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## Ready-Made Farms on Easy Terms

THE two big problems confronting the people of America today are that of reconstructing our agriculture to meet the demands of a hungry and war-tired world, and providing means for taking care of thousands of our soldiers who have proved a deciding factor in making this world a better place in which to live. Any constructive plan which will solve these two problems at one stroke is worthy of the thoughtful consideration of those who control the distribution of public lands and the federal system of farm loans.

The time has passed when young men with agricultural training and only a few hundred dollars can be induced to take up farming on government lands, or in a new country and suffer all of the hardships necessary for a new settler to begin at the bottom and build up a home from a wilderness. Probably, the greatest change of all in making a movement to the land more or less difficult to put in operation is the increase in the cost of farm buildings, stock, implements and the cost of living until the farm can be made to pay seasonal returns for the labor expended. Some economists may argue that it is easier to buy a farm in some of the older localities with savings accumulated from other work; but this does not change the farming situation so far as more food for our rapidly growing cities is concerned.

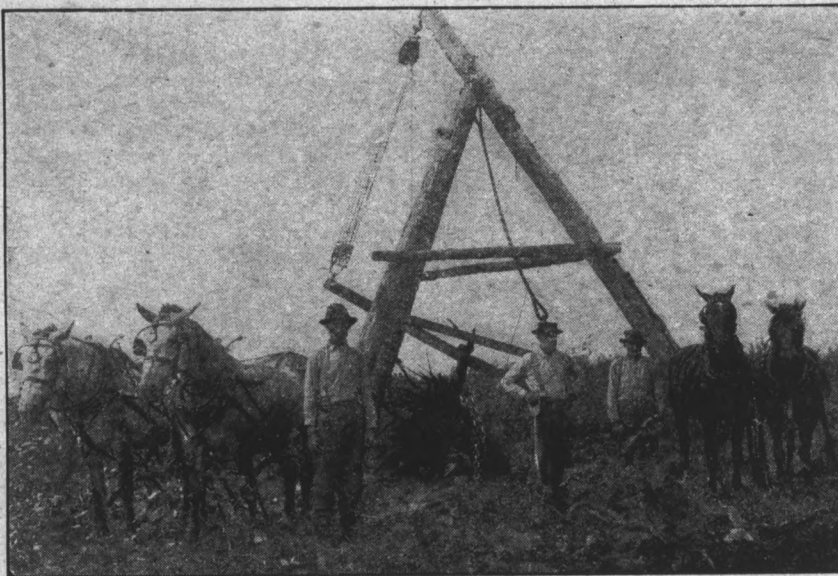
Even if by a rare combination of good health and pinching economy, enough money may be saved to buy a little farm, old age by that time would make the operation but a mockery of the dreams of youth. In the meantime a perfectly good farmer has been lost to agriculture, so far as his ability to increase food production is concerned.

Few men have more than thirty chances to grow crops efficiently in a lifetime. If a man gets a farm of his own at thirty years of age, he can produce thirty crops. Twenty years is a long time for one man to spend in active work on a farm of his own. The fact that the government has neglected to extend aid in financing agriculture is largely responsible for the rapid drift of population from the farms of the country to the cities and big industrial centers, and the only way to encourage a back-to-the-land movement is to aid in financing those whose skill and knowledge is needed to help solve the problem of maintaining an adequate food supply for our people.

One of the most practical schemes for providing farms for returning sol-

*To Be Attractive to Soldiers and Other Young Men  
Farms Must Become Quickly Self-Supporting.*

By C. B. FORD



Clearing New Land is a Big Item of Expense.

diers, as well as people who desire to own farms without compelling their families to go through all the hardships of pioneering in a new and undeveloped country, is that being worked out by W. P. Hartman, Agricultural and Industrial Agent of the Grand Rapids & Indiana Railway, and some of the owners of large tracts of cut-over land in Wexford and other counties in Northern Michigan, for colonizing thousands of acres of these lands.

This enterprise, as outlined by Mr. Hartman to the writer, is considered purely from the standpoint of community development; the bringing of a

class of desirable settlers to develop and increase the agricultural crops and live stock of the country, and build up the commerce of the towns. It is not contemplated solely as a means of selling land. Some of the most prominent men interested in this cut-over land are also financially interested in produce plants and other interests of like character in this territory, which in part emphasizes their interest in lending financial aid to any movement calculated to bring desirable farmers to this locality. The sketch submitted with this scheme, shows how each section of land is laid out. It is proposed

to begin this colonization plan on a tract of fifty thousand acres of good hardwood land, which should, when cleared and farmed by good farmers, prove a valuable acquisition to the commercial interests of this locality.

Eighty-acre farms were to be established as follows: To clear the land, ready for the plow, twenty acres; to construct a modest but neat and tidy, well-built five or six room house; build barn suitable for hay and a few head of stock, and put down a well. The remaining sixty acres to be fenced and left in the rough to be improved later by the purchaser. The cost of the land, clearing, fencing, buildings and driving well, is figured at from \$3,800 to \$4,000. Cleared land and location of buildings on sketch is purely schematic and would have to be altered, depending upon the lay of the land, and other conditions.

By employing experienced crews of men to clear the land with full equipment, crews to build fences, two groups of carpenters, outside and inside men; concrete workers, and various groups of workers could be kept in constant operation and by constructing buildings after the ready-cut, made-to-order plan, there would be no lost action, or waste material. It is figured that the operating company could do the clearing and building at from between fifty to sixty per cent of what it would cost an individual to make the improvements independently.

As originally considered, a first payment was to have been required of 1,000 to \$1,200 and a period of ten or fifteen years, or more, as buyers might choose, on deferred payments. It was further contemplated to have a fund available for advancement to worthy purchasers to buy a team of work horses, one cow, two pigs, and twenty-five hens.

The question has been raised that a development project of this kind could make a farm available with a first payment down of \$500. Those who have studied the proposition carefully are of the opinion that it is not advisable to include \$500 farmers; the idea being that the man with some real farm experience, who had accumulated some money of his own would have more chances of success. Then, too, this policy would set up something of a restricted community. That such a farmer would be reasonably sure of success and would prefer to have men of his own stamp for neighbors. This policy should result in a settlement of exceptional merit, particularly in a new country. A

(Continued on page 534).



This is the Type of Buildings Suggested for Farms in Our New Sections.

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## CURRENT COMMENT

### The President's Message

ON Monday last congress convened for its regular session and received the message of the President, which was personally delivered, as have been the former messages of President Wilson. The message was devoted largely to a review of the state of the nation and the discussion of the reconstruction problems incident to the return of the country to a peace basis. As a preliminary to this discussion the President paid a fitting tribute to the fighting men who helped to win the victory for a just and lasting peace, and to the fine national spirit with which all the people of the country backed them up and helped to win the victory.

Of particular interest from an agricultural standpoint, were the President's recommendations for legislation which would enable the public development of unimproved lands, including the irrigation of arid lands, the drainage of swamp lands and the clearing of cut-over areas, as a means of giving employment to a large floating residuum of labor and providing opportunities for returning soldiers.

Congressional attention was also directed to the importance of an early determination of the revenues to be raised by taxation during 1919, as a necessary step toward the development of business on a peace basis. In this connection the President approved the recommendations of the Secretary of the Treasury that the revenue from taxation be reduced from the \$8,000,000,000 estimated to be necessary if the war had continued, to \$6,000,000,000. In addition to the revenue of \$4,000,000,000 provided for by existing laws he recommended that \$2,000,000,000 be raised from the taxation of profits accruing from war contracts and distinctively war business. He further recommended that the tax payable in 1920 be reduced to \$4,000,000,000, and that this policy be definitely fixed at the present time, so that the business of the country may know just what demands will be made upon it for this purpose.

In the matter of releasing the control of the railroads, the President confessed that he had no adequate recommendation to offer, but advised that a careful study of the situation be at once undertaken by the congress, to the end that some solution may be found which will be better than a return to the unsatisfactory pre-war conditions.

These brief sketches of a few of the more important features of the President's message indicate in a measure the magnitude and importance of the work which will devolve upon congress during the session which has just begun. And there will be just as important problems for settlement by the new congress which will succeed it. The problems of this reconstruction period are of vital importance to all the people of the country. They are not less important to the farmers of the country than to any other class. The deliberations of congress should be carefully followed by every farm family and be made the topic of family study and discussion, for with the extension of the elective franchise, to them the women of Michigan must assume an equal responsibility with the men in the selection and direction of public servants, and the girls of every family have equal need with the boys to be familiarized with the complex problems of democratic government.

### Good Roads a Necessity

THE question of good roads is one which is no longer seriously debated except as to the roads which shall be first improved. The permanent improvement of our main highways has become a practical necessity, the value of which is generally appreciated wherever highway improvement has been carried on to an extent which affords long stretches of good roads reaching out into all parts of the state and country from market centers. There is no longer any doubt that improved roads will bring about the general use of motor truck transportation for short hauls between the county and the city market, and between the city and the smaller retail centers. While good roads are a great asset and convenience to farmers who are able to use them at any season of the year, they are a particular advantage during late fall and early spring months when the old dirt roads are in poorer condition and sometimes almost impassable with any kind of a load. While highway improvement has been necessarily suspended to a large extent during the past year on account of the country's war needs, a general resumption and extension of highway construction may be expected in the very near future, and an increased degree of federal aid may be available during the coming calendar year. On account of the necessarily restricted road campaign of last year it has been estimated that from unexpended balances of federal portions for the last few years from state funds beyond what was necessitated to meet the federal allotments, and from amounts available during the fiscal year, there will be available for highway improvement approximately seventy-five million dollars on federal loan projects alone. In addition to this the state will undoubtedly spend considerable sums in excess of the amount required to meet federal loan projects. A comprehensive road improvement campaign for the ensuing year would also prove beneficial in other ways as a means of relieving any condition of unemployment which may exist with the demobilization of our troops.

All road improvement plans are worthy of careful attention of state, county and local authorities to the end that the available federal aid may be utilized. Road projects already started should be completed to a degree which will make them of the greatest use to the largest number of people, and new projects should be planned to the same

end. With the admirable start which Michigan has already achieved in the improvement of her highways, the construction work which may be accomplished during the ensuing year should put Michigan definitely upon the country's good roads map.

### Death of W. D. Hoard

THE death of Ex-Governor W. D. Hoard, of Wisconsin, which occurred at his home in Fort Atkinson, on November 22, marks the passing of one of the best known and most accomplished agricultural and dairy journalists of his day. Governor Hoard was a strong, square, lovable man who possessed the elements of leadership, and his ability and willingness to encourage and offer kindly criticism to young men embarking in the field of dairying and agricultural journalism made him a host of friends among the men who are now working for the advancement of dairy farming and agriculture in general.

Born October 10, 1836, in Madison county, New York, the son of a Methodist preacher, his early life was spent on a dairy farm. In 1857 he went to Wisconsin and for several years supported himself by teaching school and cutting wood in winter and working on a farm in the summer. In 1861 he enlisted in Company E, Fourth Wisconsin Infantry, and saw service until discharged for disability. In 1864 he re-enlisted in Battery 9, First New York Light Artillery, and was a member of this battery until the end of the war, when he returned to Wisconsin with his little family.

In 1872 he organized the Wisconsin State Dairymen's Association, with on-

ly six other men to help. This grand organization is still at work doing yeoman service for dairy farming. In 1885 he started Hoard's Dairyman, a small four-page sheet, which has since grown to be the leading dairy paper of the world. In 1888 he was elected governor of Wisconsin on the republican ticket and served two years.

He returned and engaged with renewed zeal in the work of spreading the cause of dairying and the influence of Hoard's Dairyman. Engaged every winter as a lecturer on dairy topics in Canada and before various state agricultural societies in the east and west. In 1893 Governor Hoard was elected president of the Columbian Dairymen's Association with special work in promoting the competitive test of dairy breeds at the Chicago World's Fair. In 1894 he was elected president of the National Dairy Union, which organization took up the work of passing a suitable law by congress for the protection of dairy products against fraudulent counterfeits like oleomargarine, filled cheese, and the like. This work occupied his time largely at every session of congress from 1898 to 1902, when the Groat bill finally became a law. In 1904 he was appointed president of the Wisconsin commission at the St. Louis World's Fair. A few years later he was appointed one of the board of regents for the Wisconsin University, where he served as president for four years and resigned in 1914 on account of ill health.

Since 1914 he has done no public work, and but little else than look after his farm of 253 acres, which is devoted largely to the raising of pure-bred dairy cattle and alfalfa.

## Cooperation vs. Corporation

IT is mighty interesting and should serve as a valuable lesson to the potato growers of Michigan to compare the workings of the California Fruit Growers' Exchange and its associations with one of the big corporations in the east handling dairy and farm produce. The fruit growers have a small capital, under ten thousand dollars. The big corporation has a capital of nearly forty million dollars, exactly thirty million dollars water. The cooperative union employs forty-five hundred people, all experts. The big corporation employs eight thousand people, likewise experts. The exchange turns back to the producer nearly seventy per cent of the consumer's dollar. The corporation turns back to the producer thirty per cent of the consumer's dollar. The cooperation charges the consumer just the price that the world's laws of supply and demand justify. The corporation diverts its produce to by-products, charging the consumer the very top-notch "squeeze" price, so that the state laws have been repeatedly invoked to stop it. The cooperation pays not a cent of dividends. The corporation pays twelve per cent on a capital that has been inflated exactly forty times. The capital stock of the cooperation is today owned by the growers. The capital stock of the corporation has passed from its founders to the richest trust in the world. Nor is there any sense in throwing brick-bats at the corporation. It is only doing what you and I would do if we were in the corporation's place. The point is—which is the better for the producer and consumer?

Some potato growers may say that the methods practiced by the famous California Fruit Growers' Exchange and its associations cannot be applied successfully to handling the potato crop. In a recent interview Mr. G. H. Powell, general manager of the California Fruit Growers' Exchange, said: "It is only by cooperation that farmers can dispose of their potato crop to the best advantage, and it is only by coop-

eration that other phases of the work can be carried on to the best advantage. There is no reason why the business principles governing potato growers' associations and the selling exchange activities cannot be worked out along the same lines as those practiced by the California Fruit Growers' Exchange.

"Last year the sales of citrus fruits in California amounted to more than \$50,000,000, and the entire cost of selling the crop, including the hundreds of thousands spent for advertising, was less than three per cent. The Fruit Exchange dealt with many thousands of dealers and these people have been found to be as honest as fruit growers in general. It is the usual custom of farmers when they get together to say that commission men or those to whom they sell their goods, are not quite as honest as themselves. The California Fruit Growers' Exchange has dealt with men of all nationalities—Greeks, Italians, Swedes, Americans, Irish and Turks—and they have been found to be honest and fair. In the last few years the exchange has sold \$200,000,000 worth of fruit and its total loss in bad debts has been only \$8,000. This is a total loss of one dollar out of every \$25,000 worth of goods sold. The system of packing, trade-marking and selling in use makes it possible for the California Fruit Growers' Exchange to get seventy cents out of every dollar paid by the consumer, even though the exchange has to pay freight on the shipment of fruit three thousand miles across the continent.

"Difficulties of cooperation among the potato growers of Michigan are no greater than those which were faced and overcome in California. If problems arise which seem incapable of solution or when diverse interests clash, the best thing for potato growers to do is not to stand off and berate each other, nor to try and destroy each other, but to appoint a committee to arbitrate the problem and arrive at

(Continued on page 551).



# Economics and the Milk Pail

**T**HE financial end of the dairy business has been the most sadly neglected and unconsidered part of the industry, but the present prices of feed stuffs, cows, labor and equipment is teaching the average dairy farmer business principles and business tactics with a vengeance, as attested by the reports from many dairy organizations that are now fighting for living prices and a just appreciation of the nutritive value and healthfulness of milk and its derivatives.

For nearly two years the dairy farmers of the United States have been asked, in the name of patriotism, to do without a profit on milk and butterfat. Although the present needs of our people no doubt make dairy farmers unwilling to do business on a small margin, with the war brought to a successful end, patriotism has nothing to do with it. The necessity is today as great as ever for increased food production; but it is unfair to ask dairy farmers in the name of patriotism to produce milk on the basis they have been working. Even if it were possible to maintain the business at a loss indefinitely, why should the burden be saddled on one class of people?

Feeds at \$25 to \$30 per ton for hay and \$40 to \$60 per ton for grain and by-product feeds is causing men who depend upon dairy cows for a living to do some figuring and book-keeping never before attempted. The state agricultural college is doing yeoman service in its investigations and records relative to these problems. They have proved that the cost of producing milk at the present prices of feed stuffs is far beyond the cash returns, and that the dairy farmer who does not raise the bulk of the food for his cows is losing money faster than any super-patriot on earth can stand.

## What it Costs to Produce Milk.

According to the recent extensive investigation made by Prof. G. F. Warren, of Cornell University, New York, it does not require extensive book-keeping or complicated rows of figures to show these facts, for when the dairy cows, whose average production of milk is 6,198 pounds, has made one hundred pounds of milk she has consumed 33.1 pounds of grain, 6.10 pounds of hay, and 97.2 pounds of silage. When the additional charge of 2.33 hours of labor is added to these figures, we have arrived at 83.8 per cent of the total cost of producing one hundred pounds of milk.

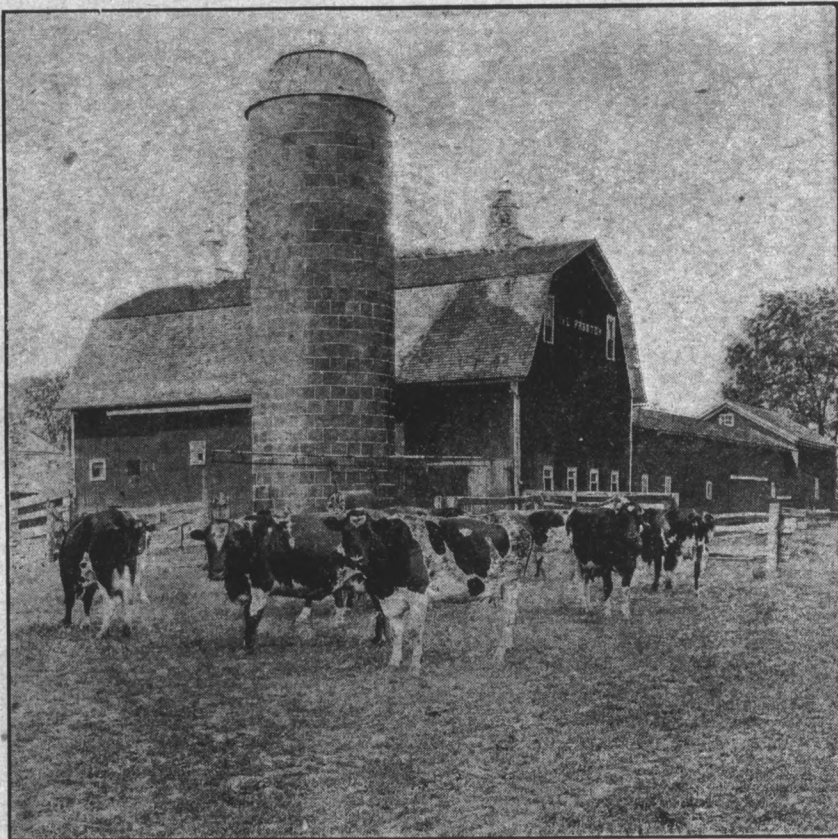
A complete list of the other items that enter in the cost of milk production are: Horse labor, bedding, interest and taxes on pasture land, maintenance of fences and pasture land, interest, taxes and general depreciation on cows, fly repellent, ice, bull service, veterinary fees, medicines, hauling milk. After deducting the value of the calf and the manure, these little items still represent 16.2 per cent of the total cost of making milk.

In making use of these figures let us see how the proposition works out for the man with the cows. Dollars and cents are important when dairy farmers are threatened with indictment for profiteering in cows and feed stuffs. Good hay is selling today, November 20, at \$30 per ton, delivered in southern and central Michigan, grain feeds

## No One Will Solve His Present Dairy Problems by Looking Only to a Single Phase of the Business

of recognized merit at from \$45 to \$60, an average of approximately \$54 per ton. Silage, while not a marketable product, is easily worth \$10 per ton when corn and hay reach their present prices. Then, suppose the farmer gets twenty-five cents an hour for labor. This gives us the following figures: Grain 33.1 pounds at \$54 per ton, 90.4 cents; hay 61.0 pounds at \$30 per ton, 91.5; silage 97.2 pounds at \$10 per ton, 48.6 cents; labor 2.33 hours at 25 cents per hour, 70.7 cents, or a feed and labor cost of \$3.01 per hundred pounds of milk, which is 83.8 per cent of the total cost. Add to these feed and labor costs the other little items, or 16.2

tional skill and judgment in breeding and selecting his herd for milking purposes. These figures are not much below those given out by some of the leading experiment stations after conducting breeding and feeding experiments for several years, using purebred dairy sires and cows representative of the four leading breeds of dairy cattle. I know that by using these comparatively low figures that some dairy authorities will say that I am encouraging low production and inefficiency, but a careful study of production figures based upon what happens when milking mature cows and heifers will convince them that 6,198 pounds



Every Economy Must be Practiced to Save Our Dairy Business.

per cent, and we have a total cost of \$3.497 per hundred pounds.

## Get the Price Or Get Out.

These abnormal and acute conditions that have inflated the price of feeds, labor, cows and equipment have not been met by the price of milk and its products, and the whole business proposition is narrowing itself down to one of abandoning a business which book-keeping and common sense is proving that farmers are conducting at a loss. The fact that it costs \$3.497 to produce a hundred pounds of milk should be sufficient to show every dairy farmer that he should obtain these prices or dispose of his cows that are not capable of producing milk below these figures. And I want to say right here that any man who thinks that an average production of 6,198 pounds per cow per year is a low figure for an entire herd of cows and heifers, has not had much experience as a practical dairy farmer, or else has had excep-

tionally low-producing cows. The cost of milk per cow is not a low average, especially in these days of high-priced grain and by-product feeds and low-priced milk.

## Attacking the problem from the Feed End.

To attack the problem from the feed end and make the best use of home-grown feeds is much better business sense than to materially reduce the size of one's dairy herd; nevertheless, in every herd there are inferior producers and those that produce just enough to pay for their feed with a tendency toward a loss. The wise dairy farmer eliminates every poor cow and this is the right sort of reduction; but to sell good producing cows because feed is high is decidedly poor business, for the reason that with some of the best cows, milk can be produced at a profit, even in these parlous times of high and mighty prices.

Nearly every low-producing cow consumes as much food as healthy, high-

class producers, and some of them eat more. These cows should at once be turned into cash; with the difference that cash draws interest and the inferior cows take interest. One cause of inferior cows has been the fact that they have had improper development when young. Raising inferior cows prevents the dairy farmer from replenishing his herd with stock of his own breeding; he cannot afford to go out and pay long prices for the best sort of animals; therefore he retains his cows beyond the time he would replace them with better ones. Men who are interested in the future of dairying realize that breeding and rearing good cows must be given more attention. Another common cause of debilitated and worn-out dairy cows has been in the past the feeding of too much rich protein concentrates; in other words, producing burned-out machinery. If the business plan of dairy farmers make it profitable to practice this forced feeding, the cows should be disposed of while in a condition of flesh acceptable in the markets and replaced by new ones. But here again the high prices of feeds and cows has changed the whole "modus operandi." Good young cows cannot be found at a price within reason to replace the played-out ones. The thorough business dairy farmer again regulates his methods of feeding to meet the conditions; in order to keep his cows in good condition for a term of years instead of months he feeds them more natural feeds and employs more natural methods.

## Better Feeds for Less Money.

Another method of attacking the feed problem is that of economy in selecting and buying the best feeds in the market. Every successful business man is a careful buyer. Dairy farmers must plan to buy feeds cooperatively in large quantities and at times of the year when they can take advantage of the market. The new movement of getting dairy farmers of the state together and adopting a standard grain feed is a step in the right direction, and could be made to save them thousands of dollars, both in securing better feeds and getting them at prices lower than is possible under present conditions.

Will it pay Michigan dairy farmers to devote more time, acreage and labor to the production of feed? It is the writer's opinion that a greater production of home-grown grains will do much toward reducing the high cost of feeding, and at the same time make possible a system of dairy management that eliminates diseases and changes the business from a risky undertaking to one of assured success.

## Some Factors to be Considered.

Several important factors are to be considered in growing more food for the dairy herd: First, under a rational system of producing grains we can produce them cheaper than they can be bought; second, home-grown feeds can be made to play a more important part in dairy rations to the benefit of the animals fed; third, the current price of a bushel of grain does not in any way represent the maximum profit that may be realized from it by judicious feeding in combination with the best kinds of hay and roughage; and

(Continued on page 559).

# "Beyond the Frontier" In This Issue

# Review of Fruit and Vegetable Markets

**M**OST lines of produce are still falling off in number of cars shipped, only oranges and grapefruit showing moderate gains. As compared with the corresponding week of last year, leading lines, except apples, are moving in heavier volume. Prices of cabbage, apples and cranberries tended upward; onions, sweet potatoes and celery were steady to firm.

## Beans Fairly Steady.

Michigan choice hand-picked pea beans continued at \$7.75@8 per cwt., cash to growers, but ranged lower in consuming markets at \$9.25@10.25 per cwt. New York hand-picked pea beans ranged with Michigan stock in most consuming markets and were quoted at \$9.50 per cwt. f. o. b. Rochester. California small whites sold about steady in producing sections and nearly steady in consuming markets, ranging from \$10.25@11 in leading cities. Oregon white stock ruled at \$8 cash to growers. Colorado Pintos still sold at \$6 in producing sections, while cleaned stock ranged steady at \$7.15@7.25 in Kansas City. Last year during the corresponding week Michigan navys were selling at \$12 in producing sections and New York white beans were quoted at \$14.15@14.45. Growers of Colorado Pintos received \$6.50@7. California white stock in consuming markets brought \$14@16. Shipments this season are declining steadily with 150 cars the past week, compared with 180 the week preceding.

## Potatoes Irregular, Nearly Steady.

Prices averaged about the same as last week, being slightly lower in the west and very firm in the east. Minnesota and Wisconsin No. 1 sacked white stock held at \$1.60@1.70 per cwt., for carlots in Chicago, but weakened slightly in various jobbing markets at \$1.80@2.10 per cwt. Northern shipping points were steady, Moorhead,

## Jobbing Prices and Shipments for the United States for the Period November 26th to December 2nd Inclusive.

Minn., still quoting \$1.35@1.40 f. o. b. cash Waupaca, and Grand Rapids \$1.55@1.60 f. o. b. Colorado and Idaho No. 1 sacked white stock was generally steady at shipping points, Greeley quoting \$1.40 f. o. b., but again ranging slightly lower in consuming markets for carlots at \$2@2.10 per cwt. New York round whites held firm at last week's closing price, \$1.80 per cwt. in bulk f. o. b. Rochester, and steady at \$2@2.25 in consuming markets. Maine Green Mountains ruled steady at last week's top figure, \$3 per barrel measure in bulk, and \$1.98@2.08 per cwt f. o. b. sacked. This stock ranged at \$2.35@2.40 in Boston and \$2.95@2.70 in New York. Oregon Burbanks ruled at \$1.50 per cwt. f. o. b. shipping points. California extra fancy white stock was in slow demand at \$1.65@1.85 f. o. b. Stockton. Total movement again declined with 1,959 cars compared with 2,871 last week and 1,786 for the corresponding week last year. The falling off in volume was quite general from all parts of the country. As compared with last year the volume of northern shipments to date was about 7,500 cars greater owing to much more liberal movement this year from practically all sections.

## Apples at Firm Prices.

Quotations in general tended to harden near last week's tops. New York Baldwins, A 2½, followed a wide range of \$4.50@5.50 per bbl., f. o. b. Rochester, mostly \$5@5.50, and ranged about steady in consuming markets at \$5@6. Virginia Yorks, A 2½, strengthened slightly, ranging at \$5.25@5.75. Vir-

ginia Ben Davis continued at \$5@6 to retailers in southern markets. Northwestern extra fancy boxed Winesaps ranged at \$1.85@2.10, closing at about the top price quoted, but still ranged steady in consuming markets at \$3@3.25 per box. Shipments continued to decrease with 2,084 cars, compared with 2,693 last week. Shipments to date are 51,533 cars, compared with 44,571 to the corresponding time last year. The falling off in shipments from Illinois, Kansas, Missouri and Maine is offset by heavy gains from other leading barreled sections. States shipping boxed apples generally exceeded last years movement to date.

