powdered gentian in feed 2 or 3 times a day. Inject her with one part liquor cresolus compositus (U. S. P.) and 99 parts water once a day. Use a fountain syringe. She should be well fed.

Cow Does Not Come in Heat.—Cow five years old, came fresh last May, since then she has not been in heat. T. F. L., Northport, Mich.—Give her a teaspoonful ground capsicum at dose in each feed. Feed her some grain 3 times a day.

Enlarged Gland Rheumatism.—We have brood sow two years old, she lost her second litter of pigs last December. A bunch formed in throat, besides she suffered from rheumatism for a short time, is now entirely rid of it, but the bunch in neck remains. She has raised a third litter of pigs and seems to be doing fine. Will she do to fatten for pork? H. C. A., Missaukee Co., Mich.—Her flesh will be fit for food. Painting such a bunch with tincture of iodine 3 times a week is considered good practice.

Rickets.—I weaned pigs at 7 weeks, leaving one with sow. The sow soon took sick, lost flesh rapidly, would not eat, grew weak in hind legs and died. Before she died her skin was of a purple color. The little pigs began by getting weak in hind legs. I thought they had grown too rapidly. Several of my neighbors have lost young pigs from this same ailment. We thought their bones were weak, but the color of skin did not change. No person in this section has seen such a sickness in pigs. E. W. C., Pontiac, Mich.—Rickets is relatively common in swine, and is confined principally to young pigs. The disease is more prevalent in some localities than in other sections of the country, and the conditions appear to prevail more extensively during some years than others. The specific cause is unknown, but the condition is due to an insufficient deposit of lime in the bone. Feed more lime in the food, especially during the early stages of the disease, keep the pigs in a dry, well-lighted place. An ailment of this kind is preventable, by proper care and feeding. The sow should have been opened and examined after death, then you could have made a diagnosis.

Packers claim that the decline in the value of wool, hides, fats and other by-products is responsible for \$4.40 per hundred pounds of the decline in values of lambs on the hoof compared with a year ago.

Styleplus Clothes

Saving on clothes

Styleplus are known all over the United States as excellent clothes at medium prices. Thousands of men wear them season after season. They have full confidence in the Styleplus Label. So you take no chances when you buy the famous Styleplus suits and overcoats and save on their medium prices. In addition, you get the full protection of our guarantee which insures good wear.

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Be prepared for that radiator leak. This wonderful liquid, backed by a Million Dollar Guarantee to satisfy or money refunded, positively stops leaks anywhere in cooling system, in 5 to 10 minutes.

Just pour contents of can into water in radiator, that's all. It makes a repair often better than soldering and saves big expense and loss of time. Guaranteed not to clog or impair cooling system. Try it. 75c a can. At all dealers or sent direct.

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 Approximately 10,000 cases are successfully treated each year with Fleming's Fistoform. No experience necessary; easy and simple; just a little attention every 5th day. Price \$2.50 a bottle (war tax paid)—money refunded if it fails. Send for free copy of FLEMING'S VEST-POCKET VETERINARY ADVISER. Valuable for its information upon diseases of horses and cattle. 197 pages, 67 illustrations. Write today. Fleming Bros., Chemists, 282 Union Stock Yards, Chicago, Ill.

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SHEEP.

Put Your Faith

in better breeding stock. For the best in Shropshire and Hampshire Rams write or visit KOPEKON FARMS, S. L. Wing, Propr. Coldwater, Mich. See our exhibit at the Ohio and Mich. State Fairs.

Hillcrest Shropshires

A nice lot of Ewes and Rams of all ages our flock is headed by McKerrow 3164 a son of Senator Bibby write or call on R. J. & C. A. WILLIAMS, Middleville, Mich.

SHROPSHIRE Yearling and Lamb rams sired by Imp. Berry No. 163 for sale. Also a few ewes. ARTHUR DODDS, Lapeer, Michigan

Shropshires Am offering one choice two year ram and a few good yearlings. C. J. THOMPSON, Rockford, Mich.

Shropshires sire imported Minton Ram Lams \$20, some ewes, 2 yearling rams. DAN BOOHER, R. 4, Ewart, Mich.

