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Clearing Cut-Over Lands—Cost and Methods

By JAMES F. ZIMMER,
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At the present time large areas of undeveloped land are found in the northern half of Michigan. According to the last census, over 60 per cent of Michigan's land still remains unimproved, but there is much good agricultural land in nearly every county in this north country. Because of the danger from fire, these waste areas form a menace to the communities. At the present rate of cutting, most of the remaining merchantable timber will be cut within the next 25 years. This means that in many counties there will be a change from lumbering to farming. Wexford county has approximately 290,000 acres of unimproved land and forest fires are a constant worry to the farmers adjoining this undeveloped territory. On August 24, this year, a fire started in the southwestern part of this county and burned over 50,000 acres; taking fences, buildings, crops in many places, and destroying unlimited pasture.

The clearing and management of the logged-off lands is the most pressing problem in most of these northern counties. At the present time very little logged-off land that would make desirable farm land can be bought for less than \$15 to \$25 per acre.

Cost of Clearing.

The cost of clearing varies greatly. It averages from \$25 to \$40 per acre. The cut-over jack-pine land is the cheapest to clear and the green hardwood and unburned swamp land the most expensive. The cost of clearing depends on the following factors:

1. The quantity of second growth and logs per acre. The cost of disposing of these averages about \$7.00 per acre.
2. The kind of stumps and the number of years since logging; all green and hardwood stumps are very expensive to remove. The average cost of removing stumps is 30 cents and most of them are pulled with either a capstan and cable or tri-pod type of stump-puller.
3. The size and number per acre; The average number of stumps per acre is 45 to 50. It is more expensive to remove severely burned pine stumps



The Popular Capstan Type of Stump Puller at Work on a Large Stump.

than it is to remove a sound stump. 4. Soil: Where stump-pulling machines are used, the cost of stumping in sandy soils is less than in heavier soils. Where dynamite is used, the cost in heavier soils is less than in sandy soils. It is also more expensive to pull stumps on steep land than it is on level land.

Disposal of Stumps After Pulling.

Where medium-sized stumps have been well blasted the problem of stump disposal is relatively simple. It is considered cheaper to start several small, conveniently located fires in the holes made by blasting the stumps and then haul the remaining pieces to these fires than it is to build a few large piles and not set them on fire until all the stumps are piled. Where the stumps have been pulled by a stump puller without the use of powder the problem of disposal is more difficult. The general opinion throughout this region is that the cost of disposing practically equals the expense of pulling. All data secured seem to verify the accuracy of this estimate. In the early days of clearing the stumps were hauled into rows to serve as

fences. At the present time very few such fences are being built.

Piling Stumps.

Large stumps are very hard to pile. Some owners split the stumps by the use of a small charge of dynamite placed either in a hole bored into the base of the stump or in a notch chopped between two prominent roots. Often the heart of the stump is sufficiently decayed so that the charge may be placed in it. A small quantity of dynamite used in this manner will usually split the stump as well as a much larger charge would have done before the stump was pulled. By using a tripod with legs 40 or 45 feet long and equipped with a double block and 150 feet of half-inch cable, the stumps can be piled 25 or 30 feet high. Another good method of piling is to use a piler with a swinging boom. The mast of this boom piler is 30 feet high and the swing boom is 25 feet long. In using this boom piler the mast is set so that it leans slightly toward the pile. This causes the boom to swing to the center each time. Dropping stumps into a fire by means of piling devices is impracticable, because the heat soon

becomes so intense that the piling operations must be abandoned.

The work of piling stumps could be hastened materially if some satisfactory tripping device could be used. The usual self-tripping tongs and rope trips frequently catch on projecting roots and drop the load before it is at the desired position.

Other Ways of Disposing of Stumps.

In the past a considerable number of pine stumps have been used by turpentine manufacturers for distillation. For some time, pine stumps were used in Cadillac for distilling turpentine, but the process has been abandoned at the present time. The low price of turpentine and naval stores has made the distillation of Norway-pine stumps unprofitable, and none of the turpentine plants are now in operation. The white-pine stump contains too small a quantity of the properties of the Norway-pine stump to make it of any value.

Facts Every Settler Should Know.

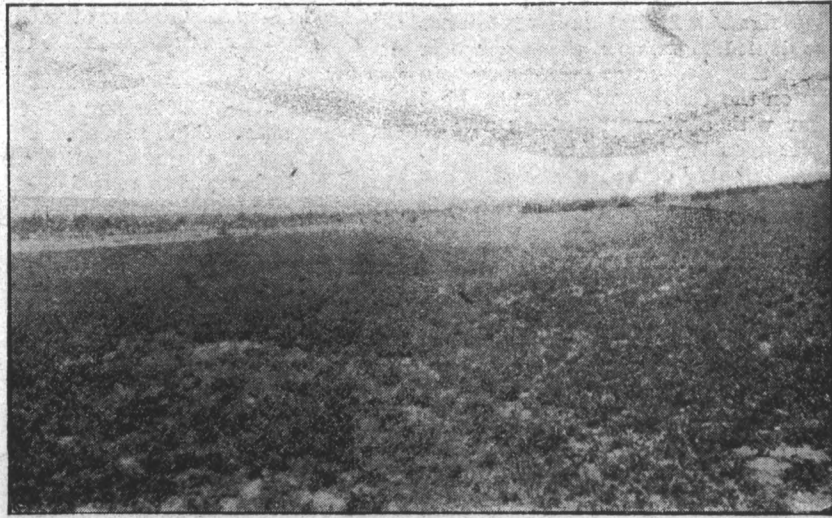
The intending settler on the jack-pine lands needs to know at the outset that this sandy soil needs a little nursing and special care in handling. The land has been repeatedly burned over every few years for no one knows how many generations; hence, there is little humus or vegetable matter in it. It lacks nitrogen. It is likely to be a little leachy. It is likely to suffer severely in time of drought. It needs protection from the winds. In the beginning it should be plowed shallow. It usually needs rolling to make a firm seed bed, followed immediately by dragging to make a dust mulch for retaining the moisture in the soil and to reduce the velocity of the wind next to the soil surface.

On the other hand, when such sandy land is properly handled it responds with marvelous quickness to even small quantities of barnyard manure, green manure crops, or commercial fertilizers. It produces splendid crops with barnyard manure alone. The land can be handled whenever the sun shines. It produces a crop ten days to three weeks earlier than the heavy

(Continued on page 577).



A View of Typical Wexford County Cut-over Land in Northern Michigan.—Most of this land is covered with grass and clover, which makes excellent grazing for cattle and sheep. It costs about \$25 per acre to clear.



A View of the Same Land After Being Cleared. Stumps and logs were burned on land, which leaves lime and potash in ashes on soil. Red Clover and June Grass come voluntarily after land is freed from rubbish.

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DETROIT, DEC. 16, 1916

CURRENT COMMENT.

Recent information is to the effect that leading sugar companies of the state will this year offer a sliding scale contract with a minimum price of \$6 per ton for beets, and a provision for further compensation based on the price of sugar during the months of October, November and December, 1917, and January, 1918, when the bulk of the beet sugar is manufactured. Briefly summarized, it provides additional compensation based on the average price of beet sugar for the period mentioned, this average to be determined by official New York quotations. If the average price of sugar as so determined exceeds \$6 per cwt. the difference between this average price and \$6 per cwt. will be paid as added compensation per ton of beets. For example: If the average price of sugar for the period named is \$7 per cwt., \$1 per ton additional compensation would be paid for the beets. This is a modification of the so-called Ohio contract which was described in a recent issue and which was used by two Michigan factories last year, the difference being that the minimum or base price of beets is 60 cents higher than in the so-called Ohio contract, while the additional compensation, if any, would be 40 cents less per ton. For example: Under the Ohio contract with sugar at \$7 per cwt. the added compensation per ton of beets would be the difference between \$5 per cwt. and \$7 per cwt. or \$2, which, added to the base price of \$5.40 per ton would be \$7.40 as compared with \$7 under the Michigan contract with like values prevailing.

We are informed by a committee representing several hundred sugar beet growers that a conference with the manufacturers was sought before the terms of the contract to be offered were fixed, but that this conference was denied them, as a consequence of which they are now seeking accurate data on the cost of manufacturing beet sugar with a view of making a later report upon the fairness of the contract which is being offered to the growers, pending which report they have asked growers to delay the signing of contracts for next year's acreage.

Some large groups of growers demanded an \$8 flat rate for beets in advance of the determination by the companies of the form of contract to be offered, on the ground that at present and prospective values of other farm products they could not afford to grow beets for less. There is also a general and well founded feeling that in view of the fact that the sugar companies have reaped a big profit on the sale of the high priced sugar made from the beets which the growers

were obliged to deliver on the \$6 contracts made on a basis of much lower sugar values, it is but fair for the manufacturers to contract for next year's beet crop on the basis of present sugar values. On this basis it is the consensus of opinion that \$8 per ton is a reasonable price.

The sugar beet growers are right in their demand of a share in the profit resulting from the manufacture of beet sugar proportional to their contribution toward its production. They were right in their demand for a hearing before the price schedules for next year were fixed. They will be right in refusing to sign contracts for next year until they are fully satisfied that the contracts offered are fair to them. Since the manufacturers refused to take them into their confidence or even meet an authorized committee of growers before offering a new contract, every beet grower should refuse to contract acreage for next year before the committee of growers above mentioned has had time to collect data upon which the fairness of the contract offered can be fairly determined.

The time has passed when any large body of producers can be successfully ignored by the purchasers of their product. Under present conditions the sugar manufacturers need the beet growers in their business much more than the beet growers need the manufacturers in theirs. It is true that the beet sugar industry of Michigan has been a valuable addition to the agricultural resources of the state. It has also been an exceedingly profitable business to the manufacturers of beet sugar. The growers are right in their demand for a fair division of future profits and they should co-operate to that end by delaying the making of contracts for acreage until it has been demonstrated that the proffered contracts are fair to them, or until the manufacturers meet with them in conference. To this end the beet growers of every community should organize at once and name representatives to meet with the committee that has taken the initiative in the matter.

The form of contract offered by the manufacturers is, on its face, apparently fair, and if an investigation shows the increased compensation provided is proportional to the profit derived from the manufacture of sugar at the increased price, it may prove acceptable to the growers. Such a sliding scale would be fair for factories previously operating under it. But under it the growers take all the chances of a low price for their product and the manufacturers none, notwithstanding the fact that the manufacturers who have used the flat rate contract will make a very large profit from this year's crop, and could well afford to share it with growers by offering a liberally increased flat rate for next year's crop.

Certainly the growers are warranted in refusing a contract less liberal in its terms than the so-called Ohio contract used by two Michigan factories last year, until its "fairness" has been satisfactorily explained to them. Our readers will be kept informed with regard to further developments in the matter.

The leading article in this issue presents to the reader the experience and observation of one of Michigan's older agricultural agents from the standpoint of experience, who has for some years been located in a typical cut-over section of the state, the agricultural resources of which are being slowly developed. The general facts with regard to land clearing as presented in this article will be supplemented by descriptions of the detailed operations of other farmers who have cleared areas of cut-over land in northern Michigan and made them into attractive and profitable farms.

In this connection the reader will perhaps be interested in a farm management survey conducted in the cut-

over districts of northern Michigan, Wisconsin and Minnesota by special agents of the U. S. Department of Agriculture. The report of this survey which has recently been published indicates that a great many farmers in this area are at present "land poor," meaning that they are paying taxes on too much uncleared land. The results of this survey show clearly that tillable area is a reliable indication of the measure of success in farming operations in that region, and that untillable area is very often a sure indication of a lack of success. In other words, it was found in this survey of more than 800 farms that net profits increased as tillable area increased, thus making the problem of economical increase in tillable area of the farms of this section one of the most important of the problems to be met by these farmers.

Land clearing on an extensive scale requires the investment of considerable capital which is too often unavailable in the local money market. If advantage can be taken by groups of northern Michigan farmers of the new rural credit law as a means of securing needed funds for the clearing of additional land, the development of the agriculture of this section would be hastened materially. Co-operation in the securing of capital through the organization of farm loan associations as required by the law, would suggest the still further expedient of acting co-operatively along the line of a plan adopted in some Wisconsin communities and described in a comparatively recent issue of the Michigan Farmer.

There is room for much constructive work by rural leaders in our cut-over counties along this line. May we not hope that the publication of this series of land clearing articles will prove an inspiration to the resident farmers and rural leaders in these cut-over counties, as well as the young men in other sections of the state who are seeking an agricultural opening where limited capital, coupled with energy and industry may best be turned to account in the securing of a comfortable home and the development of a profitable and valuable farm.

A good many subscribers will read this issue, whose subscriptions will expire with the last issue of the month. If the reader is one of these he can avoid missing one or more numbers by renewing his subscription at once. Our program for the year, as announced on page 584 of this issue, includes much of interest to every farmer in the state, whether he is a general farmer or engaged in some special line of production. Many important decisions with regard to next year's farming program must be made during the next few weeks, and succeeding issues of the Michigan Farmer will contain many carefully prepared articles which have a direct bearing on the important problems to be decided. For this reason, if for no other, your subscription should be renewed in advance of its actual expiration. The necessary advance in subscription prices, announced for February 1, constitutes another reason for early renewal, since the saving in price is a considerable item.

There has never been a time in the history of Michigan agriculture when a trade paper was of so great value to every farmer as it is at present, when farm products are high in price and farmers are in a position to get an increased percentage of the consumer's dollar by intelligent and progressive marketing. Our program for the ensuing year has been formulated with the one idea of helping the farmers of the state to grow maximum crops at a minimum cost and market them to the best advantage, and at the same time provide the whole family with wholesome, instructive and entertaining reading matter. The prudent reader will avail himself of the opportunity now offered to renew his subscription at present prices by acting at once.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The German drive through Roumania has resulted in the capture of Bucharest, the capital of that country. The Roumanians apparently have suffered extremely heavy losses. Berlin reports place this loss at 412,000 men, of which 300,000 were killed. The Teutonic victory has shortened their front more than 340 miles and has given to the central powers 70,000 miles of territory which includes valuable mining and petroleum districts as well as grain growing land. Early this week, however, it was stated that the German rush was meeting with stubborn resistance and their effort now to establish the front along a straight line between the Transylvania mountains and the Black Sea, will be attended with unusually difficult military obstructions. The entente troops made a heavy attack north and east of Monastir, Serbia, which was successfully repulsed, according to Berlin.—While a heavy snowfall is preventing military operations in the mountains included in the Austro-Italian theatre of war, violent bombardments are on to the east of Gorizia and on the Carso plateau. No change of front, however, has been announced.—The Germans made an attack in the Vosges region early this week but were repulsed by the French. This is about the only operation of moment reported from the western line the last few days.—Emperor William has returned from his visit to the new Austrian Emperor at the Austro-Hungarian army headquarters near the battle front.—The cost of the war to France from the opening of hostilities to the end of March in 1917 will have amounted to \$14,520,000,000, while Great Britain in the same period will have had an outlay of \$18,000,000,000.

The arrival of the German commercial submarine Deutschland at the mouth of the Weser river, near Bremen, completes the second trip of that undersea vessel to the United States. The submarine carried a cargo valued at \$2,000,000, and official mail back to Germany.

British and French cruisers lying off Sandy Hook have sighted a hostile steamer heavily armed and equipped with torpedo tubes about 500 miles north of the Azores in the middle of the steamship lane.

The political crisis in England has resulted in the formation of a new war cabinet as follows: David Lloyd-George, Premier; Earl Curzon, Lord President of the Council, who will also be government leader in the House of Lords; Arthur Henderson and Lord Milner, both ministers without portfolios, and Andrew Bonar Law, Chancellor of the Exchequer, who will also act as leader in the House of Commons. It is intimated that the first measure to come before the new government contemplates complete control of the liquor trade, which it is predicted will absolutely prohibit the consumption of spirits except for medicinal purposes and will restrict the beer trade. The distillation of whiskey and gin will also be prohibited.

Marshal Oyama, one of Japan's greatest soldiers, is dead. His military genius brought out during the Russo-Japanese war, is ranked with that of Napoleon and Moltke. He received his early education in America.

German submarines in the Arctic seas have sunk 16 ammunition steamers bound for Russia during the last few weeks.

National.

It is expected that 60,000 garment makers in New York and New Jersey will go out on strike this week for an increase in wages of \$2 a week and an eight-hour day.

It would appear that much of the difficulty in securing freight cars for shipment of grain and food stuffs from the west is attributed to the congestion of cars on the seaboard loaded with freight for export. The failure to secure bottoms has led exporters to leave their freight stored in these cars until it can be carried across. Embargoes have recently been placed upon two of the trunk lines prohibiting the receipt of cars from connecting lines booked for seaboard shipment. Not only is this congestion interfering with the free movement of agricultural products, but shippers of manufactured articles, minerals and metals are also suffering from the same condition.

"A QUESTION."

If it were merely a question of renewing your subscription early, in order to relieve the rush in this office, which usually occurs the last week in this month, you would have comparatively little for consideration. The main question this year is the saving the subscriber himself makes by renewing early—50 per cent at least.

Mr. and Mrs. Subscriber, do you get the point in question?

Boost Farm Life This Winter

By
Ashley M. Berridge

OF all the students in Germany, one-third may die out, one-third rot out and the other third rules Germany," are words said to have been uttered by the great Bismarck. Is there not even a smaller percentage of leaders among the Michigan farm lads today? Of all that enter the rural schools for the period of training and education required by law, only a few go beyond the stated limit. Some drop out because of necessity, others for lack of ambition, but I believe that the greatest number of farm boys neglect to get a training for their work because of lack of encouragement. Why is it that the majority of farms today are managed and operated by men past middle age? In nearly every other kind of business the young man is a powerful factor—important to the welfare of all professions and vocations. That word "Encouragement" has something to do with it.

Many times have I been in homes where the father and mother talked openly of the discouragements and trials of farming and farm life. The boys and girls who listen to these remarks, if they really have faith in their parents, cannot grow up as enthusiastic farmers. The first chance they have to break away from such work will be taken advantage of.

Sometimes men think they are encouraging their children by giving them animals to raise. Very good. Nothing will help more if it is real ownership. But only too often after the pet heifer or colt is brought to maturity the ownership automatically reverts back to father. Once in a while the boy is encouraged to exhibit his stock at the county fair and if a prize is won the boy has the ribbon while the old man pockets the premium money. Encouragement of that kind will break the heart of any lad.

There are opportunities on the farm today, for the young man. He has a different proposition to handle than did his father. The "Young Man of

Yesterday" took up new land. He left his childhood home and started out for himself, to find a place of his own, a spot where he would spend the remainder of his life and wished his children to live after him. This young man was dependent upon the skill of his brain and hand for all that he had. Often he chopped down trees to build a house for the family and a barn for the animals dependent upon him. He cleared the land, put in crops and harvested them. What was not needed for home consumption was traded for shoes and clothes.

After the land had been worked for a few years, this happened: Crops were not as good as usual, insects attacked both plant and animal, with drastic effects at times, diseases took away the live stock and reduced crop yields.

The government commenced working upon these new problems of the farmer. Buildings were erected, apparatus purchased and skilled scientists employed to find out for the farmer why these things happened. Great schools and colleges were established, armies of trained men set at work to compile and distribute their findings.

Yet after millions of dollars have been expended for this enlightenment concerning his own problems, the major farmer continues to send his boys to the city workshops and his daughters to become the wives of city men. He still refuses to encourage them to remain on the farm or to urge the obtaining of a knowledge of these farm problems, an equipment sorely needed if they should remain there.

Just at this time the beginning of the least busy month of farm work, is an opportune time for a man to change his policy. A consistent plan of encouraging the boy or girl to get a training for the every-day duties of life on the farm will pay bigger dividends than buying more land to have it deserted some day when a good city job shows up.

Allow me to suggest a few things that he might do. The Michigan farmer can call upon his government for aid and he will get it, but he should more frequently use the great institution and its trained men that have been placed at his disposal. The Michigan Agricultural College has a million dollar equipment of buildings and apparatus. It is in co-operation with the government through the experiment station and extension service. Some \$600,000 are expended there every year with the one aim in view of benefiting the state of Michigan through the farmer.

A comparatively few young men and women from farms go there and spend four years in gaining an education. A two-year course extending from November 1 to March 1 of each year, offers to the farmer or his children a splendid opportunity to get the cream of the longer course at a minimum of expense and time. In the winter's eight weeks' course the institution opens up its doors to men and women of all ages, inviting them to come and make special study in courses of farm crops, soils, creamery work, horticulture, poultry husbandry, dairying, beef, sheep and swine raising, and domestic science. These courses, especially, should appeal to the farm boy and girl. No particular requirements are needed, \$50 should very nearly cover the expense, and only a short period of time, covering two ordinarily unproductive months, need be spent away from home. It gives to them all the advantages of the splendidly equipped buildings at East Lansing, the opportunity of hearing lectures by men who stand high in their profession, the privilege of attending the various state farmers' and breeders' meetings that are held at the college during January and February, and that which is not least valuable, it brings them in contact with young people of like ambitions from all over the state, giving them ideas of what others are doing

and brings them home satisfied that farming is a great work and with firm intentions to make good by means of a little more headwork along with "Pep" which is the trained man's unification of Poise, Energy and Perseverance.

Everyone cannot leave the farm. Yet the man who has decided to do a little "Farm Boosting" can bring many of these things to his own community and can thereby help, not only benefit his own son but the entire neighborhood. The extension department takes the college to the community. It organizes boys and girls into clubs for the study and improvement of all kinds of farm work—canning fruits and vegetables; gardening; raising calves and pigs; caring for poultry; keeping cost accounts and beating "father" in yields of corn, potatoes and other crops. It sends specialists out to carry on schools for a week in a neighborhood where either men or women, or both, may attend and take up a definite course of study. It furnishes speakers for institutes, sends out men to study and advise concerning disease or insect pests that are damaging a farming section, furnishes men to introduce and supervise the growing and distribution of pure, high-yielding varieties of seeds, and men to form associations for cow-testing, live stock improvement and seed purification. In fact, a community has only to make its farming needs known and this department will attempt to care for them.

With this at the disposal of Michigan farm boys and girls, and men and women, shouldn't it be taken advantage of? Just do a little of that boosting that says "Come on, boys," rather than "Sic 'em, fellows, you do it," for your own business this winter. You will be getting back the taxes you pay for the support of this work. You will be making the place you live in a better place, and best of all, it will give the future men and women the desire to become, and the training to be, successful farmers.

Applying Rural Credits In Michigan

By
JAMES N. McBRIDE

THE Federal Mortgage Loan Act has within the germs of what may be utilized to solve many of the problems of northern Michigan. Problem No. 1, with sheep, may be set forth concretely as follows: Four men, for example, become one-fifth of a corporation or local Farm Loan Association. To complete the legal formula of not less than ten men and a loan of \$20,000, multiply the unit under consideration by five. A tract of 320 acres of cut-over land adapted for pasture is bought with titles for the respective 80's held individually, but fenced in one body, which would require but three miles of fence, while the fencing of a single 80 would be one and a half miles. Watering arrangements for the sheep could as well be made for the whole flock to be pastured, as for a single owner on his individual land. Twenty-five good ewes per man, or four times that for all, would possibly be the limit to start in with. The ewes would be individually owned, marked and the lambs dropped before spring pasturage began, when the flocks would be mingled, a record of the four flocks would be made with their respective lambs, and identifications agreed upon, so that losses would be individual, to avoid disputes.

Financing the Project.