## Onion Markets Slow, Nearly Steady.

The tone improved both east and west, choice sacked yellow stock advanced to \$1.60@1.75 f. o. b. Connecticut valley shipping points, and ruled at \$1.50 in the Rochester N. Y., shipping section. California Australian Browns strengthened to a range of \$1.25@1.30 f. o. b. Stockton. Eastern and middle-western sacked yellow stock held at \$1.25@1.75 in most distributing markets. Total shipments declined to 375 cars compared with 472 last week and 168 for the corresponding week last year.

## Cabbage Markets Advancing.

Values continued to strengthen with sharp gains in producing sections. New York Danish seed stock advanced fully \$4 at Rochester, closing the seven days at \$18@22 per ton in bulk f. o. b. and Wisconsin Holland seed was strong in shipping sections. Consuming markets also advanced to a gen-

eral range of \$20@27 for Wisconsin Holland seed, Chicago advancing \$4 to a range of \$22@24, while New York Danish seed ranged generally at \$20@27. Colorado cabbage advanced 25c, to a general range of \$2.75@3.75 per cwt. in southwestern markets. Shipments again declined sharply to 300 cars, compared with 553 last week and 1,008 the week preceding. Movement is fully one-third heavier than for the corresponding time last year.

## Cranberries Again Higher.

Cranberry movement has been steadily declining with 38 cars this week compared with 48 last week and 58 the week preceding. Prices still tend upward. New Jersey plate varieties reaching \$12@14 per barrel in New York. In other markets Massachusetts large late varieties ranged at \$10.50@13. Wisconsin Jumbos continued strong in Chicago, ranging at \$10@12.

## Celery at Strong Values.

New York Goldenheart celery has strengthened in producing sections, choice field stock ruling at \$3.25 in the rough f. o. b. Rochester, and stock from cold storage reaching \$4.20. Michigan celery held unchanged at \$1@1.25 per square in Chicago. California Goldenheart ranged steady in shipping sections at 50@60c per dozen f. o. b. and \$5.50@7.25 per crate in various consuming markets. New York celery ranged at \$3.50@4.50 in nearby markets, but reached \$6@7.50 in a few distant centers. Shipments again decreased 40 cars, with a total of 201.

## Lettuce Firm.

Florida head lettuce ruled at \$2 per hamper f. o. b. Orlando, and ranged fairly steady in consuming markets, closing mostly at \$2.50@3.50 per hamper. Shipments were 90 cars compared with 95 last week and 168 for the corresponding week last year. California Iceberg ranged about steady at \$3.50@4.50 per crate in consuming markets.

# News of the Agricultural World

## LOWER APPLE RATES TO EUROPE.

**L**OCAL apple men interested in the export trade believe it is a little early to count on actual shipments to Europe because of the prohibitive rate charged by the steamship companies, which has been six dollars per cubic foot. The government, it is believed, will be petitioned by apple exporters to request the shipping lines to make a lower rate in the near future, so that exporters can afford to send apples over to the other side. Local men have had many inquiries from New York firms regarding apples for export, indicating a resumption of the trade as soon as conditions become more favorable. Thousands of the best commercial grades have been sent to cold storage here, and much of this stock will be released for the English markets at the proper time.

## PLANS FOR NEXT YEAR.

**T**HE following suggestions are from the office of Extension Work in the north and west, United States Department of Agriculture:

As the end of the season approaches, farmers will have more time available in which to view the results of the present year. In the light of the knowledge which has been gained, plans can be made for the coming year. It is undoubtedly true that the work on the farm can be conducted to greater advantage and better returns can be secured from the various enterprises when a definite program is outlined in advance, in the actual field operations. The question concerning crop acreages for 1919 will,

therefore, be determined several weeks before seed time. Possibly some of the preliminary work can be done this autumn, and less time will be required to complete the preparatory work next spring.

## INCREASES PORK PRODUCTION.

**C**OUNTY agents and farm bureaus in Pennsylvania, striving to assure the five per cent increase in pork production requested by the government for 1919, conducted a "pork drive" in the ten days, October 14-24. Realizing that any increase in pork must result from a larger number of sows bred, the workers aimed to convince farmers to retain their brood sows. When all the counties are listed it is expected the records will show an increase of more than twelve thousand brood sows kept, easily providing for the increase of sixty thousand market hogs necessary to assure the five per cent increase in pork. A careful study has shown that there was a decided increase in pork production in Pennsylvania during the past year.

## BOYS TEACH FATHER BETTER HOG RAISING.

**S**OME of the boys in the two Dekalb County, Indiana, pig clubs, are showing their fathers how rapid and economical gains can be made in raising pigs. Under the direction of the local county agent these boys have been able to almost double the results obtained by their fathers within the same length of time and feeding pigs of the same litter. The boys used self-feeders and the fathers did not, and

the pigs which were allowed to select their own feed made gains of two pounds a day. The club members are proving, beyond question, the merits of the self-feeder, and hog raisers in the county of many years' experience are beginning to copy the boys' methods. As a result of the club work, the county agent reports, many fathers and sons are now planning to go into partnership and raise pure-bred hogs.

## MILL FEED SITUATION.

**F**OR some months past there has been much complaint of a shortage of mill feeds in feeding poultry. This was especially true along the eastern seaboard. To relieve this, the Milling Section of the Food Administration started a campaign some time ago to have the users of these feeds use them only for feeding young pigs and young cattle, dairy cows and poultry. Pledges were taken that the feed sold would be so used. This is slowly helping to relieve the situation. A rule was also passed compelling millers to ship such feeds to the various states in proportion to the shipments they had made in past years, thus insuring an equitable distribution of these products. Since the signing of the armistice, the rule requiring a portion of flour substitutes to be purchased with flour has been relaxed. It is likely that the millers will be allowed to turn a larger proportion of the wheat berry to mill feeds in the near future. All these things it is hoped will soon relieve the situation. Added to all this a great demand and heavy buying for export flour has sprung up since peace is in sight. This has

started many mills and this ought to soon relieve the poultry mash feed situation. Taken as a whole the outlook to have an abundance of such feeds is very encouraging but the prices are likely to remain up for some time yet.

## FOOD DRYING INDUSTRIES AUTHORIZED.

**E**STABLISHMENT of an industry within the United States to dry fruits and vegetables as a means of conserving the food supply of the nation is one of the important projects started by the Department of Agriculture, under authority conferred in the regular agriculture act recently passed.

An appropriation of \$250,000 is included in that act, to enable the Secretary of Agriculture to determine the best means and processes of dehydration, and to disseminate information as to the value and suitability of dried products for food. Authority is given to establish and operate plants for drying fruits, vegetables and other edible products, for supplying food for the army and navy, if such action is deemed necessary by the President. Cooperation with commercial concerns is also provided.

The Secretary of Agriculture has designed an advisory board to administer this appropriation and to outline and control the work to be done under it. The advisory board is to consist of representatives of the bureaus within the Department of Agriculture which are concerned with food production, regulation and conservation, and of one representative each of the Food Administration and of the sanitary corps of the army.

# Breeding up the Farm Hen

**T**HE farm hen should be bred to meet farm conditions. The man on the farm who looks after the hens is most likely to have a knowledge of the qualities needed to make his flock profitable. Expensive systems of scientific breeding for heavy egg-production, no matter how correct they may be in theory, are of little practical use on the farm if they cannot be made to pay in dollars and cents.

In the highly specialized poultry farm the question of breeding for heavy egg production is of greater importance than on the general farm; greater overhead charges and the cost of special feeds make it imperative that the poultryman devote his entire time to the breeding, feeding and care of his flock. On the general farm with less costly equipment, wider range and cheaper feeds the farmer has less time to devote to his poultry. His conditions demand large, vigorous birds that are capable of converting his available supply of feed stuffs into salable products. It is to his interest to have hens that possess good table qualities, mature quickly and lay a large number of high quality eggs. To obtain these qualities in his flock he should make a start by substituting for the nondescript birds of mongrel origin in his flock birds of any of the American breeds. This will increase the efficiency and profit-earning powers of his flock fully thirty per cent, and provide a better quality of products for his trade.

The farmer who keeps anything short of a good flock of pure-bred Plymouth Rocks, Rhode Island Reds or Wyandottes, or some of the other pure-breeds, is neglecting to make the most of his opportunity, because he can buy in almost any community, with only a small expense for eggs or chickens, good breeding qualities that it has taken breeders years of painstaking work to bring up to their present high degree of perfection. He will then be in

*If You Can Pick Good and Poor Birds  
You are Prepared to Build Up Your  
Flock Quickly.--L. J. Meredith.*

possession of a flock of uniform type as regards color and size, quality of egg, and of reasonably good egg production and constitutional vigor, if care is used in selection.

One problem that has been seriously neglected in the breeding of poultry

is that of selecting birds that have inherited the tendency to long life. The common practice of keeping young pullets for breeding and "swatting the rooster" are two of the most serious handicaps in poultry breeding today. We want to do everything possible to impress the inherited quality of laying a maximum number of eggs profitably for two or three years in our farm flocks. We know that if a bird is born with a strong, vigorous constitution and the inherited tendency to live long and produce well, it will mean more vigor-



Continuous Oversight of the Flock is Impossible on the Average Farm.

ous birds and we will be getting hens that can produce profitably for two or three years and make it unnecessary for us to go to the most hazardous, most difficult and most expensive processes connected with the management of the farm flock, the hatching and

rearing each year of as many or more chickens as we have mature hens on our farms. The farmer who is keeping three hundred hens must rear each year at least five hundred chickens in order to make rigid selection under our present system of renewing the flock. If we can by better methods of breeding develop birds that will produce profitably for two or three years it will result in a big saving in the expense of renewing the flock. What would become of the dairy farmer who depended on young heifers each year for his milking herd?

The popular slogan of "swat the rooster" is most decidedly out of harmony with any rational plan of breeding for increased tendency to produce eggs. The practice has resulted in the killing of thousands of roosters all over the country that should not have been killed and is defeating one of the most important factors in good breeding. It not only means the loss of good blood, but it forces breeders to depend upon the young and immature males for all their breeding because they are doing away with all of the fine males that prove to be desirable at the end of the first, or the second season. More than sixty per cent of the males that stand the test of rigid selection as cockerels break down during the second year. When we have a few individuals that stand up through two breeding seasons and still possess strong vitality and virility those birds are exceptionally valuable for use as breeders, and we cannot afford to sacrifice them. What would the intelligent breeder of dairy cattle think of the writer, editor or professor who would start a popular slogan to "swat the bull?" Is the principle any different in poultry breeding? We must keep some of our best males just as long as they retain their vitality. We must find a way to care for them during the breeding season and after, so they will retain their breeding qualities. Experiments with regards to discovering the ability of hens to live long and produce well show that many hens produce well during their second, third and fourth years. At the Cornell Station one hen laid 772 eggs in four years' time, laying 258 the first year, 200 the second, 191 the third, and 123 the fourth year. The best bird in the group laid 242 the first year, 198 the second, 225 the third, and 124 the fourth, or a total of 789 eggs in the four years' time. Another bird laid most difficult problems that confront

(Continued on page 554).

## For the Pail and the Block

**B**EEF production with the best animals now in his herd offers unusual advantages to the man who owns a good stock farm in Michigan. The better the cattle the greater the opportunity. Never before could one look ahead and be so certain of adequate prices for beef animals. The main problem is to adjust our farming and our feeding to the new conditions and apply the lessons to be learned from the past few years' experience.

Never before were the market demands so favorable for farmers who are planning to switch over from dairying to feeding beef cattle. Fat, finish and weight are at a discount. Cattle merely in feeder condition are selling for about as much as are well-fitted steers. All of the factors in the present situation are adverse to quality and finish. While there is undoubtedly a scarcity of animal fats, substitution of vegetable fats has furnished the consumer with relief, and diminished the demand for butter, lard and tallow. Animal oils are no longer needed for lubrication; cocoa fat, cottonseed oil, peanut oil and other similar products are entering more largely into the human dietary constantly, and at this juncture are displacing great quantities of animal fats.

A few bumper crops of corn and cheaper grain supplements may change the feeding situation, but by the time the production of grain feed reaches the normal condition, the farmer who uses a high-class beef-bred bull will have a herd of cattle capable of meeting the demand for improved quality.

*Will our Future Herds Give us Sufficient  
Milk and Palatable Steaks?--W. M. Kelly*

The day of the beef-bred bull and the farm cow is here. Loss is scarcely probable for years to come, and impossible if a real farm cow is used as the basis of the operations—a cow with sufficient capacity to convert farm-grown feeds into milk and butter-fat and produce a lusty calf, that can

profitably be finished for the market. Whether this farm cow shall be a massive dairy cow, capable of producing fifteen thousand pounds of milk a year, on forced feeding, or a more compact beef animal, it is not the purpose of the writer to say, but the time has passed when the dairy farmers of the state can afford to overlook the value

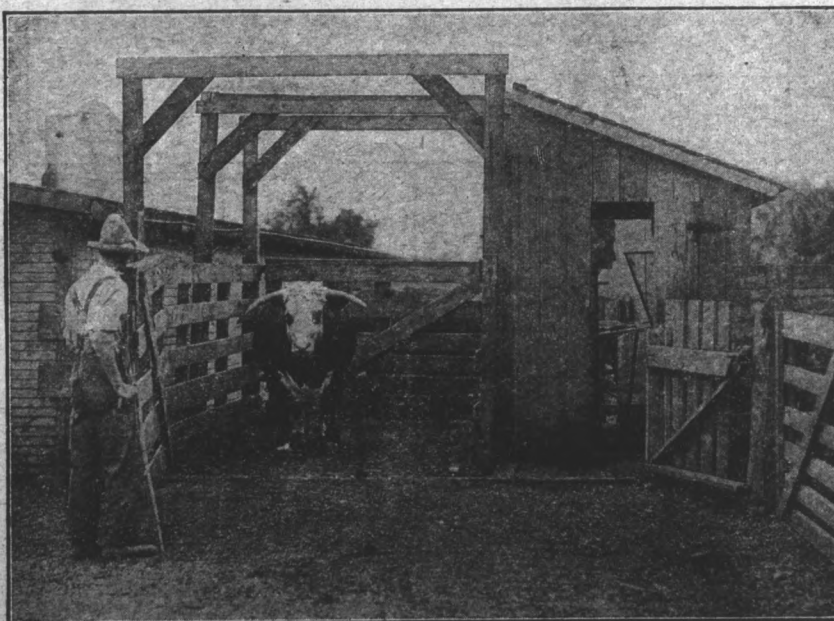
of the calves their cows produce as a means of contributing to the nation's supply of beef. Breeders of the leading breeds of beef cattle have read the handwriting on the wall and have set out to produce all the good bulls they possibly can to meet this new demand from the farm.

**How to Insure Calves Worth Raising.**

In the first place, dairy farmers who have found it unprofitable to grow their calves for beef producing purposes should use a pure-bred bull of one of the leading beef breeds on enough cows to insure a few good animals to finish for beef. It is not the slaughter of calves from dairy farms that depletes our stock of beef cattle, so much as the neglect on the part of these farmers to use beef-bred bulls that would insure calves worth raising. Farmers merely do not realize the ability of the well-bred calf to convert farm-grown feeds into dollars and valuable soil fertility. The best possible investment now is a good calf with a capacity for making proper development into a fat steer. If properly handled and finished for market very largely on the rough products of the farm they cannot lose money.

If we could imbue the farmers of Michigan with the idea that they could produce calves worth raising, not only would a material accession to the beef supply be assured, but the development process would add a large sum to the value of our farm products, at the same time exerting a highly beneficial influence on soil fertility. Mandatory legislation to compel farmers to raise

(Continued on page 536).

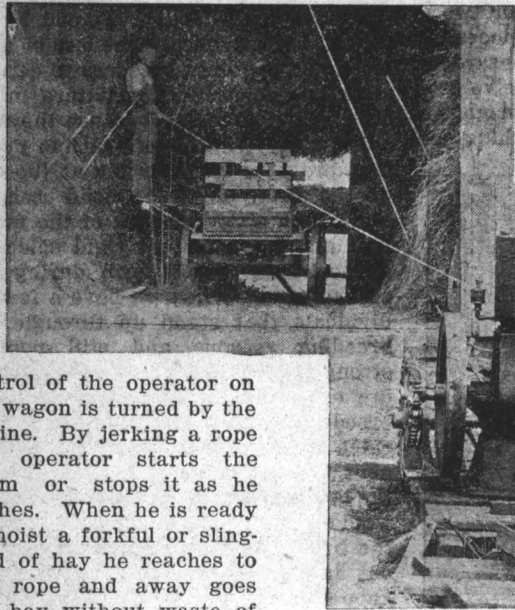


Good Beef Animals Are Becoming More Common on Our Farms.

# Suggestions for Our Busy Farmers

## HELPS WHEN FILLING THE BARN.

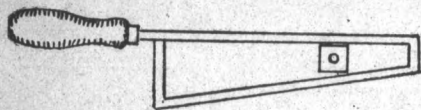
WE have found the gasoline engine a valuable asset when haying or putting other roughage in the barn. The accompanying illustration will show the reader how the power is used in the place of horses. A drum, under



control of the operator on the wagon is turned by the engine. By jerking a rope the operator starts the drum or stops it as he wishes. When he is ready to hoist a forkful or sling-load of hay he reaches to the rope and away goes the hay without waste of time. It will be seen also that one less man is required; neither is there any bother with an extra team or horse for this work, nor any need of unhitching from the wagon and to the rope and vice versa, for every load brought to the barn. We count the arrangement a distinct labor-saving device for those with much roughage to put in the barn or stack.—U. D. K.

## WRENCH FOR ANY SIZE NUT.

A HANDY wrench for the farmer can be made from a piece of square bar, shaped as shown, and fit-

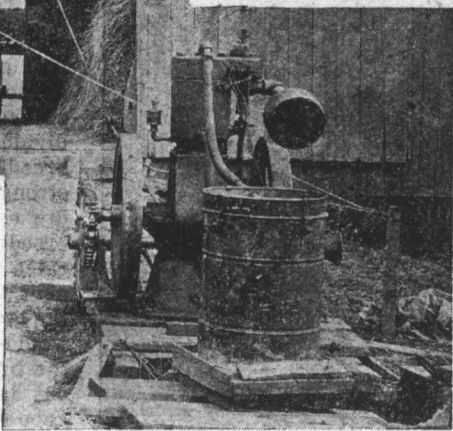


ted with a handle. The joint may be welded or halved and riveted. The size of the bar and the space between

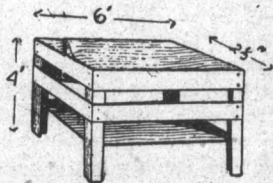
the parts will depend on the size of nuts to be turned.—G.

## FEEDING ALFALFA IN THE OPEN.

IT frequently happens that farmers want to feed alfalfa in an open shed or out of doors. This practice is far more common in the state of Michigan, with the increase in the number of animals on the farms. The carpenter or handy man will quickly get the idea from the il-



lustration of how a substantial rack for such feeding may be made. This rack, as indicated, is four feet high, two and a half feet wide and six feet



long. A floor is built in about eighteen inches from the ground. Sheep and hogs may eat from between the lower side board and this floor, while cattle will reach over the top. Calves will get what they want through the sides.

## DEVICE FOR CARRYING STRAW.

DID you ever try to carry an armful or a forkful of straw from the stack to the barn on a windy day? If

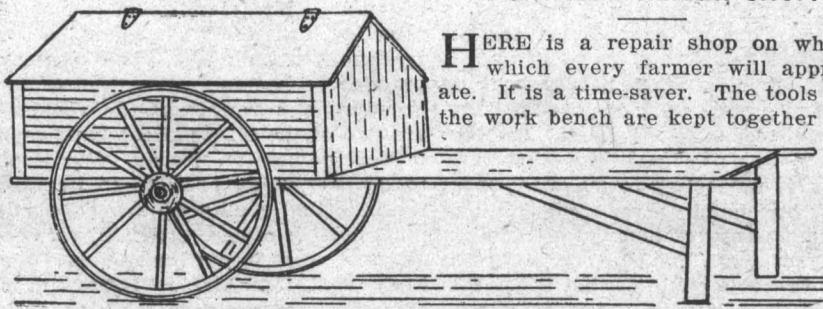
so, you know the result. Perhaps you have had the same experience in carrying hay. A device that allows you to carry either without these bad results and by which you can carry several times as much is made as follows: Take a piece of bagging or canvas eight or nine feet long and three or four feet wide and make a hem at each end large enough to receive a lath. Put a lath in each hem and tack them to the cloth. In the middle of one lath fasten a ring and in the other a cord and stick. The straw is thrown



onto the canvas and the cord pulled over the straw and inserted through the ring. Besides its use to carry hay and straw, this device is the best thing going to carry leaves.—H. L. Spooner.

## PLOWING AROUND TREES.

TO keep the horse away from trees when plowing with a one-horse plow, we used an offset attachment on the clevis. The two holes farthest apart in the plow clevis measured six inches between them. Accordingly, in mak-



No Farmer Can Afford to be without a Portable Repair Shop.

ing the attachment, a couple of holes six inches apart were made near one end of a straight bar of steel. This attachment bar was of 1/2 x 1 1/4-inch stock, and 19 inches long. In the opposite end a third hole was punched.

The straight bar was bolted to the plow clevis, and the single-tree hitched in the outer end. Thus the horse walk-



ed in the furrow. Strain on the attachment is relieved by a light chain or heavy wire running from the hitch back to the plow frame as illustrated.—E. H. Brown.

## UTILIZE WASTES.

IN farm organization we may learn from manufacturers to give greater attention to the utilization of waste products. The great meat packers claim that they derive their profits from the saving of waste products. This may seem hard to believe when buying meat, but it does not seem unreasonable when paying our fertilizer bills. The value of the manure produced by thirty well-fed cows with the usual accompaniment of other stock is about one thousand dollars per year at the prices we are paying for plant food in other forms. Are we losing a large part of this value by careless methods of farming and going into the markets to buy expensive fertilizers?

## PORTABLE REPAIR SHOP.

HERE is a repair shop on wheels which every farmer will appreciate. It is a time-saver. The tools and the work bench are kept together and

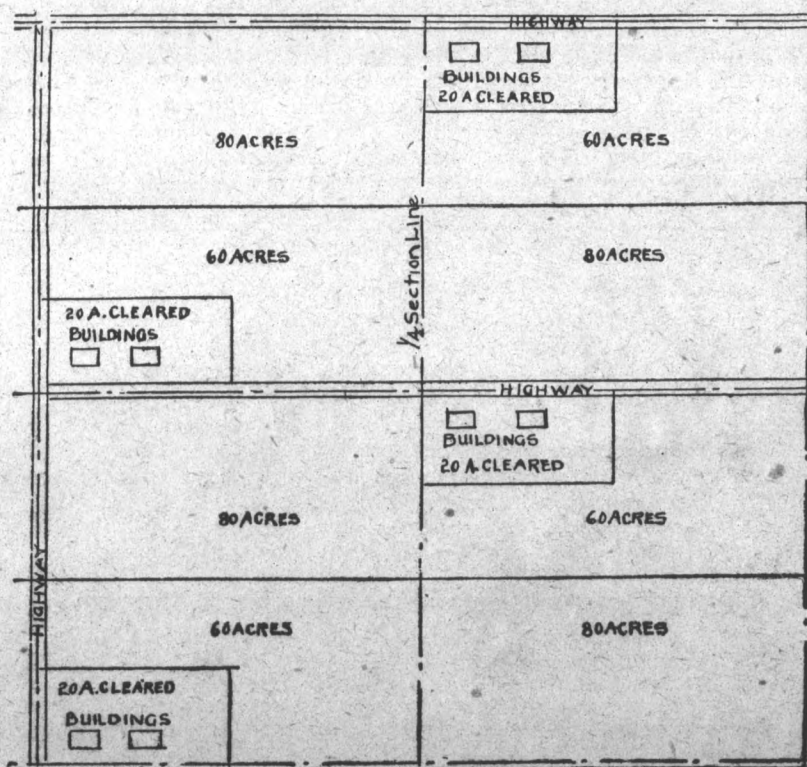
can be brought to the place where the work is to be done. It is easily made, as shown in the illustration, from most any material found about the farm. The cart is readily wheeled from place to place by hand.—P. G.

# Ready-Made Farms on Easy Terms

(Continued from first page).

moderate working capital is as necessary to a man beginning on a farm in a new locality as training and knowledge. Too many men think that if they have a few tools and a pair of horses to get their crops in with and out and to town, they have everything that is necessary to begin work on cut-over land. They are wrong. They need above all, three or four cows and a few sheep to convert their rough products into salable commodities, keep the land fertile and refreshed and give it relaxation from time to time. If a farmer has a flock of sheep as soon as his land is fenced they will aid materially in clearing the land and preparing that land for plowing and planting.

The man who buys one of these eighty-acre farms, with only twenty acres cleared, faces two necessities. One is to grow as large crops as possible on the cleared land, in order that he may live and support his family; the other is to clear a few acres each year so that he may keep more live stock and gradually expand his farming. Clearing this cut-over land and bringing it under a remunerative system of agriculture is no small undertaking. It requires a thorough knowledge of local conditions, with sufficient capital to guard against such contingencies as sickness or ill-luck, causing



Sketch of Proposed ready-made farms for colonization of cut-over lands in Northwestern Michigan. Such a scheme would enable the new settler to begin producing food crops at once, and is thought by many people, well versed in colonization work, to be the ideal way of attracting desirable settlers to this new farming land.

total loss at any stage of the game.

Right here is the great need of any new colonization or back-to-the-land movement. A system of long time finance, to get the money coming in before the big payments drain it out. If the federal government or the people interested in reconstructing our agriculture and providing new farms for our returning soldiers could devise a plan to meet the need for ready capital to help finance new farmers there would not be a good cut-over quarter section left in Northern Michigan in ten years. Here, then, is the cut-over districts of Northern Michigan looking for settlers. Here in the thickly populated districts of the middle west and among the soldiers returning from France are thousands of young men with agricultural training and experience, looking for land. Here, then, is a scheme for getting them together.

Uncle Sam has observed this condition and may come to the rescue. If plans can be made through the Federal Farm Loan Board to have them extend aid in financing these new settlers, to the extent of loaning up to about seventy-five per cent of the value of the land, buildings and improvements, then the man with from \$1,500 to \$2,000 will be safe in beginning farming on one of these ready-made farms.

# "BEYOND THE FRONTIER"

By RANDALL PARRISH

## At the Home of Hugo Chevet.

It was early autumn, for the clusters of grapes above me were already purple, and the forest leaves were tinged with red. And yet the air was soft, and the golden bars of sun flickered down on the work in my lap through the laced branches of the trellis. The work was but a pretense, for I had fled the house to escape the voice of Monsieur Cassion who was still urging my uncle to accompany him on his journey into the wilderness. They sat in the great room before the fireplace, drinking, and I had heard enough already to tell me there was treachery on foot against the Sieur de la Salle. To be sure it was nothing to me, a girl knowing naught of such intrigue, yet I had not forgotten the day, three years before, when this La Salle, with others of his company, had halted before the Ursuline convent, and the sisters bade them welcome for the night. 'Twas my part to help serve, and he had stroked my hair in tenderness. I had sung to them, and watched his face in the firelight as he listened. Never would I forget that face, nor believe evil of such a man. No! not from the lips of Caisson nor even from the governor, La Barre.

I recalled it all now, as I sat there in the silence, pretending to work, how we watched them embark in their canoes and disappear, the Indian paddlers bending to their task, and Monsieur la Salle, standing, bare-headed as he waved farewell. Beyond him was the dark face of one they called De Tonty, and in the first boat a mere boy lifted his ragged hat. I know not why, but the memory of that lad was clearer than all those others, for he had met me in the hall and we had talked long in the great window ere the sister came, and took me away. So I remembered him, and his name, Rene de Artigny. And in all those years I heard no more. Into the black wilderness they swept and were lost to those of us at home in New France.

No doubt there were those who knew—Frontenac, Bigot, those who ruled over us at Quebec—but 'twas not a matter supposed to interest a girl, and so no word came to me. Once I asked my Uncle Chevet, and he replied in anger with only a few sentences, bidding me hold my tongue; yet he said enough so that I knew the Sieur de la Salle lived and had built a fort far away, and was buying furs of the Indians. It was this that brought jealousy and hatred. Once Monsieur Cassion came and stopped with us, and, as I waited on him and Uncle Chevet, I caught words which told me that Frontenac was La Salle's friend, and would listen to no charges brought against him. They talked of a new governor; yet I learned but little, for Caisson attempted to kiss me, and I would wait on him no more.