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Registered Rams all ages. Bred for size, type, quality. Sire at head of Rock, I. S. O. No. 25463. Half brother to the Grand Champion ewe at International 1918 Bred by Iowa State College. Also a few good ewes. W. W. CASLER, Ovid, Mich.

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

Wool-Mutton Shropshire Rams. Good strong individuals, royally bred, priced right. A. H. FOSTER, Allegan, Mich.

Cotswolds yearling rams, ram lambs, Cotswolds dian rams. A. M. BORTEL, Britton, Mich.

Reg. Oxford Rams ready to ship at \$30, \$35 and \$40, reg. and delivered. J. Robert Hicks, St. Johns, Mich.

For Sale Oxford rams and ewes sired by McKerrows 3800, Assn. No. 88347. Write your wants. Geo. T. Abbott, Palms, Mich. Phone 78-3 Deckerville

HORSES

For Sale or Trade

We are closing out our registered Percherons, and offer for sale or trade for anything I can use one registered stud colt three year old also a yearling from ton size and 1900 lb. dams. J. C. BUTLER, Portland, Mich.

BAY MARE

For Sale, sound and right in every way, weight about 650 lbs. Must be sold at once come and see her or write L. J. Hamlin, 496 Hurlbut Ave., Detroit, Mich.

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

GOMBAULT'S CAUSTIC BALSAM The Perfect Liniment For External Use on The Human Body

It is astonishing how quickly Caustic Balsam relieves Stiffness and Lameness, Rheumatism, Neuralgia, Strains, Sprains, Lumbago, Backache, Sore Throat, Chest Cold, Stiff Joints, etc.

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

Write us for any information desired. \$1.75 per bottle at druggists or sent parcel post on receipt of price.

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U. S. ARMY STYLE WORK SHOES
 This wonderful, extra long wearing, dark tan WORK SHOE, Munson Army style, offered to you at maker's prices. Nowhere can you beat this money-saving value, guaranteed to give best wear and full satisfaction.
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 Send No Money Simply write your name, address and size and you will have them at once. Postage Free. Your money back if not satisfied.
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 MERCANTILE SHOE CO. P. O. Box 1697, Boston, Mass.



GRAIN QUOTATIONS

September 8, 1920.

Wheat.

Detroit.—Cash No. 1 red, \$2.58; December, \$2.39; March, \$2.37; No. 1 white and No. 1 mixed, \$2.56.

Chicago.—No. 2 red, \$2.51½@2.53; December, \$2.40@2.41; March, \$2.35@2.36.

Corn.

Detroit.—Cash No. 2 mixed, \$1.55; No. 2 yellow, \$1.61.

Chicago.—December corn, \$1.19@1.19½; market generally firm.

Oats.

Detroit.—Cash No. 2 white, 70c; No. 3 white, 68½c; No. 4 white, 66c.

Chicago.—Values show a tendency upward today.

Beans.

Detroit.—Immediate and prompt at \$6 per cwt.

Chicago.—Hand-picked choice to fancy, \$6.75.

New York.—Choice pea, \$7.50.

Rye.

Detroit.—Cash No. 2, \$1.93.

Seeds.

Detroit.—Prime red clover spot, October, \$17.75; December, \$18.25; alsike, \$18; timothy, \$4.25.

WHEAT

A very strong statistical position has developed in wheat and prices have averaged higher the past week. North America is estimated to have an exportable surplus of around 400,000,000 bu. this season at the outside, and most estimates run considerably less than that, while Europe took 650,000,000 bu. from all countries last year. If the demand is maintained at the same rate it would leave the southern hemisphere to furnish 250,000,000 bu., which would necessitate bumper crops in Argentine and Australia. However, the Argentine crop is reported as suffering from drought, and any accident there would probably result in a materially higher level of prices in this country. Farmers show no disposition to sell wheat already binned, despite the advance in prices, either in the winter or spring wheat sections. Private estimates now indicate a total for the country of around 775,000,000 bu, compared with 795,000,000 bu. a month ago, and 941,000,000 bu. harvested last year, as spring wheat yields are turning out smaller than expected.