The financing of this project would come from the Federal Loan Act. The amounts individually required, for land and sheep would run from \$1,000 to \$1,500 dollars. If the wild land was bought on contract and the home farm already assumed to be owned as a prerequisite of this program, perhaps half the sum would be demanded for the

financing and the balance paid on a contract, at any other time. If the rate of interest was five per cent and for 20 years, the annual payment needed to discharge \$1,000 would be \$80.24, if five and a half per cent, \$83.68. The annual gross income from a flock of 25 ewes would, on an average, where cared for in a small flock at the home farm, and good care given at lambing time, be perhaps above \$200 at present prices.

The investment, after paying the amortization rate, would leave a gross return of at least \$100 per year. In the meantime with the natural clear-

ing up of the land by sheep pasturage, and with the increasing values that would attach to the land, it would double in value in 20 years, or at least have an earning capacity to make the land worth at least \$2,000. At the end of the 20-year period the farmer would own this asset and have enjoyed an annual income of \$100 or more, without having done anything beyond using his credit to start the financing of the project.

A Nucleus of New Wealth.

My own impression is that the carrying capacity of these cut-over lands would be double the number of sheep

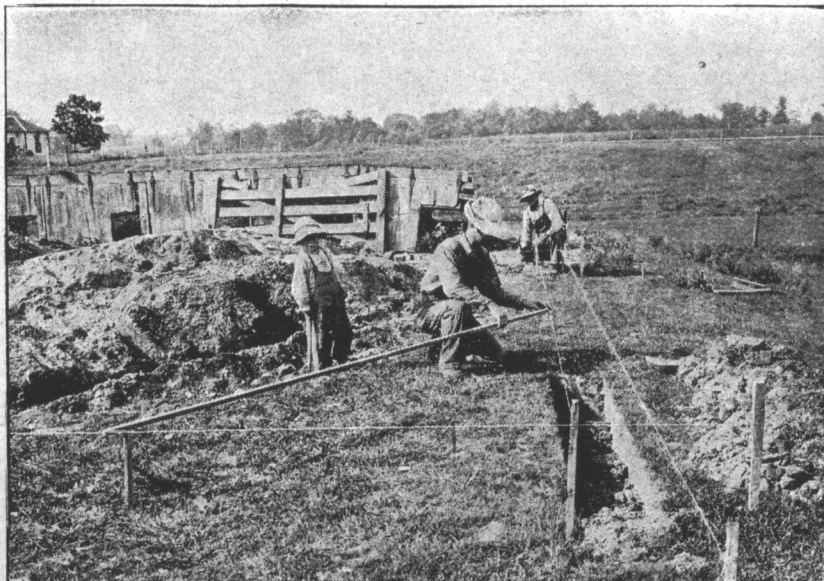
indicated. The wealth obtained in this way would be a creation or a utilization, where now no return exists. The economies of utilizing rams to advantage, shipping out carloads of lambs when finished, and also of uniting many more of these units in shipping by the carload, would be items of great importance. Here is a chance for the greatest individual co-operation possible. There is no payment for stock or dead equipment. The success does not depend upon some manager, or board of directors. The hazard is over such a long period of years that no serious danger can come that cannot be easily met. The earnings of lambs and wool show quick returns. The investment in land is an asset that can not be vitiated or decreased in value, and on the other hand, is by the very nature of things, an increasing asset.

The home farm in the northern counties is, like the irrigated ranches in the west, more valuable acre for acre, than otherwise, because it is attached to grazing land which cares for the stock during the grazing season. Ultimately 20 acres of an 80 might be a sweet clover field which would be valuable for finishing lambs or harvested as hay.

The Community Value Factor.

The social value of ten men working together to form a credit union, buying their sheep, shipping their lambs, etc., would be a community interest that would bring out the best in men and develop leadership.

There have been requested concrete examples of how the Rural Credits Act may be made advantageous in Northern Michigan. The application



There is Less Interference with Regular Farm Duties if the Construction of New Buildings is Started During the Fall or Early Winter.

of this principle to grazing cut-over lands where owners are already engaged in general farming and desire to branch out in sheep raising is explained. The Rural Credit machinery will probably not be in operation before next spring. In the meantime address W. W. Flannagan, Secretary of Rural Credits Board, Treasury Building, Washington, D. C., for literature containing detailed information on the formation of local Farm Loan Association for its utilization.

"WHAT SHALL I RAISE NEXT SEASON?"

It is a good time right now, to lay plans for the crops of 1917. To start with, there is little doubt that prices will be high for nearly all farm products.

Michigan's leader, the bean, can hardly miss ruling very high in price; perhaps not so high as this season, but it may rule still higher, for if the war continues, as it gives all indication of doing, there is no unprepared food that is quite so valuable as the bean for army use. It is a mighty safe bet that the farmer who plays long on the bean the coming season will stand a great chance of reaping a big reward. The bean crop is a very small one this year, not near enough for normal consumption, and will be used as generally as possible, in spite of the high price, because there is no food substitute to turn to that is any cheaper, that will anywhere near fill the bill.

Cheap, or reasonable priced, potatoes would contract bean consumption, but with two-dollar "spuds" there is not any help. And with an European demand for every bean to spare, there is a question as to just where beans will go in price before seeding time is completed.

The high price of beans will also affect the price of another of Michigan's big special field crops, sugar beets. This crop has not paid very well in most Michigan territory this season. The season being so late on account of wet weather, the crop planted late on poorly prepared ground, followed by one of the worst drouths known in years, made a crop that hardly paid the labor bill on this high labor crop.

It is problematical just what the sugar beet situation will be. One thing is certain, the contracts will have to be written at a great deal higher figure for tonnage than in the past, or mighty few farmers will take on themselves all the extra work of a beet crop. With the high level of prices for other crops, beets will have to bring more money.

With the extremely high prices for wheat and corn, oats have ruled relatively cheap, but it is a matter of small doubt that oats will bring 75 cents per bushel at primary points before March. Any price they can be bought at at present for seed for spring will look very low by April 1, next.

The hay situation is about the only unsatisfactory one of our crops and it is a problem just what the future holds forth for this very important crop. There is no doubt, however, that there will have to be an entire readjustment of the hay situation. With the almost entire absence of the horse as an object of transportation any longer, timothy hay will not be used so much, and with the prospect that the farm tractor will be more and more used, and further perfected within a very short time so that even the small farmer will use them, the hay situation is not a rosy one.

It would appear that for the Michigan farmer it would be a good play to rip up about all the spare meadow he has and sow to beans the coming season, as while it may not be a good rule to put "all your eggs in one basket" every rule has its exception, and I think there is little danger of "spilt beans" for at least two years.

It will be a mighty prudent thing not to wait for cheaper seed, or sell now

with the idea that you can buy cheaper at seeding time, because it will take a good many bushels of beans to sow next spring's Michigan bean acreage. Another thing, it would be more than ordinarily advisable to sow just as early as safe, and get off on the early

market as you have a double market chance then. If you like the late market you still have it, and there might be a vast difference between September spot beans, and October and November beans.

Isabella Co.

W. J. COOPER.

The Good Roads Problem

By J. A. KAISER

FEATURES of the farm enterprise that have already been mentioned have rendered it unnecessary for farmers to use a trade mark. It is probable, however, where the grower has any quantity of goods to sell that a trade mark could be very profitably used in connection with the farm advertising. Manufacturers use trade marks with considerable profit to themselves and it seems probable that the farmer could make as effective use of this device.

Except in very rare cases should the farmer attempt to make or originate his own trade mark. He is not well enough acquainted with the psychology of selling, nor is he able to look at his product in the light of a prospective buyer. Since so much of psychology and so much of looking at the product from the viewpoint of the customer determine the value of the trade mark, in most cases it would seem wiser to ask some advertising house to originate a trade mark. They have access to artists and after the producer has explained to the designers what he has to sell, whether he wishes to cater to a high-class trade, and what idea he wishes foremost in his advertisements, then will the artist be able to create a trade mark that will embody all of these ideas.

To be useful on the farm, a trade mark must be so flexible that it can be used on any product. My ideal of a farm trade mark is one about the size of a silver dollar. It must be borne in mind that in the course of a year, the average farmer has for sale cattle, hogs, eggs, dressed poultry, strawberries, seed corn, etc., therefore the farm trade mark ought to be so adaptable that it can be used on any of these products. It should convey a sense of quality, honesty and integrity. Of course, it should in some way convey an idea of farm life if that be possible.

In the past, no farmer has thought much about buying and using labels in the marketing of his products, yet we are rapidly coming to that. The consumer likes to know where to place the responsibility and as long as the grocer assumes the responsibility for the eggs he sells, just so long will he profit most from the egg business. Responsibility is expensive. More profitable selling means that the farmer will use stickers and labels telling who it was that produced the goods. The trade mark ought, by all means, to be used on these labels, stickers or shipping tags. The trade mark on these goods will give dignity to the farmers' product and insofar as it places the responsibility for the satisfaction of the customer, it will give the producer a pride in the production of the article that he never knew before. This same pride when once aroused, stimulates the development of better stock.

The trade mark has arrived, what shall we do with it? Eggs are sold from nearly every farm. If they are to command their way in the market and sell above competitive prices, they must be marked so the buyer can reach the producer if the egg is bad. The farmer in this case would be able to create an enormous trade for his eggs if he had a rubber stamp made so that each egg might bear his trade mark, name and address and the date the egg was laid. The name and address and date have been tried already with some degree of success but the trade mark on the egg is a new departure yet judging from the prestige that has been won with commercial trade marks, there seems little doubt but

that a trade sign coupled with an un-failing ability to deliver a wholesome product would make prestige for the farmer as well.

If one were in the business of breeding dairy cattle and had nothing but pure-bred stock for sale, he could make use of stickers done in colors and bearing the farm trade mark. These could be pasted onto the registration papers or onto transfer papers where animals are transferred. In this case he would have only a very limited patronage but when the price of a single individual is great, the price of the trade mark stickers becomes correspondingly less and they would still have opportunity to perform their mission of good-will and service.

In summing up the question of the farm trade mark, it would be profitable, provided the farmer expects to be in the business any length of time and cares to cater to a trade that sees a value in trade-marked articles. After the field has been surveyed and it has been decided that products will be marketed that could bear a trade mark the next thing is to place the proposition before an advertising agency, together with the prominent idea that should stand out. Let experts develop the trade mark best suited for the products in view. Since the egg is the smallest unit of sale from the average farm, the trade mark should be so small that it can be placed on an egg.

LILLIE FARMSTEAD NOTES.

I have just purchased another small bunch of steers, 11 in all, and I had two of my own, making 13, the same number as I had last year. Just enough to fill the barn room. The reason I did not buy cows is because we have 52 cows, all of which will be giving milk before spring. This will make all the milking the four men ought to do, and do well. Besides, where we have to keep these steers is away from the silo, so for that it is very unhandy to feed silage. Also, we have none too much silage for the cows this year. The reason for purchasing these steers is that we have abundance of hay, both alfalfa and clover, that we want to turn into cash, and we will have plenty of pasture next summer. Now, I propose to just winter these steers. Feed them all the hay they will eat and a very little grain. Then run them on pasture until the middle of the summer and sell them. The 11 steers I purchased weighed 8,070 pounds, or a little over 733 pounds each. The two I have are smaller yet. They are not prime steers. They look like a cross of Short-horn bulls or Holstein cows, or grade cows. I paid six cents for them.

It does me good to see the milk producers stand for their rights. It is only a question of organization properly handled. The farmers can do the trick if they will act like business men.

This is a rare instance where the producer sets a price for his product. He usually takes what is offered and says not a word. Nobody else does this way. The manufacturer figures the cost of his product, and a profit, and fixes the price to cover, and he gets it. Why can't the farmer do the same? A few years ago few farmers could tell with any degree of accuracy what the cost of producing milk was, but of late years they have been keeping tab on their business somewhat and now know somewhere near the cost of producing milk. They have a moral right, and a legal right, to get

a price that will cover cost and leave a reasonable profit.

Around Grand Rapids the dairymen have been getting 16 cents per gallon or four cents per quart, for their milk; the distributors have been selling to the consumer for eight cents per quart. It never seemed to me that a man should get as much for simply delivering milk to the consumer as the farmer gets for producing it. When the farmer gets four cents per quart it don't seem reasonable to make the consumer pay eight cents, or twice as much as the producer receives. Now, the farmer demands five cents a quart, or 20 cents per gallon, and the dealer says he must charge the consumer 10 cents. The consumer objects to 10 cents, therefore the dealer insists the farmer must take 18 cents per gallon, or four and one-half cents per quart, and then he will charge the consumer nine cents per quart. His slice must be just so thick, no matter what happens. It is certainly good business on his part and I guess the consumer must stand the cost, for the farmers seem determined to take no less than 20 cents per gallon, and the consumer must have the milk and the middleman is necessary in the deal, and if he insists on just 100 per cent profit the consumer must pay, or find some more economical way of distribution. The farmer is certainly asking none too much for good, pure, clean market milk. Besides, this milk is the cheapest food the consumer can buy, even at 10 cents per quart. The food value of milk is not fully appreciated by the average consumer. There is very little difference in the food value of a cup of coffee with the sugar and cream that goes with it, than in a glass of milk. Many places where you pay 10 cents for a cup of coffee you only pay five cents for a glass of milk. Milk has never sold for its intrinsic value compared to other animal food products, like beef, mutton, pork, fish or eggs.

It seems the only way in this world for the common people to get their just rights is to fight for them. Nobody will grant them without a struggle. The only way to fight for such rights is to strike. We have got to do more of it. And nothing can be done except by organization. One or two acting together can do nothing, but when enough act together to effect the supply, then the rights are granted. It has always been this way but the farmer has been slow to act. There are so many of them and they are so isolated that it requires lots of effort to get them to act together. Recently, however, things have happened that prove the farmer can do business, and do it in the right way. Hats off to the milk producers all over the country.

COLON C. LILLIE.

FARM NOTES.

Spring Rye.

I have 10 acres plowed intending to sow winter rye, but the freeze came too quick. I want this field in a cash crop. What do you think of spring rye? I should like to hear from others in the same boat.

Calhoun Co.

H. C. H.

Neither spring wheat or spring rye give as good average results under Michigan climatic conditions as winter wheat or winter rye. Some years ago spring rye was grown quite extensively in certain sections of the state, but the grain has not attained a popularity which has displaced winter rye to any extent, as a Michigan crop.

In cases where conditions were not favorable to seeding winter wheat or rye last fall, spring wheat or spring rye may be grown as a substitute crop with very fair success in favorable seasons. There is, however, more reason for sowing spring wheat than spring rye, unless the grain is being grown as a cash crop, since oats or barley may be substituted as a spring sown grain for feeding purposes and with more dependable and economical results.

Solving the Labor Problem

By an Ex-Hired Man

THE labor situation is about the hardest problem that the farmer is confronted with today. Conditions everywhere are unusual. Our nation's remarkable prosperity and industrial expansion has resulted in an unprecedented demand for labor. With our city factories crying for men and eagerly paying them \$3.00 to \$3.50 per day, the farmer has been face to face with a hard proposition.

Paying wages on the farm equal to city wages is out of the question. Although prices received for farm products have advanced somewhat, the farmer is, as usual, one of the last to benefit from the national industrial expansion. Clearly, there is but one alternative. The hired man must be given a better deal.

Like any man, he appreciates a good home. Nothing will make him more willing or efficient than good meals, which are well-prepared, and a comfortable room in which to sleep. A man cannot do the heavy work of a farm on a ration of salt pork and greasy fried potatoes for every dinner of the week, and a dish of half-cooked oatmeal every day for his breakfast. Yet this is the common fare which the farm hand is given for the "and board" part of his contract. The employer saves perhaps a dollar or two a week in this way, but he loses many times that amount in lessened efficiency and growing dissatisfaction on the part of his men. Nor can the farmer himself afford to stint himself in such necessities.

The writer knows whereof he speaks, having worked on farms that



It Costs 20c to Remove this Stump.

represented the contrast between successful and unsuccessful methods of handling the labor question. On one, the men were boarded at a tenant house. The food was very meagre in variety and was prepared most carelessly. Ten men slept in one room with but little room between cots. What were the results? The men were constantly grumbling, and on two occasions even went on strike, not for higher pay—they did not once complain of that—but for better food and living conditions. This owner could not have made a better investment than to have improved these matters by securing a competent cook and adding a little to his grocery and meat bills.

In another place at which the writer worked, six men were boarded right in the farm home. Living conditions here were excellent. There was plenty of wholesome food, and each man had separate, well-kept sleeping quarters. But what perhaps counted even more was the good feeling that existed between the owner and his men. Wages were not high on this place, but the men were all satisfied, and there was a spirit of willingness and co-operation that is seldom found on a farm. The writer fully believes that the six men on this place accomplished as much

work as the ten men on the farm previously mentioned.

One of the best methods of keeping the hired man contented is to get him acquainted in the neighborhood. Take him along to church on Sundays, and to the various social activities of the community. Make him feel that he is one of the family. And give him an occasional holiday. Not only will it keep him in better spirits, but the change will have results in an increased efficiency. And remember that ten hours a day are enough. There is no economy in dragging out the day to twelve or fourteen hours. Have regular hours of work, and, as far as possible, keep to them.

Some of the most profitable of farm enterprises are run on a profit-sharing basis. The men take a greater interest in things, and in producing for themselves make a greater profit for the owner. It is quite within the realm of possibility that some such plan will in time be in quite general operation. Perhaps it cannot be put into practice on the small farm yet, but the promise of a small cash bonus at the end of the season, if it be successful, will do much to stimulate interest.

The hired man is only human. If these vital comforts are not given him, he is soon caught by the lure of the city and takes a job in one of the factories. Too often, after settling his board bills, paying carfare and the great number of expenses which life in the city incurs, he finds that there is but little left of his three-dollars-a-day wage, and wishes he were back in "God's Country" again. The question of keeping the hired man on the farm is not so much one of pay. Give him a square deal and a home and the problem is easily solved. Increased profits and a better feeling all around are certain to be the result of such treatment.

THE PRICE OF STUMPS.

Whenever we visit a new farm we are struck by the prevalence of stumps; they are everywhere, we seldom find a field that is free from them, except on farms which are owned by the more prosperous men; this fact alone points to the reason for it; namely, that the men who have their farms in the best condition are making the most money from them. Personally, we would rather have five acres in good condition than ten acres covered with stumps or stones; we believe that it would pay more actual profits.

Ask one of these "stump farmers" why he doesn't take out his stumps and he will invariably tell you that he can't afford it; when as a matter of fact, he can't afford to leave them. It is the common practice to mortgage the farm to buy horses and machinery, and it is just as good business to mortgage for the purchase of dynamite with which to clear the farm properly.

We have made a careful study of this situation and our opinion is that no farmer, regardless of his financial standing, can afford the expense of keeping stumps in his fields. It takes him longer to plow, cultivate and harvest a field full of stumps than it would to handle the same field if it was properly cleared, to say nothing of the broken machinery and aggravation; he is losing the crop that should grow in the place of those stumps which he is cultivating.

To illustrate this point, we are enclosing two photographs taken on a new farm which is being cleared by F. L. DeLamater, in Otsego county. The largest picture was taken in the spring of 1913 when he was clearing the first ten acres; the stumps were blasted and burned, together with the logs and brush. A good-sized maple was left for shade but the heat from the burning rubbish killed it and it was later cut for wood; being the only stump in

the field, it was neglected while other fields were being cleared. The other picture represents this stump after the 1916 crop of hay had been harvested; the yield was a little over two tons per acre; at \$12, it totals \$24 per acre as the value of the crop. This stump, together with the patch of briars and June grass which it harbored, covered a square rod of ground; this means that it cost Mr. DeLamater 15 cents to have that stump in his field this summer, and this is the third summer that it has been there. It cost 20 cents to blast this stump and get it out of the way.

This is not an exceptional case, it is the rule; in this instance it looks like a small item but when a field is considered which is covered with stumps the item is worth consideration. We wish to call attention to the fact that in the above estimation of costs we considered only the crop which should have grown on the ground actually occupied by the stump; the cost of working the ground is just as important as the

fenced should much live stock be kept. Then, too, the soil must be built up to a point where an abundance of feed can be grown. Live stock should come in gradually and in its proper relation to a carefully developed plan.

There are approximately 12,000,000 acres of logged-off land in Michigan and a large part of this area will make good agricultural land if cleared and properly managed. In many localities poor methods make the clearing of land unprofitable. Cutting and burning the second growth, pasturing for several years, and keeping down all sprout growth is the most economical method of handling all logged-off lands before stumping them. Explosives play an important part in clearing the land. On the heavier soils dynamite with 20 to 30 per cent nitroglycerin or its equivalent, is to be preferred. Co-operative buying in large quantities is recommended. Stump pullers reduce the cost of stumping on lighter soils. On the heavier soils the difference between the cost of clearing by explo-



The Maple to the Extreme Right was Left Standing. Fires Killed it but the Stump Remained, an Expensive Monument.

space lost. For instance, a field of wheat among the stumps must be cut by hand, a slow and expensive job, while a binder can usually be hired for 75 cents to \$1 per acre where there are no stumps; also, a man can plow nearly an acre more per day in a clear field than he can among stumps, this with a single plow; where a gang-plow is used there is a much greater difference, for a gang-plow cannot be used among stumps.

The war has caused a material advance in the price of dynamite; but even so, the price of stumps is greater. Otsego Co. G. F. DE LA MATER.

CLEARING CUT-OVER LANDS.

(Continued from first page.) clays, and in the case of orchard fruits sometimes two to five years sooner. Besides, the quality of many crops grown on sandy land is superior.

The Introduction of Live Stock.

While it is highly desirable to start the improvement of most of these sandy land farms on more cash-crop basis, it is, indeed, unwise to plan to exclude live stock indefinitely. In order to make it possible for farmers in Wexford and adjoining counties to breed high-grade live stock, Breeders' Associations have been formed, several going together and buying registered sires. Over 40 registered cattle have been brought into Wexford county alone during the last year through these associations.

There is likewise a great need of live stock as a means of furnishing profitable winter employment on the average farm of the region. This being a northern latitude, very little productive winter work is available on the farm, except as it comes about in connection with the feeding and caring for some kind of live stock. But there should be no immediate haste to get away from the more strictly cash-crop stage and rush into live stock farming. Sufficient money should be made while on the cash-crop basis to purchase fences suitable for turning live stock and not until several fields are well

sives and by the use of stump pullers is very slight.

The settler with little capital and without experience who expects to make a farm out of a tract of logged-off land will find his problem a most trying one. The experiences of those who have attempted it are not encouraging. The man who starts farming with even ten acres of his land cleared will be much more likely to succeed than the man who begins on a tract covered with second growth and stumps. The former will have land on which to grow hay and other crops the first year. He can devote his extra time the first three or four years to the disposal of the second growth on the remainder of his tract. By seeding this, he will increase the area of his pasture or hay land materially and will be employing the best preparatory means of reducing the cost of stumping later. The settler should not forget that the cheapest and best land clearing is always done by experienced men with proper equipment.

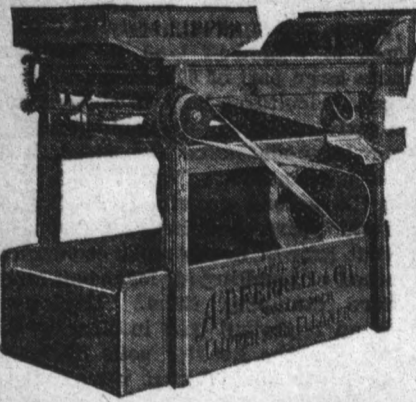
BOOK NOTICES.