Then Frontenac was recalled to France, and La Barre was governor. How pleased my Uncle Chevet was when the news came, and he rapped the table with his glass and exclaimed: "Ah! but now we will pluck out the claws of this Sieur de la Salle, and send him where he belongs." But he would explain nothing, until a week later. Cassion came up the river in his canoe with Indian paddlers, and stopped to hold conference. The man treated me with much gallantry, so

that I questioned him, and he seemed happy to answer that La Barre had already dispatched a party under Chevalier de Baugis, of the King's Dragoons to take command of La Salle's Fort St. Louis in the Illinois country. La Salle had returned, and was already at Quebec, but Cassion grinned as he boasted that the new governor would not even give him audience. Bah! I despised the man, yet I lingered beside him, and thus learned that La Salle's party consisted of but two voyageurs,

I knew, and bent low over my sewing, as though I had seen nothing, although my heart beat fast. Through lowered lashes I saw him give brief order to the men, and then advance toward the house alone. Ah! but this was not the slender, laughing-eyed boy of three years before. The wilderness had made of him a man—a soldier. He paused an instant to gaze about, and held his hat in his hand, the sun touching his tanned cheeks, and flecking the long, light-colored hair. He looked strong



"You Kiss me! Try it, Monsieur, if you Doubt How my Race Repays Insult."

and the young Sieur de Artigny. I was glad enough when he went away, though I gave him my hand to kiss, and waved to him bravely at the landing. And now he was back again, bearing a message from La Barre, and seeking volunteers for some western voyage of profit. 'Twas of no interest to me unless my uncle joined in the enterprise, yet I was kind enough, for he brought with him word of the governor's ball at Quebec, and had won the pledge of Chevet to take me there with him. I could be gracious to him for that and it was on my gown I worked, as the two planned and talked in secret. What they did was nothing to me now—all my thought was on the ball. What would you? I was seventeen.

The grape trellis ran down toward the river landing, and from where I sat in the cool shadow, I could see the broad water gleaming in the sun. Suddenly, as my eyes uplifted, the dark outline of a canoe swept into the vista, and the splashing paddles turned the prow inward toward our landing. I did not move, although I watched with interest, for it was not the time of year for Indian traders, and these were white men. I could see those at the paddles, voyageurs, with gay cloths about their heads; but the one in the stern wore a hat, the brim concealing his face, and a blue coat. I knew not who it could be until the prow touched the bank, and he stepped ashore. Then

and manly in his tightly buttoned jacket, a knife at his belt, a rifle grasped within one hand. There was a sternness to his face, too, although it lit up in a smile as the searching eyes caught glimpse of my white dress in the cool shade of the grape arbor. Hat still in hand he came toward me, but I only bent the lower, as though I knew nothing of his approach, and had no interest other than my work.

"Mademoiselle," he said gently, "pardon me, but is not this the home of Hugo Chevet, the fur trader?"

I looked up into his face and bowed, as he swept the earth with his hat, seeing at a glance that he had no remembrance of me.

"Yes," I answered. "If you seek him, rap on the door beyond."

"'Tis not so much Chevet I seek," he said, showing no inclination to pass me, "but one whom I understood was his guest—Monsieur Francois Cassion."

"The man is here," I answered quickly, yet unable to conceal my surprise, "but you will find him no friend to Sieur de la Salle."

"Ah!" and he stared at me intently. "In the name of the saints, what is the meaning of this? You know me, then?" I bowed, yet my eyes remained hidden.

"I knew you once as Monsieur's friend," I said, almost regretting my indiscretion, "and have been told you travel in his company."

"You knew me once," he laughed. "Surely that cannot be, for never would I be likely to forget. I challenge you, Mademoiselle, to speak my name."

"The Sieur Rene de Artigny, Monsieur."

"By my faith, the witch is right, and yet in all this New France I know scarce a maid. Nay look up; there is naught to fear from me, and I would see if memory be not new born. Saint Giles! surely 'tis true; I have seen those eyes before; why, the name is on my tongue, yet fails me, lost in the wilderness. I pray you mercy, Mademoiselle."

"You have memory of the face you say?"

"Ay! the witchery of it; 'tis like a haunting spirit."

"Which did not haunt long, I warrant. I am Adele la Chesnayne, Monsieur."

He stepped back, his eyes on mine, questioningly. For an instant I believed the name even brought no familiar sound; then his face brightened, and his eyes smiled, as his lips echoed the words.

"Adele la Chesnayne! Ay! now I know. Why, 'tis no less than a miracle. It was a child I thought of under that name—a slender, brown-eyed girl, as blithesome as a bird. No, I had not forgotten; only the magic of three years has made of you a woman. Again and again have I questioned in Montreal and Quebec, but no one seemed to know. At the convent they said your father fell in Indian skirmish."

"Yes; ever since then I have lived here, with my uncle, Hugo Chevet."

"Here—" he looked about, as though the dreariness of it was first noticed. "Alone? Is there no other woman?"

I shook my head but no longer looked at him, for fear he might see the tears in my eyes.

"I am the housekeeper, Monsieur. There was nothing else for me. In France, I am told, my father's people were well born, but this is not France, and there was no choice. Besides I was but a child of fourteen."

"And seventeen now, Mademoiselle," and he took my hand gallantly. "Pardon if I have asked questions which bring pain. I can understand much, for in Montreal I heard tales of this Hugo Chevet."

"He is a rough woodsman," I defended, "yet not unkind to me. You will speak him fair?"

He laughed, his eyes sparkling with merriment.

"No fear of my neglecting all courtesy, for I come beseeching a favor. I have learned the lesson of when the soft speech wins more than the iron hand. And this other, the Commissaire Cassion—is he a bird of the same plumage?"

I made a little gesture, and glanced back at the closed door.

"Oh, no; he is the court courtier, to stab with words, not deeds. Chevet is rough of speech, and hard of hand, but he fights in the open; Cassion has a double tongue, and one never knows him." I glanced up into his sobered face. "He is a friend of La Barre."

"So 'tis said, and has been chosen by the governor to bear message to De Baugis in the Illinois country. I

(Continued on page 542).

## For the Pail and Block

(Continued from page 533).

their calves would be both absurd and abortive; it is a matter for educational effort. The use of pasture crops and corn silage effectively solves the problem of maintaining a breeding herd of cattle. Whether it will pay the individual to make milk production a prominent feature of his farming or to maintain a herd of strictly beef producing cows will depend upon the conditions under which he is working. With good pastures and silos it is now possible to maintain a cow at very low cost. Those who are protesting that maintaining a cow for the calf she raises is impractical may continue to produce milk, and, by the use of good beef-bred sires, produce calves with capacity to grow into profitable beef animals.

### How to Get Quick Returns.

The farmer who has a herd of mixed cows that closely approach the dairy type, and who wishes to get quick results in producing a few calves suitable for finishing for beef will probably find it profitable to use a pure-bred Aberdeen-Angus bull of the extreme, thick-fleshed, early-maturing kind. In some instances men who have more than one farm and combine feeding beef cattle with dairying, are finding it profitable to buy grade Holstein cows to replenish their dairy herd, and mate them with an Angus bull, and feed the calves for beef. In this way they find it possible to produce cattle for feeding that show a good finish and pay as good returns for the amount of food consumed as those of the dual-purpose type. The calves, both heifers and steers, are sold as beef at the age of from eighteen to twenty-four months and bring prices near the top of the market. A good grade Holstein cow will milk profitably several years and during that period she would, if mated with a good Angus bull produce four or five good calves for feeding for beef. The farm labor question and the price of protein concentrates is such as to prohibit any large increase in the number of cows kept for milking purposes. It is safe to say that one-half of the dairy cows on Michigan farms should be bred to a pure-bred beef sire, and still there would be a sufficient number of good dairy heifers raised to supply the demands for milch cows. Such a plan would enable the farmers of the state to more than double the size of their herds of cattle without employing a lot of extra labor or going to the expense of keeping herds of beef-bred cows merely for breeding purposes.

### The Dual-Purpose Cow.

Many farmers are finding it profitable to keep dual-purpose cows, milking Shorthorns or Red Polls. Cows of these breeds, selected from good milking families, give from six to ten thousand pounds of milk, and from two hundred and fifty to four hundred pounds of butter-fat per year. A number of individuals have exceeded these figures. They do not equal the best records of the dairy breeds, because it is impossible to develop in one animal both beef and dairy tendencies to the highest possible degree. It is possible, however, to develop both to a degree that makes cows of these breeds profitable on hundreds of farms in Michigan where much attention is given to cash crops and where insufficient labor is available to make dairying profitable.

### More Milk From Less Protein.

One of the most important items of cost in the production of milk on Michigan farms today is the grain feed. This varies greatly with the individual cows, and with different methods of feeding, however, practical experience in feeding cows of the different breeds indicates that the Red Poll and Milking Shorthorn cow will produce the same quantity of milk on a ration containing a lower percentage of protein than cows of the highly specialized dairy breeds. It is obvious from these con-

clusions that of two cows of the same size the one that will produce the greater amount of milk from a ration containing the smaller amount of purchased protein is the most profitable. This is an important item in determining feed costs and one that has received but little attention from feeders of dairy cows in America.

### Small Farms Need Dairy Cows.

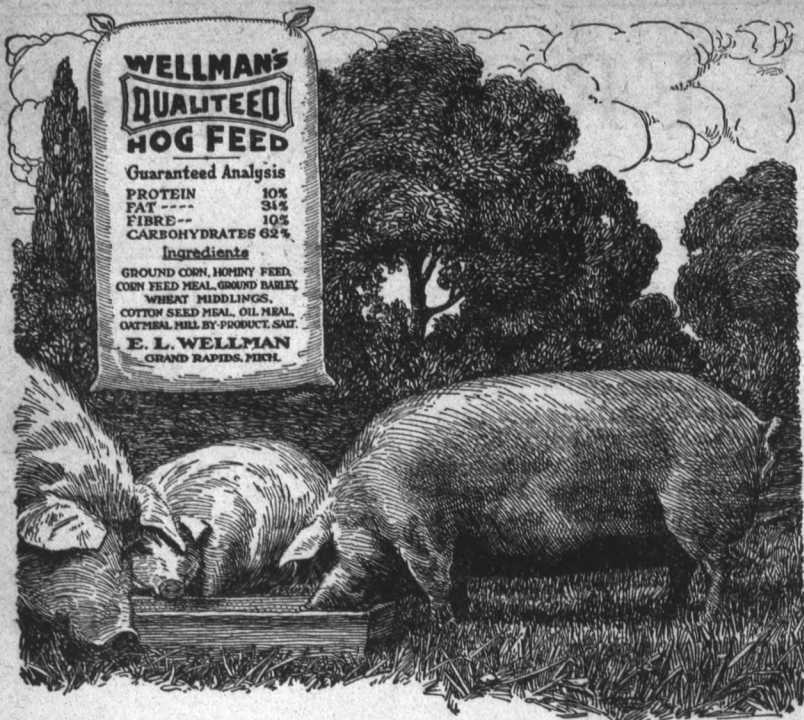
It is not the purpose of the writer to convey the impression that cows of the dairy breeds are not adapted to small farms or those of medium size, where sufficient labor is available for milking and handling the herd. A herd of good producing dairy cows, with the proper care and good housing, will convert the feed produced on an acre of land into more money than any other kind of live stock. On farms where the bulk of the food crops are produced and where there is plenty of labor available the dairy cow is the most profitable, but at the present time more than two-thirds of our dairy cows are being kept at a loss because of the expense for high-priced supplemental grain feeds and the high cost of labor. To make possible the feeding of more cattle without increasing the requirements for grain feeds and labor, beef production may be worked in with dairying. Cattle can be grown and fattened with comparatively little purchased grain feed and labor because good growth can be kept up with such feeds as clover, alfalfa, mixed hay and corn silage, and the task of milking is eliminated. Buildings of an inexpensive kind may be used, which makes it possible to keep overhead charges much lower than is the case when conducting an exclusive dairy business.

### Utilizing Pastures.

Beef cattle assist further in solving the labor problem on large farms, because the increased number of cattle kept will utilize much more pasture, a crop harvested without labor, yet just as profitable as grain when grown under proper management. Building up fertility to make our soil conditions favorable for larger crops is of first importance. The conditions in Michigan are not favorable for more intensive methods of soil tillage, because of the limited supply of labor. If, instead of plowing up so much land for grain and market crops, necessitating hasty preparation and planting, more of the land could be used for pasture, we would soon be producing more grain and market crops on fewer acres with much lower overhead charges for tillage. Few farmers realize the profits to be had from good pasture at the present market prices for good cattle. The feeding of more good cattle on our farms will make it possible to have more land in pasture and at the same time grow more corn, clover, alfalfa and small grain, crops that represent greater value when sold as animal products, and at the same time build up the fertility of our farms.

Not only are more cattle needed on our farms to build fertility, utilize pasture grasses and cheap rough feeds that otherwise might go to waste, and to distribute labor evenly during the year, but prices for beef cattle are very favorable. While it is unreasonable to think that the present high prices for beef cattle will continue indefinitely, the fact that but little new land is available, and that our population is rapidly increasing, makes it reasonably certain that we are facing an era of good prices for all kinds of meat products.

Many herds of beef cattle are needed on the thousands of acres of cut-over lands in northern Michigan. Large areas of this land could, with small expense, be fenced and converted into excellent pastures as grass and clover seem to thrive exceedingly well in the clearings.



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## Winter Care of the Horse

It is often claimed that the winter care of horses is much more important than at any other season of the year. In spring, summer, and fall, they are worked every day, and are fed regularly, and liberally watered. They are cleaned at regular intervals, and the labor in the open air tends to keep them healthy and vigorous. In winter when team work is not needed, the horses are often neglected, some days going without being cleaned, and perhaps going for a week or more with no more exercise than they get while being led to water. Many stables are not properly ventilated. The air is breathed over and over again, and becomes noxious in a short time. Under such care and treatment horses soon become debilitated.

A cold stable is to be shunned as much as a badly ventilated one. Horses should not be kept in a dark stable, or where they are constantly compelled to face the light. The best way is to have the light admitted into the stable behind the horses. When they are not frequently driven or worked they should have a yard or field where they may exercise. The stalls should be well littered with straw, and the droppings removed at least once a day. In the winter there is no excuse for not cleaning the horses every day. Our experience has been that a coarse brush is better than anything else for removing dirt from the skin without annoying the animal.

There is much diversity of opinion as to the best winter feed for horses. If they are heavily grained, and also fed hay, they will prove costly animals by spring, unless they have performed profitable work during a portion of the time. Horses that are kept fat by feeding plenty of grain will not prove as efficient as those which have been kept on less grain. Only as much grain should be fed in winter as to keep the animal in good spirits and fair flesh.

We have observed that horses will eat too much hay if given the opportunity. If there is good clean oat straw it may be fed to horses in winter if accompanied with a proper allowance of grain. However, several weeks before the opening of spring, hay should be fed, instead of oat straw.

While stable blanketing in winter has many advocates, we have never favored the practice. The only time we use blankets is after the horse returns heated from a trip in the cold weather, or if the animal is sick. A horse with proper food and stabling can withstand more cold with less inconvenience, and is less likely to take cold from an omission to blanket while waiting on the road, than if accustomed to constant blanketing in the stable.

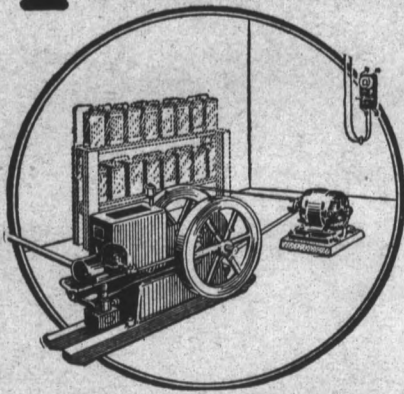
There is no rule to lay down in the matter of shoeing. Every horse owner should use his own judgment. But when it is found necessary to protect the foot or to prevent the horse from slipping when the roads are icy, not a moment should be lost to have the horse properly shod.

M. M.

### THE SELF-FEEDER PAYS.

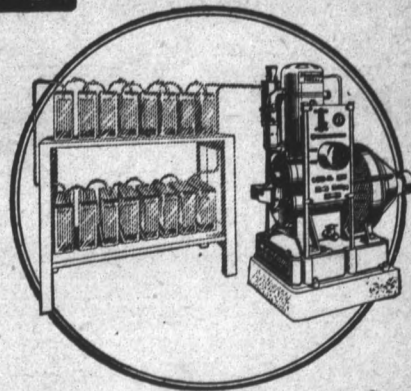
With the ingredients of a good ration constantly before them, placed so that they may eat at will, hogs will make gains more rapidly and more economically than when fed by hand. The time needed to bring them to a certain weight will be shortened and the labor of feeding them will be reduced.

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type, with engine and generator built in one unit.

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The teeth of friction get busy quicker on a tractor than on other machines, because of the trying circumstances under which it must work. No matter how well your machine is built, it can not do good work unless the lubricating system is right.

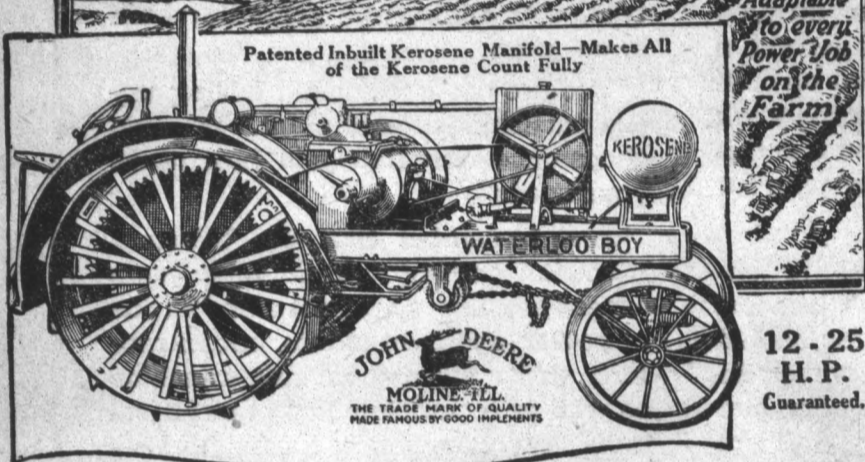
The Waterloo Boy is equipped with the well known circulating splash and pump system of lubrication, which is employed on high class automobiles generally. This constantly maintains a substantial oil flow between all friction points. With dust-proof gears and bearings, it prevents wear, increases power, keeps down repair expense, insures smooth, steady work.

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## Garage Economies

BY J. L. JUSTICE

THE farm garage may be made the source of many little economies if a little time and forethought are exercised in fixing it up with that object in view. It becomes an easy habit to drop into the city garage and have this and that fixed or attended to when it can be done much cheaper at home and perhaps as well. The garageman used to give free air and storage room to solicit or attract patronage, but that day has passed.

One of the best economies of the home garage is a concrete floor. It can be kept clean and dry, making it pleasant to work on. If any little article is dropped on it it can be found readily. Tires resting on a clean concrete floor do not deteriorate as quickly as they do on a grease-grimed dirt floor. There is not as much danger of fire with concrete as with wood floors.

A well lighted garage is essential for making repairs, but it is not advisable to flood it with sunlight, for direct sunlight tends to weaken rubber. Locate the windows on the east, west and north sides; and if a window is wanted on the south side a shade can be put over it to shut out the direct sunlight. Plenty of light coming from all sides is quite an advantage when working about the car. With a good floor and ample light, work can be done on the car on bad days or in disagreeable weather.

Another thing we have found to be a convenience is a long chest of drawers and a work bench on top of them. In the drawers are kept robes, tire tools, old casings that might be used in case of an emergency, waste, paints, oils, etc. This is much better than having the floor cluttered up with them, and having a place one knows where they may be quickly found.

We make most of our tire repairs at a cost of less than half what is charged at the local garages and do it satisfactorily with home-vulcanizing outfits.

It is well to have two sizes of the small vulcanizers, one for making repairs to casings and a smaller size for inner tubes. The tube vulcanizer is a very small and simple affair, making it especially convenient for carrying in the car and mending a puncture on the road. The heat is provided by a little composition disk which is inserted in the vulcanizer and lighted, and the preparation for the patch is similar to the method used in applying a cement-ed patch. Since the patch is vulcanized on with heat it becomes permanent and is much more satisfactory than the cement-ed patch, as the latter is likely to come loose in time and give trouble again. The larger vulcanizer for casings can be purchased for from \$2.00 to \$5.00, while some of the smaller can be had for \$1.50 with a set of patches and disks.

Tires must be kept properly inflated in order to increase their life. This is often neglected because one does not like to operate a hand-pump. We have used a spark-plug pump for several years which has given excellent service. This is simply screwed in in place of a spark plug and the engine operated on three cylinders; it will fill the tires with fresh air in just a few minutes and do it much easier than it can be done by hand.

If a plentiful supply of patching material, jacks, tire tools, extra valve cores, waste material, and oils are kept on hand they will soon pay for themselves and the car can be kept in good running order at a minimum cost. The work may be done at odd hours.

A fire extinguisher kept either hanging in some convenient place in the garage or put in the car, may at some time prove a means of checking a fire, though with a concrete floor which is kept swept clean of all debris and collection of oils the danger of fire is very largely removed when care is exercised in handling gasoline.

## Returns from Old Apple Trees--By Alton M. Porter

IN all apple growing sections of Michigan there are large numbers of apple trees which have been neglected from various causes. No matter what section of the state you are in these conditions are always present and especially in the older apple regions. The probable causes for these conditions are, lack of proper management, carelessness, poor markets, lack of interest in apple growing, insects, diseases and not properly cultivated or fertilized.

Many of these trees in this condition can be brought back to profitable bearing apple trees if a little of the modern intelligence in fruit growing is applied to the problem. The ones beyond improvement usually belong to the following classes: If the trees are thirty or forty years of age, high-headed and of an undesirable variety, it is probably best to leave them alone because they are probably not vigorous enough to stand the process of renovating. If the San Jose scale has reduced the vigor of the tree to a very low ebb there will probably be no chance of a successful renovating of the tree. Undoubtedly in nearly all cases if the trees are strong and vigorous they can be profitably renovated for future fruit production.

The best time of the year to start a process of rejuvenation in the apple orchard is in the fall. Fall plowing should be the first point to consider, especially if the trees have been in sod for several years, and this is usually the case in an old neglected orchard. This fall plowing will get all the rubbish and grass in the process of decay and its incorporation with the soil is hastened. By exposing the soil to the action of the frost and moisture its physical condition will be improved. About four inches is the best depth for this fall plowing, because deep plowing will often cause a great many of the roots of the trees to be destroyed. Of course, a few will be destroyed by this shallow plowing.

### Winter Fertilization and Spring Cultivation.

During the winter it is a good plan to put a good coat of manure on the fall-plowed orchard. This manure will not by all means go far towards supplying the necessary nitrogen, phosphoric acid and potash, but it will add humus and help to improve the physical condition of the soil that is badly in need of improvement in all poorly cared for orchards. When putting the manure on the soil never leave it in

(Continued on page 547).

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#### OUR POTATO AND BEAN CROPS.

IN the table given below appears the estimate of the Federal Crop Reporters under the direction of V. N. Church, Field Agent for Michigan, on the 1918 production of beans and potatoes in the various counties

County.	Beans Bush.	Potatoes Bush.
Alcona	10,300	35,000
Alger		184,800
Allegan	25,900	423,300
Alpena	2,600	222,800
Antrim	33,300	213,400
Arenac	115,300	98,000
Baraga		124,100
Barry	26,750	222,700
Bay	170,150	193,300
Benzie	36,250	51,900
Berrien	2,750	507,100
Branch	82,950	167,500
Calhoun	56,360	304,900
Cass	600	245,700
Charlevoix	28,100	263,400
Cheboygan	3,125	97,200
Chippewa	320	266,800
Clare	51,600	101,000
Clinton	182,975	170,500
Crawford	1,700	36,000
Delta	275	554,800
Dickinson		103,000
Eaton	144,900	243,500
Emmet	2,725	272,600
Genesee	117,500	353,900
Gladwin	98,600	220,800
Gogebic		49,500
Grand Traverse	13,200	760,400
Gratiot	356,100	120,900
Hillsdale	5,575	208,100
Houghton		195,000
Huron	406,600	393,100
Ingham	126,215	240,200
Ionia	162,440	246,600
Iosco	47,800	72,900
Iron		158,000
Isabella	333,600	482,800
Jackson	79,600	395,700
Kalamazoo	13,800	382,100
Kalkaska	2,125	299,700
Kent	278,130	1,009,800
Keweenaw		8,500
Lake	1,820	219,200
Lapeer	90,860	671,700
Leelanau	8,000	708,000
Lenawee	300	341,400
Livingston	114,700	183,300
Luce	50	104,100
Mackinac	225	156,600
Macomb	7,800	438,700
Manistee	37,100	458,700
Marquette	75	309,600
Mason	47,050	359,800
Mecosta	92,900	609,500
Menominee	3,800	862,300
Midland	45,980	177,200
Missaukee	12,800	468,100
Monroe	270	445,600
Montcalm	235,860	1,577,800
Montmorency	560	48,900
Muskegon	55,800	284,900
Newaygo	125,240	491,900
Oakland	44,800	1,822,300
Oceana	69,350	708,400
Ogemaw	29,100	191,100
Ontonagon		104,000
Osceola	36,200	948,800
Oscoda	2,940	42,800
Otsego	2,080	414,200
Ottawa	25,200	496,500
Presque Isle	4,000	142,800
Roscommon	2,800	33,200
Saginaw	202,800	366,900
St. Clair	6,250	265,100
St. Joseph	8,900	324,200
Sanilac	105,375	270,900
Schoolcraft		212,000
Shiawassee	140,200	240,300
Tuscola	298,800	588,800
Van Buren	6,750	339,900
Washtenaw	12,200	233,700
Wayne	1,280	745,800
Wexford	10,570	449,700
State	4,911,000	28,560,000



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is a Time and Labor Saver

"We have had our Delco-Light plant for more than two years now and the work that it is doing out here saves several hours of time each week.

"The time and labor saved multiplies man-power on the farm.

"So you see Delco-Light is a good investment.

"By just pressing a button we can start an electric motor that runs the washing machine for my wife, milks the cows, operates the cream separator or tumbles the churn.

"Delco-Light gives us running water throughout the house and barns. It furnishes good, safe, clean electric light everywhere. We can do our chore work after dark as well as in broad daylight. And it does not take as long as when we had to lug lanterns about.

"The old smelly lamps and lanterns have been stored away. They are nothing but relics now, like the cradle my great-grandfather used, to harvest grain.

"Electric light eliminates fire risk. I do not fear fire any more.

"And the beauty of it is that we have all of these things at low cost. The plant runs on KEROSENE. The same kerosene that we burned in the lamps and lanterns, furnishes both electric power and light.

"Delco-Light pays for itself. There is no question about it.

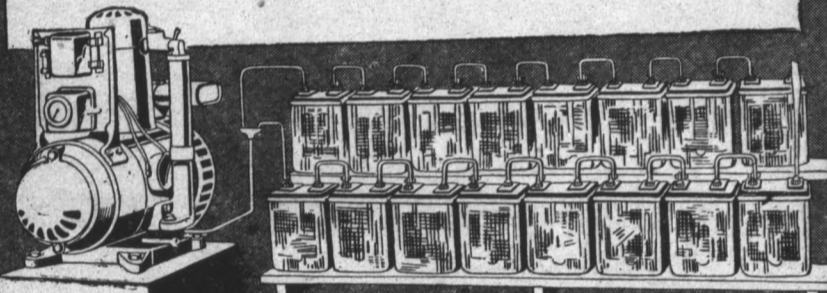
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Makers of DELCO-LIGHT Products  
DAYTON, OHIO

A complete Electric Light and Power Plant for Farms and Suburban Homes—Self-Cranking—Air Cooled—Ball Bearings—No Belts—Thick Plate Long Lived Battery—RUNS ON KEROSENE



#### FOR COUNTRY HOMES



A  
Double  
Service

for  
Lighting  
and Cooking  
at Lowest  
Cost



#### Nothing to get out of order or wear out

If you think your folks would appreciate the conveniences of modern house lighting and fuel cooking, this plant supplies both at less cost and more efficiently than any other. Its best friends are those who have depended on it for 20 years.

Carbide Lighting **COLT** and Cooking Plant

Write us today for names and addresses of neighbors, who can tell you all about it.  
J. B. COLT COMPANY, 42nd Street Building, New York 904

#### FEEDING HOGS? THEN HERE IS WHAT YOU WANT!

Ask your dealer for

### DIAMOND HOG MEAL

Made from the nutritious hearts of corn kernels  
Write to C. FRANCIS, 909 Ford Building, Detroit,  
for sample, literature and particulars

#### \$10,000.00 BACKS THIS SAW

As low as \$10 For Hertzler & Zook Portable Wood Saw Frame



HERTZLER & ZOOK  
Portable Wood SAW  
No. 5

is easy to operate. Our No. 1 is the best and cheapest saw made to which a ripping table may be attached. Guaranteed 1 year. Money refunded if not satisfactory. Write for catalog. HERTZLER & ZOOK CO. Box 23 Belleville, Pa.