The world's visible supply is much the smallest of any August since 1915. Clearances from our ports a week ago were equal to practically half of the United States visible supply. About 70 per cent of our visible is at seaboard and gulf ports awaiting export, and a big portion of the supply at interior terminals has already been sold for that purpose. Flour buyers have been waiting for a break in prices before accumulating supplies and mills are not stocked up with wheat. Foreign buyers may withdraw presently but the domestic demand will revive upon any decided break from the present level unless commodity price declines and industrial depression should become dominant factors.

A big winter wheat acreage seems probable as the ground has enough moisture to work readily and bullish wheat talk is common.

CORN

Higher temperatures are needed to force the corn crop along to maturity. For a week the weather has been entirely too cool for the best results, especially as the crop is late. Private statisticians figure a yield of corn for the country of 3,030,000,000 to 3,130,000,000 bu., the latter being the largest on record, and compare with 3,003,000,000 bu. a month ago, and 2,917,000,000 bu. harvested last year. Cash corn prices declined very sharply, due to large receipts and a slow demand. Industries have in many instances received large cancellations of orders for their product and are not inclined to buy freely in consequence. Argentine new crop corn is offered them at New York at \$1.45@1.47, which is considerably below domestic. A little new corn has been contracted for in Illinois and Iowa on the basis of \$1.00 for December shipment, but it is too early for much of this business to be done, especially as farmers show a tendency

to hold, although they generally seem anxious to sell old grain. The car situation has shown decided improvement in some parts of Illinois due to the decreased loading of merchandise which has released numerous cars for grain, and the corn movement has been swelled in consequence at a time when the demand was slow and crop outlook good.

OATS

The oats market is in a rut, and prices have held within a comparatively narrow range, gradually declining under the weight of the arrivals of cash grain. Eastern demand has been fair, but very little export business has been done, although prices in this country have declined to a point where it would not be surprising if a foreign demand developed, especially as the Argentine crop is reported in poor shape, an Chili, normally an exporter of oats and barley, may have to import this year. The British crop has been damaged by rain recently.

FEEDS

The course of grain values in the next few weeks will be a big factor in feed prices. The cottonseed demand has been very light for some time and the new crop of seed is starting to the crushers although the price is about one-third that of last year. The flour mills are operating at far below normal capacity and the recent low prices of millfeeds were made in the face of light supplies. Whether the demand will expand to take care of the supply when the mills increase their output is a question. Lower prices are generally expected in the trade. Latest quotations per ton in carlots in 100-lb. bags are as follows:

Milwaukee—Bran, \$42.50; standard middlings, \$53; flour middlings, \$61.50; red dog flour, \$73; o. p. linseed oil meal, \$65; cottonseed meal, \$60@65; dried brewers grains, \$63.50.
Minneapolis—Bran, \$40.50@42; standard middlings, \$51; flour middlings, \$60.50; red dog flour, \$70; o. p. linseed oil meal, \$62.50.

HAY

The scarcity of cars and bale ties is restricting the movement of hay and the new freight rates are checking the movement from the west but the latter factor has increased the price to the east and south, thus reducing sales. The slump in cotton also narrows the southern outlet. Rains in the south and west have damaged much hay recently. Prices now are at about the same level as a year ago. Latest quotations upon hay and straw per ton in carlots are as follows:

Milwaukee—Choice timothy, \$33@33.50; No. 1, \$32@32.50; No. 2, \$29@29.50; light clover mixed, \$27@30; red top and timothy mixed, \$28@29; marsh feeding, \$17@18; rye straw, \$13.50@14; oat straw, \$13.50@14.

BUTTER

Consumptive channels were filled up before the freight rate advance so that a lull in buying activity was not unexpected. The supply especially of under grades expanded and lower prices were necessary to interest buyers. The break occurred early in the week, and was followed by firmness, although decided improvement is not expected till after Labor Day. New arrivals of Danish at New York were not reported during the week, and current prices have not permitted stocks already in storage. Total storage holdings are still gaining. Favorable weather has kept pastures in good condition and the output is holding up well. Closing prices September 3d on 92 score butter, according to the U. S. Bureau of Markets were as follows: Chicago, 55½c; New York, 57½c; Boston, 58; Philadelphia, 59c.