Annual Report of the Pere Marquette Railroad for the fiscal year ending June 30, 1916, is a statistical booklet of 68 pages published by the receivers Paul H. King and Dudley E. Waters, in order to preserve the statistical records of the railroad. It includes those items related to the period prior to the receivership which were adjusted during the year. The report is a public record of the operations of the railroad for the fiscal year as submitted to the United States court by the receivers.

"The Seaboard Magazine" is the title of a new publication of the general development of the Seaboard Air Line Railroad Co., of Norfolk, Va. The initial number relates to the Dixie corn belt of Georgetown county, North Carolina. It is well illustrated and contains much information about the country traversed by this railroad.

"The Model T Ford Car, its Construction, Operation and Repair," by Victor W. Page, member of Society of Automobile Engineers, is a 238-page book containing a large number of illustrations and carefully written text thoroughly covering the subject. Published by Norman W. Henley Publishing Co., New York. Price \$1.00.

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Annual Meeting of Fruit Growers

THE forty-sixth annual meeting of the Michigan State Horticultural Society was "the best ever." It eclipsed all others in attendance, interest and quality of program. Every session, including that of the first morning, had a large attendance and every speaker on the program was a star. The meeting was held December 5-7 in Grand Rapids, which is the permanent place for holding the annual meeting. The lower part of the Coliseum, in which the meeting was held, was filled with excellent exhibits of fruit, and numerous displays of modern orchard materials and equipment. The second floor was devoted to holding the sessions.

Michigan's Advantages.

The program was opened by a discussion of "Michigan's Many Advantages," by Mr. George Friday, one of the most progressive fruit growers of the southwestern part of the state. Aside from speaking of the favorable climatic conditions and the influence that Lake Michigan plays upon the western fruit belt in protecting the trees from spring frosts, Mr. Friday brought out one advantage which is not often thought of and which is a very important one. This was with reference to the spread of insects and diseases. As is commonly known, the fruit belt extends from north to south, and the prevailing winds are from the west, so that on account of the lake being to the west there is really no source of infection from the direction of the prevailing wind. Other fruit belts, such as that of New York, usually extend from east to west, and should there develop a serious infection of disease, such as the yellows, or an infestation of scale or other insect the trouble would spread rapidly in the direction of the prevailing wind. Experience has shown that although the yellows has been in evidence in the southern part of the fruit belt for more than fifty years, it is just reaching the northern part of the state. The same is true of the San Jose scale which has been known in the southern part of the state for more than twenty years, while all the infestations in the northern part are very recent ones. Other fruit belts have these infestations throughout their entire territory. In this connection Mr. Friday predicted that the west Michigan fruit belt would develop probably into the greatest Barlett pear section in the country. It has become difficult to grow pears in different sections of the country on account of the spread of the blight, but if pear orchards are set close to the west Michigan shore and growers are careful to cut out any slight infection that may occur, they will keep the orchards quite free from disease because there will be no blight carried to them by the winds.

Another great advantage that the Michigan fruit belt has is its proximity to a market which will always belong to this section; this is the grain producing states of the middle west. There is no fruit producing section so close to these states, nor do they have the cheap and convenient means of transportation which is afforded this state by water routes across Lake Michigan.

Advertising Fruit.

A very interesting discussion of the thing which the Michigan fruit grower has not yet learned to do was that of advertising fruit and how to do it, by Leon J. Baker, who is agricultural specialist for the Traverse City State Bank. Mr. Baker has developed bank agricultural exhibits to such an extent that this bank's exhibits have attracted national attention. He said that after growing good fruit it was necessary to let the consuming public know about it. In making a canvass of the banks throughout the country he found that the only Michigan grown product which had any reputation abroad was Michigan celery, and Michigan celery is sought

everywhere for its high quality and the honest way in which it is graded and packed. There are many ways in which Michigan fruit products can be advertised without any cost to the grower. One very efficient method is to encourage bank exhibits so that strangers visiting the Michigan towns will become acquainted with the products of the section. Another method is to take advantage of the greatest booster in the world, the traveling man. In very few hotels, even in the fruit growing sections, can one find and fresh Michigan fruit which would be a credit to the state. Fruit growers should see that hotels are influenced to use only high quality Michigan products, so that the traveling man can become well acquainted with them. Michigan is also known as a resort state, but there are very few places in resort sections where fruit stores or groceries handle any good Michigan fruit products. As resorters are always people from other states, a very prolific source of advertising could be made use of by providing means by which these resorters could be furnished with Michigan fruit of the kind which we want to advertise.

The Advantages of an Apple Law.

Mr. Eugene Hart, of New York, gave a very able discussion of the New York apple law. He said that the western people have established public confidence in their product by adhering to very strict standards in the packing and marketing of their fruit. They have invaded markets in eastern fruit growing sections because the eastern fruit growers have no such standard. The apple business is a \$100,000,000 industry, and in spite of its size is managed the most poorly of any. Experience has shown that the use of grades has proven of great value in other farm products. A buyer can sit in his office in New York, telephone to some wheat growing state and order large quantities of a certain grade and be sure that he is going to receive the product he orders. It is the confidence that buyers have in the grading of such farm products which greatly stimulates trading in them. The New York apple law which has been fully explained in our columns in the past is the most practical law which has ever been put in force. A great many of the eastern and southern states have passed laws similar to this one and will come in direct competition with Michigan fruit which is not packed by any standard. A large proportion of the 40,000 fruit growers in Michigan want to do the right thing, but there are few who have similar ideas as to what the right thing is. It is therefore necessary that we have a standard in this state by which we will have to pack all of our fruit, and in that way only will we be able to gain public confidence in the Michigan product. One of the beneficial effects that the New York law has had is that it has opened new markets for New York fruit. Buyers throughout the country feel a confidence in New York apples, and therefore many in the central west states have filled their wants without seeing the fruit until it arrived at its destination.

The Golden Rule in Fruit Growing.

Mr. B. G. Case, of New York, answered in the affirmative the question, "Does it Pay to Pack Fruit According to the Golden Rule?" To increase consumption of fruit we must pack honestly and give the consumer his money's worth, otherwise he ceases to be our customer but goes elsewhere to have his wants filled. The matter of package is not as important as honest packing, as many New York apples in barrels sell for as much as fancy western apples in boxes. In orcharding there are a lot of problems to solve, and it is a shame that after we have successfully grown an orchard and which had any reputation abroad was brought it to bearing that we should be careless in packing the fruit and

put the poor in with the good. If we are going to succeed in any line we must be honest. After establishing a reputation for common honesty, we usually get premium prices for our fruit. In one instance Mr. Case's peaches were for sale in competition with those of another grower. The retailer asked \$1.25 for Mr. Case's peaches and only 90 cents for the other fruit. The buyer bought the higher priced fruit, although the other had been just as carefully packed, because he was sure, through previous experience, that Mr. Case's fruit would be the same throughout the package. We should pack only the highest quality fruit and dispose of the inferior stuff in other ways. California has gained control of the pie peach market because they have refused to send inferior fruit for fresh consumption but instead have canned it for pie purposes.

Apple Orchard Opportunities in Michigan.

In speaking of the apple orchard situation in Michigan, Prof. H. J. Eustace said that after spending a year's time in inspecting fruit sections throughout the country, he had no doubt but what Michigan has many advantages over other states. Aside from being favorably situated for the development of large commercial orchards, Michigan presents numerous opportunities in orchards near the many thriving cities within its boundaries. Quite a number of the prominent fruit growers of the state are already developing this phase of fruit growing, and have found it more profitable than selling in car lots. Mr. J. P. Munson, at Grand Rapids, gets 40 per cent more when selling to the consumer in the city than when he consigns the fruit to some other city. Family orchards on general farms are becoming a thing of the past because fruit growing has become a specialized business, therefore the general farmer will become one of the best customers of the fruit grower, because he is usually a large consumer of fruit.

Beautiful the Country Home.

The Tuesday evening session was given over to a discussion of landscape gardening for rural homes, by Prof. Aubrey Tealdi, of the University of Michigan, and "Some Methods of Marketing," by C. E. Bassett, former secretary of the state society, but now of the Department of Markets, Washington, D. C. Prof. Tealdi urged the fruit growers and farmers to consider the aesthetic side of rural living. He said that most rural homes were entirely void of any evidences of effort to beautify the home grounds, and in many cases where efforts were made there was little real knowledge of natural beauty in evidence, and the results were often absurd. He urged that we take hints from nature and instead of buying and planting high-sounding shrubbery of foreign origin, we use native shrubs. In many cases the farmer paid high prices to the nurseryman for shrubbery which he could grow at very little expense himself. Prof. Tealdi's talk was illustrated by lantern slides which showed right and wrong ways of beautifying the rural home.

Mr. Bassett showed pictures of various markets and methods of packing fruit. Many of the illustrations he threw on the screen showed evidences of dishonest packing by fruit growers. An interesting feature of his talk was a moving picture of red raspberry harvesting and marketing in the west. The pictures showed a fruit growing industry which was developed to its highest degree.

The Students' Contest.

The annual students' contest took place Wednesday morning. The following are the senior horticultural students who took part in the speaking contest, and their subjects:

Edward B. Benson, "Brown Rot, Importance and Control."

J. T. Bregger, "Fire Blight of Fruit Trees."

Donald B. Hogue, "A Successful Fruit Storage House."

R. L. Lepper, "Where is the Horti-

culturist to Get His Potash?"

A. L. Maire, "Trees on Our Rural Highways."

David L. Peppard, "Bitter Rot of Apple."

Austin L. Pino, "The Market News Service of the Department of Agriculture."

Alton M. Porter, "Life History and Control of Green Apple Aphis."

I. Freeman Sheldon, "Dusting for Insect and Disease Control."

W. F. VanBuskirk, "Fruit Tree Inoculation."

Mr. A. L. Pino, Ithaca, Mich., took first prize; R. L. Lepper, Washington, D. C., second, and J. T. Bregger, Bangor, Mich., third.

Election of Officers.

Following the contest the annual business meeting was held. The chief thing of interest was the election of officers, which resulted as follows: C. A. Bingham, Birmingham, president; R. A. Smythe, Benton Harbor, re-elected secretary, and Henry Smith, Grand Rapids, treasurer. James Nicol, South Haven, succeeded F. A. Wilken on the executive board, and George Hawley, of Ludington, took the place left vacant by J. E. Merritt. T. H. McDermid, of Battle Creek, was elected to fill the unexpired term of Mr. Bingham.

Following the election of officers Mr. C. B. Cook, chairman of the committee on new legislation in Michigan, gave his report. This report will be given in another issue. Prof. C. P. Haligan gave a report of the committee on dust spraying experiments. The general conclusions of this committee were that, although the results showed some evidence of value, dust spraying needed considerable experimental work yet to perfect it.

(Continued next week).

TROUBLE DEPARTMENT.

Horseradish Culture.

I would like to have you give me information, as to culture of horseradish, and how they market same. I see it is quoted in the Detroit markets, at so much per dozen, would that be the roots?

A. B.

Horseradish does best on deep, cool, rich soil and for best results late season growth is necessary.

It is propagated by root cuttings which are made from trimmings from roots prepared for the market. The best cuttings are about the size of one's little finger, and from four to seven inches long. They should be planted in rows far enough apart to allow horse tillage, and from 12 to 18 inches apart in the row.

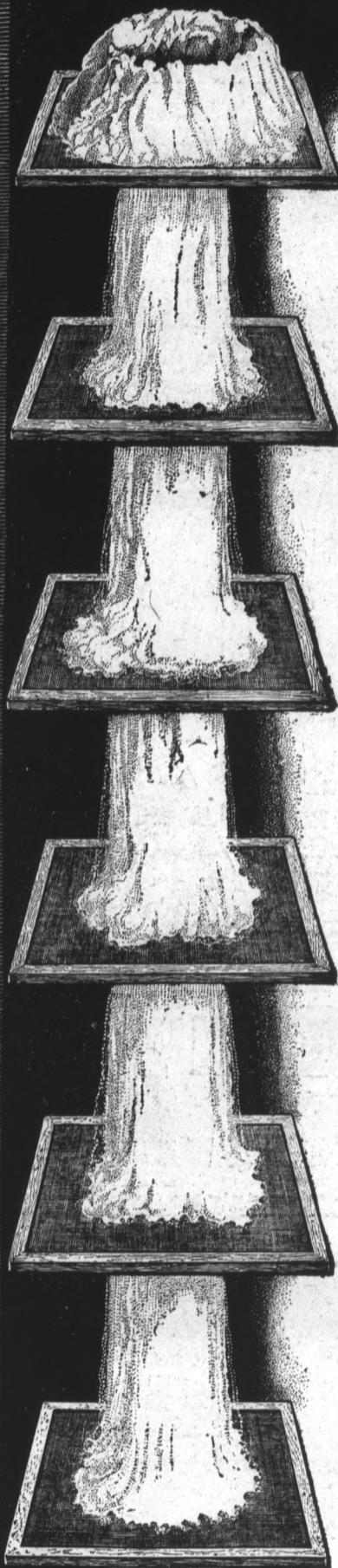
The horseradish plant is very hardy and will stand much abuse, but in planting one must use care in setting the cuttings so that the upper end is on top, otherwise the horseradishes will grow irregular in shape. Very often it is planted with other crops, such as cabbage, spinach, early beets, etc.

In preparing for the market all of the rootlets are cut off and the roots tied in bunches of twelve. The quotations you mention refer to bunches of this size.

In 1913 five co-operative apple orchards were sprayed by the University of Missouri, and in 1914, 25 orchards were sprayed or the spraying was supervised. Practically 100 demonstrations were held in connection with the spraying which was conducted in 14 counties in the state. The demonstration orchards were sprayed from two to four times, and with one exception both Bordeaux and lime-sulphur were used to control diseases with arsenate of lead added to poison insects.

Summarizing the results of the work as a whole, lime-sulphur and Bordeaux seem to be equally efficient in controlling apple scab, blossom end rot, and cedar rust. The cost of spraying with lime-sulphur and lead arsenate was 9.29 cents per tree for each application. The cost of Bordeaux and lead arsenate was 6.67 cents per tree per application.

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Capacity not over rated

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This Book FREE Ask Today

The International

BABY beef again demonstrated its superiority at this year's International, championships in the fat steer classes going to the junior contestants in both the single steer and carlot exhibits. The grand championship in the single classes was awarded to California Favorite, the champion calf exhibited by the University of California. This calf is a Shorthorn-Hereford cross, exhibiting a happy combination of the desirable qualities of the two breeds to a remarkable degree. This happy combination is much in evidence in the accompanying cut made from a photograph of the champion, but no picture can fittingly portray the handling quality of this remarkable calf.

In addition to himself being the winner of this premier honor in the greatest utility live stock show in the world he carries in his veins rich prize-winning blood of both breeds which were combined in his production. His dam is Glenbrook Marvel, a pure-bred Shorthorn cow, whose sire, Glenbrook Marquis, carries a liberal proportion of the prize-winning Whitehall Sultan of the blood. The calf's sire is the Hereford bull, Prince Lad 11th, a son of Prime Lad 9th, Hereford champion at the 1909 International.

California Favorite weighed into the ring at 1130 pounds. He showed at un-

This steer was two years old last January and was also fitted without the use of corn.

Among the fast company in which these steers won premier honors were the high-class Shorthorn steers shown by the Kansas Agricultural College, which topped the two-year-old and yearling classes and won championship ribbons. Merry Dale, the champion steer in this section, also won premier honors at the American Royal, where he was champion of the show.

Of the steer show as a whole it is but fair to say that the winners are fully up to and in many cases superior to the high standard of previous shows. At some previous shows classes have been larger, particularly of Herefords, but the average quality in the opinion of competent judges has never before been as high as was the case this year.

The Carlot Classes.

In the carlot show of fat steers 47 loads competed after the weeding committee had rejected 20 loads entered because they did not come up to the International standard of quality. Yearlings were most numerous among these entries, again showing the general trend of opinion among breeders and feeders regarding the superiority of baby beef. The grand championship was won by a carload of Angus



California Favorite, Grand Champion Fat Steer at the International.

der 14 months of age, and, notwithstanding the wonderfully even and deep fleshing of the calf, he has been brought to this perfection of bloom without the use of any corn in his ration. He was carried on a nurse cow and was fed three times a day on a ration of two parts barley, one part of oats and one part bran, with alfalfa hay for roughage. He was knocked down in the auction ring to the Sullivan Packing Co., of Detroit, at \$1.75 per pound, bringing the modest price of \$1,960. This is a new world record for a fat steer. The previous high price for beef on foot was \$1.50 per pound, paid in 1900 for the Angus steer Advance, grand champion steer of the first International.

While this great calf was an outstanding individual and no one presumed to criticize Senor Carlos M. Duggan, the Argentine judge who reached his decisions with a certainty and rapidity which attested his ability as a judge, the runners-up for the honor merit almost equal attention.

The nearest competitor for the premier honor of the show, a pure-bred Angus, given the reserve championship, was also shown by the University of California. This steer was California Jock, the two-year-old Angus awarded the grand championship at the Panama-Pacific Exposition. He was a fitting representative of the breed with wonderful width and depth, weighing into the ring at 1850 pounds. yearlings fed and shown by E. P. Hall, of Mechanicsville, Ill., the three-time winner of this much coveted honor at the International. The selection of the winners in the various classes of this show as well as winners of primary honors was not an easy task, since the competitors, both in quality and finish, were never so even as was the case at this show.

About two-thirds of this load of steers were pure-bred Angus selected from among the best Angus herds in America. Mr. Hall credits his success as a winner to the co-operation of the American breeders who in many cases sacrificed valuable calves to assure him a fancy foundation for show feeding. In all he fed 119 Angus steers for the show and entered 105 head, comprising seven loads, six of which were entered in the yearling class. The show winners were on full feed for 14 months, being given all the ear corn they would eat, in addition to which they received during the early part of the feeding period one-third of a bushel of oats daily, which amount was decreased during the early part of the present year, when molasses feed was gradually added to the ration, and about the first of April cottonseed meal was also made a factor in the ration, the small amount given at the start being gradually increased until they received two pounds per day. Clover hay was the roughage used, the cattle being given the run of a blue

Cushman Light Weight Engines

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grass pasture for the entire feeding period except the last sixty days, when they were fed in the yard.

The champion carload sold in the auction ring at 28 cents a pound, which is a new high record for carload winners, the nearest approach to this price having been \$17 per cwt., paid for the winners at the 1911 show. This price of \$28 per cwt. is just twice the price brought by the champion load of the 1912 show fed by the same man.

The competition for the premier honor was limited to the two-year-old champions, a load of very fine Angus steers fed by A. E. Price, Grant Park, Illinois.

The Hog Show.

In the fat barrow class the grand championship was a hot contest and was won by a Poland China shown by Howard B. Francis, New Lenox, Ill. The close contestant for the honor was a Chester White shown by W. E. Horton & Son, of Rushville, Ind.

In the carlot class George Runkle, of Industry, Ill., was given first prize on a load of typey Berkshires in the heavyweight class, which load also won the grand championship of the show. The Berkshires also won first in the 200 to 250-pound class, while a load of Poland Chinas shown by P. Pierce, Huntsville, Ill., got first place in the 150 to 200-pound class. The grand champions averaged 449 pounds and brought \$11.75 in the sale ring.

Fat Sheep.

In this department of the show the grand championship award on carload exhibits went to the Butterfield Live Stock Co., of Weiser, Idaho, whose entry also won first in the western range lamb class. First and second prize in the range yearling class went to the Columbus Canning Co., of Columbus, Wis., while Foster Bros., of Earlham, Iowa, won first in the native lamb class and the Flossmore Stock Farm, Flossmore, Ill., was awarded first in the native yearling class. The grand champion lambs were grade Hampshires, bred and fed by the exhibitors. They sold in the auction ring at the sensational price of \$21.25 per cwt. another new high record. In the range wether class first and second prizes went to the Fremont Canning Company, Fremont, Mich.

In the single entries the grand championship was won by J. C. Andrew, West Point, Ind., on a Shropshire yearling wether. The reserve championship was awarded to the University of Wisconsin on a Southdown wether. The fat sheep show, particu-

larly the class of yearlings, was the largest in the history of the show, and both quality and uniformity were exceptional.

The Breeding Classes.

In this department of the show the Shorthorns were most conspicuous because of their number, it being conceded by all observers that the Shorthorn show was the greatest ever put up in a single ring in this country, the entries aggregating over 500 head. With the exceedingly large classes and excellent uniform quality the student of Shorthorns had the best possible opportunity to study breed type and individual excellence in the various exhibits. Herefords were next in number with nearly 350 head, the young classes in this department of the show being exceptionally strong.

Angus breeders were present with over 200 head of excellent representatives of the breed, the competition being exceedingly keen in this section of the show. There were numerous entries in the classes for Galloways, Red Polls and Polled Durhams. Altogether the cattle show was the best yet seen in a single ring.

In the horse department the Percherons led in point of number, with more than 400 head, the Clydesdale following with over 200 and the Shires and Belgians with only slightly fewer entries, which, with the few Suffolks and a liberal showing of draft horses made up a large show of most excellent quality, the number of breeders and owners represented being greater than at any previous show.

In the swine department the Berkshires and Duroc Jersey exhibits were about equal in number and both were excellent quality. The Chester Whites, Hampshires and Poland Chinas were next in order as to the number of entries, with a good showing of Yorkshires and Tamworths.

As usual the Shropshires led in entries in the breeding sheep classes, with Rambouillets, Hampshires and Southdowns following with a creditable representation. There was also a good showing of Cotswolds, Lincolns, Dorsets, Oxfords, Leicesters, Cheviots and Romneys.

The attendance was large all through the week, probably exceeding that of any other previous International. The weather was exceptionally fine, this contributing to a better distribution of the crowd than is the case some years. The championship awards in the various classes will be given in the next issue.

National Marketing Conference

By JAMES N. McBRIDE

THE first marketing congress was held in Texas three years ago. Since that time Chicago has been the meeting place.

The discussion of agricultural matters and national politics in connection draws the leading educators, statesmen, bankers, agriculturists and some farmers. Governors and ex-governors, senators and dignitaries all mingle in their analysis—but rarely reach a positive conclusion. Then there is the "lunatic fringe" who seek this opportunity to secure an audience for enlightenment. Co-operation is the most used word and has conceptions of varying degrees from dictatorship to democracy. Too often co-operation is the quadrille in public and the two-step in practice. There are professional co-operators who promote co-operation where local initiative is lacking. There are so many different pressing problems, with local conditions which seem the whole world to the man in charge, that the markets conference becomes like the story of the centipede who could not decide which one of its 100 feet to move first, so stood apparently paralyzed. Then out of these bewildering someone arises to take the momentary attention. Of these are mentioned in this issue, the newly-

lected governor of North Dakota, and Mrs. Mather, the good Angel of Alabama.

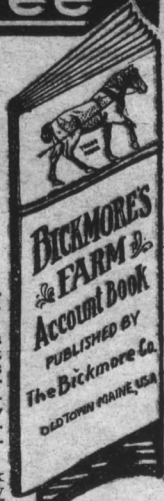
Lynn Frazier, the governor-elect of North Dakota, was among the stellar lights this year, for he was and is a plain farmer. The North Dakota Non-partisan League concertedly seized the machinery of the dominant party and Frazier was nominated when he was loading a car of 80-cent potatoes into a box car at his home station, clad in overalls and rubber boots.