RHODES DOUBLE OUT PRUNING SHEAR  
Made in all Styles and Sizes All shears delivered free to your door. Send for circular and prices.  
RHODES MFG. CO.  
615 S. Division Ave. GRAND RAPIDS, MICH.

#### DEHORNING STOPS LOSS

Cattle with horns are dangerous and a constant menace to persons and to other cattle. Dehorn quickly and easily with a KEYSTONE DEHORNER  
All over in 2 minutes. Not a harsh method. A clear, clean cut. Cows give more milk; steers make better beef. Send for free booklet.  
M. T. Phillips, Box 126 Pomeroy, Pa.

#### SEND FOR CATALOG FARM WAGONS

High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free.  
Electric Wheel Co., 35 Elm St., Quincy, Ill.

WE WANT VETCH. SEND US SAMPLES  
YOUNG-RANDOLPH SEED CO., Owosso, Mich.

Please Mention The Michigan Farmer When Writing to Advertisers

**Dependable, Economical Power  
Under All Conditions**

## WATERLOO BOY

**ORIGINAL KEROSENE TRACTOR**

Whether your soil is hardpan, black-wax, timothy sod, gumbo or just loam, the Waterloo Boy Kerosene Burning Tractor has the necessary power to farm it. Our thousands of satisfied users all over the United States have given this tractor rigid tryouts in every possible soil condition, and the Waterloo Boy has always pulled through with a record.

### Perfect Lubrication Necessary to Efficient Work and Long Life

The teeth of friction get busy quicker on a tractor than on other machines, because of the trying circumstances under which it must work. No matter how well your machine is built, it can not do good work unless the lubricating system is right.

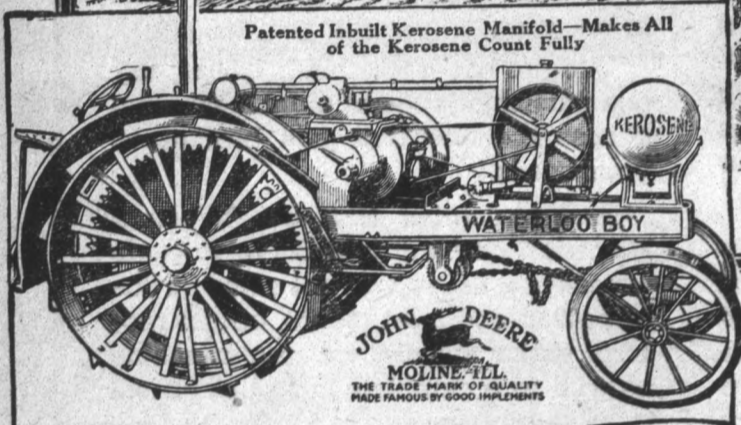
The Waterloo Boy is equipped with the well known circulating splash and pump system of lubrication, which is employed on high class automobiles generally. This constantly maintains a substantial oil flow between all friction points. With dust-proof gears and bearings, it prevents wear, increases power, keeps down repair expense, insures smooth, steady work.

High quality material and workmanship throughout guaranteed.

Write us for illustrated catalog showing many photographic views with letters from users, also details of construction.

**JOHN DEERE**

4605 W. 3rd Ave., Moline, Illinois



Patented Inbuilt Kerosene Manifold—Makes All of the Kerosene Count Fully

Adaptable  
to every  
Power Job  
on the  
Farm

**12.25  
H.P.  
Guaranteed.**

TRADE MARK  
F. S. R.  
REGISTERED

# ROYSTER'S FERTILIZERS

**BUILT UPON A  
FOUNDATION OF**

**32 YEARS  
EXPERIENCE**

**F. S. ROYSTER GUANO CO.**  
Toledo, Ohio



## Garage Economies

BY J. L. JUSTICE

THE farm garage may be made the source of many little economies if a little time and forethought are exercised in fixing it up with that object in view. It becomes an easy habit to drop into the city garage and have this and that fixed or attended to when it can be done much cheaper at home and perhaps as well. The garageman used to give free air and storage room to solicit or attract patronage, but that day has passed.

One of the best economies of the home garage is a concrete floor. It can be kept clean and dry, making it pleasant to work on. If any little article is dropped on it it can be found readily. Tires resting on a clean concrete floor do not deteriorate as quickly as they do on a grease-grimed dirt floor. There is not as much danger of fire with concrete as with wood floors.

A well lighted garage is essential for making repairs, but it is not advisable to flood it with sunlight, for direct sunlight tends to weaken rubber. Locate the windows on the east, west and north sides; and if a window is wanted on the south side a shade can be put over it to shut out the direct sunlight. Plenty of light coming from all sides is quite an advantage when working about the car. With a good floor and ample light, work can be done on the car on bad days or in disagreeable weather.

Another thing we have found to be a convenience is a long chest of drawers and a work bench on top of them. In the drawers are kept robes, tire tools, old casings that might be used in case of an emergency, waste, paints, oils, etc. This is much better than having the floor cluttered up with them, and having a place one knows where they may be quickly found.

We make most of our tire repairs at a cost of less than half what is charged at the local garages and do it satisfactorily with home-vulcanizing outfits.

It is well to have two sizes of the small vulcanizers, one for making repairs to casings and a smaller size for inner tubes. The tube vulcanizer is a very small and simple affair, making it especially convenient for carrying in the car and mending a puncture on the road. The heat is provided by a little composition disk which is inserted in the vulcanizer and lighted, and the preparation for the patch is similar to the method used in applying a cement-ed patch. Since the patch is vulcanized on with heat it becomes permanent and is much more satisfactory than the cemented patch, as the latter is likely to come loose in time and give trouble again. The larger vulcanizer for casings can be purchased for from \$2.00 to \$5.00, while some of the smaller can be had for \$1.50 with a set of patches and disks.

Tires must be kept properly inflated in order to increase their life. This is often neglected because one does not like to operate a hand-pump. We have used a spark-plug pump for several years which has given excellent service. This is simply screwed in in place of a spark plug and the engine operated on three cylinders; it will fill the tires with fresh air in just a few minutes and do it much easier than it can be done by hand.

If a plentiful supply of patching material, jacks, tire tools, extra valve cores, waste material, and oils are kept on hand they will soon pay for themselves and the car can be kept in good running order at a minimum cost. The work may be done at odd hours.

A fire extinguisher kept either hanging in some convenient place in the garage or put in the car, may at some time prove a means of checking a fire, though with a concrete floor which is kept swept clean of all debris and collection of oils the danger of fire is very largely removed when care is exercised in handling gasoline.

## Returns from Old Apple Trees--By Alton M. Porter

IN all apple growing sections of Michigan there are large numbers of apple trees which have been neglected from various causes. No matter what section of the state you are in these conditions are always present and especially in the older apple regions. The probable causes for these conditions are, lack of proper management, carelessness, poor markets, lack of interest in apple growing, insects, diseases and not properly cultivated or fertilized.

Many of these trees in this condition can be brought back to profitable bearing apple trees if a little of the modern intelligence in fruit growing is applied to the problem. The ones beyond improvement usually belong to the following classes: If the trees are thirty or forty years of age, high-headed and of an undesirable variety, it is probably best to leave them alone because they are probably not vigorous enough to stand the process of renovating. If the San Jose scale has reduced the vigor of the tree to a very low ebb there will probably be no chance of a successful renovating of the tree. Undoubtedly in nearly all cases if the trees are strong and vigorous they can be profitably renovated for future fruit production.

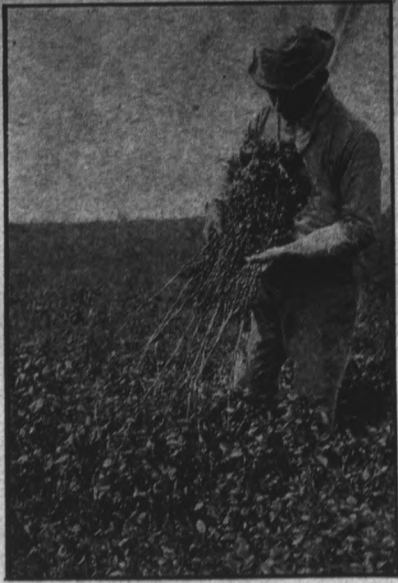
The best time of the year to start a process of rejuvenation in the apple orchard is in the fall. Fall plowing should be the first point to consider, especially if the trees have been in sod for several years, and this is usually the case in an old neglected orchard. This fall plowing will get all the rubbish and grass in the process of decay and its incorporation with the soil is hastened. By exposing the soil to the action of the frost and moisture its physical condition will be improved. About four inches is the best depth for this fall plowing, because deep plowing will often cause a great many of the roots of the trees to be destroyed. Of course, a few will be destroyed by this shallow plowing.

### Winter Fertilization and Spring Cultivation.

During the winter it is a good plan to put a good coat of manure on the fall-plowed orchard. This manure will not by all means go far towards supplying the necessary nitrogen, phosphoric acid and potash, but it will add humus and help to improve the physical condition of the soil that is badly in need of improvement in all poorly cared for orchards. When putting the manure on the soil never leave it in

Please mention the Michigan Farmer when you are writing to advertisers and you will do us a favor

(Continued on page 547).



Eleven-months-old Alfalfa, Grown in Wexford County.

#### OUR POTATO AND BEAN CROPS.

IN the table given below appears the estimate of the Federal Crop Reporters under the direction of V. N. Church, Field Agent for Michigan, on the 1918 production of beans and potatoes in the various counties

County.	Beans Bush.	Potatoes Bush.
Alcona	10,300	35,000
Alger		184,800
Allegan	25,900	423,300
Alpena	2,600	222,800
Antrim	33,300	213,400
Arenac	115,300	98,000
Baraga		124,100
Barry	26,750	222,700
Bay	170,150	193,300
Benzie	36,250	51,900
Berrien	2,750	507,100
Branch	82,950	167,500
Calhoun	56,360	304,900
Cass	600	245,700
Charlevoix	28,100	263,400
Cheboygan	3,125	97,200
Chippewa	320	266,800
Clare	51,600	101,000
Clinton	182,975	170,500
Crawford	1,700	36,000
Delta	275	554,800
Dickinson		103,000
Eaton	144,900	243,500
Emmet	2,725	272,600
Genesee	117,500	353,900
Gladwin	98,600	220,800
Gogebic		49,500
Grand Traverse	13,200	760,400
Gratiot	356,100	120,900
Hillsdale	5,575	208,100
Houghton		195,000
Huron	406,600	393,100
Ingham	126,215	240,200
Ionia	162,440	246,600
Iosco	47,800	72,900
Iron		158,000
Isabella	333,600	482,800
Jackson	79,600	395,700
Kalamazoo	13,800	382,100
Kalkaska	2,125	299,700
Kent	278,130	1,009,800
Keweenaw		8,500
Lake	1,820	219,200
Lapeer	90,860	671,700
Leelanau	8,000	708,000
Lenawee	300	341,400
Livingston	114,700	183,300
Luce	50	104,100
Mackinac	225	156,600
Macomb	7,800	438,700
Manistee	37,100	458,700
Marquette	75	309,600
Mason	47,050	359,800
Mecosta	92,900	609,500
Menominee	3,800	862,300
Midland	45,980	177,200
Missaukee	12,800	468,100
Monroe	270	445,600
Montcalm	235,860	1,577,800
Montmorency	560	48,900
Muskegon	55,800	284,900
Newaygo	125,240	491,900
Oakland	44,800	1,822,300
Oceana	69,350	708,400
Ogemaw	29,100	191,100
Ontonagon		104,000
Osceola	36,200	948,800
Oscoda	2,940	42,800
Otsego	2,080	414,200
Ottawa	25,200	496,500
Presque Isle	4,000	142,800
Roscommon	2,800	33,200
Saginaw	202,800	366,900
St. Clair	6,250	265,100
St. Joseph	8,900	324,200
Sanilac	105,375	270,900
Schoolcraft		212,000
Shiawassee	140,200	240,300
Tuscola	298,800	588,800
Van Buren	6,750	339,900
Washtenaw	12,200	233,700
Wayne	1,280	745,800
Wexford	10,570	449,700
State	4,911,000	28,560,000



## "DELCO-LIGHT

is a Time and Labor Saver

"We have had our Delco-Light plant for more than two years now and the work that it is doing out here saves several hours of time each week.

"The time and labor saved multiplies man-power on the farm.

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"By just pressing a button we can start an electric motor that runs the washing machine for my wife, milks the cows, operates the cream separator or tumbles the churn.

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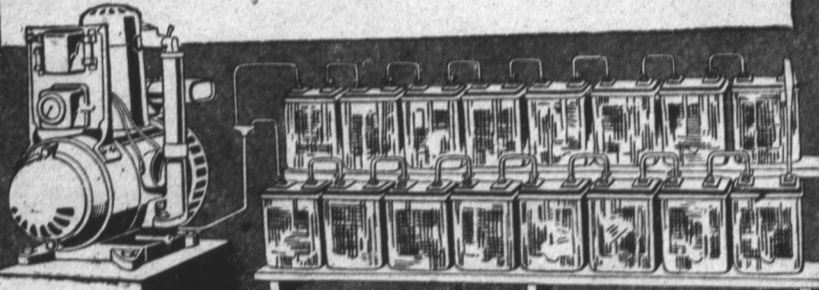
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Makers of DELCO-LIGHT Products  
DAYTON, OHIO

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#### FOR COUNTRY HOMES



A Double Service for Lighting and Cooking at Lowest Cost



#### Nothing to get out of order or wear out

If you think your folks would appreciate the conveniences of modern house lighting and fuel cooking, this plant supplies both at less cost and more efficiently than any other. Its best friends are those who have depended on it for 20 years.

Carbide Lighting **COLT** and Cooking Plant

Write us today for names and addresses of neighbors, who can tell you all about it.  
J. B. COLT COMPANY, 42nd Street Building, New York 904

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### DIAMOND HOG MEAL

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is easy to operate. Our No. 1 is the best and cheapest saw made to which a ripping table may be attached. Guaranteed 1 year. Money refunded if not satisfactory. Write for catalog. HERTZLER & ZOOK CO. Box 23 Belleville, Pa.

#### RHODES DOUBLE OUT PRUNING SHEAR



Cuts from both sides of limb and does not bruise the bark.

Made in all Styles and Sizes All shears delivered free to your door. Send for circular and prices.

RHODES MFG. CO.

615 S. Division Ave. GRAND RAPIDS, MICH.

#### DEHORNING STOPS LOSS

Cattle with horns are dangerous and a constant menace to persons and to other cattle. Dehorn quickly and easily with a

#### KEYSTONE DEHORNER

All over in 2 minutes. Note: harsh method. A clear, clean cut. Cows give more milk; steers make better beef. Send for free booklet. M. T. Phillips, Box 126 Pomeroy, Pa.



#### Send for Catalog FARM WAGONS



High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free. Electric Wheel Co., 35 Elm St., Quincy, Ill.

WE WANT VETCH. SEND US SAMPLES. YOUNG-RANDOLPH SEED CO., Owosso, Mich.

Please Mention The Michigan Farmer When Writing to Advertisers

## News of the Week

Wednesday, November 27.

**D**IFFERENCES between Chile and Peru will probably go before the peace conference.—International law experts declare that the former German emperor can be extradited from Holland.—Both New York and Chicago have placed a ban on displaying the red flag or any banner bearing an inscription opposed to organized government.—Hon. Henry R. Pattengill, who has been prominently identified with the educational and political life of Michigan, dies at his home at Lansing.—The United States government is taking steps to purchase Hog Island, the largest fabricating shipyard in the world.

Thursday, November 28.

**T**HE independent socialists in Germany hold the balance of power in the present government and probably will be instrumental in bringing order out of the present chaotic conditions.—The sentence of Thomas J. Mooney, condemned to be hanged for the deaths of ten persons killed by a bomb in San Francisco in 1916 is commuted by Governor Stephens to life imprisonment.—It is reported from London that the Allies will demand that Holland surrender former Emperor Wilhelm of Germany.—Detroit's big peace parade is called off on account of rain.

Friday, November 29.

**B**AVARIA secedes from the German federation and will likely be supported by virtually all south German states.—The steamship Mauretania sails from Liverpool with four thousand American soldiers aboard, which makes eleven thousand officers and men who are now enroute home from England.—The United States navy is demobilizing its reserve officers.—Eight men lost their lives during Michigan's 1918 hunting season.

Saturday, November 30.

**R**EPRESENTATIVES of the United States at the world peace conference will be President Wilson, Robert Lansing, Secretary of State, Henry Bliss, representative of the American army with the supreme war council at Versailles.—The Berlin government demands that former German emperor in Holland formally abdicate and that the crown prince renounce his right to the throne.—Telephone rates in the Detroit exchange area are advanced by the federal government.—Senate finance committee votes to reduce letter rate to two cents.—Boston, New York, Newport News and Charleston, are ports the war department will use to return soldiers from overseas.

Sunday, December 1.

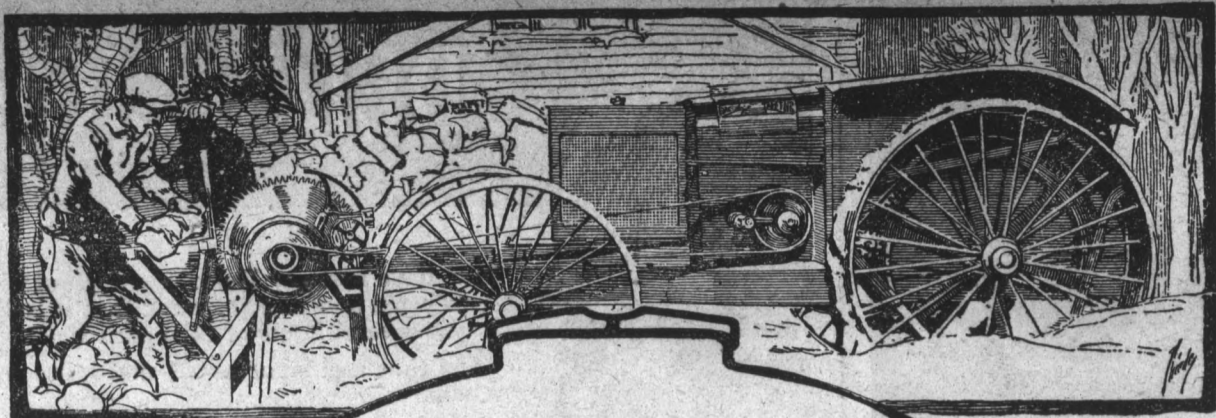
**T**HE war department expects to return 175,000 American soldiers by January 1.—New York labor leaders moved to launch a national labor party.—The political situation between Chile and Peru is becoming more strained and troops are called out.—Japan will withdraw its jurisdiction from the Shan-tung peninsula, captured from the Germans early in the war.—Breweries throughout the United States closed in compliance with President Wilson's proclamation prohibiting the manufacture of beer after December 1.

Monday, December 2.

**C**HILEAN consuls and Brazilian minister quit Peru; the latter country calls army to colors.—President Wilson addresses congress before leaving for Europe.—Official report on the recent fires in Minnesota place the property loss at \$20,000,000 and the number of lives at 500.—Rebel tribes in Morocco are much subdued since Germany has capitulated.—State Food Administrator assures Michigan farmers that the federal government guarantees the fixed wheat prices for the 1919 crop.

Tuesday, December 3.

**T**HE British war cabinet unanimously decides to press Holland to extradite the former German emperor. At the same time a number of the soldiers and workmen's councils in Germany request the German government to have the former emperor tried by a German tribunal. The German government will submit the question to the national assembly.—American soldiers cross Luxemburg line and enter Germany at Treves.—The Chilean army reserves have been called to the colors. Naval commanders in all parts of the republic are reported to have been called to Santiago for naval conference.—The Belgian industrial committee estimates that the damage to their country through German occupation amounts to \$1,300,112,000.—The U. S. Federal Trade Commission submits a report to congress charging five big meat packing companies with a combination in restraint of trade and with controlling the sale of live stock and fresh meats.



## SPIREX—

## The All-Season Radiator

Tractors equipped with Spirex Radiators can be used in all seasons. They serve just as satisfactorily in freezing weather as on a mild, spring day.

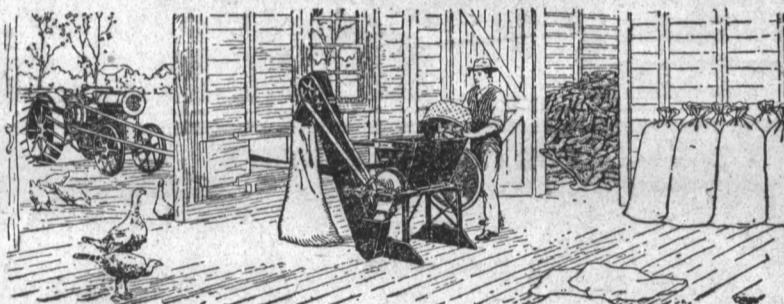
This is because the Spirex is the most scientifically designed and durably built radiator for tractor service.

Made of very heavy copper stock with extra large water channels, the liability of freezing is reduced to a minimum.

You can use your tractor for all kinds of winter work—sawing wood, shelling corn, hauling, etc.—with fullest assurance that with ordinary care you will experience absolutely no radiator troubles if a Spirex guards your tractor motor.

MODINE MANUFACTURING COMPANY  
RACINE, WISCONSIN

MODINE  
SPIREX  
RADIATORS



## To Prevent Waste of Feed

**U**SE an International Feed Grinder, which grinds corn on the cob, small grain, or corn on the husk, to any degree of fineness, and requires little power to do it.

There are three types of International feed grinders, each type in different sizes to meet all requirements. Type B grinds corn on the cob and small grain, and is made with 6, 8, and 10-inch plates. Type C, for small grain only, is a high speed, rapid-grinding mill, with 6 and 8-inch plates. Type D, the heavy grinder, is made for corn in the husk. It has a spiral cutter and 8 or 10-inch grinding plates.

All International grinders are strongly built of steel, reinforced wherever necessary; are provided with all necessary safety appliances to prevent injury and breakage, and with all necessary attachments. When power is supplied by a steady running, economical International Kerosene Engine, you could not have a better grinding outfit, or one that would do the work at less expense. Write us for catalogues.

International Harvester Company of America



CHICAGO

(Incorporated)

U S A



# IRONCLAD KHAKI

(Twill Cloth)

Uncle Sam's Boys and Girls  
both wear garments of

## IRONCLAD KHAKI

the patriotic economy cloth. It's fast color—can't fade and wears like leather. Be sure the Ironclad "army" label and Guarantee Bond are in every khaki work shirt, pants, overalls and coveralls you buy.

Garments sold by dealers—everywhere  
Write for free samples of Ironclad Khaki  
Cloth and Miss Ironclad Khaki Cloth to

FRANKLIN MANUFACTURING CO.  
Manufacturers of Cloth Only  
111 Market Place, Baltimore, Md.

## R. K. TIRES BETTER NOW THAN EVER

A double tread, double chain stitched 100 percent service is the R. K. Tire. It does its best work in winter because winter's hard on tires, and R. K. Tires love hard work. Yet at these prices two tires for the usual price of one!

The following are the little prices of our guaranteed tires.

Size	Price	Size	Price
30x3	\$ 7.00	34x4	12.00
30x3 1-2	8.50	34x4 1-2	13.50
32x3 1-2	9.00	35x4 1-2	14.00
33x4	11.50	36x4 1-2	14.50

Add \$1.00 to the above for Non-Skid Tire  
2 percent off for cash with order.  
10 percent deposit required with all C.O.D. orders.

R. K. Tire Company

837 No. Broad St. Philadelphia, Pa.

Send for descriptive booklet and price list.

When You Write to Advertisers Please Mention This Paper.

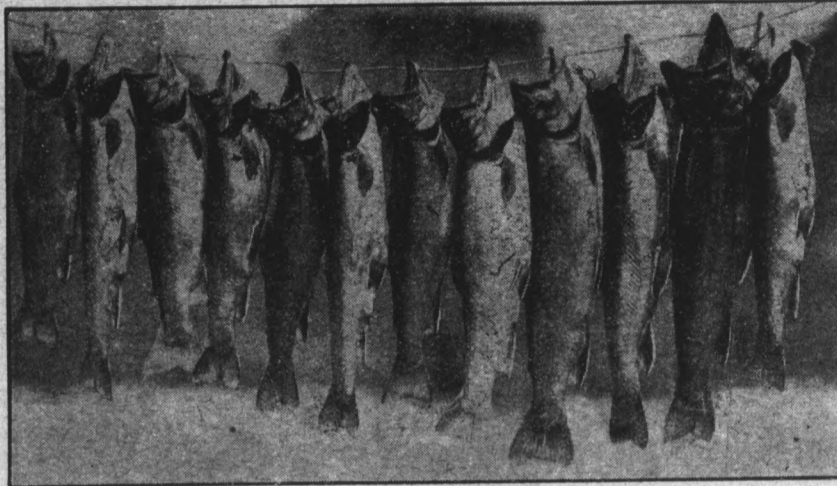
# The Big Trout and the Reporters

By George W. Tuttle

WE had camped in Bear Creek for many days. It was a strenuous life but a happy one. It was ideal fishing ground for the strenuous angler; where the foaming water leaped and played among the great rocks, and loitered in shady pools where the deep, black water, whispered of unknown treasure beneath in the shape of wary, but hungry trout.

Aside from the abundance of trout of ordinary size there was always a chance of coaxing from the dim, hidden recesses of some foaming pool, some monster trout, a relic of former seasons; one who with Solomon-like wisdom had rejected the tempting lures of the anglers for years past, and had calmly fattened on the earthworms helgramites, etc., that the dancing stream had hurried to his capacious maw.

It was from such a pool as this, a pool whose picture hangs on memory's walls even as I write, that I took the big trout.



What did it matter that the tip of tangle of him by falling upon him as he my rod was broken in the fight? What sought to escape to his native element did it matter if I took an unfair advantage? What chance is there for a

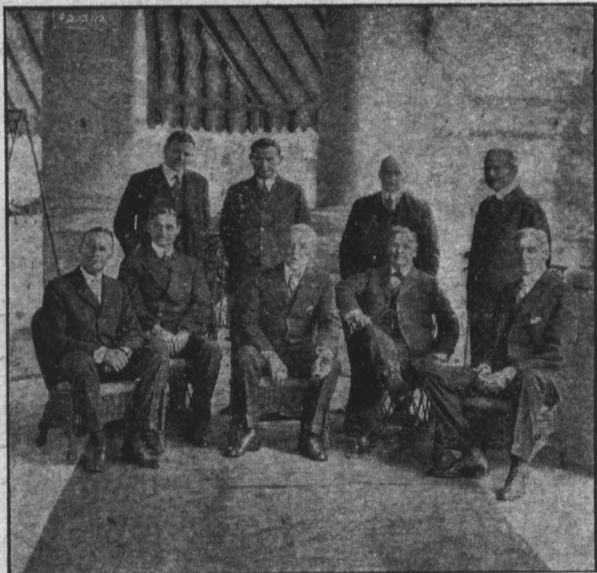
trout when one hundred and seventy-five pounds of angler-man falls upon him? None whatever. It is a scurvy trick, but we all do it—that is, all we old, gray-haired, and frankly unashamed, anglers.

Usually a man begins to grow gray before he learns how to get the honey out of life; how to be comfortable in the midst of discomforts; how to smile even though the heavens weep, and how to still be happy even if some monster trout get away and he return with wet feet and empty creel.

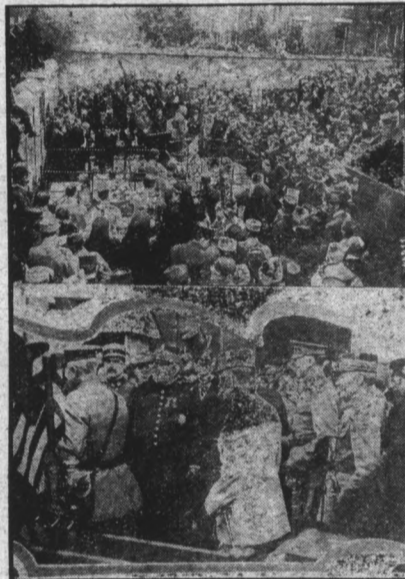
But this was the angler-satisfying occasion when the big fellow did not get away. What a beauty he was. Did not the westering sun caress him lovingly as I took my triumphant way back to camp, for I would not disgrace him by causing him to company with the lesser trout in my creel but carried him danglely from my hand. Strange how we old anglers forget that we are gray, or wet, or tired and hungry, when

(Continued on page 553).