CHEESE

Country cheese markets were firm but trading was not stimulated to any extent at the distributing markets. Buyers seemed reluctant to make purchases until the trend became apparent and interest of a wholesale nature was lacking until Thursday or Friday. Dealers generally did not seem in-

clined to push sales or make any concessions. Prices did not show any material change in eastern markets except on Longhorns at Philadelphia, until Wednesday but during the week prices were raised from one-half to one cent on all styles.

At eastern markets buyers seemed to show eastern made cheese considerably preference. Some New York states cheese was offered on the Chicago market but did not attract much buying interest. Some Pennsylvania and Michigan cheese also is being offered at Chicago and finds an outlet through out-of-town trade. All markets report under grades as moving quite freely throughout the week at prices showing considerable range. Quality has been running very good in the current receipts, with the exception of a few lots. Receipts as compared with last week decreased about 300,000 barrels, and dealers' floors are fairly well cleared of stocks. Storage holdings show but little increase.

The prices at close of the week were as follows: Chicago—Flats, 26@27c; Twins, 25½@26½c; Single Daisies, 27@28c; Double Daisies, 26@27c; Young Americans, 27½c; Longhorns, 27@28c; Square Prints, 27½@28½c.

EGGS AND POULTRY

Under light receipts and active demand live poultry made a good advance. Preference is being shown for heavy stock, especially for heavy spring chickens. Arrivals of fresh eggs have fallen off at most large cities and attracted by a 2-cent advance dealers have been drawing on storages for some supplies.

Quotations at the week's close were as follows: Chicago—Fresh firsts, 51@52c; standard, new cases and new fillers, 51@53c; live poultry: Spring chickens, 35c; hens, 28@31c; roosters, 24c; ducks, old and young, 30c; fat geese, 24c; fancy turkeys, 45c.

POTATOES

This week's market was featured by gradual weakening on all varieties, due more to anticipated heavier receipts than to actual supplies. Daily carlot track supply has been only normal. The unusual heavy shipments from New Jersey caused some uneasiness, as a lot of it is undoubtedly headed for Chicago.

WOOL

A big improvement in the wool market is noticeable during the last two weeks. The British sales have reopened upon a basis suggesting about 40 cents for cornbelt quarterblood wools and 60 to 65 cents for merino kinds in this country. Low quarterblood and braid are not wanted at all. The managers of the Iowa wool pool report an offer of 48c for three-eighths blood combing. The American woolen company will reopen its mills about the middle of the month, an event for which the trade has been waiting. The approach to fall weather is helping retail sales of woollens, and prices for next spring's goods are to be opened next week. The British government has held to its supplies instead of dumping them, and a big syndicate to finance sales in Central Europe has just been formed. Little actual business has been transacted in this country as yet and detailed quotations are impossible.

ONIONS

A little better movement but market continues dull with Iowa yellow bringing \$2.00@2.35 per cwt. at Chicago, and California around \$2.00. Home-grown onions are a factor on the market and increased receipts may be expected next week from Indiana and Minnesota.

PEACHES.

The peach season has been one of high prices, due to the short crop. But few states have had anything like normal yield. Illinois and Indiana, with a fair crop of Elbertas, will wind up their season in a few days. Prices have averaged around \$3.75 per bushel at Chicago, and the week closed at a range of \$4@4.50. The Port Clinton, Ohio, section, also Western New York and Southern Michigan, are all beginning to ship, with the peak of the season to be reached between the 12th to 20th of September. Outside of the three mentioned states there are practically no peaches to move into commercial channels.

Live Stock Market Service

DETROIT

Cattle.