At a previous session of the legislature the farmers had asked for state-owned terminal elevators, and notwithstanding a constitutional amendment that authorized this action, legislative enactment was denied. The troubles of the wheat grower did not end with production, nor even with the establishing of co-operative local elevators. With a terminal elevator they feel that their product will then be out on the great market highway. The North Dakota Experiment Station had tested the grades of wheat for flour-making with a variation of only 11 per cent between the extremes, yet there was a difference of 68 per cent in price.

The governor is a well proportioned, well groomed man whose election has (Continued on page 596).

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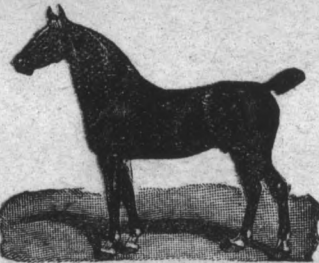
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Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hook, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Sunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

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Don't lay up because of Ringbone—Thoropia—SPAVIN or ANY Shoulder, Knee, Ankle, Hoof or Tendon Disease.

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You get best Results with our **Champion Evaporator**

Quick work, fuel saving, durability and

BEST QUALITY OF SYRUP

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Tell number of trees you tap.

WRITE FOR OUR PRICE LIST We Buy WASTE PAPER

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Dept. M., Buffalo, N. Y.

Saginaw's Market Place

ALTHOUGH the city of Saginaw has provided an excellent public market site and has arranged for the operation of an up-to-date public market, the people are a little slow in making the most of the opportunity. The market site is but two blocks from the heart of the city. It extends through the center of a block from street to street. Two sheds have been erected, also a building for retailers who wish to be on the market with a stock from week end, to week end. On either side of the market shed there is an abundance of space for rigs. The market site with its sheds is valued at \$12,000.

Prior to the establishment of the public market the selling and buying was done on North Water street, on which street are located the wholesale produce houses. As this street is narrow it was often crowded, which was a serious interference to traffic.

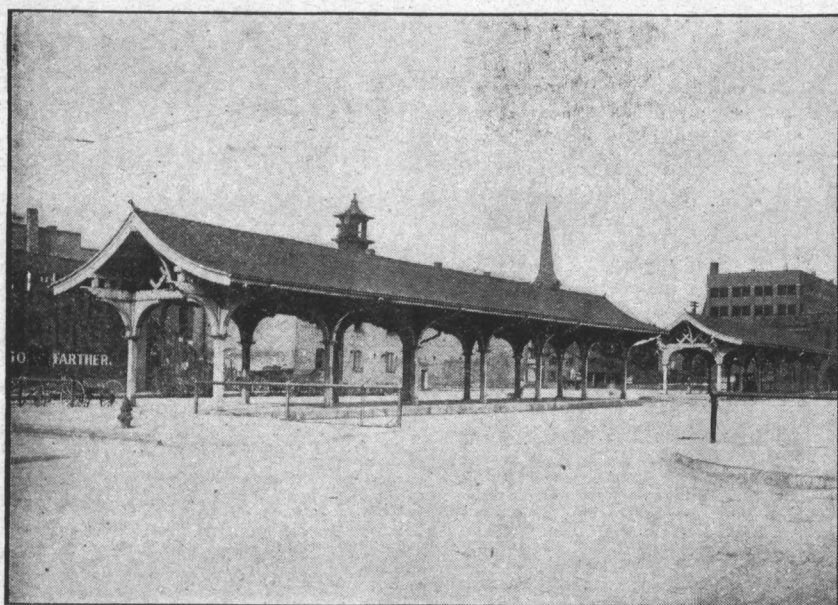
The past season was the third for the present market. At the height of the season, according to the market superintendent, there were from 70 to

80 farmers' rigs on the market. These were loaded down with all the different products that can be successfully grown in the Saginaw region. Some of the growers come from the Bay City section which is 16 miles away. Their rigs were often auto trucks that were heavily loaded. Owing to the fact that few farmers in the Saginaw section have become interested in truck farming there is not enough produce grown about Saginaw to supply the local needs.

The cost of operating the market is low. The superintendent is also weigh master, which work keeps him busy a large share of the day. Busy mornings a policeman lends a helping hand in keeping order and the city dairy and food inspector assists the market superintendent, and the sealer of weights and measures makes sure that there is no slackness in the matter of quantity. Ingham Co. R. H. ELSWORTH.

WHERE THE MIDDLEMAN WINS.

The University of Wisconsin made a study of experiments in farm-to-home marketing in its state, with the conclusion that the scheme has failed. There was a great enthusiasm for this new project two or three years ago, but it has not grown as was hoped. About 200 farmers undertook direct marketing of produce in the Wis-



Market Sheds Erected by City of Saginaw for Public Marketing Purposes.

consin experiment, and most of them have given it up. Neither the farmer nor the city home was satisfied with results. The farmers complained that the townspeople were too commonly in a rush; they would not take trouble to order specifically what they wanted, nor give time for the farmer to prepare it. Sorting and grading produce was not satisfactory. The farmers complained that their customers were altogether too often slow in paying. It was impossible to get containers for various articles that would transport small quantities and deliver them in good condition.

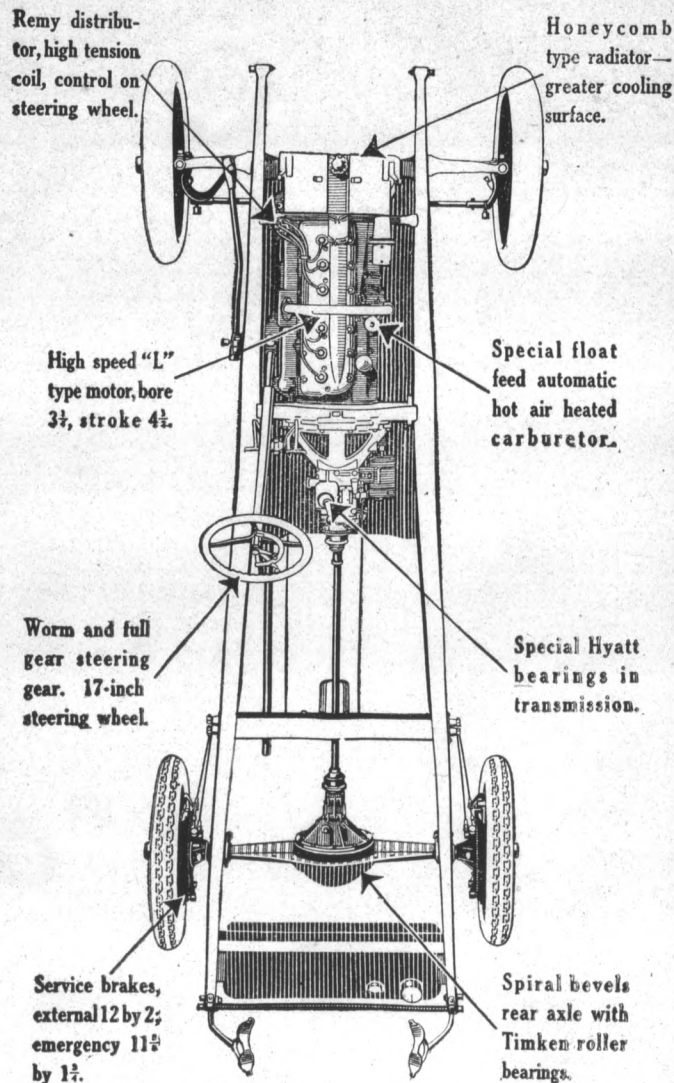
The buyers at the market are the hucksters, of which there are 38, the grocers, and the consumers. The latter class includes the well-to-do as well as those in moderate circumstances.

The market season is from the first of May to the first of November, and the hours are from five in the morning until noon, although as a general thing the market is "cleaned up" by eight o'clock. The hucksters are expected to report at the market each morning, where they are held until the blowing of the whistle at six thirty. After the blowing of the whistle they can leave for the wholesale section to buy additional supplies, if they so desire.

Farmers are charged 10 cents a day to have their rigs on the market. Or they can rent a stall by the month at \$2.50. Retailers can rent space in the inclosed building at one corner of the market for \$5.00 a square, the square being eight feet on a side. Neither huckster nor groceryman is charged for standing on the market. They are urged to be present as they are good buyers.

It is supposed that the consumer can buy on the market a little cheaper than at the retail store, thus the saving effected by the means of direct dealing

Perhaps the most satisfactory way to store clover seed is in paper sacks, in which it is more perfectly protected from insect depredations than in almost any other container.



A Sound Car

These three words ably tell the story of the Chalmers. It is sound because it is simple in design. There isn't a freakish or unusual feature. From tire to top it is a sane, simple, sound automobile. Its greatest appeal is in its performance. Well powered, light in weight, very active on a hill, especially good on the long pull, and able in rough going. Soundly made, soundly financed, soundly merchandized.

Specifications of the 6-30 Chalmers

Wheelbase—115 inches
H. P.—45 (on the brake)
Clutch—Dry disc type
Tires—32 x 4 (non skid in rear)
Axles—Timken

Bearings—Timken and Hyatt
Carburetor—Stromberg
Frame—7-inch depth
Ignition—Remy distributor (Wiltard 80 ampere hour battery)

| | |
|---------------------------|--------|
| Five-passenger touring | \$1090 |
| Seven-passenger touring | 1350 |
| Two-passenger roadster | 1070 |
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| Six-passenger sedan | 1850 |
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| Seven-passenger town car | 2550 |

(All prices f. o. b. Detroit)



A Highly Important Matter To Our Subscribers

As it is our invariable rule for subscribers to pay in advance, every person, whether at present on our list or not, has the right to prices now existing, which are:

1 year \$.50
3 years 1.00
5 years 1.50

Manufacturers of paper claim that prices for white paper may never be lower, and may, by another year, be still higher. As to the truth of this we do not believe anyone knows. It is a speculation. Should the European War continue, in all probability prices of white paper will continue to advance.

The publishers of the Michigan Farmer have never asked its subscribers to pay one cent more than the lowest price it was possible to make, governed by conditions. By advancing our subscription rates to:

1 year \$.75
3 years 1.75
5 years 2.25

to take effect Feb. 1, we are only following forced conditions. It is eminently right and fair that we allow those who comply with our rule of paying in advance, the opportunity of subscribing at the present prevailing prices. We will not have to pay the advanced price for white paper until Feb. 1. Until that date we shall not expect our increased subscription prices to go into effect.

Considering the labor, etc., connected with our subscription work, by close figuring the variations in price for 1, 3 & 5 years are on a par with the saving we make, that is, the 1 year for 50c; 3 years for \$1.00 and 5 years for \$1.50 evens up with the expense attendant upon the labor. For instance, we could not afford to accept five subscriptions from different persons for \$1.50, because there would be five times the work as for one, but we can afford to accept one subscription, 5 years, for \$1.50 on account of the saving of labor, etc., connected with it. The subscriber who will save us this additional labor gets the advantage and saves much more in proportion than he possibly figures on. For instance, at \$1.50 for 5 years he saves \$1.00 or gets the paper two years for nothing; at \$1.00 for 3 years he saves 50 cents or gets one year for nothing and this saving is at present low prices. These items are worth considering.

Our Service

Farm products are bringing unprecedented prices. They are almost certain to go still higher. With a world shortage of food-stuffs there is no danger of over-production, even when peace follows the world war. Farm efficiency now means maximum production at a minimum labor cost. Our carefully planned program for the next year is intended to aid Michigan farmers in accomplishing this result, and in marketing this increased production to the best possible advantage. To that end we will specialize on the following general subjects:

CROP CULTURE, including soil management, seed selection and treatment, fertilization, and all essentials in the production of maximum yields at minimum cost.

MARKETING METHODS, embracing new developments and experiences in both co-operative and direct marketing, whereby progressive farmers are securing a larger percentage of the consumer's dollar.

FARM MANAGEMENT, relating to the planning of the farm business, for the economic distribution of labor and the efficient conduct of the business as a whole.

We have in hand and in prospect dozens of special articles on different phases of these general topics, giving the experience and observations of successful farmers and specialists.

And there will be no reduction in the scope or quality of the matter published in our regular departments. The needs of every reader will be considered, whether he is a general farmer or a specialist.

Every subscriber is, we believe, aware of the free service which goes with each subscription, such as complete and reliable

market quotations; free answers to his personal questions; free veterinary advice; free milk and cream tests, etc. He is also aware that each weekly issue contains a high-grade magazine section, and the ladies know the value to them of the special department devoted to their needs. These, and most of the other features, our readers know about, but your neighbor may not. Will you not mention it to him and invite him to subscribe? We hope, of course, that every present subscriber, including the trials, intends to renew.

On another page will be found a lot of combination club offers. The saving on many of these will more than pay for the Michigan Farmer three or five years. Subscribers who have paid a year or more in advance may add as many years as they wish to pay for at present rates. The time they subscribe for will be added to their present time, thus insuring them against any advance in rates before their new expiration date.

Envelope Blank

Enclosed with this issue will be found an envelope blank. All that is necessary will be to write your name and enclose your money. If properly sealed and stamped we will take the chance of its safe arrival. If it is necessary to write a letter to order a combination club, or to send the name of a friend or neighbor with your own, enclose it with your money, in the envelope, which is already addressed.

Now please get your orders in early, for which we thank you in advance.

We wish each and everyone a Merry Christmas and a prosperous New Year.

THE MICHIGAN FARMER
DETROIT, MICHIGAN.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

MICHIGAN FARMER
AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY. ESTABLISHED 1843.

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere

General Washington Presents Country with Xmas Gift

YOU are as cross as you can be!" announced Margery Langer. I made no reply, but continued to scratch my name viciously with the end of my metal scabbard, in the feathery snow of the garden path. Eight times did I scrawl it, scarce thinking what I was doing.

"Fitz Garth," I scrawled. Eight times. Then, as I was starting on the ninth—"I'm glad you're just as cross as you can be," resumed Margery, monstrous polite. "Because now you can't be any crosser."

Still, I did not answer but glowered

By ALBERT PAYSON TERHUNE

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blackly as I bent again to my silly task of turning a perfectly good sword scabbard into the use of a pencil.

She sighed in comic despair. "You are very rude not to answer me, Fitz," said she. "In fact you are quite the rudest man I ever knew. I have always said I was glad I didn't have to be with you except when I wanted to."

"And now?" I grumbled.

"It can talk!" she cried in triumph.

"It can! I always knew its mouth was there for some purpose."

"Margery!" I exclaimed, trying my best to stay angry. "If your parents had punished you oftener when you were little—"

"They did their best," she returned demurely. "And surely you are not going to blame me because they were remiss? 'Twas no fault of mine."

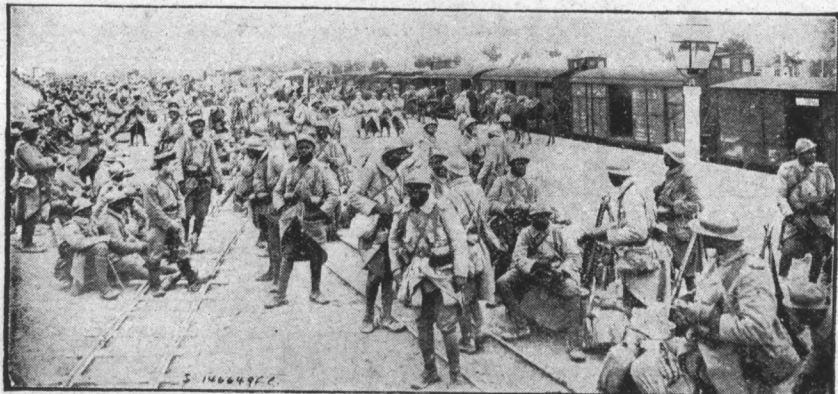
I shook out the sleeve ruffles of my black riding coat and flicked a grain

of powdery snow from my high leathern boots. I could not summon wit enow to argue against her. And I chose this way to show an unconcern I did not feel.

"Fitz," she said with sudden change from raillery to gentle appeal, that well-nigh threw me off my guard. "Fitz! It is such a little thing I ask. And you—you who pretend to love me—you won't grant me this one tiny favor."

"This one tiny favor," I answered, wheedled from behind my barrier of silence, "may prove the marring of His Excellency's hopes. It may even be

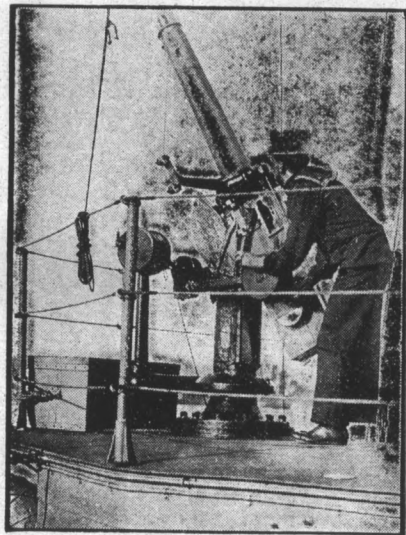
WORLD EVENTS IN PICTURES



French-African Troops who Assisted French in Recapturing Douaumont.



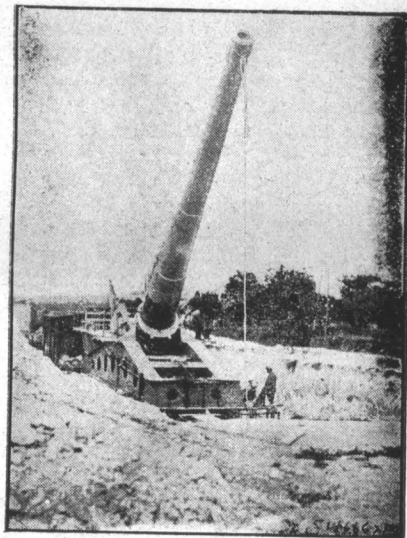
Dragoons Waiting in Ambush to Attack the Enemy.



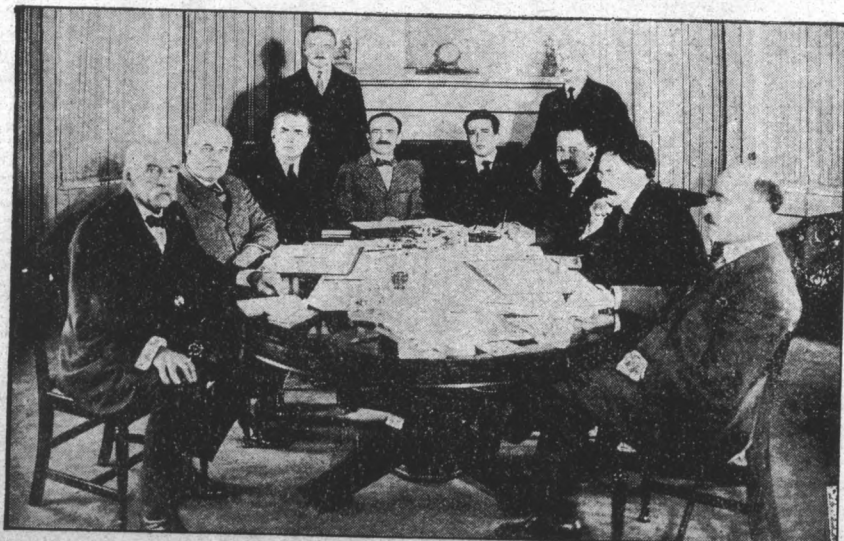
New Anti-aircraft Gun Being Used on U. S. Battleships.



Juvenile Police to Carry Peace Plan to President Wilson.



Giant French Cannon Used on Verdun Front.



Mexican-American Commission Reaches Agreement on Border Conditions.



French Peasants Returning to their Homes After Armies Have Passed On.

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the last straw that will break down our poor, weary country's struggle."

She glanced at me uncertainly, her big tawny-brown eyes clouding.

"You did not tell me this," she accused. "Are you in earnest?"

"Is it a matter for jest?" I retorted.

"You said," she went on, "that you must ride back to headquarters within the hour. And when I begged you to ride on with me to my aunt's home first, you refused, saying there would not be time. What is there in this to affect our country's freedom. Will General Washington surrender to King George, simply because Major Fitzgerald Garth does not reach headquarters at a certain time?"

"Perhaps," I replied.

And my tone must have been grave; for a light answer died on her lips.

"I don't understand," said Margery.

"And I cannot explain—everything," I replied. "Here, under utter confidence, is as much as I may tell you. I should have spoken of it in the first place, but I did not wish to mar the joy of our brief hour here, today. It was so hard for me to get away, for even such a short time, from headquarters. And it was doubly hard for you to escape from your worthy guardian's home for this stolen rendezvous. I did not wish to spoil our first tete-a-tete in weeks, by prattling of official matters."

"You were wrong," she reproved. "What concerns you concerns me. Tell me."

"We are in dire straits," said I, glancing from Margery's fur muffled form, out across the wintry, snow-strewn inn garden. "We thought all would be plain sailing; after the Declaration. Yet ever since the Declaration of Independence was signed, five months ago, the patriot Cause has met with one disaster after another. Our men lack food, warm clothes, ammunition. Unless they get all three, right soon, and unless a victory comes to cheer up our countrymen, the Chief fears the whole army and the Cause itself may melt away as utterly as this December snow will melt under the spring skies."

"Yes?" she murmured, as I paused.

"One great stroke may yet save the day," I went on. "And Washington's is the only brain in all the colonies that could plan such a stroke. He has planned it."

"Our hero!" she exclaimed. "Ah, I knew we could trust him to find a way!"

"Your Tory guardian would be pleased, I know," I commented drily, "to hear you give such praise to the General whom he so unctuously styles 'The Arch Rebel.'"

"Mr. Godfrey Hathaway is guardian only of my person and of my estates," retorted Margery. "Not of my opinions. Go on, please, Fitz."

"Back there in camp," I said nodding toward our distant headquarters, "our men are starving. Yonder, in Trenton, Rahl's Hessians lie snug, amid mountains of food, arms, and clothing. That seems to the Chief a trifle unfair. And he is resolved to try his hand at remedying the injustice."

"To attack Trenton?" cried Margery, aghast. "Why, Fitz, 'tis madness! Ere Washington could lead our poor, ragged, ill-armed troops half way across the Delaware toward the Trenton bank, the Hessians would have every cannon in the town trained on their boats. Besides, the river is well nigh choked with ice and—"

"Washington, as a boy of twenty-two traversed hundreds of wintry miles, alone, through Indian-infested forests, to bear England's message to the French governor," I answered. "Folk called that 'madness,' too. Yet he succeeded. Failure and he so hate each other that they are never seen together. How he will cross the Delaware in face of such obstacles, I do not know. But cross it he will. Unless—"

"Unless what?"

"Unless I fail in my mission today."

She was on her feet on the instant; shaking the snow again from the folds of her fur cloak, her soft fingers pressing my arm.

"And I, like the wicked, wicked maid I am, was detaining you!" she cried. "Oh, go! Go!"

I rose, too; buckling my sword belt tighter about me.

"Margery," I said somewhat shamefacedly, "I did not tell you I had to go back to headquarters. I said I had to go back toward headquarters. I am—on patrol duty."

"Patrol duty?" she echoed. "You? A Major?"

"I am also something of a horse-man," said I, "and I have some light fame at sword and pistol! 'Twas for that reason the chief chose me. A platoon of men, or even a corporal's guard, were too many for the purpose. They might wake suspicion in our man and make him go by some longer route."

"What man? Go where?" she asked in perplexity.

"The man I am to watch for. That was why I asked you to sit in the garden with me, despite the cold, instead of staying in the inn parlor. I must keep my eyes on the road, in case he comes sooner than we expect. But I plan to meet him a good three miles below."