## WORLD EVENTS IN PICTURES



President Wilson and Chief Aides, including Messrs. Hoover, Hurley, McCormack, Crowell, McAdoo, Daniels and Baruch.



(Upper) Gen. Pershing at Lafayette's Tomb. (Lower) Marshal Joffre, Gen. Dubail and Marshal Foch.



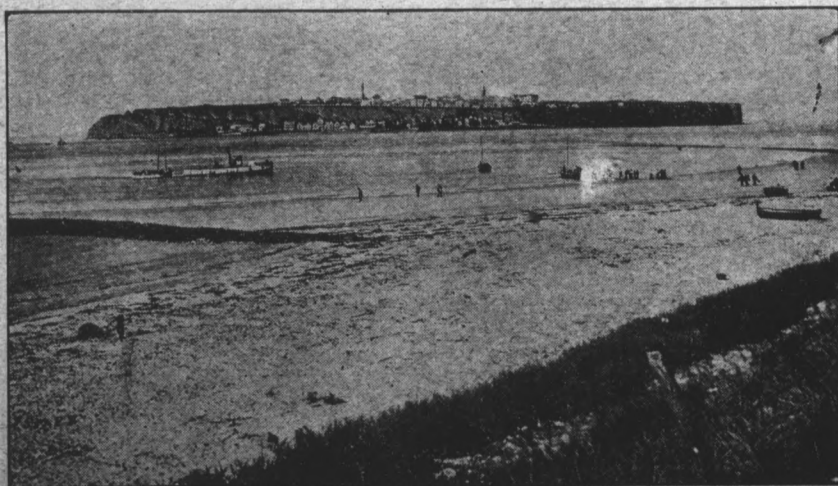
Cologne, now Occupied by American Troops Under Gen. Dickman. In background, Famous Cologne Cathedral.



First French Soldier to Enter Lille is Idolized by Inhabitants.



American Soldiers off Duty are Entertained by American Women in France.



Island of Helgoland, Former Base for German Mine-laying Operations.



King and Queen of Belgium Receive a Royal Welcome at Bruges.

# "Beyond the Frontier"

(Continued from page 535).

Some people learn of the harmful effects of coffee by reading. Others find it out through experience. In either case it is a good idea to adopt :

## INSTANT POSTUM

A delicious drink made from the finest cereals, harmless and nourishing. Made in the cup, instantly. Saves sugar and fuel.

\*\*\*\*\*



Uncle Sam says: "If you want bigger crops." Use American Vitrified Salt-Glazed tile—it won't crumble in the ground.

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(Michigan Branch)  
Jackson, Mich.

Drain Tile Building Blocks  
Sewer Pipe Vitrified Tile Silos



## WHITING-ADAMS BRUSHES

Several Reasons for Buying WHITING-ADAMS

Vulcan Rubber Cemented Brushes

1st. The bristles and hair are highest grade, prepared for use by the WHITING-ADAMS method, which retains toughness, elasticity and a velvet softness of ends. This makes the part of a brush that is used, perfect in quality and long wearing.

2nd. Every bristle and hair is held by pure, best quality RUBBER, no fake, coal tar, chemical imitation of rubber is used in our factory. "Rubber" means PURE RUBBER in all WHITING-ADAMS VULCAN RUBBER CEMENTED BRUSHES. The butts of bristles or hair are completely saturated and surrounded with STRICTLY PURE RUBBER in semi-liquid state, and then vulcanized hard as granite.

3rd. WHITING-ADAMS Brushes cost little and wear long. Our large volume of business reduces cost of manufacture to lowest point, and selling prices are made near to cost.

4th. Manufacturing brushes as we have for over 105 years means that we know brushes, and users of our brushes receive the full benefit of our brush knowledge.

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BOSTON, U. S. A.

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seek passage in his company."

"You! I thought you were of the party of Sieur de la Salle?"

"I am," he answered honestly, "yet Cassion will need a guide, and there is none save myself in all New France who has ever made that journey. 'Twill be well for him to listen to my plan. And why not? We do not fight the orders of the governor: we obey, and wait. Monsieur de la Salle will tell his story to the King."

"The King! to Louis?"

"Ay, 'twill not be the first time he has had audience, and already he is at sea. We can wait, and laugh at this Cassion over his useless journey."

"But he—he is treacherous, Monsieur."

He laughed, as though the words amused.

"To one who has lived, as I, amid savages, treachery is an old story. The Commissaire will not find me asleep. We will serve each other, and let it go at that. Ah! we are to be interrupted."

He straightened up facing the door, and I turned, confronting my uncle as he emerged in advance. He was a burly man, with iron-gray hair, and face reddened by out-of-doors; and he stopped in surprise at sight of a stranger, his eyes hardening with suspicion.

"And who is this with whom you converse so privately, Adele?" he questioned brusquely, "a young popinjay new to these parts I venture."

De Artigny stepped between us, smiling in good humor.

"My call was upon you, Monsieur Chevet, and not the young lady," he said quietly enough, yet with a tone to his voice. "I merely asked her if I had found the right place, and if Monsieur, the Commissaire Cassion was still your guest."

"And what, may I ask, might be your business with the Commissaire Cassion?" asked the latter, pressing past Chevet, yet bowing with a semblance of politeness, scarcely in accord with the studied insolence of his words. "I have no remembrance of your face."

"Then, Monsieur Cassion is not observant," returned the younger man pleasantly, "as I accompanied the Sieur de la Salle in his attempt to have audience with the governor."

"Ah!" the word of surprise exploded from the lips. "Sacre! 'tis true! My faith, what difference clothes make. I mistook you for a courier du bois."

"I am the Sieur Rene de Artigny."

"Lieutenant of La Salle's?"

"Scarcely that, Monsieur, but a comrade; for three years I have been with his party, and was chosen by him for this mission."

Cassion laughed, chucking the gloomy-faced Chevet in the side, as though he would give point to a good joke.

"And little the trip hither has profited either master or man, I warrant. La Barre does not sell New France to every adventurer. Monsieur de la Salle found different reception in Quebec than when Frontenac ruled this colony. Where went the fur-stealer?"

"To whom do you refer?"

"To whom? Heaven help us, Chevet, the man would play nice with words. Well, let it go, my young cock, and answer me."

"You mean the Sieur de la Salle?"

"To be sure; I called him no worse than I have heard La Barre speak. They say he has left Quebec; what more know you?"

"'Tis no secret, Monsieur," replied De Artigny quietly enough, although

there was a flash in his eyes, as they met mine. "The Sieur de la Salle has sailed for France."

"France! Bah! you jest; there has been no ship outward bound."

"The Breton paused at St. Roche, held by the fog. When the fog lifted there was a new passenger aboard. By dawn the Indian paddlers had me landed in Quebec."

"Does La Barre know?"

"Faith! I could not tell you that, as he has not honored me with audience."

Cassion strode back and forth, his face dark with passion. It was not pleasant news he had been told, and it was plain enough he understood the meaning.

"By the saints!" he exclaimed " 'Tis a sly fox to break through our guard so easily. Ay, and 'twill give him a month to whisper his lies to Louis, before La Barre can forward a report. But, sacre! my young chancier, surely you are not here to bring me this bit of news. You sought me, you said? Well, for what purpose?"

"In peace, Monsieur. Because I have served Sieur de la Salle loyally is no reason why we should be enemies. We are both the King's men, and may work together. The word has come to me that you head a party for the Illinois, with instruction for De Bausis at Fort St. Louis. Is this true?"

Cassion bowed coldly, waiting to discover how much more his questioner knew.

"Ah, then I am right thus far. Well, Monsieur, 'twas on that account I came to volunteer as guide."

"You! 'Twould be treachery."

"Oh, no; our interests are the same so far as the journey goes. I would reach St. Louis; so would you. Because we may have different ends in view, different causes to serve, has naught to do with the trail thither. There is not a man who knows the way as well as I. Four times have I traveled it, and I am not a savage, Monsieur—I am a gentleman of France."

"And you pledge your word?"

"I pledge you my word—to guide you safe to Fort St. Louis. Once there I am comrade to Sieur de la Salle."

"Bah! I care not who you are comrade with, once you serve my purpose. I take your offer, and if you play me false—"

"Restrain your threats, Monsieur Cassion. A quarrel will get us nowhere. You have my word of honor; 'tis enough. Who will compose the party?"

Cassion hesitated, yet seemed to realize the uselessness of deceit.

"A dozen or more soldiers of the Regiment of Picardy, some couriers du bois, and the Indian paddlers. There will be four boats."

"You go by the Ottawa, and the lakes?"

"Such were my orders."

"'Tis less fatiguing, although a longer journey; and the time of departure?"

Cassion laughed, as he turned slightly, and bowed to me.

"We leave Quebec before dawn on Tuesday," he said gaily. "It is my wish to enjoy once more the follies of civilization before plunging into the wilderness. The Governor permits that we remain to his ball. Mademoiselle la Chesnayne does me the honor of being my guest on that occasion."

"I, Monsieur!" I exclaimed in surprise at his boastful words. "'Twas my uncle who proposed—"

"Tut, tut, what of that?" he interrupted in no way discomposed. "It is my request which opens the golden gates. The good Hugo here but looks on at a frivolity for which he cares nothing. 'Tis the young who dance. And you, Monsieur de Artigny, am I to meet you there also, or perchance later at the boat landing?"

The younger man seemed slow in response, and across Cassion's shoulder our eyes met. I know not what he saw in the glance of mine, for I gave no sign, yet his face brightened, and his words were carelessly spoken.

"At the ball, Monsieur. 'Tis three years since I have danced to measure, but it will be a joy to look on, and thus keep company with Monsieur Chevet. Nor shall I fail you at the boats: until then, Messieurs," and he bowed hat in hand, "and to you, Mademoiselle, adieu."

We watched him go down the grape arbor to the canoe, and no one spoke but Cassion.

"Pouf! he thinks well of himself, that young cockerel, and 'twill likely be my part to clip his spurs. Still, 'tis good policy to have him with us, for 'tis a long journey. What say you, Chevet?"

"That he is one to watch," answered my uncle gruffly. "I trust none of La Salle's brood."

"No, nor I, for the matter of that, but I am willing to pit my brains against the best of them. Francois Cassion is not likely to be caught asleep, my good Hugo."

He turned and glanced questioningly into my face.

"And so, Mademoiselle, it did not altogether please you to be my guest at the ball? Perchance you preferred some other gallant?"

The sunlight, flickering through the leaves, rested on his face, and brought out the mottled skin of dissipation, the thin line of his cruel lips, the insolent stare of his eyes. I felt myself shrink, dreading he might touch me; yet dominating all else was the thought of De Artigny—the message of his glance, the secret meaning of his pledge—the knowledge that he would be there. So I smiled, and made light of his suspicion.

"It was but surprise, Monsieur," I said gaily, "for I had not dreamed of such an honor. 'Tis my wish to go; see, I have been working on a new gown, and now I must work faster."

I swept him a curtsy, smiling to myself at the expression of his face, and before he could speak had disappeared within. Bah! I would escape those eyes and be alone to dream.

(Continued next week).

## AND MURPHY FAINTED.

Murphy was in the hospital and had undergone an operation. As he was recovering, he remarked to the patient on his right: "I am thankful that's over."

"Oh!" exclaimed the patient, "at my operation the doctor left the scissors inside and I had to undergo the same thing again."

The patient on the left remarked that at his operation the sponge had been left, and it all had to be gone over again.

Just as they had finished talking, the doctor appeared at the door and asked: "Has anyone seen my hat?"

It was then that Murphy fainted.



# Scientific Refining



## En-ar-co National Motor Oil

Made by "Graduate Workmen"

Our scientific refining processes eliminate even the possibility of carrying residue or coke-like substances in this oil. In the making it first comes off in the form of a distillate or vapor. This is condensed into a liquid and then further refined and filtered. Thus we produce an oil that is ALL OIL—oil that assures a motor's greatest strength and power.

Order it by the barrel or half-barrel—the economical way. Be sure that you have an adequate supply of this dependable oil. Order now! Or if your present need is supplied, send your order for Spring delivery, enclosing check dated ahead. Thus you can buy at today's prices. Prices will not be lower—that we guarantee. Prices f.o.b. our nearest branch.

Wood Barrels, per gal., 65c.  
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Steel Drums, per gal., 68c.  
Steel Half-Drums, per gal., 73c.



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Buy Your Winter Supply Now

A bright, clear light—without charred wick or sooty chimney—is assured when you use this oil in lamps or lanterns or oil stoves. Buy it by the barrel. Be ready to meet fuel shortages with an oil stove.

This "better oil" insures uniform heat with no smoke, no smell. It does not leave a carbon deposit to clog wick and burner.

Also best for incubators and brooders and the most economical tractor fuel.

Send your order now or ask for prices f. o. b. our nearest branch.

## En-ar-co Motor Grease

For Every Grease Point



It is no longer necessary to have a special grease for compression cups, another kind for differentials, and still another grease for transmissions.

En-ar-co Motor Grease will give perfect lubrication for all purposes, all around the motor car or tractor.

Our refining experience of half a century has made this grease possible. Buy a supply now. 25-lb. Screw-Top Cans, \$4.50; f. o. b. our nearest branch.



## White Rose Gasoline

The Powerful Motor Fuel

You can't afford to use ordinary gasoline these days. You want "White Rose." It has made a sensational record for dependability, power and extra energy. It gives your motor "dash" and "pep" and results in a greater satisfaction than you have ever known.

Ask for prices f. o. b. our nearest branch.

## Black Beauty Axle Grease



Here is the best axle grease ever made. We've been making it for nearly a half century. It now has world-wide sale. It contains no compounds to clog and gum. Packed in useful galvanized pails.

Prices subject to change without notice; f. o. b. our nearest branch. 25-lb. Galvanized Pail, \$2.50.



# 'Til the Boys Come Home

NOW to plan for the return of our fighting men—to keep their jobs open just a few months longer. They are eager to get back. They are looking forward to positions awaiting them.

Over 230 En-ar-co boys are in service. Many of them were salesmen. Soon, we hope, they will be renewing old friendships—calling on you! But until then we must all "keep the home fires burning" by doing business through the mail as much as possible. We must "carry on" for them.

## Will You Do Your Part?

Buy of your local dealer if he has En-ar-co Products in stock. If he cannot supply you, then mail your order direct. Let the mail take the place of the salesmen who have brought us victory. Your check with order saves bookkeeping and helps to hold another job open. It also entitles you to a cash discount.

Now is the logical time to stock up with goods you will need during the next few months. Railroads will be congested with food and materials. Don't neglect buying now, for we guarantee that prices will not be lower inside of one year. If your present needs are supplied and you cannot secure En-ar-co goods near home, send your order for next spring's requirements, inclosing check dated ahead. We will protect you on present prices.

Use  
This Coupon  
If Your Dealer  
Cannot Supply  
You

Send This Order Coupon Now!

THE NATIONAL REFINING COMPANY  
1753 Rose Bldg., Cleveland, Ohio

My Dealer .....  
located at .....  
cannot supply me. Please ship the following from your  
nearest branch. Check enclosed for \$.....

.....Gallons En-ar-co National Motor Oil  
.....Gallons White Rose Gasoline  
.....Gallons National Light Oil  
.....Pounds En-ar-co Motor Grease  
.....Pounds Black Beauty Axle Grease

My Name is .....  
Street or R. F. D. No. .... Town .....  
State ..... Shipping Point .....

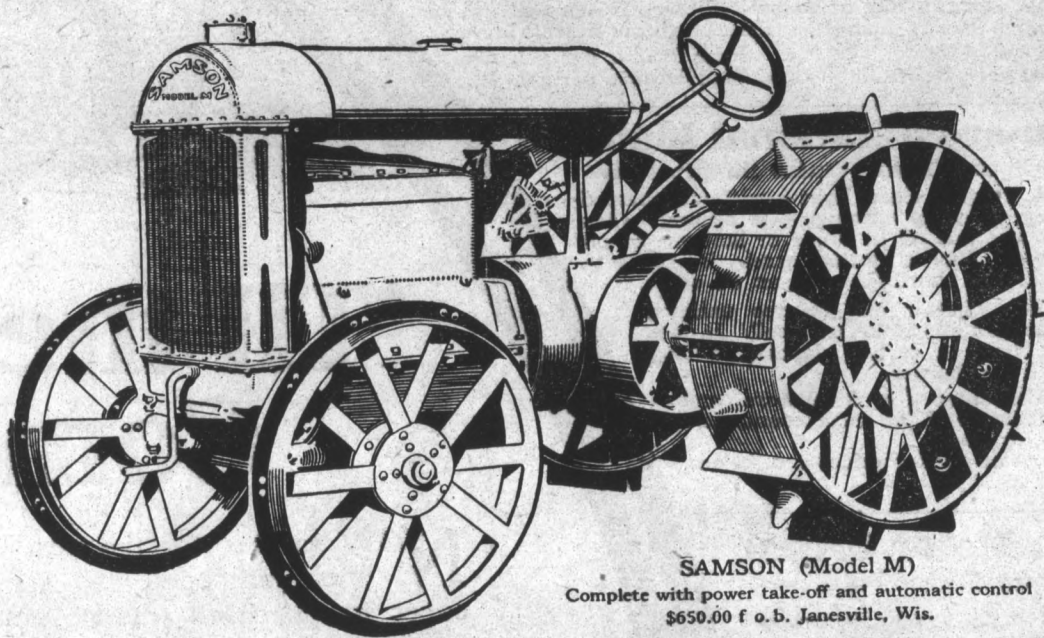
# The National Refining Company

Branches in 78 Cities

General Offices: Cleveland, Ohio

December is your last chance  
to invest in this issue of





SAMSON (Model M)  
Complete with power take-off and automatic control  
\$650.00 f. o. b. Janesville, Wis.

## SAMSON TRACTOR \$650

THE above announcement, which appeared in a recent issue of this paper, resulted in receiving thousands of inquiries. Everyone of these we propose to answer in detail. The enormous amount of work involved in classifying these inquiries will, of necessity, delay our replies. On the opposite page, you will find a copy of our letter and the form, which we are asking you to fill out and return to us.

We also invite those who have not answered our first advertisement to fill in blank on opposite page and receive further information.

SAMSON TRACTOR COMPANY,

Janesville, Wisconsin

## SAMSON TRACTOR COMPANY

### JANESVILLE WISCONSIN

Dear Sir:

In response to your valued inquiry, we are enclosing a blank form which we will ask you to fill out and return promptly to us. Our object in obtaining this information is to determine whether or not the Samson (Model M) is suited to your needs and to what extent your particular locality lends itself to the use of tractors of the Wheel Type.

To be perfectly frank and candid with you, and to have you know what we are driving at, we beg to offer the following in explanation:

**WE DON'T WANT** you to buy a Two-Three Plow Tractor if it would be to your advantage to buy a Three-Four Plow Tractor. If your farm is better adapted by reason of acreage, crop rotation or soil conditions, to the Three-Four Plow type, we want you to have it, because it will be a more economical investment and will produce 25 per cent. better results with the same amount of labor.

**Note:** In this connection we wish to advise that we have designed and are testing out a Three-Four Plow Tractor which we expect to offer to the public within the next few months. This will be known as the Samson (Model A) and the price will be in the neighborhood of \$900.

**WE DON'T WANT** you to make an investment in Samson (Model M) Tractor if the Samson (Model M) Tractor is not the best type for your particular purpose.

**WE DON'T WANT** you to make an investment in Samson Tractor of any model unless by so doing you can reduce expenses and make your burden lighter.

**WE DON'T** talk draw bar pull or attempt to confuse you with horsepower rating. Draw bar pull is of little value and means nothing to you if the tractor will not do your work.

**WE DO WANT** you in the Samson family—a satisfied and continuous customer for SAMSON LABOR SAVING AND MONEY SAVING DEVICES.

**WE DO WANT** you to investigate and (regardless of any high powered, land breaking tractors that you may buy or own) purchase a Samson (Model D) light, high frame, direct drive tractor, for which we are now taking orders. Price \$450.

It will be to your interest to own the Samson (Model D) BECAUSE this tractor will handle every horse drawn farm tool which you are now using; BECAUSE we will be prepared to furnish the more important types of farm tools, made especially to work with Samson (Model D), at just one-half the price which you will have to pay for these farm tools when you come to replace them;

BECAUSE the Samson (Model D), in connection with a ground-breaking tractor of any type and a Samson light truck, will eliminate every horse on your farm.

**METHOD OF ALLOTING SAMSON (Model M) TRACTORS**

The demand for Samson Tractors from all parts of the world is enormous. Our production for the next four months will not exceed 10,000 tractors. If applications and contracts were filled in the order in which they are received, our entire production might be absorbed by two or three States. For the purpose of obtaining a wide distribution, giving the public an opportunity of investigating the product and watching the performance, we are allotting a certain number to each County, with a proper Township distribution, locating the samples where most convenient for the greatest number.

Your application, accompanied by your order or otherwise, will receive our best consideration.

Very truly yours,

SAMSON TRACTOR CO.

#### Information necessary so as to enable us to advise the purchaser of the proper Tractor he should buy

Name \_\_\_\_\_  
 Post Office \_\_\_\_\_  
 Township \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_  
 Number of acres in farm \_\_\_\_\_ Acres in corn \_\_\_\_\_  
 Number of acres improved \_\_\_\_\_ Acres in cotton \_\_\_\_\_  
 Level or rolling surface \_\_\_\_\_ Acres in small grain \_\_\_\_\_  
 Character of soil \_\_\_\_\_ Acres in hay \_\_\_\_\_  
 \_\_\_\_\_ Acres in pasture \_\_\_\_\_  
 How many horses do you employ to handle your farm work? \_\_\_\_\_  
 Do You own a tractor? \_\_\_\_\_ If so, what make \_\_\_\_\_

Mail this blank to SAMSON TRACTOR COMPANY, Janesville, Wis.

# Our Boys and Girls

## At Work and play

### The Ride to the Whistle

By CHAS. N. SINNETT

WEDNESDAY, June 24, 1891, was a day long to be remembered by the people of Moville and on the prairies for miles around.

While the weather had been stormy for some time, and this day began with a pouring rain, no one dreamed of danger for the town which lay so near the banks of the West Fork. Most of the people had gone to the funeral of a child on the further side of the stream.

"So many are away," sighed little Dora Hoskins. "We should have to work real hard if anything happened to the town."

"We two would try our best," said her brother Bruce.

"And Smoke, your pet bossy, is all that is left at home, if you had to go off. Father gave Boss the right name—bound to go like smoke that you can't shut up in the chimney, and—Oh, it's so black up north—and the black is spreading all over the prairie!"

"A flood is coming," said Bruce, without a bit of trembling in his voice, "I can see it roll under the cloud. But I can make the people hear in time to get to safety."

"How? How?" cried Dora.

"Just as you said, sister. Here's Smoke right at the door. The train is



coming. It always slows at the curve. I can get almost there; I can make the engineer hear if he does not see the flood. He will give such a loud whistle that all the people will be warned, and—"

In a moment more Bruce, on his faithful Smoke, was rushing towards the mad flood that came sweeping down the valley. The Bossy's move-

ments were indeed like that of the smoke which drives steadily on close to the earth, when it cannot rise through the damp air and the fierce winds. He met the train at the curve in the road. With a quick wave of his hand, and a shrill cry, "Flood!" Bruce made the engineer understand as he gave a quick glance up the West Fork. And then the valley echoed and re-

echoed with the shrill whistles of the engine, and never ceased until the engineer saw that the people near the river on the other side knew the great danger from which they must run for their lives.

The dark flood seemed to race all the faster as it heard the warning of the engine. For miles up the stream could be seen the mad line of the on-coming waves, while, just in front of them, was a great wall of water which tore away fences, live stock, bridges, and all things in its way. The flood struck the railroad track near the cut north of the town, and in a moment the rails were twisted and bent, and the whole track tossed away as a slight plaything. Then a long string of freight cars near the elevator was torn away, and deeper, stronger, blacker, the waters went surging on until half the buildings in the town were in its grasp.

But not a life was lost—the whistle had made people fly to the hills on both sides of the river from the fury of the cloudburst. "I only did what any boy could," said Bruce as one thankful group after another gathered around him. "If you want to praise anybody, praise Smoke—though I did have a time of it trying to ride him at first."

## SKUNKS AS A FARM ASSET

By H. C. KREPS,

Trapping Expert

IN every man there lies dormant the spirit of the savage. Perhaps this is something of which we do not care to be reminded, but it is a fact that cannot be refuted. Man was created a savage and his natural instinct is to kill all wild creatures, but the acquired civilization stays his hand. Undoubtedly the wild animals were placed here for use and it is fitting that we make use of them, but we should use judgment in the killing. When we kill a fur-bearing animal in the summer, when its fur has no value, we are simply giving way to our savage instincts and defeating the purposes of the Creator. When we kill an animal such as the skunk, in its proper season, we place into our pockets a sum of anywhere from one to three dollars, more or less, according to fur values at the time. If we kill the animal at any other time we are robbing ourselves of that amount merely to gratify our desires to kill. Pretty expensive sport, is it not?

Skunks are found on almost every farm in the United States and by the land owner should be looked upon as an asset. Everything that the farmer himself raises costs him time and money to produce, but the skunk is a product of nature and costs the farmer absolutely nothing. The fur is pure "velvet." Therefore, he should protect the skunks during the summer and catch them only when the fur is in good, marketable condition.

It is true that the skunks do occasionally kill poultry but seldom does this destruction counterbalance the value of the fur. Moreover, proper protective measures will save the poultry. It is impossible for a skunk to

enter a well constructed poultry house, and as they are nocturnal animals, seldom being abroad in daylight, a good henhouse will prevent any losses from depredations of skunks.



There is an old fallacy frequently given credence, to the effect that furs are good in any month the name of which contains the letter R. In truth, the fur of the skunk, like that of all other fur-bearing animals, is good only during the colder months of the year, in general from about the middle of November to the middle of March. The climate and general weather con-

ditions determine this period. When the fur is at its best it is long, thick and glossy, and the flesh side of the skin, after curing, has a pinkish or yellowish color. If it takes a blue-black color on the legs it is not yet at its best and will not command the highest price. In early spring when the fur commences to take on a ragged, wooly appearance, thin in spots and loose on the tail and back, and veins show up on the flesh side of the skin, it is time to stop trapping these animals.

Aside from what I have said regarding the primeness of the fur, the proportion of white and black fur and the size of the skins determine their market value. Fur buyers do not all grade skunk skins in the same way, but it is customary to divide them into four grades according to size and amount of white fur which they show. The best skunks, known as number one, are of large size and show only a white spot on the head and a white tip on the tail. A small skunk having these markings is called a number two. In this grade are also placed those skins which have short, narrow white stripes running a third or half way down the back. Small skins of this kind, and large ones having full length narrow stripes are graded number three. The number four grades consists of small skunks having markings such as number three, also all those skins which have broad white stripes running their full length. A careful study of these markings will enable even an amateur trapper to properly assort his catch of furs, and by comparing with the dealers quoted prices, determine with fair accuracy the value of his collection.

(Continued on page 552).

## Returns from the Old Apple Trees

(Continued from page 538).

piles or spread it under the trees only, always spread it evenly over the ground no matter what part of the winter you put it on the soil. Then in the spring the orchard will be ready to start the spring cultivation as soon as the ground can be worked. As soon as possible in the spring disc the winter-supplied manure into the soil in good shape. It would probably be best to go over the orchard several times during the first month it is possible to get on to the land. After the soil has been worked into a good mechanical condition, cultivation with the spring-tooth harrow should be carried out during the spring and early summer to keep down the weeds and prevent loss of moisture due to evaporation.

### Cover Crops.

About the first of August the cover crops should be sown in the orchard which is under the process of renovation. The leguminous crops would probably be the best to use for this purpose as they are very valuable as humus and add nitrogen to the soil. These crops which are sown on at this time of the year should be left during the winter and plowed under during the following spring. Practice this system of using leguminous cover crops for several years and you will help to bring the soil back to a good condition for the fruit trees.