Market strong.
Best heavy steers\$12.00@13.00
Best handy wt bu steers. 9.50@10.50
Mixed steers and heifers. 8.50@ 9.50
Handy light butchers 7.50@8.00
Light butchers 6.00@7.00
Best cows 8.50
Butcher cows 6.00@7.00
Canners 5.00
Choice bulls 7.50@ 8.00
Bologna bulls 6.00@ 7.00
Stock bulls 5.00@ 6.00
Feeders 8.00@ 9.00
Stockers 7.00@ 8.00
Milkers and springers.. 75.00@140.00

Veal Calves.

Market steady.
Best\$18.00@19.00
Others 7.00@15.00

Hogs.

Market 15@25c lower.
Mixed grades\$16.00@16.25
Pigs 15.50
Bulk 16.25
Rough 13.00
Stags 8.00@10.00

Sheep and Lambs.

Market dull.
Best lambs\$ 12.00
Fair lambs 9.00@11.00
Light to common 5.00@ 8.00
Fair to good sheep 5.50@ 6.00
Culls 2.00@ 4.00

CHICAGO

Hogs.

Estimated receipts today, 19,000; holdover, 8,656. Market 10@15c lower; light off least. Bulk of sales, \$14.15@16.15; tops, \$16.25; heavy 250 lbs up, medium, good and choice, \$14.50@15; medium 200 to 250 lbs, medium, good and choice, \$15.15@16.20; light 150 to 200 lbs, common, medium, good and choice, \$15.40@16.25; light lights, 130 to 150 lbs, common, medium, good and choice, \$14.90@16; heavy packing sows 250 lbs up, smooth, \$14@14.35;

packing sows 200 lbs up, rough, \$13.65@14; pigs 130 lbs down, medium, good and choice, \$13.75@15.50.

Cattle.

Estimated receipts today, 13,000. Choice steers strong to higher; others slow; she stock steady to easier; bulls and feeding cattle strong. Beef steers, medium and heavy weight 1100 lbs up, choice and prime, \$17@18; do medium and good, \$12.25@16.75; do common, \$10@12; light weight 1100 lbs down, good and choice, \$14.50@17.75; do common and medium, \$8.50@14.25; butcher cattle, heifers, common, medium, good and choice, \$6.50@15; cows, common, medium good and choice, \$6@12.75; bulls, bologna and beef, \$5.50@11.50; canners and cutters, cows and heifers, \$4@6; do canner steers, \$4.50@7.50; veal calves, light and handy-weight, medium, good and choice, \$15@17.75; feeder steers, common, medium, good and choice, \$8@12.25; stocker steers, common, medium and good and choice, \$5.50@10.50; stocker cows and heifers, common medium, good and choice, \$5@9; western range cattle, beef steers, medium, good and choice, \$9.75@15; do cows and heifers, medium good and choice, \$8@10.50.

Sheep and Lambs.

Estimated receipts today, 27,000. Fat lambs, 25@50c higher; feeders and sheep strong to higher. Lambs 84 lbs down, medium, good, choice and prime, \$12.25@14.50; do culls and common, \$8.50@12; spring lambs, medium, good and choice and prime, \$8.75@15; ewes, medium, good and choice, \$6@7.50; ewes, cull and common, \$3@5.50; breeding ewes, full mouths to yearlings, \$6@10.50; yearling wethers, medium, good, choice, \$12.25@13.55.

BUFFALO

The hog market is active, with Yorkers and mixed going at \$17@17.25; medium and heavy hogs at \$16@16.75; pigs, \$16@16.25. Best lambs bring \$13.50; calves, \$19.

DAVENPORT AT GRAND RAPIDS.

Dean Eugene Davenport, of the University of Illinois, has been secured as the speaker on Farm Bureau Day at the West Michigan Fair at Grand Rapids. Dean Davenport has played an important part in the development of the farm bureau movement throughout the country, and few men are better prepared to discuss the various phases of its activity.

STEERS SELL FOR \$18.00.

ONE LOAD of yearling steers cut from a drove being fitted for carlot shows brought \$18.00 at Chicago, giving encouragement to the common belief that \$19.00 and perhaps \$20.00 will be paid for prime stuff before the turn of the year, as the supply is below trade requirements. Such cattle continue strong but the medium and merely good grades fed mostly on grass are gradually climbing down the price ladder again after a brief turn upward. Dry fed steers and heavy grassers which had corn last winter are steady.