"Who is he?"

"A man who got wind of General Washington's purpose last night from a drunken staff officer," I evaded, "and who, the Chief fears, may ride or send a messenger to Trenton to warn Rahl."

"But this man?" she asked. "If he refuses to let you stop him?"

"Then," said I with a shrug, "he must take the consequences."

"But," she insisted, "he might—hurt you."

I could have laughed outright. Was ever there a woman who did not think the man she loved was a mere child to be protected from harm? I, a veteran of two years' warfare, the hero of half a dozen lively duels, here and in France, a man whom the Chief himself styled "Fire Eater"—I was, forsooth, in peril of being "hurt!"

"I think you can set your mind at rest," said I: "There is little danger to me, in—"

A tall, slender young man had dismounted from his horse at the inn door. Catching sight of us he gave a hostler his reins and lounged into the garden toward where we stood.

Under his open military coat he displayed the fatigue-uniform of a Hessian captain. (As the inn was in a tract of territory claimed just then by neither army he was tolerably safe in such array). He glanced keenly at me.

I was not in uniform. Few of us were, in those dark days. I wore a shabby riding suit and a civilian cloak, and was dressed as for the road.

After a look at my snow-crusted, spurred boots, the Hessian appeared to make up his mind. He nodded stiffly at me and asked:

"Have I kept you waiting long, sir?"

"Not very long," I replied, a vague idea forming in my head.

"I doubt not you found the time pass pleasantly enough," he continued, with an ogle of elephantine gallantry toward Margery.

"Yet, sir," I said sharply, "it is not my custom to be kept waiting at all, when matters of state are involved."

"Nor is it the custom of His Majesty's Hessian officers," he snapped in rebuke, "to brook language of that sort from Colonial boors."

"Margery," I whispered, "will it please you to go into the inn for a moment? I have urgent private business with this gentleman. Don't be afraid," I added with a smile, "I shall not be hurt."

Reluctantly she turned and disappeared through the hooded doorway behind us.

"Now, then," I resumed briskly, as soon as she was gone, "how am I to know you were the man I was to meet?"

"How?" asked the officer blankly.

"Yes, how?" For aught I know, in spite of your uniform, you may be a Yankee spy. State the circumstances of the affair, if you please, before we go further into the matter."

"Why," he grumbled, "all I know is that Colonel Rahl summoned me at daybreak and said that a well-wisher of ours on this side of the Delaware had sent him a message, an hour ago, by a Negro servant, to the effect that he had news of grave import he dared not write or bring in person, for fear of the rebels. He dared not even entrust it to his Negro, lest the fellow, if caught, might blab. He entreated Rahl to send a trusty messenger to meet him in this half-way house garden at the present hour and receive the tidings in person. And now, sir, if you are quite satisfied, pray let me hear those same precious tidings. The day is chilly and if I linger much longer I am likely to miss the start of our Christmas revels at Trenton. We are planning monstrous gay Yuletide doings there, I promise you."

"So are we," I answered, under my breath.

Before I could speak farther a burly man, of middle age, hustled into the garden. He had evidently ridden fast and was fussily nervous at the idea of being late to an appointment.

At sight of the uniformed Hessian, the newcomer hurried forward with hand outstretched.

"My compliments!" he exclaimed. "And a thousand pardons for my lateness. I should not have troubled Colonel Rahl to send you here, and would have done myself the honor of waiting on him in person; but that the rebels grow cursed suspicious of me, lately. My news is of gravest import. I—"

He stopped abruptly as though a giant hand had been clapped across his lips. He had caught sight of me as he came further forward. Up to this time a tiny copse of tangled leafless rose tree had cut me off from his somewhat nearsighted vision.

"What do you here?" he demanded blustering; and wheeled to face me.

"I was looking for you, Mr. Godfrey Hathaway," said I, carelessly. "By orders of His Excellency, I was to patrol this road in search of you. Though we scarce expected you would start so early."

"In search of me?" he repeated in angry uneasiness. "To what end, pray?"

"To request your presence at headquarters," I returned.

"'Tis not convenient for me to visit General Washington's headquarters today," he fumed. "I must decline."

"His Excellency feared you might decline," said I. "That is why he sent me—instead of a lesser messenger—to summon you."

"You talk in riddles, Major Garth," he muttered with a growing uneasiness that his blustering manner could not wholly mask.

"Not at all," I answered, glancing from him to the perplexed and impatient Hessian. "I am ordered to take you to headquarters—by force if need be. You will kindly accompany me at once, and without communicating with your fellow spy."

As I spoke I drew my sword. But by this time the Hessian's thicker wits began to grasp the situation. Whipping out his own blade, he strode between Hathaway and myself, confronting me fiercely.

"So?" he snarled. "I made a mistake? It was this gentleman, not you, whom I was to meet here? And you are here at order of the Rebels, to keep him from giving me his tidings? That is a matter easily disposed of."

Our blades met. But, on the instant, Hathaway was between us.

"There is no time to lose, sir!" he

cried to the Hessian. "And you cannot afford to lose your life just now. Ride to Colonel Rahl! Tell him the Rebels plan a Christmas night attack on Trenton and—"

"The milk is finely spilt!" I raged. "Now naught is left, me but to make an end of you both!"

Avoiding the Hessian's sword, as I spoke I sprang at Hathaway. But the mischief was done. The news was out. If one or both of these men should leave the garden alive, the Chief's plan for the capture of Trenton was foredoomed to failure.

I had a swift vision of our starving barefoot troops, of the stores of food and clothing and ammunition awaiting them in Trenton. I could see Washington's calm face, with the shadow of a nation's sorrows on its brow.

And in the terrible fury that gripped me I swore that our General's great plan should not go amiss; that our lads should not starve nor freeze.

I and I alone could now be of use. The Chief's whole wondrous venture hung on my actions of the next few minutes.

As I have said, I hurled myself, sword in hand, at Godfrey Hathaway. But I halted, midway; to stare dully into the muzzle of a leveled pistol that he had snatched from under his cloak.

At that close range there was no chance of his missing me. And what man, armed only with a sword, can face a loaded pistol? The Hessian, seeing how completely Godfrey had the situation in hand, grounded his own swordpoint and stepped back.

"Hold him so, Master Hathaway," he ordered, "until I get to horse and away. News such as yours needs swift carrying. As you say, we can take no risks."

I let my sword fall to the snowy earth, shrugged my shoulders and looked from one to the other with a sorry attempt at a smile.

"The game is up," I said with what poor grace I could. "I would gladly have tried conclusions with both of you, had the sword alone been the weapon. But a pistol is an unanswerable argument. I am beaten. I could wish it were by a worthier man."

Still with a pitiful affection of bravado I drew forth my snuffbox. I opened the lid with shaking fingers. Hathaway and the Hessian exchanged a grin of amusement at my nervousness and at my sudden change from hero to windy craven.

Still shakily, I threw back the snuffbox lid and with clumsy fingers sought to show my pretended unconcern by taking a pint of the pungent brown powder.

"Truly," remarked Hathaway to the departing officer, "the Rebels are a valiant lot, since this one is a specimen of—"

My gaze had been furtively centered on Hathaway's leveled pistol. The muzzle shifted slightly as he spoke. And, like a flash of light, my arm had darted forward. The man was too far away from me to clutch his weapon. But not too far away to enable me to fling the contents of the full snuffbox into his red face.

Bang!"

The pistol exploded with a report that split the stillness of the December day into a myriad of sharp echoes. The bullet whizzed over my head and buried itself in the wooden clapboards of the inn wall.

Hathaway had not aimed. The discharge was due to a convulsive jerk of his trigger finger as the fiery snuff struck his face. Already he had dropped the empty, smoking pistol and was reeling blindly about; roaring like a wild beast; both hands dug into his streaming eyes.

But I had no time to note his agony. The instant I flung the snuff, I had dropped the box and snatched up my sword. In almost the same gesture I had sprung at the Hessian.

I caught him at the garden gate, as

(Continued on page 590).

"Mister 44" By E. J. RATH

The Substance of Previous Chapters.

Sadie, a wholesome country girl with limited social and intellectual opportunities, leaves the farm home in Ohio and seeks her fortune in Buffalo, where she finds employment in the shipping department of a shirt factory. The strength of many of the girls working with Sadie was being overtaxed by the excessively long hours and the steady application to their tasks. Against the strict enforcement of unjust shop rules, and stern demands of the corporation, our heroine courageously protests, for which she is fined by the foreman. Becoming convinced that behind factory walls is no place for a spirit like hers, she hopefully resigns herself to fate by pinning a letter applying for an outdoor job, in the pocket of a No. 44 shirt going to fill an order from Arizona, but before she could remove the letter, the foreman hastily gathers the shirt with others, to satisfy a rush order, from where she was unable to learn.

Along the Northeast arm of Deepwater Lake, in Northern Canada, Stoddard, a young but capable engineer, whose home was among the select of New York City, and who had been entrusted by his company with the erection of great bridges on almost every continent, paddles a loaded canoe carrying his city friend, Larry Livingston, who was suffering from poor health, to an island far from communication with the outside world. Stoddard unloads, erects a tent, builds a fire, and after they eat puts Larry to bed. In hunting for matches he pulls his finger against a pin in the pocket of his shirt and discovers Sadie's letter. This he reads and after much reflection answers it. He leaves Larry sleeping, and tortured with the thorns and bruises received in a wild and dangerous trip, he finally delivers his letter to an Indian friend who posts it on the train. The letter is handed to Sadie as she leaves the factory, having been "fired" by the foreman. At her room she thoughtfully considers Stoddard's reply and concluding to hazard the chance of securing a job at Deepwater notifies him by telegram of her coming and prepares to leave the next day. Stoddard's Indian friend gets the telegram and skillfully manoeuvres in its delivery to avoid arousing Larry's curiosity. The Indian then persuades Larry to take a fishing trip that Stoddard might be free. Stoddard, alone and baffled at how he would handle the situation, concludes to paddle to Deepwater Station and on the way decides that the girl must take the south-bound train back. The north-bound and south-bound pass at this point, and there would be a second in which he could hurry her from one train to the other. He carries out his plans, only to find that Sadie had gotten off at the Lower Station and that he had unceremoniously forced an unknown and unwilling lady onto the platform of the south-bound as it was moving out.

"She'll be worried just the same," answered the other. "It's her first trip up and I'll bet she was scared when she didn't see a soul that she knew at the station."

"Oh, well! So long as she's there—" Stoddard lost the rest of it. He was not anxious to overhear more. He began running toward his canoe. He must escape! He bumped into people who crowded the landing, elbowing his way through the press. Some of them turned to protest, saw a big, stern-looking man in a hurry, and said nothing.

Throwing his canoe into the water with a single jerk, Stoddard flung himself into it and seized a paddle. Already it seemed as if they must be starting in pursuit, those two men who were late to meet the train. He wondered if Billy Mason would tell.

Not until he was nearly half a mile from the landing did he remember No. 18. Then he stopped paddling abruptly. "Great Scott! I forgot!"

No. 18 was at the Lower Station waiting. It was already dusk. She was miles from anybody, all by herself in the big woods that she wanted so much to see.

"She'll probably be dead from fright when I get there, but I've got to go. Let's see now."

Stoddard thought rapidly. To paddle clear around to the Lower Station was more than twenty miles, unless he took the portage across the neck of the peninsula, and he had no mind to try that again after dark. At any rate, it was ten miles to the portage. The Lower Station was six miles by rail from the upper one. He could walk it in an hour and a half, even on the ties, but then he would have no means of getting No. 18 anywhere after his arrival.

There was one other way. He could go directly ashore from where he was, strike the railway, carrying his canoe with him, and follow the track for a mile and a half, after which he could put in at Spruce River. This was a stream that touched the railway at that point and followed it rather irregularly for several miles—a sufficient distance to carry him to the Lower Station. The journey was a matter of two hours, probably, but it would find him with a canoe at the end of it.

Without delay Stoddard adopted this route. It was a brief run to the southern shore of the Northeast Arm and but a short climb to the railway line.

Once there, he settled the canoe comfortably on his shoulders and started off at a dog-trot. So long as he could see his footing he was resolved to make good time.

Carrying a canoe was a sort of second nature to Stoddard. Where the going was clear his burden was never on his mind. Seventy pounds was not a sufficient weight to obtrude itself upon his thoughts, for Stoddard was not only powerful, but seasoned. He had the strength to do things, and he practically doubled that by knowing how.

So, as his hobnails clattered over the woolen ties and the broken rock that ballasted the road-bed, he had uninterrupted leisure to consider the case of No. 18—and his own. He would have liked to consider the case of the girl on the south-bound train, if there were any way of doing so in a coherent manner. Although it hovered constantly in the background of his mind, he abandoned all efforts to reduce it to sanity. His reason seemed to totter whenever he laid hold of it.

Besides, the girl on the south-bound was no longer in the picture. She had been ruthlessly erased at a single stroke. It was the girl at the Lower Station who needed attention now.

It would be pitch dark for more than an hour before he reached her. He wondered what form of treatment was applied in cases of hysterics. He was pretty good on cuts, bruises, and primitive surgery, but he had had no experience with ailments of the feminine nervous system.

He hoped she would have sense enough not to move from the lonely little platform. A few yards in any direction would be sufficient to lose her in the woods. And what would she think of him? That disturbed Stoddard more than anything else.

No; there was one other matter even more troublesome. What would he do with her? No friendly south-bound train would come to his rescue now! No. 18 was at Deepwater for the night, if nothing more.

She would have to sleep somewhere, if hysterics permitted. There was a hotel at the station, but that would be a six-mile walk back. And perhaps she had a trunk. There was also the hotel on Deepwater Island.

Stoddard settled upon that. It was not a long trip; he could put her up there and decide what next to do in the morning. To take her to camp was out of the question. Larry Livingston, his camp-mate, must never hear of this affair.

It was dark when he reached the



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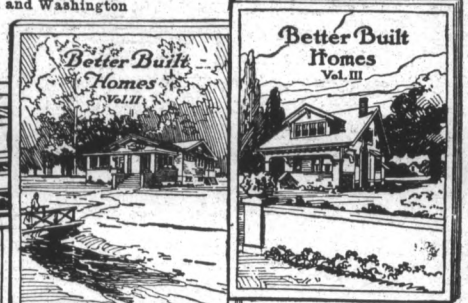
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spot where Spruce River curved in toward the railway, and now he left the tracks and scrambled down a steep embankment, balancing the canoe carefully as he felt for solid footing. It was a short but rough journey to reach the stream, and when Stoddard at last stood upon its banks he was panting and perspiring. The night was warm, the air sluggish and heavy. Yet it was so clear overhead that the gently flowing waters of Spruce River mirrored the stars.

The stream swept away from the railway line again, running through a densely timbered little valley. As a river, it was entitled to no more than a hair-line on the map, yet a very kinky line. It doubled upon itself, wandered aimlessly hither and thither, and was in no haste, save for occasional bursts of speed in rapids, to reach any destination whatever.

Stoddard knew it pretty well. There were marshes along its banks, where the moose came in the dawn-hours and at dusk. More than once he had drifted through noiselessly, just to surprise some thirsty bull or a cow with her calf.

But now the river was in complete gloom, and in spots where the trees met overhead he could not even glimpse the sky. He did not, however, trust wholly to the current, but plied his paddle constantly, for every minute that slipped by signified to his vivid imagination just so much more hysterics at the Lower Station.

The countless bends served to keep him alert to his task, so that his craft would not jam her nose into the bank in an endeavor to take short cuts. Fallen trees and sunken ones had to be watched for. Twice he found it necessary to climb out on logs and haul the canoe across. Spruce River was tortuous and tantalizing by day; after nightfall it was transformed into a bewildering maze.

Stoddard took only one dangerous chance. There were some two hundred yards of swift water, ending almost opposite the Lower Station. To haul out and carry meant toil. Nobody had ever bothered to cut a portage, for the rapids could be run easily enough by day, while at night Spruce River rarely figured in the travels of the north woods people.

It was several seasons since he had viewed this stretch of white water, yet he trusted to his memory of the rocks and shoal places. The river-stage was low, but even then the passage could be made, with skill and some good luck. It was worth trying, at any rate.

As the black water beneath him began to flow more swiftly, eager for the scuffle that would turn it into snowy foam, Stoddard caught the steady droning sound of the combat that was being waged ahead. Bracing his knees securely, he drew the extra paddle within quick reach of his hand, where it could be snatched into instant action in case of mishap to the one he wielded, and then increased the cadence of his own strokes.

The rapid began just below a sharp turn, where the water banked itself for the final plunge. The canoe swept around the curve at racing speed—Stoddard was at grips with his task!

One thing favored, at any rate. He could see something. The white water that boiled about him sprang into sharp relief against the dark banks that confined it. Rocks that cleft the surface he could pick out with ease. Those that lay hidden a hand's breadth below must be guessed at. They were part of the game.

The men of the outdoors learn rapids by running them. The channel through every stretch of white water is mapped, not by survey and sounding, but by adventure and combat. The way to find where it lies is to get into it.

The first trip is the real adventure; those that follow are mere toil, guided by experience. In the woods-people this business of riding foam-crests breeds instinct; almost mechanically

they seek and find the path of least resistance.

So it was with Stoddard. He was running his course now, partly from memory, partly from intuition. Even the varying notes that were struck by the leaping water had a meaning that he could interpret. The feel of the stream against his swiftly flying paddle carried a significance, too.

Spray dashed into his face, but he shook his head and laughed. The spirit of conquest was in his blood. Skill still rode with him in the plunging canoe, but caution had taken wings. It was not a moment for prudence and deliberation, but one for swift and dashing attack.

A roaring "S" turn, where the water was rent with black boulders, snatched at the canoe and hurled it forward, yawing and swaying, diving and rearing, now careening, now righting itself, but always racing at dizzy speed. Centaur-like, Stoddard rode his steed as if it were a part of him. From side to side his paddle shifted, his body swinging as a counterbalance to the thrust of the water.

The turn was passed and the canoe shot out upon a long, straight slide that seemed in the faint light like a hillside covered with swirling snow. There were rocks here, too, as he well remembered; but even the low water did not uncover their heads.

Three times the canoe scraped, once hanging poised for an instant, while the water piled up astern and threatened to swamp it. Stoddard flung himself forward and the shift of his weight set the craft free again, to fly onward along the slope.

One more twist and the white water would cool its frenzy in the broad, deep pools below. Stoddard shouted aloud in triumph as, with a final and herculean dip of the paddle, his light craft slid at torpedo speed out into the quiet water.

"That was worth while!" he cried. "Grand!" exclaimed a voice from the darkness.

He doubted his ears, for there was something weird in the sound that assailed them with such amazing abruptness.

"Hello, there!" he shouted, staring ahead of him and rising to his knees. "Hello," answered the voice.

He was close to the shore at the farther edge of the basin into which the rapid poured its froth, but beyond a black mass of trees he could see nothing.

"What the devil!" he burst out. "Who is it?"

"Me."

"Me?"

"Sadie."

"Sadie?"

"No. 18."

"Well, I'll—"

"I guess you're Mr. Stoddard, ain't you?" continued the voice.

"Of course; certainly. But I—I—"

"Wasn't expectin' me down here. I wasn't expectin' you, neither. That is, not down here."

"I should say not," he answered, as he drove the canoe ashore. "Where are you?"

"Right here." And the stirring of a figure against the somber woods located the source of the voice.

"You might have got lost," he said severely.

"No; I was careful. I could hear the water runnin' somewhere from up there on the platform. After a while I follered the sound, 'cause there wasn't anything to do back up there by the track except sit and look at the stars.

"So I found this place, and I've been sittin' here, ever since, watchin' that water come down. There's an awful pile of it, ain't there?"

"Then I saw you comin' around that corner up there. My, but it was grand! I guessed it was you, too."

Stoddard had stepped close to the dark figure, but the dim light helped him little in his scrutiny. He reached down and picked up his canoe.

"Lead the way up to the station platform," he commanded. "I want to get a look at you."

"Sure," said Sadie. "And when you get about half-way up, look out. There is a tree that's fell down, and I'd like to have broke my neck tumblin' over it."

CHAPTER VIII.

Sadie Arrives.

The light at the lower station was dim, yet, after the gloom of the woods just below, it seemed to blaze forth like the night glare of Broadway. Stoddard, following at the heels of Sadie, was making haste to reach it. He was suddenly impatient to inspect the girl, who plowed her way quite steadily through a tangle of brush.

His mind already had made some quick revisions. Although he had but unsatisfactory glimpses of the figure that occasionally moved between him and the light that was their goal, he knew that she was no flat-chested slip of a creature, wan with the grind of factory toil. That picture had vanished even when she spoke.

So did the problem of hysterics that he had steeled himself to meet. He was relieved, yet disconcerted, by this abrupt shattering of expectations.

When he finally dropped his burden on the little platform, Stoddard turned to find her standing near the light. He drew a sharp breath and his eyes widened. He saw—well, he saw Sadie.

The revelation held him speechless. He stood and stared, his hands on his hips, his head bent forward, his forehead furrowed with a frown of incredulity.

Stoddard's scrutiny of Sadie was no franker than her own of him, but infinitely more surprised. In fact, Sadie did not appear to be in the least astonished. Her glance roved slowly from his eyes down to his hunting-boots, then back again; and she nodded unconsciously while she conducted the survey, as if her imagination had been confirmed in minute detail. It was evident that she was satisfied with something. At last her survey came to a rest on the olive-drab shirt.

"You sure are a forty-four," she commented.

"Say, explain that," said Stoddard. "What's this forty-four business?"

"Why, chest."

"But what—Oh, I understand. You mean it's a forty-four shirt. I never thought of that."

"You thought it meant six-shooters," she laughed. "And I never thought of that."

"I got the idea from your mentioning cowboys," explained Stoddard.

Sadie laughed again, this time with a hint of embarrassment.

"Tell me something straight," she said. "Did that stuff I wrote read silly? I didn't mean it to."

"Not a bit. It was absolutely all right. I got the idea right away."

"That's good," she said, with a nod. "I was pretty sure you did."

He was studying her face with ever-growing astonishment, and now, with quick glances, he appraised the stalwart figure that faced him.

"You look as though you were entitled to something more than a number," said Stoddard.

"I'd have put my name on the telegram, but I knew you'd understand the number better. I'm Sadie Hicks. I come from Ohio."

"I guess the name would have puzzled me, Miss Hicks."

"Make it Sadie," she said simply. "I'm used to that and the number. I'll be forgettin' to answer if you say Miss Hicks."

"Then we'll make it Sadie."

Somehow the conversation did not betake itself to essentials, although there was such a great deal to explain.

"Sorry I was late," he remarked, as he fumbled for his pipe and tobacco-pouch.

"Oh, that's all right. I ain't been hurt none."

Stoddard winced, but she did not appear to notice it.

"Did I do wrong to get off at this station?" she asked.

"Well, it's not the regular one. I'd have thought you hadn't come at all if it wasn't for the fact that the conductor told me where you were."

"He said I'd better get off here," she explained, "and I took his word for it. He said some Injien told him you was usin' this station. But I suppose Injians lie an awful lot; I heard they did."

"The Indian told the truth as far as he knew it," said Stoddard, smiling. "It took me nearly two hours to get here. Were you scared?"

As the question left his lips he knew it was idle.

"No; I wasn't scared. I felt kinda strange, but I don't think I was scared. It was a little creepy for a while, after it got dark and terrible quiet. But I suppose I'll get used not to hearin' trolleys."