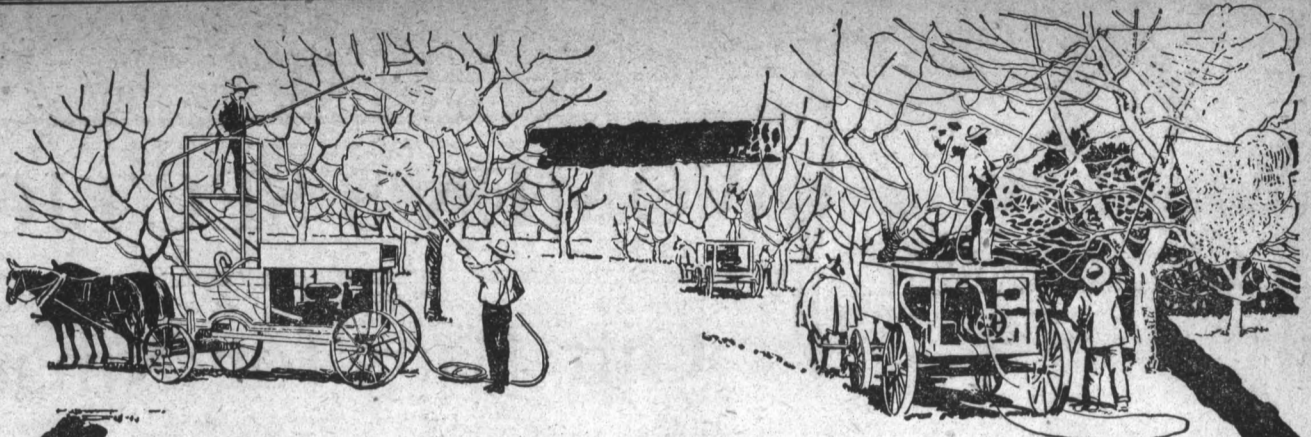
### Pruning.

This is one of the very important steps in the process of apple tree renovation. It should be done during the winter or dormant season as it tends to stimulate growth and make the tree more vigorous. The process of pruning can be done at any part of the dormant season, but it will undoubtedly give the tree more vigor if it is done in the spring just before the buds begin to swell. First cut out all the dead or diseased wood, being sure to make the cut behind the dead or diseased part and leave the wound with clean, smooth edges so it will heal rapidly. Cut out all the limbs that cause the tree to be too tall or ill-shaped in any way. After the tree has had all the dead and diseased branches cut out, and has been made into a well-shaped apple tree, it will be found that some of the smaller limbs will have to be cut out so as to admit sunlight to the leaves and fruit of the tree during the summer. All poor or undesirable varieties should be grafted to some good marketable variety. Any cuts that are over two inches in diameter should be painted over with some material, such as heavy lead paint. In pruning by all means make the cuts up real close to the tree so that all of them will heal rapidly.

### Spraying.

The spraying process at the present time is probably one of the most important because of the large number of troublesome insects and diseases in our apple orchards. To get the best results with the spraying it would be best to apply to the Michigan Experiment Station for the latest bulletin on this subject in Michigan. The experiment station run experiments along this line nearly every year and for that reason can give you the most thorough and up-to-date system of spraying when renovating the apple orchard, than any other organization in this country. In the early spring of each year they get out a bulletin on this subject with all up-to-date methods explained, which can be had from the experiment station for the asking.

In summing up we can see that the four points: (1) cultivation; (2) fertilization; (3) pruning, and (4) spraying, are the prime essentials to follow in renovating an apple orchard. Put these points into practice and you can bring your orchard back into good condition in a short time.



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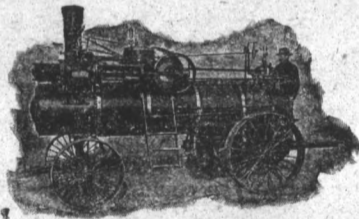
case-bearer and aphids. It saves money, saves time and **saves trees**. "SCALECIDE" is sold on a **money back basis**. You take no risk. If your dealer can't supply you, we will. Write today for free circulars. It will cost you nothing to know the TRUTH. Address Dept. 13

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## WOMEN'S SECTION

### Gift Bags for Xmas

—Ruth McLaughlin



Bag No. 2 in Black and Old Rose.

THE person is both smart and patriotic who uses scraps from her work basket for a bag and who even finds a substitute for the metal tops once used on them.

The bags illustrated are patterned to use up odd bits of material that are

perhaps too small for any other service. Our war-time costumes are of such quiet tones that we should use bits of gayer colors in our hats and bags when possible, since, too, a lining of bright ribbon or silk combined with shabby dark velvet or plush will make the darker goods look like new.

Bag No. 1 scarcely needs directions for making, it is so simple. It is just a band of wide brocade ribbon edged with strips of black plush. A lining of rose color silk matches a tint in the ribbon band, and narrow knotted ribbons are used for drawstrings and the pretty tassel.

No. 2 shows a design for a shopping bag. The diagram shows the shape in which to cut the oilcloth and lining, but the size is left to the individual's taste. Sew the lining to the under side of the oilcloth, and bind the edges together with narrow ribbon or black

gather the ends of the bag a little, and long, cutting narrow ends as shown in the diagram. Mark the lining in halves and quarters with chalk. From some striped satin, cut four sections, each six inches wide by eight inches long. Sew the narrow edges

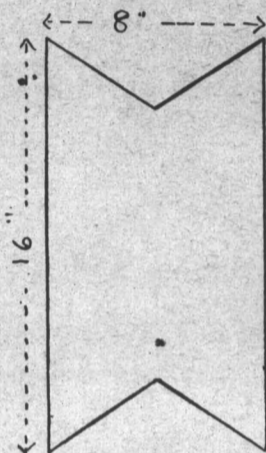


Diagram for No. 4.

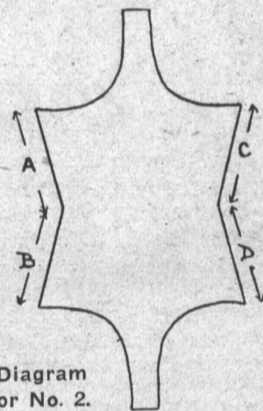
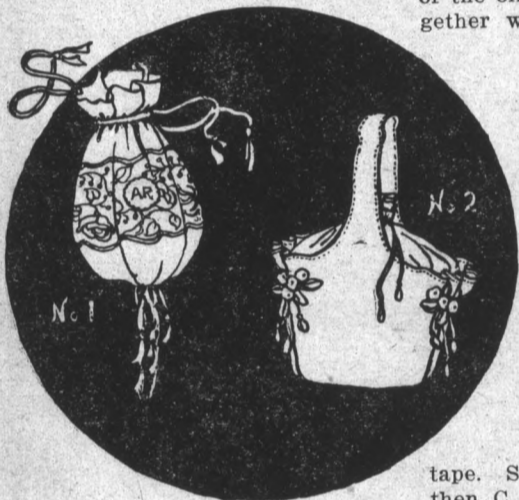
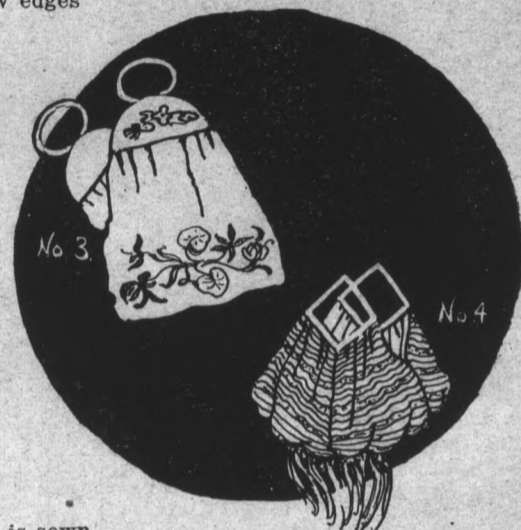


Diagram for No. 2.

tape. Seam edges A and B together, then C and D (see diagram), Then

together. Then one long edge is sewn near the upper and inner edge of the bag, and the other long edge is gathered and headed for drawstrings.

No. 3 is a knitting bag of grey sports silk, lined with green linen. Gay flowers cut from chintz are appliqued on the silk and outlined with scraps of wool before the bag is made. The sections of covered cardboard at the top of the bag measure six inches along the straight edges. Handles of bone are sewn in place with an overcasting stitch.

For bag No. 4 cut a strip of lining eight inches wide and sixteen inches

Arrange the stripes so they will match as in the sketch. Sew the pieces together and then tack the seams over the chalk marks on the lining. Gather the pointed ends and sew to celluloid or basket weave handles. Sew the sides of the bag up part way and add a double row of bead fringe to the middle of the bottom seam. The sections of silk being larger than the corresponding part of the lining they cover, give that puffy effect to the bag. The silk sections are cut with the stripes on the bias.

## Mother Is Taking Her Chance

By DEBORAH

I WONDER if you have noticed in your neighborhood these past few months an increased tendency on the part of home-keeping women towards self-expression? That is, a greater number of married women, mothers and excellent housekeepers who are beginning to do some of the things they have wanted to do all their lives but have never done because of the press of housework? I have seen quite a little of it in my own little circle, and I have been wondering if it is "purely local," as Holmes puts it, or if it is nation-wide.

For instance, there is one woman of thirty-six who has always wanted to study art. Up until this fall her artistic instinct has expressed itself in cutting over her old dresses for daughter, and cutting down father's old pants for son. The dresses have been really rather wonderful for style, and all cut without a pattern. The mother had excellent ideas, but with no training whatever she did not know how to express them. This fall she made a great resolve. Across the road from her home is a school house where night classes are held. Among other subjects taught is dressmaking design, and a part of the course is lessons in drawing. She decided to take up the work. Last week she showed me a design for lace which she had drawn, and which her teacher said was better than the work of some of the students in his day classes who had studied drawing for years.

"You never can tell what you're going to be called on to do these days," she says, and "Tom and I thought I might as well be getting prepared. He's in this last draft, and while he may never be called, on account of his eyes and his teeth and having three dependents, nobody knows. If I can do something with dressmaking I'll be in better shape to take care of myself. And, anyway, I've always wanted to draw. I hoped one of the children would take it up, but they can't draw a straight line, so here I am at it, after all these years wishing."

Then there is the woman next door. Before her marriage she studied music. But like many another woman music went into the discard when the babies arrived and dishwashing and scrubbing stiffened her fingers. The girls are now fifteen and seventeen years old. They have had several terms of piano lessons, and still have to be driven to practice. A month ago the mother said over the back fence: "I want the girls to begin their music, but I dread it. There is always such a time to get them to practice. Seems funny, when I've always loved it and would give a good deal even now for their chance."

I thought of my friend who is drawing. "Why don't you take the chance?" I asked. "Let the girls wash the dishes and mop the floor and you take the

music lessons. They are old enough to show some talent, if they have it, and if they don't care enough about music to practice for love of it, why drive them to it? You spend the money on yourself."

"Do you think I could?" she asked wistfully. "George wants me to. We were talking about it just last night."

"Of course you could," I said. "You can play better now than either of the girls."

A half hour later I heard her at the piano, and for two hours she played scales and finger exercises. At noon she called across, "My fingers aren't near as stiff as I thought they'd be. I am going down this afternoon to see about my lessons."

Perhaps the most surprising person, though, is the quiet neighbor around the corner who always comes in if anyone is sick and does more in ten minutes than the average woman would do in an hour. She has had a large family, six children. The youngest is now fourteen, and they all assume that mother is their personal property and, incidentally, that she isn't quite so wise as they are and needs careful watching. They have been in the habit all their pert young lives of telling mother what she ought to do and deciding things for her. This fall she made a decision for herself. She decided to go down and take the Red

Cross nurses' aid course. The family was aghast. The idea of mother going down town to do anything was beyond them. They told her outright she was too old, and politely hinted that she wasn't bright enough. But for once mother was "sot."

"I've always wanted to be a nurse," she stuck to it, "and doctors all say I do better in a sick-room than lots of trained nurses. You never can tell what's going to happen. Father may drop off any minute with his weak heart, and the children won't want me in their homes. I'm going to get in shape to be independent if the need comes."

So mother carried the day, and is now puckering her forehead over the lessons she brings home on her twice-a-week trips down to her classes. The family think it quite the thing now, and proudly tell everybody how the folks in charge of the course say that mother is the best in the class.

I don't know whether it is the war which has brought these women out or not. But whatever it is, I like it. Children are out of the way and mother still has a long time to live. Why not do some of the things which she has secretly longed to do for years, but couldn't because of the claims of others? She will do them better than she could have done years ago, for age and experience have taught her their value.

Would it not be a splendid thing for us to think that school days never are over?

## CLEANING WOOLEN KNITTED GOODS.

BY JULIA R. DAVIS.

Of the many methods of cleaning knitted goods, none equals this one. Have plenty of lukewarm soapsuds made of soft water and a good pure white soap. Fill a dishpan, or small washtub half full of the suds, place the sweater, or other knitted articles in a large, clean sugar sack. A flour sack will do, but it must be free from starch or any colored printed matter. Tie the sack shut, place it in the suds and let it soak for a few minutes. Then press and squeeze the sack with the articles with both hands for several minutes. Then press out dry but do not wring, and do not remove articles from sack. Repeat several times if necessary, or until the articles are clean.

Rinse in plenty of clean, lukewarm water, press out dry, shake the articles out loose in the sack, and place in a shady place to dry. Shake the articles out several times while drying so that they may dry more evenly, and become loose and fluffy. When nearly dry, remove from sack, place on a well padded ironing board, and with a hot iron press them out on the inside. Do not pull or stretch more than is necessary.

Try this and you will be surprised at the beautiful, and dainty appearance of your knitted articles. Dainty colored waists, or dresses of thin woolen material can be cleaned by this same method with good results.

## CONTRIBUTED RECIPES.

## "Sugar Card" Cookies.

I have tried substituting syrup in a good many cookie recipes and have found this the most satisfactory. Two cups of corn or table syrup, one-half cup sugar, one egg, one cup shortening, one teaspoon of salt, one cup of sweet milk into which stir one teaspoon of soda, two teaspoons of baking powder sifted with the flour, two cups barley flour and enough white flour to thicken; any flavoring may be used; I prefer one teaspoon of nutmeg. As in all cookies, use only enough flour to handle from board to tin. This recipe makes fifty cookies.—Mrs. M. M. N.

## Carrot Pie.

I saw a number of carrot recipes, but this one is missing. Grate a few raw carrots and cook dry. Take a cupful of the cooked carrot, one tablespoon of flour, a little nutmeg, cinnamon or ginger, pinch of salt, a bit of butter, sugar to taste, and milk enough to make sufficient filling for one pie. This is delicious.—Mrs. J. H.

## SORGHUM RECIPES.

Combine sorghum with different seasonings and see what you can do with this native supply of liquid sugar. To obtain the best results add a pinch of soda to the syrup and bring to a boil, skim and cool before using.

## Gingerbread.

Two tablespoons light syrup; two tablespoons shortening, one and a half teaspoons soda, one teaspoon salt, one and a half teaspoons ginger, one-half teaspoon cinnamon, one teaspoon of mace, one teaspoon allspice, one egg, three-fourths cup of sorghum, one cup buttermilk, two and one-fourth cups of barley flour.

Cream syrup and shortening, add soda, salt and spices. Beat in egg, add sorghum and buttermilk. Mix thoroughly, add flour and mix lightly.

## Cornmeal Pudding.

One cup cornmeal, one cup boiling water, three cups hot milk, half cup of sorghum, one teaspoon salt, one teaspoon cinnamon, one-fourth teaspoon of mace.

Pour the boiling water over the cornmeal, add the hot milk. Cook in a double boiler for ten minutes, add the other ingredients and bake slowly in a greased pan for one hour. Serve with milk or cream.

## Home Ties

## Most Precious

Those having the most money, the biggest house, the highest salary, or the best automobile, are not necessarily the richest nor the happiest.

Riches consist of more than material things, and happiness comes from within, not from without.

Real home ties cannot be bought nor sold; they are developed from close association; by sacrifice on the part of one for the pleasure of the other; by sharing one another's joys and sorrows; by actually living each for the other.

A good wife and mother is one of the precious blessings of life which money cannot buy, corrupt nor provide. She is the life of the home and shapes the destiny of the Nation.

She is no slacker. Her thoughts are for the welfare of her husband and children and her country. To properly guide the footsteps of her loved ones, and to have them well clothed and properly nourished is always uppermost in her mind.

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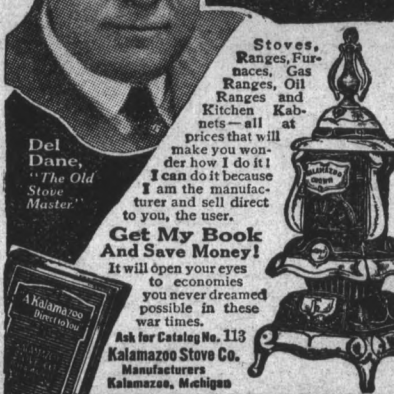


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Constipation in old age

## Ways to Save Coal or Wood

To make a fire in a range, whether coal or wood, close all dampers of the stove and shake the fire-box to free it from ashes, dust, and clinkers. Take off the lids over the fire-box, place crumpled paper within, arrange kindlings over and around it so that air can pass freely between them, and put in a small shovel of coal. Light the paper, open dampers Nos. 1, 3 and 5, and put on lids. When the coal glows red, a little more coal should be added, and when the fire is burning well, the fire-box may be filled. If wood is used as fuel, put on a few sticks at a time.

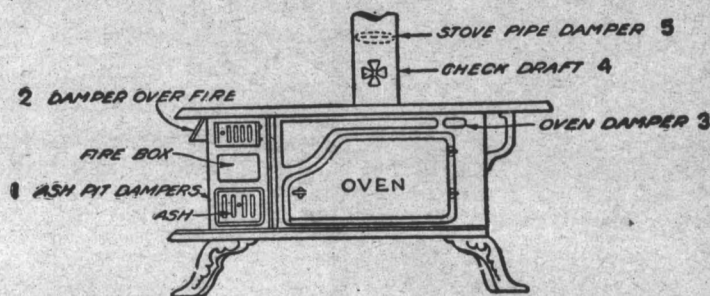
By the proper use of the dampers the fire can be controlled and the heat regulated.

No. 1. The damper in the ash-pit.—This should always be kept open when the fire is burning as it is the best source of air for the fire. Close it only when you dump the grate and when the fire is banked to keep it for some time. However, if there is no stovepipe damp-

Keep your range cleaned out. If the fire-box is clogged with ashes, air cannot pass through the fuel to make it burn. If soot hangs on the stove lids, less heat can come through it. A layer of ashes over the top and under the oven keeps it from heating quickly.

Banking the Fire.—It is an economy to keep a hard coal fire from day to day, especially if the range is used as a source of heat for the room. As a rule the wood fire is hard to keep over but the hard coal fire can be easily kept. In the evening rake out the ashes, put coal on, and open the dampers until the fresh fuel is burning well. Put on coal until the fire-box is almost full and close all dampers except the check draft damper in the stovepipe.

Think of the fire when you select the food to cook. If you keep a slow fire in your range all day to supply heat for the room, select foods that require long, slow cooking. Baked beans or peas, roasts and puddings can be baked in the oven and cereals cooked



Learn to Use Every Damper in Your Kitchen Range.

The important dampers are:

1. Damper in the ash pit, which lets in the air which passes through the fuel box, making the fire burn.
2. Damper over the fire controlling air to flow in above the fire.
3. Oven damper which switches the current of hot air around the oven instead of letting it go by the shorter path up the stovepipe.
4. Check draft damper in the stovepipe just above the range. This is not always found and is less important than the rest.
5. Stove pipe damper which checks heat from escaping up chimney.

er, the fire in the ash pit must be closed to check the draft when the fire burns too hard.

No. 2. The damper over the fire.—Close this when you are starting a fire. If the fire burns too rapidly so that the flames are long enough to reach the back row of lids, open this damper a little bit. This will dampen the length of flame and give you more heat. If you open this too much it may cool the oven.

No. 3. The oven damper.—When this damper is closed the flames and smoke and hot air are forced to pass around the oven to heat it and then afterwards they escape up the chimney. When the damper is open they pass directly up the chimney. As soon as the fire is burning well, close this damper so that the oven will be heated. This will keep the oven so that you can make it hot very quickly by adding extra fuel and will warm the room if the oven door is left open. With this damper closed you use much less fuel than by allowing the heated air to take the shorter path up the chimney.

No. 4. The check draft damper in the stovepipe.—It should be kept closed except when the fire is banked.

No. 5. The stovepipe damper.—This is a most important damper. It can control the amount of fuel burned, as the more slowly the hot air passes up the pipe the more slowly the fire burns. A great deal of fuel sometimes merely furnishes heat that escapes up the chimney. Check this escape of heat and burn less fuel by using the pipe damper. If your fire is burning too hard, instead of closing the damper in the ash pit, close the one in the pipe, for it checks the fire much more effectively than the other damper.

If your oven does not heat even with the oven damper closed, it is probably because the air carried around the oven has been pulled through the fire so fast that it has not been thoroughly heated itself and cannot heat the oven. Close pipe damper to overcome this.

in a double boiler on the back of the stove. Avoid foods that require a very hot fire for a long time.—U. S. Food Leaflet No. 12.

## HOW TO COOK GAME.

Careful preparation of game for the table will prevent waste. As a rule, game is preferred cooked rare rather than well done. Venison steak should be sprinkled well with salt and paprika if desired, and cooked quickly. Serve immediately on a very hot platter. Venison steak requires at least three minutes longer to broil than beefsteak. When broiled it should be sprinkled well with salt and paprika, and put over a dish of hot water to stand a while before serving. With venison steak serve a tart jelly, such as that made of currants or sour grapes, to which vinegar and spices have been added.

Rabbit is most delicious when roasted. After cleaning well, stuff body of the game with a dressing of salt pork, minced onion, and crumbs well seasoned with pepper and salt. The body is then sewed up and roasted one hour. A few thin slices of pork are necessary in the roasting pan to supply fat. Rabbit meat is almost entirely lean. A gravy made in the pan after the rabbit has been removed adds to the finish of the dish. Rabbit stew is also delicious.

Wild birds are usually roasted in the same manner as domestic fowl. Since they lack fat they require careful basting to prevent drying out of the meat. Squirrels are cooked in much the same way as rabbit. Squirrel pie prepared in the same manner as chicken pie is a special favorite among most lovers of wild game.

To Fill Cracks in Floors.—A mixture to fill in the cracks of a floor that you want to paint over is made with two-thirds ashes and one-third salt. Moisten with water and drop in the cracks. It soon hardens so that it can be painted over.—Miss Z. I. D.

## Cooperation vs. Corporation

(Continued from page 530).

a fair settlement. There must be a willingness to give and take and when this position is assumed it is surprising how simple will be found problems which previously had seemed most complex and impossible to solve."

The point which Mr. Powell drove home with emphasis is the necessity of farmers financing their own organization instead of calling in outside capital. He again illustrated his point by explaining the work of the big exchange. These growers advanced money enough to finance their own work. They received six per cent interest on this money but not any of the profits. They paid the men who put in the money exactly the same rate of interest that they would have paid banks if they had borrowed from that source. It has been the custom of the California Fruit Growers' Exchange to set aside annually a sinking fund, but all the rest of the profits are divided among the growers in proportion to their shipments. Mr. Powell explained how the big exchange has within itself sub-organizations which are carried on in the same cooperative manner as the main or big selling association, without profit to any capitalists and with six per cent interest to those who put up the money. One of the organizations provides all of the boxes and cases used by the fruit growers; another has charge of all the by-products of the citrus fruits.

"The grading problem is entirely local," according to Mr. Powell. In some places the farmers do the grading and in other places the grading is done at the warehouses. It is Mr. Powell's opinion that the farmers and dealers should get together and insist upon uniform methods of grading and handling the crop. The question as to where the grading could best be done should be decided by the two parties. Each should state its case and each side should be willing to give and take according to the manner in which the best interests of all would be conserved.

The grading of potatoes and the establishment of a trade-mark for them as has been done by the fruit growers of California, according to Mr. Powell, would stabilize the price of potatoes and would give opportunity when there is a great over-production of potatoes, to sell these potatoes at the highest price. Mr. Powell stated that he is convinced that a sound advertising campaign would be a great stimulus to consumption. In the case of a year of great over-production of potatoes, advertising telling of the deliciousness and healthfulness of baked potatoes for breakfast would result in a tremendous increase in the demand for potatoes. He told how it paid the California Fruit Growers' Exchange to use full pages of advertising in colors to sell their goods. To make the advertising of potatoes successful, however, it will be necessary to standardize the crop and sell the crop under a trade-mark name, with all potatoes sold under that trade-mark graded according to the United States standard.

Then there is the important factor of by-products upon which the potato growers of Michigan must soon begin work if they are to maintain quality in their shipments. The market for high-grade potatoes will be better if the culls and under-sized grades can be worked up into salable commodities of a non-perishable nature. Less progress has been made with by-products from potatoes than with almost any other class of products, but some of our experienced market men are beginning to realize that the time is fast coming when a big industry will be developed. If a community could work up a portion of its crop into these products it would form a counter-check to balance shipments.

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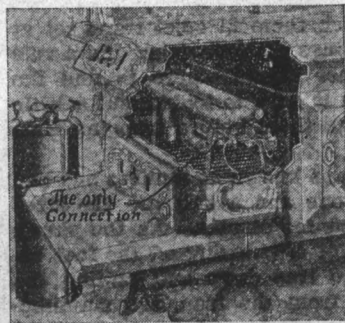
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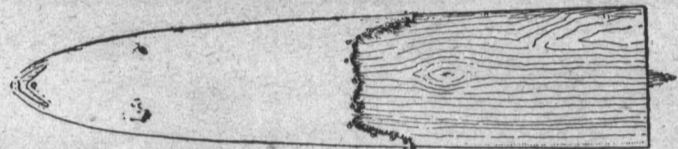
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## Skunks as a Farm Asset

(Continued from page 546).

But the finest skins will be ruined to gnaw themselves free and escape. The most effective mode of setting the traps that I have found, and this is based on my years of experience as a professional trapper, is to place the trap in a little shallow excavation at the mouth of the den, covered lightly with dead grass or leaves, the chain drawn away from the den and secured to the slender end of a ten-foot pole. This pole is placed flat on the ground and is held by three stakes driven close against the thick end as shown in the illustration. With this fastening the natural spring of the pole prevents the skunk getting a dead pull on the trap.

There are various ways of killing the trapped skunks without having them discharge their odor, but none of these methods are infallible and the trapper should be prepared to get scented occasionally. If there is water near the skunk may be drowned in this manner:

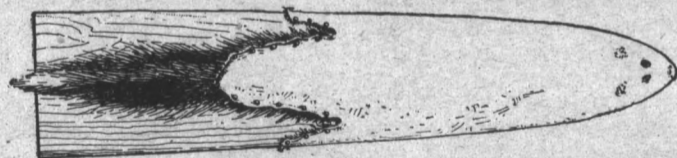


Stretch Over a Thin, Round-edged Board.

may be peeled off the body and the front legs easily. When the head is reached the ears should be cut loose from the head, the skin worked down to the eyes where it is carefully cut loose and then down to the mouth and nose where the knife must again be used. In no case may the head be cut off the skin or the body of the skin split open.

When the skin has been removed by this method it will have the appearance of a sack, with the fur side in. Care should be used now to prevent the flesh side of the skin becoming soiled, and the flesh and fat adhering to the pelt should be carefully removed. The most convenient way to do this is to draw the skin onto a thin smooth board, one which tapers towards one end and finishes with a flat-iron shaped point. Then peel off the flesh with a knife until the skin is reasonably clean, but do not scrape it as a little, a very little, fat is needed to help cure the skin and prevent it from becoming brittle. The pelt should then be stretched on a thin, round-edged board, shaped to fit, the edges fastened with tacks. The open portion of the tail should be spread out and tacked down flat.

There are several ways of catching skunks, but the most effective method



Spread the Tail and Tack.

is to catch them in steel traps set at the openings of their dens. As a rule the farmer knows where to find the dens and it pays to look about a little and locate them before trapping time arrives.

The traps known as number one and number one and a half are the sizes most used for skunks. As the skunk has a habit of gnawing off the foot beneath the trap jaws and pulling the leg free from the trap, the manufacturers have designed some excellent styles of traps having special jaws to prevent such losses. The best style are those having double jaws so that the leg is gripped in two places and the captured animal cannot get at it to gnaw. I advise the use of these double-jaw traps if you can get them, but traps of the regular pattern are all that could be desired if they are properly fastened and visited early in the morning before the animals have time

odor. I have found it a good plan to rub some kind of grease on my hands before handling and skinning skunks. After I am through with them I wash off both grease and scent with hot water and soap, leaving scarcely a trace of the odor.

There is hardly a farm that will not produce at least fifty dollars' worth of fur each season, especially at present prices. Trapping is a pleasant occupation for the farmer and his boys in the fall after the rush of work is ended, and aside from the time used in setting and tending the traps the money derived from it is all clear profit. Money so earned should be properly invested and there is no available investment that is better or safer than Liberty Bonds and War Savings Stamps. Some investments offer higher dividends or interest, but they are not as safe. A Liberty Bond is the safest investment a man can make.

## The Trout and the Reporter

(Continued from page 541).

some great trout accompanies us to camp.