Although there was some expansion last week the run at ten markets is about 10 per cent under that of a year ago. The Southwest is cashing in steadily, keeping markets in that quarter well supplied, but contrary to early expectations, the Northwestern range run is slow to get under way. The range run at Chicago to the end of August is the smallest on record. Furthermore, those arriving are a common lot for the most part, the big mature steers in choice condition which in former years sold well up toward the top of the market not yet being in evidence. Cars are scarce in the western country, and bankers seem disposed to help the grower, and incidentally themselves, by not forcing the stuff to market before the grass has been turned into beef, and the steers have acquired sufficient finish to sell to advantage. This should distribute the run and help in maintaining the price. Range growers who can't get accommodations are shipping now and are sending the stuff thin, all sexes included.

Intermediate grades of cows and heifers feel the competition of beef from cheap grass steers and are about 50 cents lower but the common and choice kinds are steady. Liquidation due to drouth last year brought big supplies of female cattle into the market hopper but this year there is a tendency to hold back the females so far as possible and clear out the steers. Butcher bulls are selling well but the bologna supply is above requirements and the price is nearly at the bottom for the year. Calves scored another advance of 50 to 75 cents.

CHICAGO FEEDER BUYERS STILL CAUTIOUS.

FEEDER buyers are still watching their steps carefully. Some feeders are buying heavy fleshy cattle for a quick turn but the majority are taking on the lighter cheaper sorts. For marketing before the end of December, the heavier cattle seem to offer the greater chance of making a satisfactory margin, as the lighter kinds are not likely to come into their own before next winter is about over. The fear of frost damage is in the air everywhere and a certain amount of soft corn seems inevitable. The corn crop is near a record in size and fine fall pastures offer a chance to make cheap gains before bad weather sets in. Prices were slightly lower the past week.

AN UP AND DOWN HOG MARKET.

THE course of the hog market has become almost stereotyped. Increases in supply being followed by a break in price which chokes off the run for a few days until the price ascends again. The past week the markets went through a price bulge but are closing on middle ground with the prospect of a further decline the present week because of the Labor day accumulations.

The price of corn makes the feeding ratio not especially favorable, but sows are being made unusually fat so that average weight runs extremely high. Furthermore, feeder hogs are being purchased freely, some of them at prices so near the value of finished hogs that the proposition looks unsafe in view of the prospective reduction in price which probably will be initiated within the next thirty days or so. Already the signs of readjustment are in evidence, the eastern shipping demand

being uncertain and irregular, the packers showing signs of withdrawing the support they are alleged to have been giving for several weeks.

PROVISION TRADE MIXED.

PROVISION exports were small again last week, although packers report export sales of lard and are making purchases in the provision pit. Chicago lard stocks declined a trifle during August but stored meats show a good-sized decrease. The totals in storage at all points will remain large, as the hogs are coming heavy and the lard yield will be tremendous. Lard has been the stumbling block in the hog market for many months. The price for the January delivery is on the basis of \$12.00 hogs, but such a hog price level is unlikely to arrive because of the higher prices for other pork products, especially hams, unless general business depression and commodity price decline should carry the hog market along.

VIOLENT FLUCTUATIONS IN LAMB PRICES.

THE sensational advance in lamb prices last week was an effective lodestone in attracting a big run around the market circle, but especially of corn belt lambs, which sent the price level sharply lower again. Reports that frozen lamb could not be vended were evidently false, packers merely withholding them from the market until it could recover. Only a small fraction of the last shipload has been sold thus far and two more cargoes are reported on the way. The Eastern dressed lamb market was lower again last week.

Feeder buyers are willing to take chances as they are paying prices not far below those for finished stuff. The range run carries a big feeder end but the total supply is not large and Colorado buyers are going direct to the range country.

QUIET HORSE AND MULE MARKET.