"I never seen so many stars," she added with an upward glance. "I sat and watched 'em for a good while. Down in Buffalo we don't see near so many. I suppose these are just the same stars up here; that is, the main ones, but they look different somehow—bigger and shinier. Then there's whole bunches that I never noticed in the city at all."

"While I was lookin' at stars I heard water runnin', and I wanted to see if it was anything like Niagara. I've been there twice. Of course, it ain't; I might have known. But it's good to look at just the same."

"You don't want to start wandering at night up here," chided Stoddard; "not until you know something about the country. People who do that get lost."

"All right; I won't," she promised. "I thought about gettin' lost, but I knew I couldn't get lost very far at night, and I can holler good and loud, so you could have follered the sound when you came along. But I just had to see that water."

"You'll see water enough when you've been up here a while," he remarked.

Just why this perfunctory observation slipped from him Stoddard did not know, for his mind instantly flashed back to plain facts. It was not likely she would see much water, or woods, either, for that matter. She would have to go back to Buffalo, and promptly; he had no job for her.

It was a pity, too; as he looked at her, still with increasing wonder, he knew that it was a crime to sentence such a being to the four walls of a factory. It was like taking some one of the woods creatures and putting it in a zoo.

There was a pause in the conversation. It was Sadie who broke it.

"You'll think it's kinda silly," she said with a laugh, "but I was wonderin' all the way up on the train what became of all the snow."

"The snow!"

"Uh-huh. Go on and laugh; I don't mind."

"Why, summer's not over yet, even if it is September!"

"I get that now," confessed Sadie good-naturedly. "After I saw how things really were I felt as foolish as a spring hat. You see, Canada's a new one on me. I had an idea there was lots of snow up here, and ice, 'most all the time; so I come prepared. I woke up, after ridin' on the train a while, when I found things kept stayin' green no matter how far we got. Why, it ain't hardly any colder here than it is down home—I mean Buffalo."

"It's not cold enough tonight," said Stoddard, glancing at the sky. The unusual warmth of the air was a prelude of "weather," he thought.

"It certainly ain't cold enough for some of the stuff I brought," she observed philosophically, as she nodded toward a dark object a few feet distant.

Stoddard stepped forward and made

a casual examination of Sadie's baggage. A shiny new suit case—the first she had ever owned—stood on the platform. Thrown across it were an ulster, a sweater, and a pair of rubbers, tied together with a string. From a pocket in the ulster protruded woolen mittens. He smiled.

"The sweater's all right," he said hastily, as he caught Sadie's eye.

"Go on and get that laugh out of your system, Mr. Stoddard," she urged. "I've had mine. You don't have to hold it in on my account. I'm not touchy when I'm really the goat. I'm glad the sweater's some good, anyhow. As for the rest of the outfit, I spent real money for it, and I might as well have took it to Florida."

Stoddard did laugh. Also, he winced again. He did not expect from Sadie that precision of speech that constantly guarded the conversation of his Fifth Avenue friends, Kitty Fitch and Estelle Wallace, yet he was not accustomed to the shock of factory English, at least from the lips of a goddess.

"And that's what she is," he muttered under his breath. "Man alive, look at her! And from a city factory! Something's wrong somewhere."

Sadie was examining the canoe with curiosity. Finally she laid hold of the gunwale with her hands.

"Why, I can lift it!" she exclaimed in pleased wonder as she suited the action to her words.

"You look as if you could lift two," said Stoddard, watching her.

"I am big," she admitted. "I am strong, too. Just natural with me somehow. I didn't get it packin' shirts. I always felt like I was too big for that place back there."

"Whenever I got near some of them little girls like No. 12 I had to move careful for fear I'd happen to hit 'em by accident and break 'em. But I ought to manage all right up here."

She drew a deep breath of the night air, her bosom swelling magnificently under the plain blue suit she wore.

"What you said about that air—that you could bite it—is right," she added. "I feel as if I'd started to grow again. And yet when I take a look at things round here I don't feel as big as I did back in the city. I guess it's because there's plenty of room. You can use some room yourself, can't you?"

"A little," he admitted. "I guess I'll fit in all right," she mused in a satisfied tone.

Stoddard started to say something then bit his lip and checked the words. How could he tell her? What in the world she would do in a semi-wilderness he did not know. He had no job for her. Yet he shrank from brutally destroying her dream, which to Sadie had now become a reality.

She had found her outdoors. Already she loved it. It was her place, sprung from a vision at last and become a tangible, living thing. Here she would live; here she would work; here she had come to stay. To get a job, of course, would be easy; the big man would look out for that. He had said there ought to be plenty of them. She was eager to get to work; she was young and strong, and she knew she could be happy in her outdoors.

(Continued next week.)

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Willy blows a fife ear-splitting;
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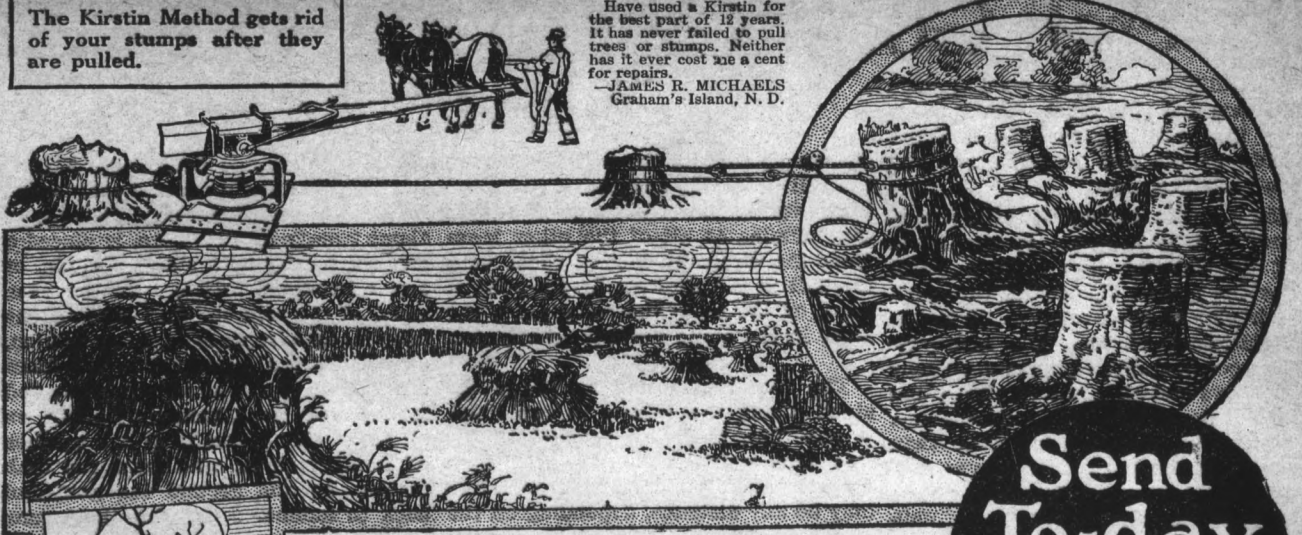
Sister blows because her presents
Aren't up to her demands;
Mother blows at all the children;
Bob, outside, blows on his hands.

Cousin's folks blow in to dinner—
Unexpectedly, you know.
E'en the cold north wind is blowing.
What shall poor, dear father blow?

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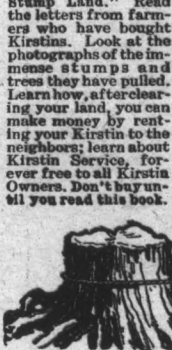
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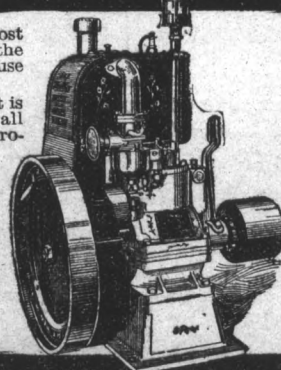
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Several Good Games for Rural Communities

By C. A. SPAULDING,
Assistant State Club Leader

THERE are many good games adapted to rural communities that will be played indoors and outside by old and young, once they have been learned.

The question arises, "What is a good game?" A good game is any game that the children like to play which gives the proper chance for the spirit of fair play to be developed. It makes no difference whether the game requires considerable equipment or none if the boys and girls like to play it and it is not dangerous it is a good game. Of course, some games are better than others, but the game that proves popular for one set of children may not be at all popular with another set of children that have had a different training.

The following games have been selected because they have been found to be widely popular and because they require little or no equipment. They have also been found well adapted to the proper development of the body physically.

In preparing to play any or all of these games a certain form of organization must be arrived at. This is best accomplished by arranging all of the players in a line in the order of their height and then numbering them off—one, two, three, etc. Insist that each player remember his or her number. After all are numbered they should be divided into two teams by having the odd numbers step two steps to their left. This will give two lines of equal numbers and of equal size and strength, and is perhaps the best method of organization for playing the following games:

Head-and-Tail Tag.

For this game your teams are lined up facing each other over a center line which should be equally distant from two goal lines. These goal lines may be any convenient distance from the center line, depending on the available space. Designate the even numbered side as "Heads" and the odd side as "Tails." The referee calls "Ready" and flips a coin. If it comes up "Heads" the even side, or the "Heads" side are "It" for a game of tag and must catch the "Tails" before the latter reach their goal. If any players are thus tagged they must take their place upon the other team at the next line-up. The players return to the center line and a coin is flipped again, then the game continues. It may be terminated after a certain number of minutes or a certain stated number of "flips." At the conclusion the sides are recounted, and the side having the larger number of players is declared the winner.

Cross-arm Tug of War.

The players line up facing each other across the center line as they did in the first game. Starting with the end each boy reaches across the line and grasps hands with the two boys facing him, at the same time crossing arms with his team mates on either side. At the signal "Go" each team attempts to pull the other side across the center line. The game terminates when one side has been pulled across the line or it may be terminated after any convenient number of minutes by counting the players on either side of the line, thus determining the winner.

Circle Dodge Ball.

Draw a circle whose radius shall be about twenty feet. Place the even numbered team inside the circle and scatter the odd team around the outside of the circle. The ball (a volley ball or basket ball may be used), is given to the odd side and they attempt to eliminate the even team by hitting them with the ball. As soon as an even player is struck with the ball (not on the bound) he must retire from the circle. After a certain number of minutes (previously arranged), preferably about two, the players remaining in the circle are counted and the sides

change places and the ball is given to the full even side and they in turn attempt to tag the odd team. The team that eliminates all of the other team from the circle by hitting them with the ball in the shortest length of time wins, or the team that eliminates the most in the same number of minutes.

Pony Relay.

The two teams line up as at the start, facing the referee in two lines. A goal line is drawn parallel to the line that number one man of each team is standing on. This goal line may be any distance, depending on the space available. At the signal from the referee, number two man in each team mounts number one man, pony fashion, upon his back and shoulders and is carried to the goal line and deposited. Number two man then runs back to his team and carries number three pony fashion to the goal. Number three goes back for number four, and so on until all have been relayed to the goal line. The team that first reaches the goal line in this manner wins.

Horse and Rider.

This game is similar to the last in form but is even more active. The teams line up for "pony relay" except that the lines should be about fifteen

Man, Monkey and Crab Relay Race.

The teams line up as for pony relay. In front of each team at a distance of about twenty feet or more, is placed a goal—this may be a stake, a stone, or any convenient article. At the command of the referee "Go," number one man in each rank runs, man fashion, around his goal and back and touches off number two, who must run up and around the goal, monkey fashion, on all fours. He comes back and touches off number three, who must run crab fashion up and around the goal and back to number four, who again runs man fashion up and around the goal, touching off number five, and so the game continues until one line has completed its relay in the proper order of man, monkey and crab.

Over-head Relay.

The players line up as for the last game. Number one in each line is given a ball of some sort, preferably a volley or basket ball. At the signal "Go," the balls are passed back over the heads of the lines until they reach the last player in each line. These players then run forward and take their place at the head of the line and start the balls back again. The game continues until one of the players who started the balls off as number one is



A Good Game Should be Adaptable to Many Conditions and Suited to Both Indoor and Outdoor Playing.

feet apart. At the referee's command "Mount," every other boy mounts the boy in front of him, pony fashion. As soon as the riders are firmly seated the horses run toward each other and attempt to unseat the opposing riders or upset the horses. As soon as a horse is down or the rider unseated, that pair is out of the game. The game continues until one side has been vanquished.

Jump the Rope Relay.

The teams line up as for the last game, having the lines about ten feet apart. Number one man in each team is given a rope about six feet long. At the referee's command "Go," number one in each line hands one end of the rope to number two of his line, and retaining the other end he and number two run the length of their line, number one on the inside, number two on the outside, and the rope between them making every boy in their line jump the rope as they run. When the end of the line is reached, number two runs back to the head of the line and hands one end of the rope to number three and they in turn run the length of the line and all jump, after which number three carries the rope back to number four, and so on until the man that was number one is again first in his line. The team wins that accomplishes this first.

The rope must be carried low enough so that all may jump it. Should anyone trip over it, he must get up and jump it before the rope goes to the next man.

again first in line. The team first accomplishing this wins.

All Run.

For this game all of the players are called together into a large circle. One player is chosen to be "It" and is provided with a ball. A basket ball, volley ball or indoor baseball may be used. He tosses this ball into the air calls the number of one of the players, who must run forward and catch it before it bounds more than once. This man in turn must throw the ball and hit some one of the other players. If he fails to catch the ball or fails to hit another player with it, it scores one foul against him. As soon as any player has three fouls against him he is "court-martialed." This is accomplished by standing the player against a tree or other object and allowing each boy one throw at him with the ball at a distance of about thirty feet.

The Beater Goes Around.

The players all form a circle as in "All Run." One player is chosen to be "It." He is provided with a towel or a small piece of rope. Each player holds his hands open behind him and the player with the rope or towel runs around the outside of the circle, finally depositing the towel or rope in the open hand of some player and taking the place of this player in the circle. This player then becomes the "Beater" and he turns to the boy on his right and beats him all the way around the circle and back to his place in the circle. The "Beater" then goes on around the circle, depositing the rope or towel

with another player, and the game goes on.

WASHINGTON PRESENTS COUNTRY WITH XMAS GIFT.

(Continued from page 535).

his hand was already outstretched to grip his horse's mane. The officer whirled like an angry cat to meet my attack. And again our swords clashed.

The Hessian would gladly have escaped, had it been possible. For, he knew how urgent it was that word of Washington's planned night assault should reach Rahl at once. But he was a brave fellow enow. When he saw he could not break away and reach his horse, he attacked me with a vehemence that all my strength and skill could scarce match.

I saw he wished to dispose of me with all possible dispatch, in order to reach Trenton quickly with his news.

The fellow understood swordplay rarely well. Our blades clashed and whined, and described arcs of fiery light in the cold morning air, as they slithered out the eternal Hate Song of the ages. Our hot, panting breath rose in stream from lips and nostrils, and our spurred feet rang loud as they stamped the frozen earth. Behind us, the garden still shook with the bellows of the tortured, blinded Hathaway.

Even as I fought for my life, I vaguely wondered why all this racket did not bring down upon us the inn's landlords and servants. Then I remembered that Wetherwoks, the wizened old host of the halfway house was a staunch if cautious patriot.

Not for worlds would he allow himself or his servants to take one step to aid a Tory and a Hessian against a Revolutionary officer. On the other hand, he dared not openly come to my aid. Therefore, fearing lest the affair bring trouble on his inn, he was keeping himself and all his people indoors, that they might not be called later in court as witnesses of the affair.

My Hessian opponent was pressing me hard. Foot to foot, blade to blade, we slashed, lunged and parried. Little by little, the hard and abstemious life which poverty forced us patriots to lead, began to count against the easy and heavy-drinking existence of the Hessian camp.

The man's breath came in gasps. His attack slackened in its fury. Gradually, I was able to turn from the defensive to the aggressive.

Step by step I drove him back; ever seeking for an opening that should end the duel. For, it was his life or mine.

He was still fighting with the agility and ferocity of a wildcat, and I had no eyes for anything save the battle. We might have been surrounded by fifty witnesses, now, and he and I should have seen none of them.

Backward toward where his horse stood, I pressed him. Once, my sword-point bit into his left shoulder. But the pain of the flesh wound served only to increase his fury and strength.

For my own part, the joy of warfare had filled me with a sort of glorious delirium. On my skill now hung the fate of my country. Could I overcome this one man, Trenton was ours. It was a stake for which one might well risk all.

He thrust for my throat. I parried. Then I feinted and, seeing at last the coveted opening, lunged for his heart. As I lunged, my bootshoe slipped on a pool of ice that lay under the light-drifted snow.

The impetus of my lunge made recovery impossible. Down I went, in a helpless, half-stunned heap at the Hessian's feet; my sword falling from my grasp and flying far out of my reach.

There I lay, at the mercy of the merciless. The Hessian, shortening his blade, leaped forward for the thrust that should pin me to the earth.

I had a momentary glimpse of his little shining eyes, his bristling beard, the cruel point of his advancing blade. I shut my eyes. I had failed. Trenton—perhaps our country's liberty—was lost. And through my silly mishap.

I was willing to pay the price with my one poor life. And I awaited the swift agony of the death blow.

The waiting could not have been longer than the barest fraction of a second, from the time I fell. Yet to me it seemed centuries long. It was broken by an echoing, reverberating report, just behind me. Then, something heavy and inert fell across my body.

I squirmed out from under the weight and staggered to my feet. There, in front of me, lay the Hessian. From his head a trickle of blood was reddening the trampled snow.

I looked about in stupid amaze. Directly behind me, her face ghastly white, her trembling little hand still gripping a horse pistol—stood Margery.

"I've—oh, I've killed him!" she moaned, half-fainting. "I've—"

"You've saved me," I retorted. "I shall never be nearer to death, sweetheart. But how—"

"I—I stayed in the hooded door," she answered incoherently. "I heard and I saw everything. It was to help you, if you needed me. Don't be angry! I—"

"Angry?" I echoed. "Oh, Margery! If—"

"There were pistols in his saddle holster," she wept. "I got one of them out, just in time to—"

The fallen Hessian groaned. I knelt over him. Then, ripping the belt from his waist, I tied his hands tightly behind his back.

"What are you doing?" asked Margery in horror at my seeming brutality toward the dying.

"Your bullet just grazed his scalp," I made answer. "He is coming to himself. He will be conscious in another minute."

"Thank Heaven!" she gasped. "I was so afraid I had—"

"Waste no divine sympathy on him," I answered, lifting him from the ground as I spoke. "He'll be none the worse for the scratch."

I lifted him onto his own horse and bound him to the saddle. Then, running back to the garden, I caught the still half blinded and absolutely cowed Godfrey Hathaway by the shoulders and trussed him up with a bridle rein. Propelling him to the gate I half helped, half rolled him into the saddle and tied him there.

"Here are two presents I am going to lead back to headquarters for the garnishing of His Excellency's Yule tree," said I. "The Chief will be glad to receive them."

Hathaway recovered some of his former bluster at these words.

"I demand to know your right to assault and make captive of a respectable non-combatant?" he demanded. "You shall go to prison for this!"

"After you," I answered, monstrous polite. "As for any assault on you, there are no witnesses."

"There are!" he howled. "My ward, Margery, saw it all. I heard her tell you so. In court of justice she can—and shall—swear to the assault. And then officer or no officer, you'll be clapped in jail."

"Margery," I said pleasantly, "is the only witness. And she, unluckily, cannot testify."

"No?" he sneered. "Why not, pray? She is competent."

"She cannot," I returned, "because, by law, a wife cannot be compelled to testify against her husband. Margery and I were married at this inn an hour ago. Dominie Jansen went back to his parsonage not a half hour before you joined us here."

"Sweetheart," I went on, "I will come back for our honeymoon, tomorrow. As soon as His Excellency has made our country a Christmas gift of—Trenton."

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Woman and Her Needs

At Home and Elsewhere



Domestic Science In Rural Schools

DOMESTIC science in rural schools—how can it be taught? Is there a teacher, with a conscience out of all proportion to her size, who has not cudged her weary brain with that question since the subject of teaching cooking and sewing in country schools has been agitated by educators with nothing to do but to think up new things for teachers to try out? Just how is one teacher in a one-room school, with no equipment, and eight grades to handle, going to add cooking and sewing to her curriculum, with manual training for boys as a pleasant little diversion for herself and a source of profit to the boys?

The editor of this department has puzzled her head over the matter for months, but without results. Having no knowledge of domestic science classes, except as they are conducted in up-to-date cooking schools and the city schools where equipment is furnished as a matter of course, the same as chalk and coal, it seemed out of the question to expect anything to be done in a district school where gas plates and water, utensils and foodstuffs are not to be gotten by simply notifying the school board you want them. She therefore decided to put the question up to the teachers of Michigan,

"How can domestic science be taught in the one-room school?"

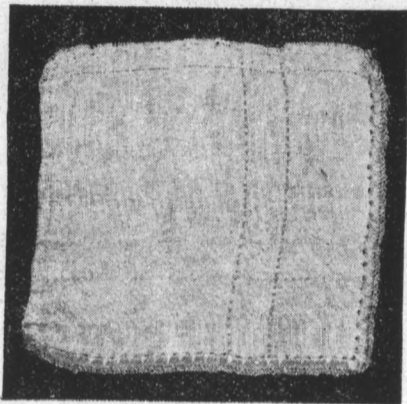
Leave it to the country teacher to find out how. That omnipotent individual has never yet had anything put up to her and told to do it, that, like "Tommy," she has "not found a way or made one." So with the cooking and sewing. When told it was her duty to teach cooking and sewing she simply went and taught them. How she has done it is of interest to everyone who has the good of the rural schools at heart.

The report of the state superintendent of public instruction for 1916 showed that domestic science was being taught in 81 rural schools of Michigan, scattered through 45 counties. Letters were written the county commissioners of all but one of these counties asking for definite and detailed information and replies came back from 15. In most cases they showed that the work was being done by means of sewing clubs and the preparing of hot noon lunches, with an occasional canning club which helped to carry the work farther. Parents and pupils respond heartily, and several reported an entirely different spirit in the school as a result of the work. Home and school are brought closer together and the children are given a grip on work which has a direct bearing on their life out of school.

Among the counties to serve hot noon lunches is St. Clair. In this county no "regular, definite work" is done, according to the report of Commissioner E. T. Blackney, but a few individual teachers have a part of the noon lunch warm. In Ionia county, Commissioner H. H. Lowrey reports that several teachers serve something hot for lunch, sometimes potatoes, sometimes soup, and again only a hot drink. The children furnish the food and do the serving. Ontonagon county reports, through Commissioner A. C. Adair, that the only work in domestic science being done there is in the Ontonagon high school. "Here hot noon lunches are served on stormy days in winter.

This could not be classed as a strictly rural school, however.

The study clubs of Washtenaw county have come to the aid of some of the teachers. In District No. 6, Ypsilanti, the Tuttle Hill Study Club donated an oil stove to the school, where Miss Eloise Ewell had originated the idea of hot lunches. Miss Veronica Kollauf, of the Carpenter school, Pittsfield



No. 1.

township, is serving hot lunches this year, as are Miss Carrie Crippen, Bennett school, No. 6, Superior township, and Miss May Cash, District No. 5, Manchester township. In these two schools the children have been ambitious enough to master the mysteries of chicken pie. In the Bennett school birthdays are celebrated with a fine lunch and the regulation cake and candles. Commissioner Evan Essery also reports that in some of the schools the parents bring hot dinners for the children.