Returning, I found two newspaper men in camp. One was in an exhausted condition. They had left another camp that morning and had walked several miles over the steep, hot mountain trails, that they might sample the famous fishing of Bear Creek, returning that night. Being unused to walking they were soon fagged out, and being novices at trout fishing as well they had failed to secure a single trout.

So there they were; night coming on, no food and no blankets. There was another camp of anglers above our camp, and between us we furnished them with blankets and provisions, and made them comfortable for the night. The big trout was the magnet to which their eyes turned continually; they eyed it with silent admiration which was almost adoration. At last one, who had brought a kodak with him, spoke: "Let me take your picture, holding the big trout," he said.

It was evident that he was a large-hearted man and that gratitude was rising high in his bosom. I did not wish to appear too anxious lest he realize that bringing trout of that size into camp was not an every-day occurrence with me; so I hesitated, calmly remarking that I did not know as it was worth while.

Gratitude, however, like a bill collector, would not be denied, and at last gratitude had right of way over feigned unwillingness, and while I stood as stiff as the proverbial ramrod, the kodak snapped.

"I think I have a good picture," said my grateful friend; "I will develop it and mail you a copy when I reach home."

"Verily," said I to myself, "virtue hath its reward."

Just here my thoughts were interrupted by my newspaper friend, who said, with an ingratiating smile: "Now would you mind loaning me that trout for a few moments, while my friend takes my picture? You see, when I get home my wife will say, 'What luck did you have?' and a picture like that would save my reputation."

Of course I loaned him the big trout, and gave him my blessing with it—who does not love a grateful man. Again the kodak clicked and another man was made happy.

Morning came, and our friends, fed, rested, and fresh, took the trail back to their camp, after thanking us for our kindness. The picture! O, ingratitudes, thou art worse than an empty creel to an ardent angler. Many moons have come and gone since we camped in Bear Creek, and my eyes fail because for their longing for the picture that comes not, neither any message from the grateful man.

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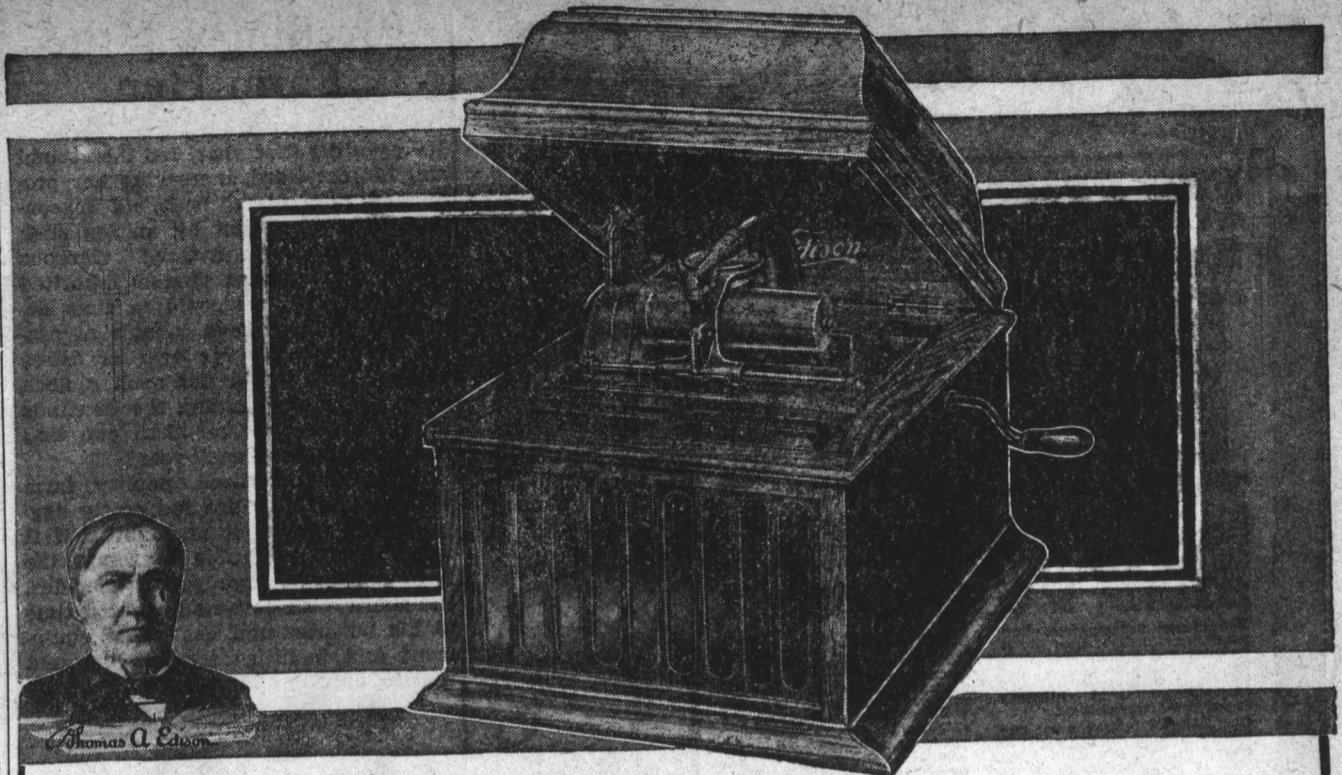
Its educational value alone will be worth several times the cost of attending. My wife helped me make the past season a profitable one and I am sure yours did the same. I think she is deserving of a little trip and I am going to take her along to see the apple show and enjoy the city.

Now get the idea—mix pleasure with business, fill up with new ideas for another season, profit by the other fellow's mistakes, help the society and make the apple show a success.

I'll be expecting to see you at the convention. Please do not disappoint me. Assuring you I will be glad to hear from you any time, I remain,

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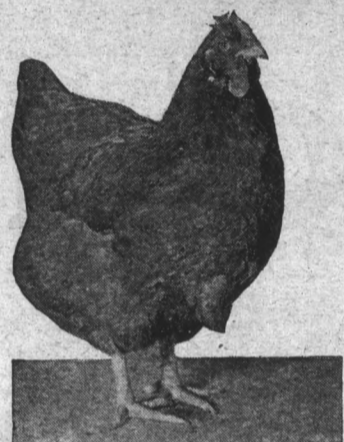
We pay highest cash prices for all staple furs—Skunk, Mink, Muskrat, Raccoon, Red Fox. Fancy furs a specialty, including Silver and Cross Fox, Fisher, Marten, etc. Est. 1870. Our continued prompt returns and liberal policy are now bringing us shipments from all North America, Alaska to Mexico. Send for free Price List. Address **M. J. JEWETT & SONS, REDWOOD, N. Y. Dept. 11**

## Breeding Up the Farm Hen

(Continued from page 533).

180 eggs the first year, 186 the second and 196 the third, increasing her production each year. Is it not reasonable to assume that by mating such hens with well matured, vigorous males, that possess similar inherited characteristics, we could in time develop a flock of hens capable of producing profitably for two or three years? And would not such a flock come nearer to meeting the demands of the general farmer than one that had to be renewed each year?

On the specialized poultry farm where the pullets are fed costly egg-producing rations it is doubtful if it would prove profitable to retain the hens more than two years. Besides, the poultryman devotes his entire time to his business and has better equipment and facilities for hatching and rearing chickens than the man on the

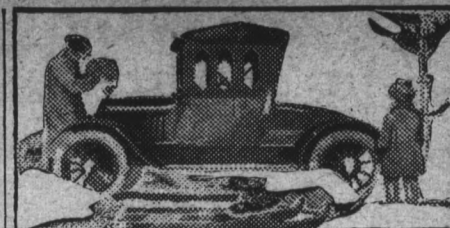


Strong, Vigorous Hens Are Essential in the Farm Flock.

farm. On the other hand, the farm flock that has abundant range and cheaper feed produces more eggs in proportion to the first year's production, during the second and third years. The farmer has less time and fewer conveniences for raising the required number of pullets to allow rigid selection for the laying flock each year. Between the weak and poorly developed pullets and the vigorous yearling and two-year-old hens the wise feeder will choose the older hens that are capable of standing a profitable year's work.

Another important factor in breeding the farm flock is that of improving the uniformity and quality of the eggs. While it is always important to have hens capable of producing a maximum number of eggs one can obtain quicker results by improving the quality of the eggs. It is possible in many instances to increase the selling price of the eggs from thirty cents to seventy cents per hen per year by just changing the size, shape and color of the egg without any particular extra effort on the part of the hen or feeder to produce this better quality. This is the cheapest and easiest improvement that can be made in the average farm flock at the present time, and the one most needed by those who are supplying private customers with eggs.

Still another important factor in breeding the farm flock is that of producing a maximum percentage of eggs that will hatch and produce strong, vigorous chicks. The hens that produce the greatest number of eggs do not always have vitality left to produce vigorous chicks. We must get heavy egg yields but these yields must be consistent with vitality if we succeed in hatching and rearing strong and vigorous pullets to replace the older hens in the flock. If the farmer cannot so handle his flock and conduct his breeding so that the next generation is going to equal or excel his present flock from the standpoint of hatching power and vitality, it will be only a few years before he will need new breeding stock. This problem of heavy production, good fertility and strong vitality in the young stock is one of the



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In the confinement of cold weather particularly, it is only natural that poultry should need the tonic of SLEEKENE to keep well. And to lay.

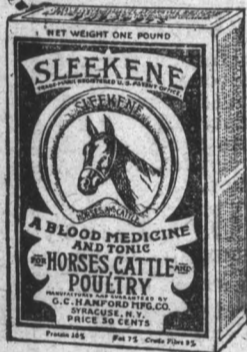
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Hot-Water, Copper Tank, Double Walls Fibre Board, Self Regulated, With \$6.35 Hot-Water 140-Chick Brooder, both only \$14.95. Freight Prepaid E. of Rockies. Guaranteed. My Special Offer provides ways to make extra money. Order now or write today for my Free book "Hatching Facts"—it tells all. Jim Rohan, Pres. Belle City Incubator Co., Box 14, Racine, Wis.

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An Extraordinary Offer: Germozone is a standard where for chicken troubles, roup, colds, cholera, swelled head, bowel complaint, chicken pox, canker, not doing well, non-laying, etc. Now our proposition: If no dealer there handling Germozone and you will agree to use it and pay it in advance, we will send you a 75c package without a cent in advance. No pay if not satisfied. Can we do more? And we will send free 5 poultry booklets. Write today. Local dealers handling Germozone will do the same. GEO. H. LEE CO., Dept. 426 OMAHA, NEB.

We Want More Fresh Henny  
**EGGS**  
Write Us For Prices  
F. J. Schaffer & Co.  
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poultry breeders at the present time.

In the first place the hens must be fed all they will eat from the time they are hatched until they are ready to lay. Always select yearling or two-year-old hens for the breeding pens. Chicks hatched from eggs laid by older hens that have not been forced for heavy egg production will have more vitality than chicks hatched from eggs laid by pullets. Never select hens for the breeding pens that show signs of constitutional weakness or defects. Select only the hens that have a full, round breast and plenty of crop development to insure strong digestive powers. She should also have length of body, a reasonably prominent abdomen, and width between the thighs. This type of body provides plenty of room for eating, room for grinding and assimilating the grains, and space between the thighs and in the abdomen for egg development. Such a body should be carried on a pair of legs placed half-way between the front of the breast and the rear of the abdomen. This gives a well poised body so characteristic of a strong vigorous hen and assures an even distribution of power for grinding and assimilating food and converting it into eggs.

Late in the fall or early winter is the best time to select hens for the breeding pens. The hens that continue to lay late in the fall moult rather late, some feathers being worn a great deal and the others broken, while the early moulter has her new plumage early in the fall and is easily distinguished by her general slick condition and bright color of her shanks. It is well to make a record of the hens that lay up to early winter, and condition them for the breeding pens the next spring, provided they have plenty of reserve energy and are of proper type. We now come to the question of securing suitable male birds to bring an infusion of fresh blood into our flocks. Here we must rely upon outside flocks to a certain extent and great care must be taken to find birds that have been bred along lines which we are striving to intensify in our flocks. As a rule, it will pay to buy a few settings of eggs from some breeder who has the kind of stock we want, and select our breeding males from those developed on our own farms. In this way the male birds will be properly matured and better for mating with our flocks than those picked up among breeders who do not give their young males sufficient feed and range to develop them for breeding purposes. A good, vigorous male may be used until he is four years old. It is always well, however, to have in reserve two or three suitable young males in case an accident occurs to one of the older birds, and to insure mature males for the next year's breeding pens. If the pens contain more than ten females it is a good plan to use two males to a pen, allowing them to run with the hens on alternate days. This plan has been practiced successfully on many poultry farms and can result in no possible harm to the flock.

The farmer who has a well-bred flock of the dual-purpose American breeds has more ways of marketing the products of his flock than one who keeps a mixed flock. He can sell eggs in the general market, meet the demands of private customers, sell eggs for hatching at advanced prices, baby chicks for breeding, young stock for market and for breeding or show purposes. The farmer with a flock of mixed breeding must sell his eggs for food only, and young stock or old birds for market. It is very plain to see that the farmer with a choice flock of pure-bred birds has a big advantage in marketing the products of his flock at an advanced price.



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If your dealer is not able to supply you promptly with the particular type of "Ball-Band" Boots or Arctics you desire, we can only ask you to be patient. Many of our boys in France are wearing "Ball-Band" Rubber Boots and Arctics. Meantime we are doing our utmost to supply, as quickly and as fully as possible, the wants of "Ball-Band" wearers at home.

## Dr. LeGear's Poultry Powder

### Get more eggs

This is the slacker season for hens. They need boosting. Give them Dr. LeGear's Poultry Powder. It will tone up their systems, put more of the feed into flesh, and stimulate the egg-producing organs.

### I Guarantee Better Layers

if you use my Poultry Powder, because I know that it contains the best scientific ingredients to condition hens and make them lay. It is my own prescription, from 26 years actual experience as a poultry raiser and Veterinarian. Thousands of poultry raisers have proved that hens given my Poultry Powder lay more eggs.

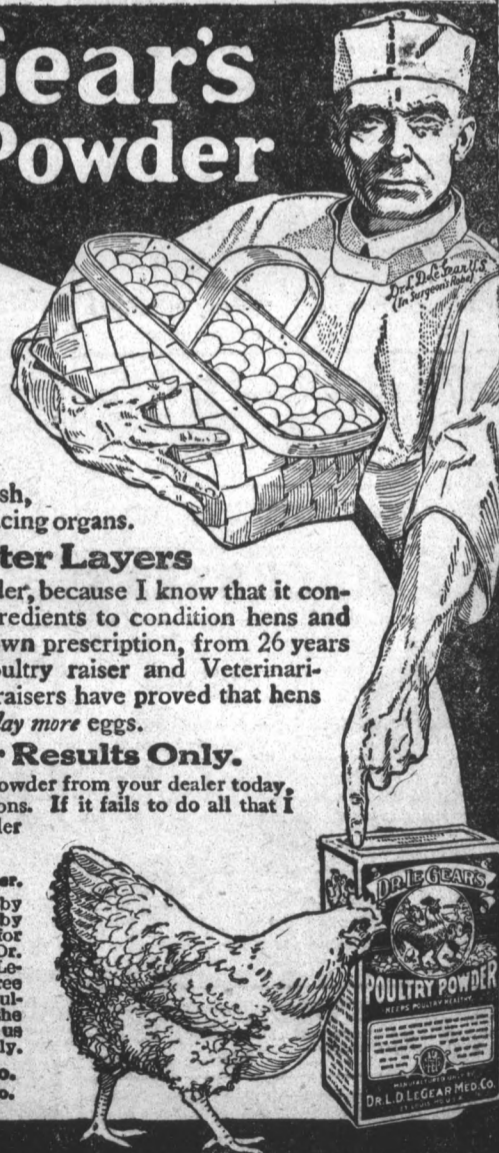
### You Pay For Results Only.

Get a package of my Poultry Powder from your dealer today, and use it according to directions. If it fails to do all that I claim for it, I authorize the dealer to refund your money.

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**Holstein-Friesian Cattle**  
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## Stock Feeding

A FATTENING RATION FOR COWS.

I wish to fatten for beef, ten head of four-year-old Hereford cows, and would like a little advice as to the best ration and amount to feed. I have plenty of oats, barley, good mixed hay, silage and about six acres of corn in the shock, the corn being about half hard and half soft. The cows are thin, weighing about 950 pounds each as they have been nursing calves. I wish to feed them only about sixty or ninety days, because I want to sell them before they are too heavy with calf.

Branch Co. G. B.

You can get along very well with the feed stuffs you have on hand, but you can get larger gains by feeding some cottonseed meal with your ground oats and barley. The feed stuffs which you have lack protein and the cows would have to consume more carbohydrates than necessary to secure a sufficient amount of protein. I would recommend that you feed this shock corn liberally, but not enough to waste it, and a small feed of silage.

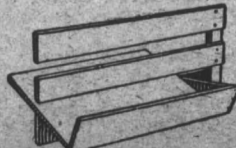
For a grain ration grind the oats and barley together equal parts and feed them three or four pounds per day of this combination. Then I would purchase cottonseed meal and commence to feed it rather light at first, not over one pound a day, and gradually increase it, if they will eat it, up to four or five pounds per day. C. C. L.

### MAXIMUM RATIONS FOR STEERS.

I am going to feed ten steers this winter that will weigh about 1,000 lbs. each. I have corn stover, alfalfa hay and red clover hay, and corn, oats and barley for grain. Will feed them one large bundle of corn fodder each in the morning, and what hay they will eat up clean in the afternoon. How much of this grain should I feed them per day and in what proportion? About how many tons of this hay will it take per month and how much grain to get the largest amount of gain in flesh? Hillsdale Co. J. A. P.

The alfalfa hay in this ration will go far toward balancing up the corn stover, ground oats and barley which are all splendid grains for fattening steers, barley being better than oats, and corn being best of all. If you are just feeding alfalfa for roughage you could get along without any other feed except the corn, but when you are feeding corn stover as a part of the roughage this will decrease the per cent of protein in the ration and I think it will pay you well to purchase oil meal or cottonseed meal to mix with the corn or barley to balance the ration. It isn't necessary in feeding fattening steers to weigh the ration. Where you want to get the largest gains the steers should be fed all they will eat up clean. If the ration is properly balanced it should be gradually increased so that the steers get all they will eat without wasting. The more they eat the faster they will develop, and the best feeder is the one who can coax the steers to eat the largest amount. Some feeders do not get good results because they over-feed at first.

There is no danger in feeding quite large amounts of cottonseed meal to fattening steers. It should be fed in small amounts at first and gradually increased and you will get better results if it is mixed with corn or barley or ground oats because this variety is more appetizing and heavier rations will be consumed. C. C. L.



Suggestion for the Hog Trough.

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**Use the Most Rapid Farm Ditcher, Terracer and Road Grader**

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MADE BY THE KOW-KURE PEOPLE



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means comfort for the cow and a generous, easy milk flow. BAG BALM, the great healing ointment, will keep the udder free from sores, chaps, cuts, bruises, cracks, bunches and inflammation.

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IS ESPECIALLY EFFECTIVE AT THE CALVING PERIOD WHEN CAKED BAG FREQUENTLY OCCURS.

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Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

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Your Veterinarian can stamp them out with Cutter's Anti-Calf Scour Serum and Cutter's Germ Free Blackleg Filtrate and Aggressin, or Cutter's Blackleg Pills.

Ask him about them. If he hasn't our literature, write to us for information on these products.

**The Cutter Laboratory**  
Berkeley, Cal., or Chicago, Ill.  
"The Laboratory That Knows How"

**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. OLARKE, Vassar, Mich.

**HOLSTEINS** of quality. Bull calves from dams with records high as 51 lbs. in 7 days. Also cullies, pups. E. A. HARDY, Rochester, 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.

**For Sale** Cheap. 2 Holstein bull calves, born Jan. 28 and Mar. 22, both from 23.42 lb. sire. One from 23.90 lb. 4 years old dam, also a few females. A. F. LOOMIS, Owasco, Mich.

**\$50** Liberty Bond gets 1 mo. old gdson of Maplecrest Korn. Heng. dams are granddaughters of Pontiac Maid 30.21 lb. Heifers same age breeding \$150 terms. Herd free tuber. M. L. McLaughlin, Redford, Mich.

## I Always Have Holsteins To Sell

If wanting Registered cattle write me your wants before placing your order elsewhere.  
L. E. CONNELL, Fayette, Ohio



## Butter Making In Holland

Butter making is the chief business of the Holland Dairyman, the originators of the Holstein-Friesian breed of cattle. Upwards of forty million pounds of butter per year is exported from that little country, which is more per cow, and more per acre, than does any other country export.

If interested in

## HOLSTEIN CATTLE

Send for our booklets—they contain much valuable information.

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## CLUNY STOCK FARM

**100--REGISTERED HOLSTEINS--100**  
When you need a herd sire remember that we have one of the best herds in Michigan, kept under strict sanitary conditions. Every individual over 6 mos. old regularly tuberculin tested. We have size, quality, and production records backed by the best strains of breeding.

Write us your wants.  
R. BRUCE McPHERSON, Howell, Mich.

## Want Yearly Records?

Our new sire has four sisters whose semi-official records are 677, 742, 823 and 946 pounds of butter in one year respectively at 2 to 3 years of age. His dam is a daughter of Friend Hengerveld De Kol Butter Boy, four of whose daughters have records over 1000 pounds and she is also a granddaughter of Pontiac Maggie Korndyke, with six daughters above 1000 pounds of butter in one year.

**Peaceland Stock Farm**, Three Rivers, Mich.  
C. L. Brody, Owner Port Huron, Mich.  
Charles Peters, Herdsman

**MAPLE LAWN FARM** offers for sale the bull calf Pieter Artis Lyons No. 23788 born September 24, 1918. His sire is King Pieter Segis Lyons whose dam Eliza Lyons has 30 lbs. of butter at 4 1/2 years of age. Dam of calf is Kaastra Artis DeKol who made 574 lb. milk and 22.17 lbs. butter in 7 days. This Holstein calf is nicely marked and about half black and half white. Price \$75.00.  
W. H. WERNETT & SON, Plymouth, Mich.

**Parham's** Pedigree Stock Farm offers Reg. Holstein cattle, Chester White Swine, extra bargains in calves and fall pigs. Bulls half price. R. B. PARHAM, Bronson, Mich.

**Reg.** Holstein bull calf born June 18-18, extra choice individual, very choice breeding price \$100 reg. and del. J. ROBERT HICKS, St. Johns, Mich.

**Registered** Holsteins: Bulls are all sold except two calves born this fall. If interested write for description and prices.  
W. B. READER, Howell, Mich.

**Registered** Holstein heifers most any age desired, priced to sell. Bulls and bull calves at market price. 30lb. breeding. B. B. Reavey, Akron, Mich.

**BROOKWATER FARM**  
2 Bulls  
Ready for Service  
Sired by butter bred bulls and out of high testing dams.  
The Producing Kind  
with Jersey type and capacity.  
Prices reasonable. Also a few bred gilts (Durocs) and boars.  
**Brookwater Farm**,  
Herbert W. Mumford, Owner,  
J. Bruce Henderson, Mgr.,  
Ann Arbor, Mich.  
R. 7.  
REGISTER OF MERIT JERSEYS

**Maple Lane R. of M. Jersey Herd.** Bulls, bull calves and heifer calves sired by one of the best grandsons of Pogue 99th of Hood Farm and out of R. of M. dams.  
IRVIN FOX, Allegan, Mich.

**For Sale.** Choice bulls from R. of M. dams by Majesty's Oxford Fox, average profit per head on entire milking herd \$92.55 over cost of feed for cream alone tuberculin tested, and free from abortion.  
ALVIN BALDEN, Capac, Mich.

**Hillside Farm Jerseys**, offer 3 yearling bulls, backed by tested dams, and sired by a double grandson of Royal Majesty, first prize & junior champion at Mich. State Fair, good individuals. O. & O. Deane, Ypsilanti, Mich.

**BUTTER BRED JERSEY BULLS**  
CRYSTAL SPRING STOCK FARM,  
Silver Creek, Allegan County, Michigan.

## FOR SALE

18 head of Registered Jerseys,

Cows and heifers, one bull. Freshen or soon to freshen. St. Lambert and Island breeding. Tuberculin Tested. DEC. 11th. 1918, at ONE O'CLOCK. For particulars write  
C. A. BRISTOL, Michigan

Fenton, Michigan

## JERSEY BULLS

Ready for service FOR SALE  
WATERMAN & WATERMAN, Ann Arbor, Mich.

**Meridale** Interested Owl No. 11311 heads my herd bull calves from this great sire and out of R. of M. dams for sale. C. B. WEHNER, Allegan, Mich.

**For Sale Registered Jersey Cattle**  
of both sex. Smith & Parker, R. 4, Howell, Mich.

**LILLIE** Farmstead Jerseys. Young bulls ready for service from R. of M. cows. A few bred heifers and cows. COLON C. LILLIE, Oopersville, Mich.

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5 Bulls 9 to 14 months old Prince Donald, Farmer and Perfection Fairfax breeding.  
ALLEN BROS., Paw Paw, Mich.

**Herefords** Polled and Horned blood lines embrace Fairfax. Polled Perfection and Prime Lad 9th breeding. Prices reasonable. COLE & GARDNER, Hudson, Mich.

**Herefords** Bob Fairfax 49027 at head of herd. Stock for sale, either sex, polled or horned, any age. Priced right. EARL C. McCARTY, Sec'y. H. B. Ass'n. Bad Axe, Mich.

## BIDWELL SHORTHORNS

Registered bulls, cows and heifers—Good Scotch and Scotch-Topped for sale. In prime condition. Modern sanitary equipment. Farm 10 minutes from N. Y. O. depot, 1 hour from Toledo, Ohio. Automobile meets all trains. Write  
**BIDWELL STOCK FARM**,  
Box B, Tecumseh, Mich.

## Richland Farm Shorthorns

Sires in Service: Fair Acres Goods and IMP. Lorne-Michigans Grand Champion Bull. The largest Herd of Scotch cattle in the State. Every animal Tuberculin Tested by the Sanitary Commission. Special offer on two extra good white bulls. The kind that produce roan calves.  
C. H. PRESCOTT & SON,  
Herd at Prescott, Mich. Office at Tawas City, Mich.

## Francisco Farm Shorthorns

We maintain one of Michigan's good herds of Scotch and Scotch Topped cattle. They are well bred, properly handled and price reasonable. Come and see; we like to show them.  
P. P. POPE, Mt. Pleasant, Mich.

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

**For Sale** Shorthorns of Quality Scotch and Scotch Topped descendants of A. Roberts Hope, Ayvalde, Maxwaton Sulton and White Hall Sulton by the Ocala Co. Shorthorn Breeders Ass. JOHN SCHMIDT, Sec. Reed City, Mich.

**Shorthorn** Seven Scotch and Scotch Topped bulls for sale. Price reasonable.  
W. B. McQUILLAN, R. 7, Howell, Mich.

**Shorthorn** Bulls ready for service of the choicest breeding. Write me your wants.  
A. A. PATTULLO, R. 4, Deckerville, Mich.

**Dual Purpose** Shorthorns all ages, a ton Roan 3 yr. old herd bull, also Duroc Hogs all ages.  
CHAS. BRAY, Okemos, Mich.

**For Sale** Shorthorn Bulls of the choicest breeding and ready for service.  
LUD HASTINGS, Napoleon, Mich.

**Shorthorns** 100 head to select from. Write me your wants, price reasonable.  
Wm. J. BELL, Rose City, Mich.

**For Sale** Best Bates Shorthorns; cows, heifers and young bulls at reasonable prices.  
CLARE RIGGS, R. 4, Mason, Mich.

**Oakwood** Shorthorns. Three bulls sired by Gloster Boy 49961, 9 to 12 months old.  
COLLAR BROS., Conklin, Mich.

**Milking** Shorthorns of most noted families either sex, all ages, write OSCAR SKINNER, Pres. Central Mich. Shorthorn Ass'n., Gowen, Mich.

## HOGS

**For Sale** Reg. Berkshire Sows & Boars all ages, priced to sell. Write me your wants.  
RUSSELL BROS., R. 3, Merrill, Mich.

**TOP** Cherry King J 102529 a Senior Yearling by Orion Cherry King T. by Orion Cherry King, one of our best boars, he is right and is to be sold; a spring boar by Mich. Cherry Col. 118479 by Cherry Friend by Orion Cherry King. If you have not a herd boar, write today.  
THE JENNINGS FARMS, Bailey, Mich.

## DUROC BOARS

Big long, tall, growthy boars. The kind that will add size and growth to your herd. Biggest March farrowed pigs in country. Weigh 200 lbs. not fat.  
NEWTON BARNHART, St. Johns, Mich.