THE horse market remains dull so far as cheaper grades are concerned, but all good drafters are snapped up. Southern buyers are taking the lighter weight, including some of the range horses being offered at various points, but their bids for mules have not been so brisk of late, especially those of feeder grade—as financing their purchase is difficult. Chicago quotes: Good and choice heavy drafters, \$240@350; common and medium drafters, \$140@225; farm mares, \$100@180; expressers, \$140@200.

News of the Week

Wednesday, Sept. 1.

FACTIONS in the ranks of the United Mine Workers of America have started a bitter fight over the recent award of the federal wage commission.—Italian workers seize industrial plants and eject owners at several points in Italy.—Michigan primaries result in the nomination of A. J. Groesbeck on the Republican ticket for governor and Woodbridge N. Ferris on the Democratic ticket.—Prices rule firm at the London wool auctions with continental buyers bidding freely.

Thursday, Sept. 2.

AN ORDER is issued for a general strike of coal miners in the bituminous fields of Alabama.—The Interstate Commerce Commission sustains the advance rate on freight shipments on freight from east of the Mississippi to points in Iowa.—Representatives of the National Board of Farm Organizations meet in Columbus to consider the formation of a gigantic wheat pool.—A drive by the Poles against Bolshevik forces in Galicia is greatly embarrassing the position of the Soviet army.

Friday, Sept. 3.

THE United States submarine 8-5, with thirty men aboard, is rescued from the floor of the Atlantic ocean, forty-five miles southeast of Cape Hopen.—Anthracite operators and miners sign a two-year contract embodying the terms of the award made by the anthracite coal commission.—Poland declines to jeopardize her military operations against the Russians by binding herself to regard boundary lines laid down at the peace conference.—The Michigan State Fair opens.—British coal men vote to strike on Sept. 25.

Saturday, Sept. 4.

LITHUANIAN troops attack the Poles and force them back over the entire Grodno-Suwalki front and the Lithuanian government has ap-

pealed to France to stop the Polish army from advancing into Lithuanian territory.—Officers of the United Mine Workers appeal to the president to reopen the anthracite coal miners' award.—Greek troops are meeting with success in their Turkish campaign and the Turk rebel chief now despairs of receiving aid from the Bolsheviks.—Labor unrest in Italy is taking on a revolutionary trend.—Food imports into the United States increase, while exports are growing less.

Sunday, Sept. 5.

THE United States senate committee starts its investigation of Governor Cox's charge that the Republican National Committee was planning to raise a \$15,000,000 campaign fund.—During the past year the federal and state governments expended \$250,000,000 for public roads.—The Missouri Farm Bureau Federation lays plans for an aggressive marketing campaign throughout the state.—The value of the seal caught in Alaskan waters this season is estimated at \$2,000,000.

Monday, Sept. 6.

MEXICAN elections result in a victory for General Obregon as president.—Ten persons are killed and seventy injured in a collision of interurban cars in Denver.—Russian Reds are driven across the Dnieper river by General Wrangel's counter-attacks.—Poland asks allied governments to demand that Germany disarm and intern Bolshevik forces who entered German territory when the drive on Warsaw collapsed.—All attendance records are broken at the Michigan State Fair with 250,000 people on the grounds.

Tuesday, Sept. 7.

THE French government makes arrangements for repaying its half of the Anglo-French loan due the United States Oct. 15.—A joint revolt against Siberia by the Croats, Magyars, Hungarians and Montenegrins is reported.—Three persons die in the Cave of the Winds under Niagara Falls as the result of falling rock.

Bitch Ate Her Pups.—We have an English bull bitch that ate her own pups. She had moderate exercise different kind of food and good care. What was the trouble? N. S., Algonac, Mich.—Had you fed her more meat she might perhaps have left her pups alone. I have known bitches to devour their pups while they were suffering from a high temperature and under delirium. Don't breed her again, but if you do, feed plenty meat.

COMING LIVE STOCK SALES.

Poland-Chinas, Oct. 26, Wesley Hile, Ionia, Mich.
Big Type Poland-China Sale Circuit in Central Michigan, October 26-30.