Delta county schools are running to domestic art rather than to domestic science. Sewing clubs have been organized and many aprons and muslin garments have been made which took prizes at the club exhibits and also at the county fair, Commissioner C. U. Woolpert reports. Miss Ruth Schafer had charge of the Perkins school, of Baldwin township, where prize work was done. The girls in this school also do crocheting and tatting. In the Wells school, Wells township, Miss Edith MacNaughton has organized a sewing club, which will become a canning club next spring, as will the Perkins school club. These sewing clubs are now under the state and national organization. In the Schaffer school Miss Rose Fahey's girls do crocheting, and in several other schools a little desultory work has been done. The boys in two schools had potato clubs last year and others expect to organize next spring.

More detailed accounts of just how the work has been carried out have been received from other commissioners and will be given in later articles.

DEBORAH.

LAST MINUTE CHRISTMAS GIFTS.

BY LULU G. PARKER.

"Do Your Christmas Shopping Early!!" Have you heard that before? Even last summer. But did you? Every single necessary postcard and gummed Christmas label? Then read something else.

"Oh! Well, neither did I. I meant to, but I keep remembering somebody that I want to remember, and now but two weeks remain."

There are still post-card jingles and

greeting cards to be had, that will show a friend that he is not forgotten, but there are also scores of little inexpensive gifts that may be purchased or made at the last minute, and that will fit into someone's Christmas stocking. But be sure that they do fit, for nobody must know that they are last minute gifts.

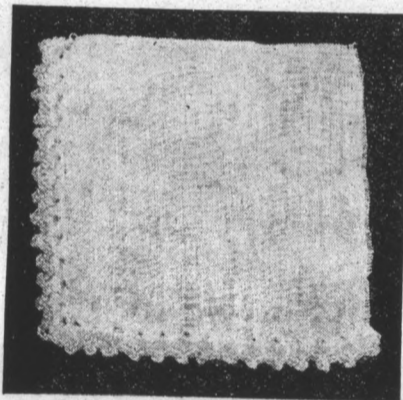
For the girl who works in a dusty office or who travels much, run up a black sateen bag on the sewing machine which is large enough to hold her hat without crushing. She will think of you and thank you every working day.

For the girl who should be learning to do housework, a couple of dishmops which cost five cents at the ten-cent store. Dress these up in tissue paper and label them the "Helpful Twins." Make holders of bright scraps of material for use around the hot stove.

To the flower lover or gardener send some of your own choice seeds in dainty envelopes, or an order on the seedsman, or a bouquet of cuttings from your window plants, or a promise as follows on a Christmas postcard:

"On April first, or thereabout, If you will bring your basket out, I'll dig for you a root or so Of things that in my garden grow And you may plant them in your yard To remind you of my regard."

For the grandmother who sews but whose eyes are not so good as they



No. 2.

once were, buy a package of self-threading needles, or two spools of No. 30 cotton, black and white, and thread a paper of common needles onto the end of the thread on each spool. Grandmother will know how to slide the needles along and break off a length of thread with a needle upon it as she needs.

For the woman who crochets or tats find one of the books of samples of crocheting or tatting. They cost from 10 to 25 cents and give directions for doing the work which any needleworker can follow.

What child would not like a box of cookies cut into animals and wonderful men, such as old-fashioned grandmothers know how to make without cutter or pattern. The man who lives in a boarding-house will be wonderfully pleased with eatables, too—cookies, little mince pies, or big ones, or a fruit cake. Any woman who depends upon a city bakery for her bread and deserts will hail with delight a loaf of new bread wrapped in a holly paper napkin.

Any child old enough to sew for her doll family will be delighted with a roll of scraps of cloth suitable for doll clothes. A paper of needles and a spool of thread will add to the completeness of the gift. A quilt maker

will also like any bits of silk or cotton suitable for her needlework hobby.

The folks you know who like to read will enjoy the same story which has given you pleasure in your favorite magazine if you will clip it from the paper and tie or paste it together into a booklet.

After all, it is not so much the gift as the thought that goes into it which brings joy to donor and recipient. And the giver who has Christmas in his heart will find suitable gifts for all whom he wishes to remember, no matter whether he looks in the big city shops, the ten-cent store, or in his own back yard or cellar storeroom.

EASILY MADE HANDKERCHIEFS.

BY MRS. M. KENNEDY.

The one safe choice for Christmas gifts is handkerchiefs, as one never has too many of them. Then, too, it is very much worth while to the woman of moderate means, to know that she can give something that will give pleasure to the most well-to-do of her friends and not make her pocket-book look thin.

Any of the accompanying patterns can be completed in a couple of evenings, and several of the edgings are very pretty for trimming infants' clothing. The silk edges are very nice for edging collar and cuff sets. A yard of 36-inch linen will make 16 nine-inch handkerchiefs or nine that are 12 inches square. If preferred cotton materials may be used.

No. 1 is made by drawing out one thread in two places, even distances apart and from edge, and running a thread of silk in where threads were drawn out. Edge is rolled and crocheted with silk, three doubles in a place, even distances apart. This is very simply and makes a pretty handkerchief.

No. 2 is made with rolled edge, crocheted over with lavender embroidery, two doubles, three chain and two doubles all in one place. These are put in about one-sixteenth of an inch apart all around. This design is particularly pleasing for collar sets, as is also the next.

No. 3 has a quarter-inch hem, hemmed by hand with colored silks, with-



No. 3.

out drawing threads, and two more threads drawn in as in No. 2. The tiny edge is made of silk. Make chain long enough to reach around kerchief, join, chain five, treble in stitch where chain started, miss two, treble in next, chain 2, treble in same stitch, repeat around and join. Fill under two chain with three double, three chain and three doubles. Fasten with slip-stitch between trebles that are joined at top.

MOTHERS AND NERVOUS CHILDREN.

BY JANET THOMAS VAN OSDEL.

Some years ago I was calling on a woman when her little son came running into the room. His eyes were bright and his cheeks were flushed with exercise.

"What makes you so late, Robert?" asked Mrs. Elliott.

"I stayed to help teacher mark some papers," replied Robert, glowing with pride. "She let me because I had a hundred in spelling every day this week."

"Oh, dear!" groaned his mother. "You must not stay in after school on any account. And the idea of her asking you to mark papers! You are too nervous a child to be going to school anyway. Now tomorrow you'll have to stay at home and get rested."

The happiness died out of Robert's face and a harassed expression took its place. He seemed another boy than the one who had entered the room but a moment before. Then the picture of health, he looked now the nervous child that his mother suggested. It was evidently his mother who made him nervous. Had she commended him for the perfect lessons which had resulted in what he evidently considered the honor of marking his fellow pupils' papers, the happy glow would not have faded from his face. Had she sent him out doors for an hour's play to counteract the effect of an afternoon indoors with never a word about his nervousness, how different the result might have been! It seemed to me that I never saw the two together thereafter that Mrs. Elliott did not remind Robert that he was not strong, that he must not do the things other children did, that he should not try to keep up with his school work, and so on. As the years went by Robert did develop a profound nervousness and now, when he should be a young man in the full glow of health, he spends every so often, a few months in a sanitarium. He is ever on the quest for health and is debarred from all of the pleasures that make life worth while for youth.

One need not be a mental scientist, nor any kind of a scientist except a common-sense one, to know that it is possible to make a person ill by insisting that he is ill. Probably Robert was not naturally as strong as some very robust boys. Consequently his mother should have talked health to him while she quietly saw to it that his diet was right, that he exercised enough and lived out of doors so far as possible. But she could have done all of this without mentioning nerves or weakness of any kind and Robert would have accepted it as the natural way of living.

While this is only a reasonable surmise, there is another case which bears out the idea that suggestion and right living will do everything toward curing nervousness. A neighbor had as nervous a little boy as is often seen. His appetite was poor, he slept fitfully, often starting up in his sleep with screams or sobs, and at one time he seemed on the verge of St. Vitus' dance. Never did I hear Mrs. Bills mention ill health or nervousness to Charles.

When asked why, although eight years, he was not yet attending school, she replied, "I thought I would teach him myself for a few years. And we are getting on famously, aren't we son?"

When he came in one winter's day and huddled next to the stove, saying it was too cold to play out of doors, she replied:

"Put on your knitted leggings, your sweater and fur gloves and run over to see if the Deane boys can come over and have a snow battle. Tell their mother I'll have an early supper especially so they can stay."

She thus continually maneuvered to keep her delicate boy out of doors all day, and at night he slept in a room

with the windows opened as wide as they would go. His diet was as carefully watched, no fried foods, no white breads, very little meat, an abundance of milk, vegetables, fruits, whole wheat and bran breads, and an occasional egg. But he was never told to act thus or thus, to eat this or that for his health or because he was nervous. It was the food placed before him and he ate of it, at first very little, but gradually, as his health improved under his mother's careful regime, he ate more and more heartily.

Today Charles, with not one-half the foundation that Robert Elliott had, is taking a young man's active place in the world. He is still of delicate build, but apparently well and always happy and cheerful, the kind of a young man that everybody likes to have around. He is soon to marry a charming girl.

As one contrasts the future that lies before Robert, in his restless, unhappy search after health, and Charles, so blissfully contemplating a future that will be the fulfillment of all his bright young dreams, it is impossible not to consider how much each boy's present position in life is due to the start his mother gave him in those early days when body and mind were, to a great extent, plastic in her hands.

HOME QUERIES.

Household Editor:—May I answer the query of I. L. L.? Custard or pumpkin pies puff up from two causes, that I know. First, because one will overlook a bubble of air. Lift the crust two or three times then pat down firmly, working from the center out. Then do not let your oven get too hot. One-crust pies cannot stand a real hot fire. A moderately hot oven will bake them beautifully. I know because my pies never puff up. Watch your fire, you will soon see when it is just right.—Mrs. L. J. McC.

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Grains for the Dairy Cow's Ration

By W. F. TAYLOR

IN a former article I have discussed at considerable length the different kinds of roughage adapted for winter feeding. In this number I desire to say something about the different varieties of grain which are commonly fed to the dairy, and also some combinations of grain which bring good results. The writer once listened to one of Michigan's best dairy speakers and he began his talk with this statement: "Gentlemen, I am to tell you this morning how and what to feed a dairy cow. Now, there are so many things that one may feed a dairy cow that I hardly know where to begin."

Truly, there are many kinds of grain that will produce good results when fed in proper proportions and amounts, and I fear I shall not be able to cover the subject in a practical way in a single article.

Grain Feed Essential.

Let us start with the declaration that the winter dairy must have grain if the maximum of production is to be reached. A good deal has been written and said about feeding ensilage and alfalfa hay, and leaving out the grain. This kind of talk appeals to the man who has been spending large sums of money annually for feed and perhaps not using it in a way to get the best results. It appeals also, even more strongly to another larger class—the class which is not buying grain, but is watching those who are and wondering how they can afford it.

But alfalfa hay and corn ensilage will not enable a high-producing cow to do her best. It is simply impossible for her to give a maximum flow of milk on such a ration, because she can not eat enough of it to produce the milk. No cow, no matter how good she may be, can produce an ounce of butter-fat out of nothing. She must either make it from what she eats, or take it from her body, which has resulted from what she has consumed in the past.

Alfalfa Hay Saves Grain.

But the cow that eats good alfalfa hay can get along with less grain than she would need with any other kind of roughage that is ordinarily fed. I presume it would be safe to say that with all the good alfalfa and ensilage the cows will eat, half the grain may be omitted.

But just now there is another question which the dairyman must settle for himself. "Will it pay to feed the cow for maximum production when feeds are so high?" The writer thinks it will, though this is an exceptional year. All kinds of hay have been harvested in abundance and have sold very low in the market, considering the prices of other kinds of feed. On the contrary all kinds of grain are high. Protein concentrates are very high and may be higher, and if a man has a barn full of good alfalfa which has cost him but little, we can not wonder if he feeds but little grain under the circumstances. But under ordinary conditions I am fully convinced that it will pay to feed a grain ration, even with the very best of roughage.

Dr. E. V. McCollum, of the Wisconsin College of Agriculture, has been making extensive experiments in nutrition covering a long period. The results of his many experiments have taught the scientific world some new things, and I am not finding fault with him when I say that the unfortunate thing about his work is, that he has for the most part been feeding rats.

Some Feeding Tests.

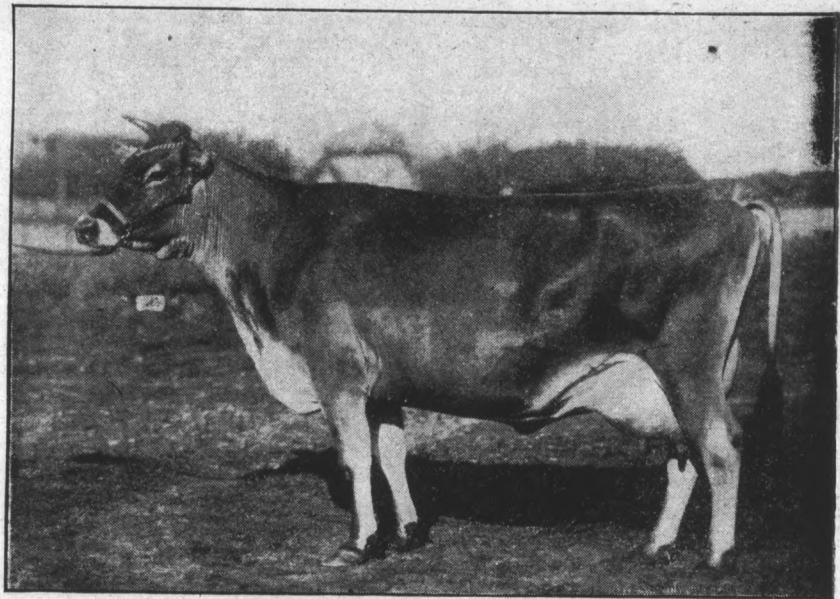
The practical question is, will the rat-feeding experiments produce the same results if tried on dairy cows? Mr. McCollum cites one experiment which is well worthy of publication. He tells how three bunches of heifers were fed, the first receiving only wheat, the second corn, and the third

oats. In each case such parts of the grains were fed as to balance the ration from a nutritive standpoint. The heifers eating the wheat products came out very poorly. If they carried their calves to maturity, they were either dropped dead, or lived but a little while. The others did much better, but those eating corn did best of all.

In speaking of attempts to balance the ration from a chemical point of view, Dr. McCollum uses some language which I fear may mislead the public. Already certain persons have repeated it to me to prove the failure of what is commonly known as "The balanced ration." But I do not believe these people rightly understand him. He would not claim for a moment that a cow does not need a certain amount of protein in order to do her best. He has demonstrated in these experiments the difference in kinds of protein, but he has not found out how to get along without it, and so it is folly in the ex-

from distillers' products which is highly prized. It is sold under several names but it is all about the same thing. I have heard dairymen say very often that they could get more milk out of it than out of any other grain they ever fed. Again, there are manufacturers of corn gluten who will furnish you with any amount of testimony that their product has been tried and will make more milk than any other feed on the market.

Then there are the people who handle mixed feeds—feeds sold under brands that do not indicate their composition. All sorts of good things are said for these feeds, and really, some of them are very good in their way, but should always be fed with a knowledge of what they contain. For one thing, the amount of crude fiber in them should always be carefully noted. In the south cottonseed meal is very popular. I have met many people in Michigan who feed it largely also, and



Gloria Benedictine, Grand Champion Cow at the National Dairy Show, Owned by A. V. Barnes, of Connecticut.

I think the most of us have fed it to some extent.

The point I wish to make here is, that all these feeds, when fed in right proportions, will produce milk. In the results which it is possible to get from the old cow, I do not believe there is much choice in these feeds in the hands of a good feeder. When I hear a man say that such a brand of feed will produce more milk than anything else, I want him to forgive me for thinking that he is forming his conclusions from experience which is too narrow. The writer has fed nearly every grain that is commonly given to a cow, and has gotten good results from all, but he has endeavored always to balance the ration according to the best he has known.

There is, however, a very important matter in this connection which should never be overlooked when we are comparing different feeds—this is the market price of the feeds in question. We feed dairy cows for profit. To keep a dairy on the average farm, means hard work and long hours. We may like this work better than anything else, but I venture a guess that the most of us are not doing it just for fun. Few want to get the largest profit possible and if we do, we must always consider the market value of the ration fed, as carefully as its power to produce milk.

Those of us who buy feeds largely might increase our profits by giving more attention to the market. It is the natural thing for people who give no thought to this subject to buy when they need feed for immediate use. Much more feed is used in the winter than in the summer, and for this reason the prices of some feeds usually go up during the winter months. Corn and oats are often cheap in the fore-

Wheat bran is often used, but bran does not increase the protein in the ration very rapidly since it contains but a little over 12 per cent and it is not the best of protein either. Bran does, however, contain a goodly amount of mineral ash which is useful in the ration. Dried beet pulp and bran mixed with cottonseed meal or gluten meal or both, make a good combination.

We saw a splendid herd of cows not long ago that were fed such a ratio and it proved in this case to be very efficient and economical. Sometimes it seems that more is gotten from dried beet pulp than the chemist can find in it, and it may be due in part to the amount of soluble salts and in part to the presence of some properties of which the chemist has not yet knowledge. At any rate, dried pulp is a very good feed to use as a part of the ration.

By-products as Grain Supplements. There is a kind of gluten meal made

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part of the winter because those who had them to sell were in too much of a hurry to market them, and because the corn has not had time to dry out, and is not worth as much for that reason. But all protein concentrates and many other feeds are commonly higher during the winter months. In our community we feed hundreds of tons of by-products from the breakfast food factories. During the summer we could buy these feeds very cheap, but now they are hard to find at any price. The lesson to be learned is to watch the markets and use our very best business sense in buying.

But to get back for a moment to the comparative value of different feeds. I have said that I believe it possible to get good results from any of the feeds ordinarily used for dairy purposes, but the practical question is, what is this comparative value?

We must know this before we can make up our minds what to feed in order to receive the largest profit. Dairymen on every hand are asking, what shall I feed? Bran can be gotten for \$30 per ton; gluten for \$35, and cottonseed meal for \$40. What shall we feed?

Comparative Value of Feeds.

What is corn worth and what is the value of oats upon the basis of these prices? Who knows? Who is going to answer?

Of course, we can guess, but positive knowledge of the comparative value of different feeds is what we want, and it is not to be had at present in very liberal measure. But this information might be gotten. Awhile ago the Iowa Experiment Station began a series of practical experiments in feeding hogs. A great many hogs were fed, in more than fifty different ways, and when this experiment was concluded the hog feeders who watched it knew more about feeding hogs for profit than was ever known before. There is some value to be gotten by feeding rats and guinea pigs, but before we can solve this question of the comparative value of different feeds we shall have to put the question up to the old cow herself. This work must be done either by our experiment stations, or by associations of dairymen under very careful supervision. Here is a good opportunity for the right kind of a county agriculturist in a dairy district.

But the work could be done most accurately by co-operation of several experiment stations. They would not need to buy more cows, it would not be necessary to greatly increase the expense of the stations. The cows might be divided into several groups and be fed different rations for a period sufficiently long to determine their comparative worth. If only a few cows are fed, the result does not prove anything on account of the possibility of limiting conditions which may not be known, but if a large number of groups are being fed and cared for with the same general end in view, then it should be possible to settle some of these questions.

Some Problems.

The dairyman is not so much interested in knowing that cottonseed meal will kill a guinea pig, nor in finding out that you can feed a cow enough of it to put her out of business after a while. The thing that interests us is to know if a reasonable amount of cottonseed meal will prove safe to feed right along during the life of the cow, and what is its power to produce milk when measured by the results obtained by using other feeds. What is the effect of different rations upon reproduction, and upon the life of the cow?

I meet many people who have notions about it, but am waiting for the man who really knows. To my mind there is but one party who can answer all these questions, and that is, the old cow herself. To get this valuable information out of her, will require very careful and extensive experiments, but the results will amply justify the labor and expense.

Again, if we are to settle these feed-

ing problems, we must keep closer to our experiment stations. It is our privilege, and I think it is our duty, to co-operate with these agencies not only by reading the bulletins and listening to lectures, but by suggesting our needs. If we farmers and dairymen are to get the most out of our work, we must keep in line with the whole scheme of rural betterment as it is planned by the United States and the State Departments of Agriculture.

I grant that unwise things have been done, and will probably be done again, but if we all get in line and help, instead of standing aside and finding fault, each of us will receive our reward for what he is able to contribute and agriculture will be advanced not only to our personal advantage, but to the general good. W. F. TAYLOR.

DAIRY PROBLEMS.

Balancing a Ration.

I would like you to balance a ration for milch cows, composed of the following feeds, which I have on the farm, adding to the same what you think I am lacking. I have mixed hay, corn fodder, bean pods, oat straw, and corn and oats. I presume prices will run about the same as in your community. Mason Co. W. C. C.

It is best to feed the cows hay once a day, all they will eat. The corn fodder, bean pods and oat straw can be fed for the other roughage, as seems best to get it consumed and converted into money.

Where there is no silage I think it always advisable, where possible, to feed dried beet pulp as part of the grain ration. It helps keep the cow in good health. Corn and oats are splendid grain rations but should be mixed with some grain rich in protein, say gluten feed, oil meal or cottonseed meal. Mix gluten feed and corn and oats equal parts. Feed three pounds of dried beet pulp to each cow and then enough of the above mixture so each cow will get one pound of grain per day for every pound of butter-fat she produces in a week, or one pound of grain for every three pounds of milk she produces.

Breeding a Sire Back to His Grade Heifer.

I have a registered Jersey bull and have a lot of his heifer calves from grade cows. Would it be right to breed him back to his own daughters? Montmorency Co. W. H. C.

This problem of breeding all depends on the quality of the bull. If he is a prepotent dairy bull and has a good constitution, then by all means breed him to his heifer. If he is not very vigorous, or deficient in any important essential, by inbreeding you will magnify these defects. You say he is a large fine animal, that he is sound and healthy. Now are his heifers good producers? Have they good udders, are they better cows than their dams? If they possess these dairy qualifications then your bull is a prepotent dairy sire and by all means breed him to his heifers, for you want all of his blood in your herd you can get. The next bull you get should be from the same family as this one, not too closely related. This is line breeding and has done much to improve all of our live stock. But don't breed animals with constitutional defects.

When to Begin Feeding Ensilage.

I filled my silo; when can I start to feed out of it? Antrim Co. M. A. P.

It is perfectly satisfactory to begin feeding silage as soon as the silo is filled. We feed silage the year round, every day. Many times farmers do not open their silos until cold weather comes, because the cattle have pasture to furnish this with succulent feed until that time. Then they feed silage until grass grows again in the spring. This is the logical way to feed where one has plenty of pasture, but where pasture is not plentiful then it is in order to feed ensilage any time during the year. Feed silage when you need a succulent feed.

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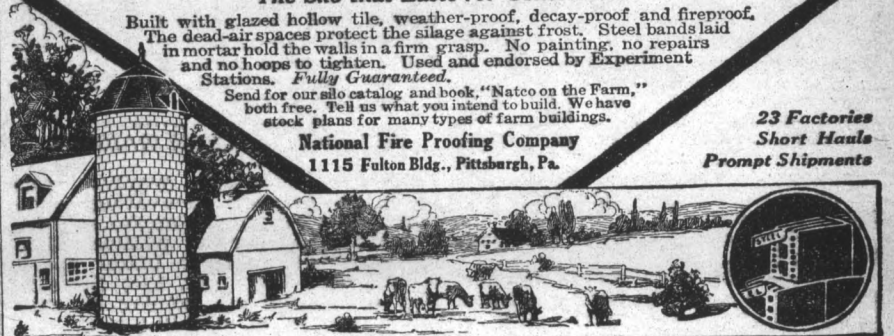
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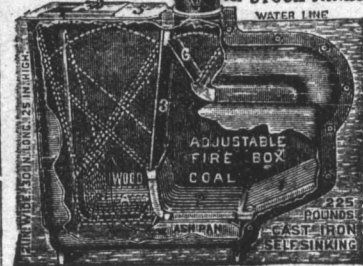
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Markets.