**Duroc** Herd boar a junior yearling weighing nearly 400 lbs. in feeding condition, sired by Gold Model and out of a Brookwater Cherry King dam, a sire that we can guarantee good reasons for selling, priced for quick sale at \$75.  
RUSH BROS., Romeo, Mich.

**Duroc Jersey** spring boars sired by Orion Cherry King Cal. Write for prices and description.  
W. C. TAYLOR, Milan, Mich.

**Duroc Jerseys** Big heavy boned spring boars winners at State and County Fairs. Place order early.  
F. J. DRODT, R. 1, Monroe, Mich.

**Duroc Boars**, Gilts, Big, Long, Tall, 200 lb. choicest breeding. Also an A.R.O. 1 yr. Holstein bull. F. E. EAGER & SON, Howell, Mich.

**DUROC'S** Spring boars and gilts, a few Black Top Rams left. NEWTON & BLANK, Perrinton, Mich.

**Duroc** Gilts and fall pigs sired by E. D's Defender Col. from King The Col. dams, E. D. HEYDENBERG, Wayland, Mich.

**DUROC JERSEYS** Nothing but spring pigs for sale. CAREY U. EDMONDS, Hastings, Mich.

**LAST** fall gilts all sold, have a good lot of last spring litters from 3 sires good growthy stock. Farm 1/2 mile west of depot. Citizens Phone 124.  
OTTO B. SCHULZE, Nashville, Mich.

**Raise Chester Whites**  
Like This  
the original big producers  
  
I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs.  
G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

**Chesters** I have some splendid March gilts of the broad heavy hamed kind bred for March farrow; priced right.  
F. W. ALEXANDER, Vassar, Mich.

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

**O. I. C.'s** I will ship C. O. D., record free of charge and pay the express of every service boar sold in November. F. C. Burgess, R. 3, Mason, Mich.

**SERVICEABLE BOARS**  
Shipped  
C. O. D. and Express Paid  
J. CARL JEWETT, Mason, Mich.

## O. I. C. & Chester White Swine

Strictly Big Type with QUALITY. Have a few spring pigs either sex for sale. They are of the right stamp, good enough to be shipped C. O. D.  
NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

**8 Large Type** O. I. C. spring boars also 2 prize Jr. yr. boar Mich. State Fair 1918.  
CLOVER LEAF STOCK FARM, Monroe, Mich.

**O. I. C. Serviceable Boars**  
H. W. MANN, Dansville, Mich.

**For Sale** Registered O.I.C. pigs either sex, high class stock at farmers' prices.  
JOHN SANDRUS, Port Huron, Mich.

**O. I. C.'s** big type serviceable boars. Yearling sows and gilts bred for spring farrow.  
G. P. ANDREWS, Dansville, Mich.

**O. I. C.'s** Large Type Boars at Farmer's Prices.  
WEBER BROS., Royal Oak, Mich. Phone 408.

## BIG TYPE POLAND CHINAS

Spring boar and gilts. Also fall pigs.  
Hillcrest Farm, Kalamazoo, Mich.

## BIG TYPE POLAND CHINAS

200 lb. April boars of choice breeding and choice individuals, ready to ship, cholera immune. Prices reasonable. Inspection invited or write me.  
WESLEY HILE, R. 6, Ionia, Mich.

## FOR 25 YEARS

This establishment has been head quarters for Big Type Poland Chinas. We have a nice lot of boars and sows of strictly big type breeding at very low price. Let me know what you want. Bell phone.  
JNO. C. BUTLER, Portland, Mich.

**Large type P.O.** Largest in Mich. Boars all sold. 29 lb. bred gilts sired by and bred to the best boars the breed can produce, with dams of equal merit, extreme size with quality, come and see them, free livery, expenses paid if not as represented. W.E. Livingston, Parma, Mich.

**The Old Fashion** Spotted Poland Hogs. Sex for sale \$25 each, fine ones.  
J. M. WILLIAMS, No. Adams, Mich.

**Big Type Poland**, one Monarch Jumbo fall boar, spring boars by Michiran Buster, Missouri Tim, Great Des Moines.  
O. L. WRIGHT, Jonesville, Mich.

**Big Poland Chinas** with quality. Spring, summer, and fall pigs, both sex, and bred sows, for sale. G. A. BAUMGARDNER, R. 2, Middleville, Barry Co., Mich.

**Big type P.C.** Big boned fellows from Iowa's greatest herds, special prices on spring boars and choice bred gilts.  
E. J. MATHEWSON, Burr Oak, Mich.

**LARGE** Type P. C. Spring boars and gilts now ready to ship. None better in Michigan. Come and see them.  
W. J. HAGELSHAW, Augusta, Mich.

**Michigan's** Champion herd of Big Type P. C. bred sows fall pigs. Come and see them.  
E. B. LEONARD, R. 3, Box 53, St. Louis, Mich.

**Big type** Poland China spring and fall pigs either sex. Shorthorn Bull and bull calves. Price to sell.  
ROBERT NEVE, Pierson, Mich.

**Big Type P. C.** Spring Boars for sale, also Hampshire sex. Shire Ram lambs.  
A. A. WOOD & SON, Salina, Mich.

**Big** Type Poland Chinas. Spring boars for sale. Booking orders for bred gilts. Inspection invited. L. L. CHAMBERLAIN, Marcellus, Mich.

**Mammoth** Poland Chinas. March, April, boars and gilts, Cholera immune, double treatment. Clyde Weaver, Mgr., Marshall, Address, Ceresco, Mich.

**Big** Type Poland Chinas. A few choice boars for sale and pigs at a bargain. Gilts all sold.  
L. W. BARNES & SON, Byron, Mich.

**Registered** Hampshire spring boars now ready at a bargain. Bred gilts in Dec.  
JOHN W. SNYDER, R. 4, St. Johns, Mich.

**A FEW** choice, large type P. C. Spring boars and gilts, also summer pigs.  
OLYDE FISHER, R. 3, St. Louis, Mich.

**L.S.P.C.** Get a boar, pig sired by Smooth Jumbo the largest boned boar in the state, also by Big Defender.  
H. O. Swartz, Schoolcraft, Mich.

## Yorkshire Gilts

(Pigs that are Pigs)  
For fall or Winter Breeding. Address  
OAKCROFT, R. 7, Pontiac, Mich.

## SHEEP

## Hampshire

Shropshire and Oxford, either sex, send for circular and prices. A son of  
KOPE KON FARMS, Kilderhook, Mich.

**Hampshires** am offering for sale 10 yearling Rams also 5 ram lambs.  
F. A. SIMMONS, Rockford, Mich.

**Shropshires** Ram lambs for sale, sired by an imported Buttar ram.  
W. B. McQUILLAN, Howell, Mich.

**Registered** Shropshire yearling and ram lambs with test of breeding and size. A son of Tanners Royal at the Head. Priced to sell.  
H. F. MOUSER, R. 6, Ithaca, Mich.

**FOR SALE** Shropshire Ram lambs 10 bred ewes and 10 Ewe lambs.  
ARMSTRONG BROS., R. 3, Fowlerville, Mich.

**Have** a few good yearling and ram lambs Also a limited amount of young ewes.  
HARRY POTTER & SON, Davison, Mich.

**Shropshire** Am offering 8 yearling rams now. Also 12 young ewes for December delivery.  
C. J. THOMPSON, Rockford, Mich.

**Shropshire Rams** Yearlings and Ram Lambs of Quality.  
B. D. KELLY & SON, Ypsilanti, Mich.

**BIG ROBUST** Yearling Shropshire Rams \$25.00 each.  
A. H. FOSTER, Allegan, Mich.

**OXFORD** Down Ram lambs, also a few ewe lambs. Berkshire both sexes. Booking orders for fall pigs.  
CHASE STOCK FARM, R. 1, Marlette, Mich.

**Oxfords No More To Offer**  
O. M. YORK, Millington, Mich.

**For Sale** Registered Oxford Down rams and ewes; can be seen at FAIRVIEW STOCK FARM, Fred Wolfe, Snover, Mich.

**25 Oxford** Ewes and ewe lambs. My entire flock cheap to quick purchaser.  
E. W. VAN FLEET, Evart, Mich.

**Lambs** from Western Ewes, fine for feeders. Breeding ewes and registered rams.  
BARNARD SHEEP RANCH, Clare, Mich.

**For Sale 100 Breeding Ewes**  
JOHN HOOKER, New Baltimore, Mich.

## HORSES

## The Michigan Horse Breeders' Association

WILL HOLD THEIR

## ANNUAL SALE

At the Michigan Agricultural College  
ON JANUARY 17th, 1919.

For Entry Blanks and Terms apply to

R. S. HUDSON,  
East Lansing, Michigan

## Horses Will Be Horses Soon

We have on hand at all times a choice selection of young Percheron Stallions. Also have a few good work horses that we are offering to exchange for young stallions.

## PALMER BROS.

R. R. Orleans, Belding, Mich.

**Percherons**, Shorthorns and Duroc Jersey Hogs.  
J. M. HICKS & SONS, R. 2, Williamston, Mich.

**Percherons, Holsteins, Angus, Shropshires, Durocs**  
DORR D. BUELL, Elmira, Michigan.

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

**Percherons**, Dapple Gray mare six years old price \$250. Dark Gray Stud three years, price \$225. Banded Rock Cockerels. E. J. Aldrich, Tekonsha, Mich.

When writing to advertisers please mention  
The Michigan Farmer.

# LATEST MARKET REPORTS

## SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, December 5.

### WHEAT.

A brisk demand for wheat has forced prices up. Millers are especially anxious to secure the grain. Government still taking wheat for export; there is at present time about 61,000,000 bu. of wheat in ships awaiting export. The farmers are well sold out and millers find themselves with light supplies. The wheat market holds firm, with an active demand for every car available. One year ago the price of No. 2 red wheat was \$2.17. The present prices are as follows:

No. 2 red .....	\$2.25
No. 2 mixed .....	2.23
No. 2 white .....	2.23

### CORN.

Corn prices advanced 5c during the week. The market shows a steady demand, the bulls are in the majority and feel that prices must rule high for a long time because of the need of American grain in Europe. While the bears see less scarcity in Europe and believe the distress will be supplied by Argentine and Australia. A year ago No. 2 corn sold on this market at \$2.03. Present prices range as follows:

No. 3 corn .....	\$1.45
No. 3 yellow .....	1.50
No. 4 yellow .....	1.45
No. 5 yellow .....	1.35
No. 3 white .....	1.50

The Chicago market shows a bullish demand for corn and prices show a lower trend than last week, with No. 3 yellow, new at \$1.37@1.40; No. 4 yellow, new \$1.32@1.37.

### OATS.

There is a brisk demand for oats in Detroit for home consumption and shipment in the east. Offerings are not heavy and the market is quoted firm, with prices slightly higher than last week. One year ago oats were quoted at 78c for standard. Wednesday's prices are:

Standard .....	76½
No. 3 white .....	76
No. 4 white .....	75

In Chicago oats averaged higher in sympathy with the demand for corn. Standard oats 73½@74½c; No. 3 white 73¼@74½c.

### RYE.

Rye continues steady with a fair demand. Dealers expect this grain to improve should wheat continue in such a tight position. Rye sold on yesterday's market at \$1.64 for cash No. 2.

### BARLEY.

There is not much doing in barley and the price remains the same at:

Cash No. 3 .....	\$2.00
Cash No. 4 .....	1.95

### BEANS.

Beans are in fair demand at unchanged prices. On the Detroit market immediate and prompt shipment are quoted at \$9.00. At New York the market is quiet, and anything in the lower grades is hard to dispose of, even at sharp cuts in price; new crop of Michigan pea beans sell mostly at \$10.25@10.50. In Chicago the government has been buying the white varieties on a large scale, and prices are firm as follows: Michigan hand-picked pea beans, choice to fancy \$9.60@10; red kidneys, choice to fancy \$11.50@12.50 per cwt.

### SEEDS.

Seeds are in active demand and are steady with the following Detroit quotations: Prime red clover \$25; alsike \$19; timothy seed \$5.20.

### HAY.

Hay is quoted easy and supplies are liberal. Quotations at Detroit are:

No. 1 timothy .....	\$28.50@29.00
Standard timothy .....	27.50@28.00
No. 1 mixed .....	24.50@25.00
No. 1 clover .....	23.50@24.00

Pittsburgh.—The receipts continue heavy, with little demand, and prices are lower as follows:

No. 1 timothy .....	\$29.00@29.50
No. 1 light mixed .....	27.00@28.00
No. 1 clover mxd .....	27.00@28.00
No. 1 clover .....	26.50@27.50

### FEEDS.

Feed in 100-lb. sacks is quoted to jobbers on the Detroit market as follows: Bran \$36.50; standard middlings \$38.50; coarse corn meal \$59; cracked corn \$60; chopped feed \$44 per ton.

### POTATOES.

There is a firmer tone in the potato market, and some improvement in the demand is noted. At Grand Rapids dealers are receiving f. o. b. carloads \$1.60 for U. S. grade No. 1 sacked; same grade, bulk \$1.45@1.50 per cwt. Detroit demand and movement is moderate, with little change in prices, the round whites in 150-lb. sacks bringing \$2.50@2.65. At Buffalo round whites, sacked, U. S. grade No. 1 are higher at \$2@2.10 per cwt; at Cleveland same grade @2.15; at Chicago \$1.60@1.70, a substantial advance over the early markets of the week; at Indianapolis \$1.75@1.80.

### APPLES.

Apples are in moderate supply at Detroit, and prices are unchanged as follows: Best Michigan Spies \$6.50@7; Baldwins \$5@5.25; Wageners and Greenings \$4.50 per bbl.

### CHEESE.

The cheese market is strong, with ordinary makes in the best demand, and trade in special kinds slow. The Detroit quotations are: Flats 36½c; brick 35@35½c; daisies 37½c. At New York state fresh specials bring 37c a lb. In the Chicago market the Young Americas go to jobbers at 37@37½c. At Philadelphia full-milk cheese brings 35@36c.

### BUTTER.

The butter market continues gaining in strength, with advanced prices reported in all markets. At Detroit fresh creamery firsts bring 64½@65c; fresh creamery extras 65@66c per pound. At

Chicago fancy creameries bring a premium, but the trade shows increased interest in other than the highest grades, the range of prices for creamery being 54@67c. In New York butter for export is in great demand, and creamery extras bring 67½@68c; do firsts 61½@67½c. At Philadelphia western creameries higher at 68½c.

### POULTRY.

The local poultry market continues steady, with prices for live being well maintained as follows: Spring chickens 24@27c; hens 22@26c; roosters 19@20c; geese 24@25c; ducks 30@31c; turkeys 29@30c per pound.

### EGGS.

With decreasing receipts and steady demand, prices have advanced from 1@3c the past week, present quotations being: Fresh firsts 67c; extra firsts candled, new cases 69c; storage stock 47@48½c. At Chicago fresh stock in new cases bring 64@75c. At New York fresh gathered bring 68@75c; nearby stock, mixed colors 67@74c. Western extra firsts bring \$20.40@20.70 on the Philadelphia market.

## Live Stock Market Service

### Reports for Thursday, December 5th

#### DETROIT

##### Cattle.

Receipts 2,948. Milch cows are very dull, \$15 to \$25 a head lower; other grades steady. Best heavy steers.....\$12.50@15.00 Best handy wt bu steers.....11.00@12.00 Mixed steers and heifers.....9.50@10.00 Handy light butchers.....8.00@8.50 Light butchers.....7.00@7.50 Best cows.....9.00@10.00 Butcher cows.....7.00@8.00 Cutters.....5.75@6.00 Cannors.....5.00@5.50 Best heavy bulls.....9.00@9.50 Bologna bulls.....8.00@8.50 Stock bulls.....7.00@7.50 Feeders.....9.00@10.00 Stockers.....7.00@8.00 Milkers and springers.....50@100

##### Veal Calves.

Receipts 1,305. Market steady. Best.....\$17.50@18.00 Others.....7.00@15.00

##### Sheep and Lambs.

Receipts 11,935. Market slow. Best lambs.....\$14.50@14.75 Fair lambs.....12.50@14.00 Light to common lambs.....10.00@11.55 Fair to good sheep.....8.00@8.50 Culls and common.....4.00@7.00

##### Hogs.

Receipts 15,889. Market steady. Pigs.....\$16.25@17.60 Mixed hogs.....17.60

#### BUFFALO.

The cattle market here today is slow. Pigs bring \$16.50@16.75; other hogs \$17.80; lambs \$15.25; calves \$21.

#### CHICAGO.

##### Cattle.

Receipts 22,000. Beef and butcher cattle slow; feeders steady. Good to prime choice steers \$15.75@20.25; common and medium butchers \$9.75@15.75; heifers \$7@14.25; cows \$6.15@14.25; bologna bulls \$7.25@12.75; canners and cutters \$6.15@6.85; stockers and feeders, good \$10.25@13.25; do medium \$7@10.25.

##### Hogs.

Receipts 74,000. Mostly 10c lower than Wednesday. Tops \$17.75; heavy \$17.60@17.75; mixed and light \$17.50@17.55; packers' hogs \$16.90@17.30; medium and heavy \$17@17.45; light bacon hogs \$17@17.65; pigs, good to choice \$14.25@15.50; roughs \$16.25@16.75.

##### Sheep and Lambs.

Receipts 23,000. Market slow and 25c lower on lambs; sheep steady. Choice to prime lambs \$15.25@15.35; medium and good lambs \$14@15.25; culls \$9@12.50; medium, good and choice feeders \$13.70@14.25; choice yearlings \$10.50@12.25; medium and good yearlings \$9.25@9.50; wethers, medium and good \$8@9.25.

### Reports for Wednesday, December 4th

#### BUFFALO.

##### Cattle.

Receipts 10 cars; slow; prime heavy steers \$16@16.50; best shipping steers \$14@15; medium shipping steers \$11.50@13; best native yearlings, 900 to 1000 lbs \$15@16; light native yearlings of good quality \$12.50@14; best handy steers \$11.50@12.50; fair to good kinds \$9.50@10.50; handy steers and heifers mixed \$9@10.50; western heifers \$10@11; state heifers \$7@8; best fat cows \$9@10; butcher cows \$7@8; cutters \$5.50@6.50; canners \$3.50@4.75; fancy bulls \$10.50@11; butcher bulls \$8.50@9.50; common bulls \$6@7; best feeders 900 to 1000 lbs \$10@11.50; stockers \$6@7; light common \$5@5.50; best milkers and springers \$10@15; mediums \$7.50@9; common \$5@7.00.

##### Hogs.

Receipts 40 cars; steady, heavy and yorkers \$17.80; pigs \$17.

##### Sheep and Lambs.

Receipts ten cars; steady; lambs at \$15.25; yearlings \$10@11; wethers at \$9.50@10; ewes \$8.25@8.50; calves at \$7@21.

#### CHICAGO.

##### Cattle.

Cattle prices are shooting up at a lively rate under curtailed supplies, only about 12,000 head arriving today, making less than 60,000 for three days, comparing with 86,731 for the same time last week. An advance of 50c to \$1 has taken place this week on steers, cows and heifers being largely \$1 high-

er, as well as canners and cutters. Native steers are selling at \$9.75@20.25 for common to prime kinds, and prime yearlings are up to \$20, while prime steers intended for the stock show that were rejected have sold above these prices. Prime light veal calves have been boomed up to \$18.25, and stiff prices are asked for stockers and feeders, with the better class very scarce. Western range steers are quotable at \$9.25@18.25, with no prime lots offered. Prime native beef cattle are breaking all high records.

##### Hogs.

Wednesday receipts of 26,000 hogs bring receipts for three days up to 123,700, comparing with 99,133 for the same days last week. The early market was at least 15c higher for the better class, but was lower later. Rough heavy packers sold at \$16.85@17.20 and the best heavy and light butchers at \$17.70@18, while pigs sold mostly at \$13@16. Pigs were scarce.

##### Sheep and Lambs.

Only about 16,000 head were received today, making 83,200 for three days, comparing with 101,661 a week ago. Prices are moving upward, with yearlings higher, sales ranging at \$10.50@12.80, the day's advance in the best light weights being 30c. Lambs sold on a basis of \$11@15.35 for culls to prime lots, and good feeding lambs were wanted at \$13.75@14. Wethers were salable at \$9@10.50 and ewes at \$3.50@9.25, bucks being salable at \$6.50@8.50.

### DETROIT CITY MARKET

Trade is slacking up at the city markets, being very light this morning, with the smallest offerings of the season. The prices ranged as follows: Cabbage 75c per bushel; potatoes \$1.05@1.15; carrots 75c; cauliflower \$1.25@1.50; onions \$1.25; turnips 80c@1.25; squash 60c; beets 65c; pumpkins 75c; parsnips 85c per bu. There was a fairly large assortment of apples of good quality, ranging in price from \$1.60@2.25 per bushel.

### GRAND RAPIDS

Harvesting of all crops was finished last week. Many farmers have pitted potatoes and carrots. Potatoes sold on the city market at 90c@1.15, receipts light. There is no demand for stock carrots and are slow at \$5 per ton. All vegetables dull at 50 cents per bushel. There were marketed 31,363 loads of farm and garden produce on the city market from May 1 to November 30, including over 12,000 bushels of potatoes. Some farmers have completed fall plowing, but little seeding has been done; clover seed \$24; timothy \$5 per bushel to farmers. Potato market at loading stations in many places in western Michigan a little higher. First grinding of new buckwheat made last week; crop in western Michigan very poor.

### LIVE STOCK NEWS.

Chicago receipts of 75,000 cattle in two consecutive days stands the largest on record, while the common quality of the greater part shows that the farmers are not disposed to feed their corn freely at this time. Marketing of so many cattle in half-fat condition points to a scarcity of marketable beefs early in 1919.

Over twice as many sheep and lambs reached the Chicago market during the first two days of last week as showed up in the same time last year, and prices broke, with the best lambs selling \$6.75 per cwt. lower than at the best time last April.

Indiana farmers are making money out of raising prime yearling cattle on land valued at \$200 an acre. One such stockman makes liberal profits by breeding and raising calves sired by pure-bred Angus bulls, and out of mixed, but high-grade cows. A short time ago he marketed in Chicago 25 prime yearlings which averaged 1,053 lbs. at \$19.25 per cwt.

Reports from Texas state that as a result of the enormous marketing of cattle from the drought stricken districts, many sections are bare of cattle, and the problem of restocking is now to be considered. The federal government is tackling the problem, and loans are being made by the Dallas agency.

Many land owners are doing away with one-year leases and substituting long-term leases, in which they feed live stock with the crops grown on the farm. Profits are split in the middle.

Canadian cattlemen in Alberta have been putting up wild hay for wintering cattle. One ranch has about 20,000 cattle, the calf crop this year numbering about 7,000 head.

## Economics and the Milk Pail

(Continued from page 531).

fourth, the fact that sufficient acreage is being cultivated to produce the bulk of the feed consumed means a safe and sane system of crop growing and feeding, which usually assures success, can be practiced.

You probably have heard a lot of talk about the farmer's fifty-cent dollar. The dairy farmer is one of the original fifty-fifty men. A crop of grain that is sold for fifty cents costs him practically a dollar in the form of prepared dairy feeds. This statement may sound funny, but it is nevertheless quite true.

### Who Pays the Charges?

Let us consider the problem further—figure out what it costs to pay the freight from the farm to the mill, and again from mill to farm; to pay the vast number of workmen employed in mixing and blending the feeds; to buy handsome trucks, automobiles and pay the advertising and office expenses and a few other odds and ends usually associated with vast industries of this character. You will need no skill in mathematics to grasp the situation. The answer is obvious to all—the producer. This truth is so apparent that there should be no need to urge the dairy farmer to grow as much feed as possible and then to make it up into suitable rations right on the farm. The dairy farmer has the opportunity to convert a bushel of grain, the value of which on his farm is about one dollar, into finished products, milk and butter-fat, which have a slightly higher value than the original selling price. Oats may have a farm value of sixty cents a bushel, but when fed along in proper combination with other feeds and converted into milk and butter-fat the profit from the bushel of oats may be materially increased. Moreover, it makes it possible to put in practice a system of crop growing that will maintain the fertility of the soil and utilize the manure accumulated through the process.

### Good Roughage Cheapens Cost of Grain Feeds.

Probably the greatest economic waste in the use of grain feeds consists in the neglect on the part of dairy farmers to grow suitable hay and roughage to make up the bulk of the ration. At present prices for grain feeds one cannot afford to feed them to dairy cows that do not have all of the good alfalfa, clover, mixed hay and corn silage they can be coaxed to eat. Bulk, succulence and variety are the trinity of successful feeding everywhere and no dairy farmer can make good his deficiencies as a farmer with his check-book and show a balance on the right side of his ledger at the end of the year's business. Absolutely the first concern of the dairy farmer ought to be to make his own land and labor yield the most milk possible. Stated baldly, that seems commonplace, self-evident; but nothing is so easily overlooked as the self-evident. The dairy farmer should do this, not as a matter of sentiment or convenience or expediency, but because sound sense and business policy dictate it. To neglect this possibility is for him to voluntarily make himself a hopeless victim of the milk-dealer and the feed-dealer. Plainly, then, the new dairy farm efficiency lies in the direction of producing as much of the feed for the cows as possible on the farm and feeding it to the best cows it is possible to breed and develop. These are the two big facts.

### GRANGE MEETS AT SAGINAW.

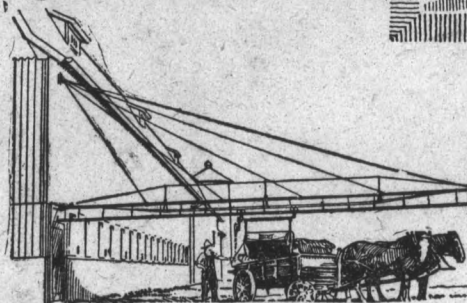
The Michigan State Grange holds its annual session at Saginaw, December 11-14, at which a large attendance of delegates and members is anticipated. It is urgently requested that all Grange members make a special effort to attend this meeting.

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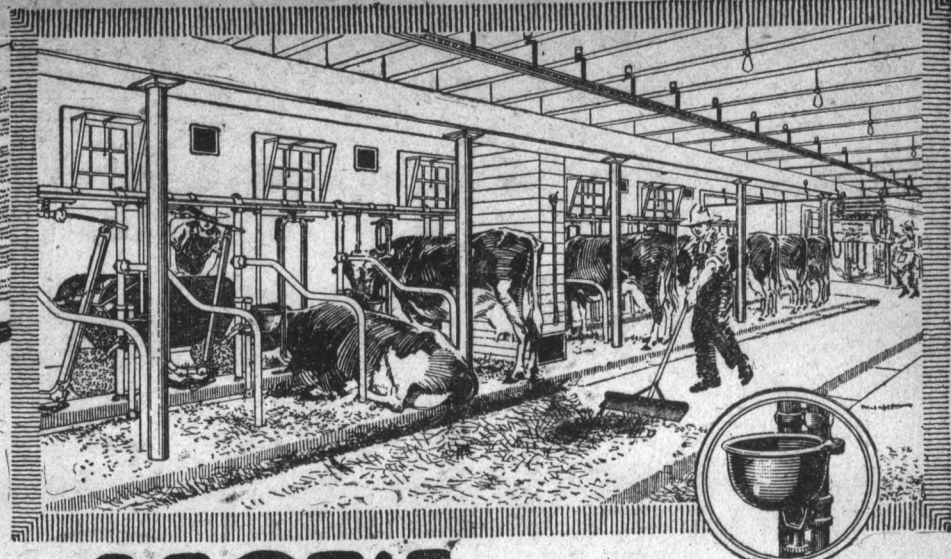
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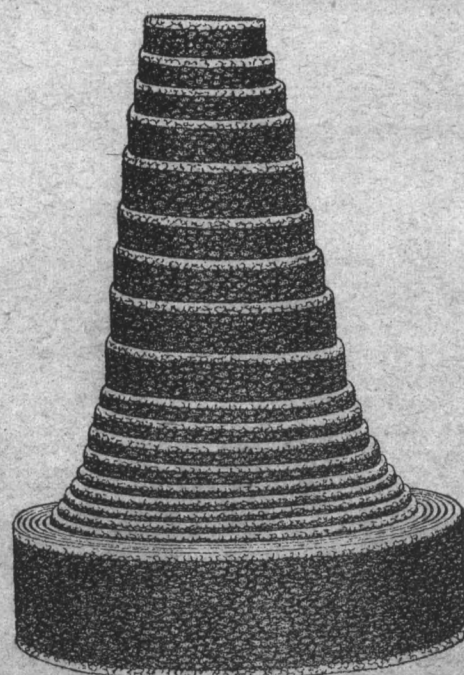
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