The LAUSON 15-30
DUST PROOF—ALL GEARS ENCLOSED

If you expect to buy a tractor this fall, write at once for a copy of our new **Tractor Catalog**

This handsome 50-page book fully describes all the features of the LAUSON 15-30 Farm Tractor. It tells why the LAUSON is the most profitable tractor for you to own, and gives many interesting facts on power farming in general.

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\$4.85 Typical of the many remarkable savings here in Chicago's greatest stock of millwork. Mail the coupon for our General Material Book now.
No. LC2—A large number of these fine, new, inside doors manufactured from old growth, yellow fir lumber have been set aside for this sale. Five cases panels, 1 3/4 in. thick. Three cases 2 1/2 in. grade shows slight defects. 2 ft. 6 in. x 6 ft. 6 in. 2 ft. 8 in. x 6 ft. 8 in. 2 ft. 8 in. x 6 ft. 6 in. State size wanted. Sale price each **\$4.85**

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Harris "Cream Getter" Separators
\$55.50 Time to Pay if You Wish
No. LC12—These splendid machines have made a wonderful record in all sizes—all seasons of the year in all parts of the country. Newest model cream separators, easy to clean, easy to turn, easy to oil and now—easy to own. Patented exclusive improvements everywhere—found only in these excellent separators. Fully guaranteed to get all the cream—the best cream separator you can buy regardless of name, make or price. We'll take your old separator off your hands allowing liberally for it toward the purchase of your new cream getter.

Size No.	Cap'y lbs. per hr.	Sale Price
* 1	* 175	* \$34.95
* 2	* 250	* 38.90
* 3	* 375	* 55.50
* 4	* 500	* 59.95
* 5	* 750	* 68.00
* 7	* 950	* 75.00

* Indicates table sizes. All machines ready for shipment from Minn., Pa. and Chicago. 3% discount allowed if cash is sent with order.

No. LC13—Improved Cream Getter Junior Separator capacity 300 lbs. an hour on metal stand, each **\$33.50**

Guaranteed Paint \$2.64 Per Gal.
No. LC19—Best formula. White, black and 26 non-fading colors. Put up in gal. cans, 5 gal. tins, 25 gal. half barrels and 50 gal. barrels. Per gal. **\$2.64**
 Guaranteed barn paint red, yellow or maroon, gal. \$1.60
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No. LC3—46,000 of these pointed drive angle steel fence posts have come to us with a big purchase of material from the government. Brand new high grade finely made posts at a remarkable saving. 6 ft. long, made of 1 1/2 angle steel 3/4 in. thick; easily driven. Hold 7 wires on one side of angle and 6 wires on the other side in alternating positions to hold line wire on every style of fence. Sale price each **35c**
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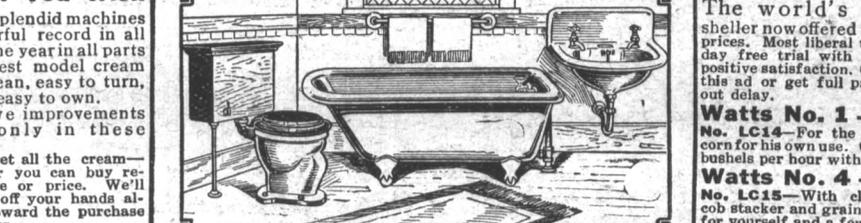
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26 in. High Per Rod 32c

No. LC8—Special barbed bottom galvanized hog fencing made of No. 11 top wire and No. 14 intermediate line and stay wires. Stay spaced 6 in. apart. Space between line wires from bottom upwards are; 3, 3, 4, 4 1/2, 5 1/2 and 6 in. 100 rods weigh 425 lbs. 26 in. high per rod, **32c**. 32 in. high per rod, **39c**
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Per **\$4.95** 100 lbs.
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No. LC23—A splendid engine with Webster oscillating magneto. Develops full rated horse power. A sure starter and steady worker under all conditions.

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1 3/4 H. P.	\$49.50	8 H. P.	\$96.00
2 1/2 H. P.	\$83.00	5 H. P.	\$126.00
4 1/2 H. P.	\$110.00	7 H. P.	\$190.00
6 H. P.	\$170.00	10 H. P.	\$320.00

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