GRAINS AND SEEDS.

December 12, 1916.

Wheat.—While wheat values improved last week, there is considerable uneasiness among dealers and as a consequence prices have fluctuated more than usual.

Table with columns: No. 2, No. 1 Red, No. 1 White, May. Rows: Wednesday, Thursday, Friday, Saturday, Monday, Tuesday.

Chicago.—December wheat \$1.54 per bu; May \$1.65 3/4; July \$1.43.

Corn.—A large part of the decline mentioned in last week's issue has been regained, although on Monday in sympathy with wheat there was a slightly weaker feeling in the trade.

Table with columns: No. 3 Mixed, No. 3 Yellow. Rows: Wednesday, Thursday, Friday, Saturday, Monday, Tuesday.

Chicago.—December corn 87 3/8 c per bu; May 89 3/8 c; July 89 1/2 c.

Oats.—Prices are about where they were a week ago, with dealers inclined to sell rather than buy. The visible supply shows an increase of 1,724,000 bushels.

Table with columns: Standard, No. 3 White. Rows: Wednesday, Thursday, Friday, Saturday, Monday, Tuesday.

Chicago.—December oats 49c; May 52 1/2 c; July 50c.

Rye.—This cereal is lower with cash No. 2 at \$1.46.

Beans.—Inability to secure supplies makes this a very dull market. There is too little trading done to really establish values.

Seeds.—Market is quiet. Prime red clover \$10.70; alsike \$10.75; alfalfa \$9 @10; timothy \$2.50.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$9.30; seconds \$8.90; straight \$8.70; spring patent \$9.90; rye flour \$8.50.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$31; standard middlings \$33; fine middlings \$35; cracked corn \$43; coarse corn meal \$40; corn and oat chop \$37 per ton.

Hay.—In carlots at Detroit: No. 1 timothy \$14@15; standard timothy \$13.50@14; No. 2 timothy \$12@13; light mixed \$13.50@14; No. 1 mixed \$11@13; No. 1 clover \$10@12.

DAIRY AND POULTRY PRODUCTS.

Butter.—The market is easy with prices 4c lower than last week. Lack of demand through the boycott is supposed to be the cause of the decline.

At Detroit creamery extras are quoted at 36c; do. firsts 35c; packing stock 27c per pound.

Eggs.—Prices show a tendency to lower values. Notwithstanding that statistics indicate that market should advance, boycotts and public sentiment have kept prices down. Price, based on sales, is 37c.

Chicago.—A steady feeling exists at prices 2c lower than last week. Consumptive demand is light but indications are that the market is adjusting itself to recent changes.

Eggs.—Lack of consumptive demand due to high prices, has brought prices down 4c. Firsts 36c; current receipts 35c per dozen.

Chicago.—The demand is fair except for fine stock, which is wanted. Prices are 2c lower. Fresh firsts are quoted at 37c; ordinary firsts 35@36c; miscellaneous lots, cases included 32@37c.

Poultry.—Market is firm and prices are slightly higher except for turkeys, which are lower. No. 1 spring chickens 18c; No. 2 do. 16@17c; No. 1 hens 16 1/2 @17c; No. 2 do 15@15 1/2 c; small do 10@11c; ducks 17 1/2 @18c; geese 15 1/2 @16c; turkeys 22@23c.

Chicago.—Receipts were light and demand good, which resulted in better prices for all kinds of poultry. Turkeys 12@20c; fowls 12 1/2 @16 1/2 c; spring chickens 17 1/2 c; ducks 10@16c; geese 15@16c.

FRUITS AND VEGETABLES.

Apples.—Market is firm with prices higher. Baldwin, Spy and King quoted at \$5.50@5.75 for the best. At Chicago trade is improving and apples of good quality are meeting good demand.

Potatoes.—The market is easy with prices slightly lower. The quotations at Detroit in carlots are \$1.55@1.60 for bulk and \$1.60@1.70 in sacks. At Chicago the trade is dull with Michigan white potatoes quoted at \$1.40@1.60 per bushel.

GRAND RAPIDS.

The egg market is higher again, due to the colder weather, and 44c is bid for strictly fresh stock. No. 1 dairy butter is quoted at 31c. The potato market is firm at \$1.75 and outside stations report that very little stock is moving at the present time.

DETROIT EASTERN MARKET.

Tuesday morning's market was small, due partially to weather conditions. The bulk of the apples sold between \$1@1.50 per bu; potatoes \$1.25 @2; cabbage \$1.25@2; butter 45c a pound; eggs 60c; pork 14c; there is very little loose hay coming in, with prices reported at \$17@19 a ton.

LIVE STOCK MARKETS.

Buffalo.

December 11, 1916.

Receipts here today as follows: Cattle 160 cars; hogs 110 d. d.; sheep 40 d. d.; calves 1000 head.

With 160 cars of cattle here today, the good shipping cattle and good butcher cattle were very scarce and the demand was strong, the bulk of them selling a quarter higher, and in some cases the best kinds were 40c higher, but the medium steers with only medium quality were only 10@25c higher.

We had a moderate supply of hogs today, demand was good from all sources and prices generally 5@10c higher in some cases, than the close of last week. The bulk of the yorkers and light mixed sold from \$10.10@10.25, with selected medium weights up to \$10.40; pigs and lights \$9@9.25, as to weight and quality;

roughs \$9@9.25; stags \$7@8. The feature of the trade today was the sorts and the weights on hogs, this in most cases governed the price. A good many hogs selling around \$10.15, with just the light pigs out, looked like better sold than those at \$10.20@10.25 with the 130-lb. stuff out.

With a light run of lambs today our market opened active and 25c higher than the close of last week. We look for steady to strong prices the balance of the week.

We quote: Best lambs \$13.35@13.50; cull to common \$9@12.50; yearlings \$8@11.75; bucks \$5.50@7; ewes \$8@8.50; cull sheep \$4.50@7; wethers \$9 @9.50; top veals \$13.75@14; heavy \$7 @9; common and light \$8@12; grassers \$5.25@6.

Chicago.

December 11, 1916.

Table with columns: Receipts today, Same day 1915, Last week, Same wk 1915. Rows: Cattle, Hogs, Sheep.

Another week opens with a good cattle supply, including a good showing of choice lots. There is a good demand for butcher stuff and fat steers at firm prices, but other steers are slow and expected to develop weakness.

NATIONAL MARKETING CONFERENCE.

(Continued from page 582).

not caused him to lose his perspective. He can express himself forcibly and thinks clearly and correctly. The experiments in Canada of state-owned terminals and greater exercise of state functions, have crossed the line into the United States, and the Dakotans seem to feel the question a closed one and past the time of argument.

The Dakotans came to the stock show and markets conference in a body, with huge identification rosettes, with name and number on. The people from the more purely agricultural states have the gregarious habit and mobilize more quickly than those from the older states. They exhibited a most happy blending of rural appreciation dominant with perfect consciousness of adaptability to metropolitan ways.

Gov. Frazier said that no longer were the farmers called "hayseeds."

A southern woman at the markets conference was Mrs. Mather, of Alabama. When the conference was wearied with the complaints and wrongs inflicted and endured, and theorized on remedies, it was the voice of a woman that soothed and calmed, like the lullabies of childhood. It was the story of the tenant farmer, shiftless and shifty. The story of the Negro with his aimless docility, and the poverty-stricken daughters of the poor mountain white was told in the broad southern accent of Mrs. Mather. The bankers were told by this woman to take more interest in and less from the tenant farmer and cropper. Special assistance was to be given to those who would grow what the south calls subsistence crops, which under a one-crop system of farming is not general.

Mrs. Mather is a large landowner herself and enforces growing subsistence crops. The mountain girls of one county grew and canned 68,000

cans of tomatoes in one season. Home canning has captured the best trade. These mountain lassos were given a dinner and automobile ride in the city. There is more of genuine heart in the southern people, apparent at least in their attention to agricultural matters, which covers a multitude of sins, where almost peonage exists.

As a matter of fact, the southern white and Negro cropper, with usurious interest and rental charges, is a menace to southern agricultural life and the nation as well. Unrestricted competition with the south, in cheap labor and cost of living, and with improved agricultural methods, is growing to be to the north and west the same problem that child labor in the south was to the northern manufacturer. The truck grower and fruit grower will feel it first. King cotton is the friend of the northern farmer but mixed agriculture will make a strong competitor. The south expects much from the rural credits act.

Be sure and read article on page 584, "A Highly Important Matter to Our Subscribers."

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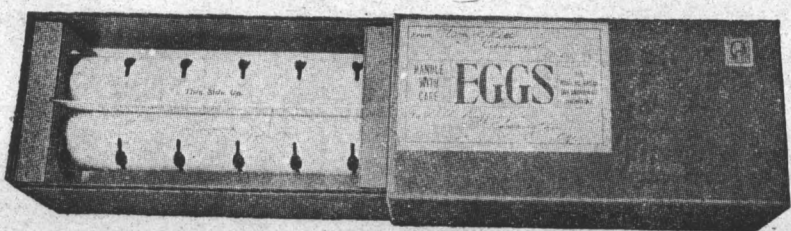
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DETROIT LIVE STOCK MARKET.

Thursday's Market. December 14, 1916. Cattle.

Receipts 2025. Everything was very late in reaching market this week, railroad wrecks being responsible for some of the bad delays, and general conditions at all terminals in Detroit had its effect and a large amount that should have been received and sold Wednesday did not arrive in time for that day's market and were sold on Thursday.

In the cattle division there was quite a fair sprinkling of good Christmas beef on sale, and a good active market at last week's closing prices on all grades. One extra fancy steer weighing 1460 lbs. was put up at auction and sold by C. W. Bullen, of Bishop, Bullen & Holmes, to W. B. Thompson for \$13 per cwt; the animal was the best steer seen in these yards in years and will be slaughtered for the Christmas trade. Milch cows of quality sold well but common grades have to go for canners as there is little demand for them for milking purposes.

The close was steady as follows: Best heavy steers \$8@10; best handy weight butcher steers \$7.50@7.75; mixed steers and heifers \$6.50@7; handy light butchers \$6@6.25; light butchers \$5.50@5.75; best cows \$5.50@7; butcher cows \$5@5.50; common cows \$4.50@4.75; canners \$3.75@4.50; best heavy bulls \$5.75@6.75; bologna bulls \$5@5.50; stock bulls \$4.75@5; feeders \$6@7.25; stockers \$5@6.25; milkers and springers \$4@9.00.

Sandel, S., B. & G. sold Breitenbeck 13 butchers av 687 at \$6.25; to Bresnahan 7 cows av 946 at \$4.75, 3 do av 880 at \$4.40; to Sullivan P. Co. 1 cow wgh 1580 at \$8; to Bray 1 do wgh 680 at \$4.25; to Mason B. Co. 12 butchers av 708 at \$6.25, 2 do av 605 at \$5.50; to Mich. B. Co. 25 do av 772 at \$6.50.

Erwin, S. & J. sold Bray 2 cows av 740 at \$4.25, 1 do wgh 880 at \$4.50; to Mich. B. Co. 3 bulls av 1250 at \$6.25, 1 do wgh 830 at \$6, 1 heifer wgh 770 at \$6.75, 17 butchers av 787 at \$6.75, 10 do av 591 at \$5.75; to Rattkowsky 2 cows av 900 at \$5.25, 4 do av 932 at \$5.75, 1 do wgh 810 at \$4.50; to Bray 3 do av 1000 at \$4.75, 1 do wgh 870 at \$4; to Hammond, S. & Co. 7 do av 880 at \$4.50, 5 do av 820 at \$4.50; to Rattkowsky 8 butchers av 660 at \$5.40; to Bray 1 cow wgh 1050 at \$5, 1 do wgh 1120 at \$6.25, 1 do wgh 820 at \$4.50; to Shiparo 1 steer wgh 1230 at \$9, 2 do av 1090 at \$8, 3 cows av 963 at \$5; to Breitenbeck 5 steers av 578 at \$5.50; to Heinrich 3 do av 973 at \$7.75.

Receipts 891. The veal calf trade was active at last week's prices for good grades, selling at \$12@12.50, with an occasional fancy bunch at \$13. The heavy grades sold at \$5.50@6.50; medium \$9@11.

Erwin, S. & J. sold Thompson 3 av 120 at \$12.25, 3 av 175 at \$13, 1 wgh 170 at \$6, 5 av 155 at \$10.25, 1 wgh 140 at \$13, 4 av 140 at \$12, 7 av 135 at \$12.50; to Mich. B. Co. 2 av 95 at \$9, 12 av 150 at \$12.50; to Burnstine 15 av 135 at \$12; to Costello 10 av 135 at \$12.75.

Haley & M. sold Goose 14 av 155 at \$11.25; to Thompson 17 av 150 at \$12.50, 15 av 155 at \$12.75.

Receipts 6272. The sheep and lamb market was never as high in the history of the yards, and the trade was active at an advance of 25@35c above last week. Quite a large number sold at \$13@13.25 per cwt. The close was steady. Best lambs \$13@13.25; fair lambs \$12@12.75; light to common lambs \$9@10; yearlings \$9@10.75; fair to good sheep \$8@8.75; culls and common \$5@7.

Haley & M. sold Nagle P. Co. 152 lambs av 70 at \$12.75, 33 sheep av 95 at \$8, 3 do av 80 at \$5; to Thompson 22 lambs av 65 at \$12.50; to Nagle P. Co. 61 do av 70 at \$12.50, 37 sheep av 90 at \$7; to Mich. B. Co. 16 sheep av 100 at \$8.50; to Nagle P. Co. 61 lambs av 75 at \$12, 22 do av 77 at \$12.50.

Sandel, S., B. & G. sold Sullivan P. Co. 10 sheep av 77 at \$4.75, 23 lambs av 75 at \$12.40; to Mich. B. Co. 10 do av 91 at \$10.25, 20 sheep av 100 at \$8.50, 21 lambs av 85 at \$12.50, 11 do av 75 at \$12.25; to Sullivan P. Co. 40 do av 65 at \$11.50.

Receipts 10,450. The hog trade on Thursday was a trifle more active, pigs selling at \$8.50@8.75; mixed grades at \$9.25@9.75, bulk around \$9.50. The quality was common, being mixed with a large number of pigs and light weights.

Arrow form fit Collars. Have bands and tops curve cut to fit the anatomy of the shoulders. 15c each 6 for 90c. TALBOT. CLUETT, PEABODY & CO., Inc. MAKERS

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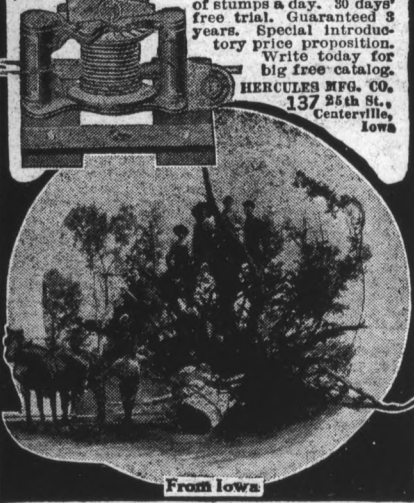
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By FLOYD W. ROBISON

Vinegar

It may be seen from our discussion that it is unnecessary that an accessory to a food product should have any real food value in itself. It may have food value but it is not the food properties of this product that determines its value in the dietary.

We have seen how it is that products which we consider appetizing and stimulating, such as beef tea, bouillons, etc., may fulfill to the utmost their purpose in the diet without contributing a particle of direct food nutriment. We call them accessories to the diet because they are present as adjuncts and their value in this respect is amply sufficient to warrant their employment. These results have been amply proven by physiological experiments and are now quite generally accepted by dietists.

Among these accessories to the diet is vinegar. The most familiar form of vinegar which is used of course is the cider vinegar and when cider vinegar is produced from mature, sound fruit, through clean methods of manufacture which permits of sufficient aging to develop to the highest degree the characteristic features of the vinegar, there is in our judgment no vinegar available which can be preferred to such a cider vinegar.

The Main Thing in Vinegar is Acetic Acid.

Of course, cider vinegar is essentially a watery solution of acetic acid, brought about through the alcoholic fermentation of the sugar in apple cider, and the subsequent acetification of the alcohol. In the state of Michigan, to be saleable, a vinegar must contain at least 4.00 per cent of acetic acid or, as it is commonly stated, commercially, must be a 40-grain strength vinegar. As a matter of fact, most pure cider vinegars on full fermentation and full acetification under careful conditions of manufacture will contain from 5.00 to 6.50 per cent of acetic acid. Some consider, however, that a vinegar of 5.00 to 6.50 per cent acetic acid is too strong for table use. Consequently the statutes permit of the addition of water, provided its addition does not reduce the acid content below 4.00 per cent, or 40 grains. The total constituents of cider vinegar, with the exception of the sugars, are the same constituents which in a large measure exist in apple cider.

The Sugar in the Cider is the Source of the Acid.

Cider when it is freshly prepared, contains approximately 15 per cent of sugar. This 15 per cent of sugar, if it could all be converted without loss, would amount to about 7.00 per cent of alcohol, and approximately the same amount of acetic acid, but of course, manufacturing operations of this kind, depending upon fermentation and oxidation, use up considerable of the material during the process, so that the percentage of acetic acid actually obtained varies in different factories, running all the way from 4.00 to 6.50 per cent.

The Great Value in Vinegar Lies in the Aromatic Substances Present.

During the fermentation of the sugar, that is, its change into alcohol and the subsequent change of this alcohol into acid, a very desirable change takes place in the vinegar. This change is typified by the greatly increasing quantity of aromatic substances which are formed. These aromatic substances are chemically known as esters, and this change is known as esterification. This change as far as enhancing the

value of the vinegar is concerned is the most important change which takes place, and any process which encourages the development of these esters—in other words, any process which encourages a more complete esterification, is a superior manufacturing process.

The Standards were not Reliable Guides.

A few years ago the state of Michigan had a law which required that all cider vinegar sold in the state should contain at least 1.75 per cent of cider vinegar solids. This standard was about an average of what was incorporated in many of the laws throughout the United States and was brought about through a tabulation of the then known scientific knowledge regarding vinegar. It was supposed that any vinegar which did not contain 1.75 per cent of solids must be an adulterated vinegar. The way these standards were arrived at was by obtaining authentic samples of vinegar which were known to be pure and these were obtained chiefly from the vinegar barrel of farmers who had put cider down in their cellars and this, after a year had become vinegar. It was supposed that the composition of this product would be a clearer and more reliable index of what the composition of a true cider vinegar would be than would articles of commerce, such products as were made by the large vinegar manufacturers.

As a matter of fact, the research of the last few years has sufficiently established the fact that this is a decidedly unfair guide to follow. The vinegar that is on the market for sale is mostly manufactured on a large scale and necessarily through methods very essentially different from those on the farm and, in our judgment, is a decidedly superior vinegar, at least in many instances.

The Best Standard is a Standard of Purity.

We have been firmly of the opinion that it was unwise to prescribe any standard other than purity for any article of food, except of course that it is well to say that vinegar shall not be marketed unless it contains 4.00 per cent of acetic acid, for in such an event it would not be sour enough for the purpose intended. On the other hand, to say that vinegar shall contain 1.5 per cent, 1.75 per cent or 2.00 per cent solids is simply putting a premium upon the sophistication of the pure product.

We have made quite an extended study in the last four years of vinegar as manufactured by one of the largest manufacturers of food products in this country, and we find sample after sample of vinegar which we have had under our scrutiny from the apple to the market, which vinegar will run as low as 1.2 per cent of solids, and which contains as high as 6.5 per cent acetic acid, with what may be considered a maximum development of flavor and aromatic substances, due to the perfection of manufacture. Were the old law of Michigan in effect at the present time this vinegar, which is one of the purest with which we have ever come in contact, could not be sold in this state. Now then, were this vinegar reduced from 6.5 per cent to 4.0 per cent acetic acid, as the law would permit, its solid contents, it may easily be seen, would be considerably below 1.00 per cent.

Vinegar a Delightful Adjunct of Food. Vinegar is an excellent accessory to

food. It stimulates the activity of the digestive fluids and fills the same purpose in the human dietary that the peculiar sour and aroma of silage does in the diet of the dairy cow. To determine the exact food value of the aroma and flavor of ensilage would be a Herculean task. To show what effect it has it is simply necessary to compare ensilage in its effect with a product of the same composition but devoid of flavor and aroma.

These accessories to the diet are the things which determine in a large measure the adaptability of the product to the diet, and call for a consideration out of all proportion to the measurable nutrients which they contribute.

TOO FEW BIRDS ON FARMS.

The last report of the late Prof. Wells W. Cooke, assistant biologist of the United States Biological Survey emphasizes the statement that birds are too few on the farms. He cites instances to show how largely birds will respond to food, shelter and protection. The report is that of the second count of birds of the United States, and states that the average bird population on each area covered showed 80 pairs of birds in 1915 to 69 pairs of birds in 1914 on areas averaging about 60 acres, with an average population for each 100 acres of 125 pairs in 1915 as compared with 119 pairs in 1914.

According to Prof. Cooke's report, the most elaborate report to the biological survey in 1915 was that of the campus of Cornell University, at Ithaca, N. Y. Its 256 acres were divided into six blocks, and the survey of each was made by a different person, the whole being in charge of Prof. Arthur A. Allen of the university. * * * * It is interesting to note the wide variations in the bird population of the various sections. Block C, which contains the university buildings, and therefore, has the largest human population, hundreds of students passing and repassing all day, has less than the average of native birds, but swarms with English sparrows, in numbers almost equal to the total of native birds. Block B, containing residences, with their shade trees and shrubbery, has the greatest density of native bird population—84 pairs on 24 acres and Blocks A and F, hillside pastures, though supporting a population of native birds considerably above the average for the state, are almost free from English sparrows.

CURING MEATS ON THE FARM.

In curing pork on the farm, be sure that the hog has been properly slaughtered and then chilled without freezing for at least 24 hours. Hams, shoulders and sides make the best smoked meat and should be trimmed of all three-cornered pieces and ragged edges. These small scraps make good sausage but poor ham. Rub the meat well with salt and leave over night. Pack in a clean hardwood barrel with the heavier hams on the bottom, the shoulders next, and the bacon on top. Good brine can be made from 10 pounds of salt, two pounds of sugar or molasses and four gallons of water to 100 pounds of meat. It is a good precaution to boil and skim the mixture. Saltpeter may be added to preserve the natural color of the meat but is harmful to the health, even if used in small quantities. Brine does not easily freeze but meat cures more rapidly if it does not become too cold. The bacon will cure in from 22 to 30 days, while the heavier hams need from 40 to 60 days. Freshen cured meat in lukewarm water for six hours. Dry and smoke with hardwood or corncobs for four to seven days. It is safer to let the fire go out at night. Well-smoked meat keeps best in a cool, dark, dry, well-ventilated place—Ohio. Agricultural College.

Farmers' Clubs

THE ANNUAL MEETING.

The twenty-fourth annual meeting of the Michigan State Association of Farmers' Clubs, held in Representative Hall, the Capitol Building, Lansing, on December 5-6, was fully as well attended as any meeting in the history of the organization, the hall being comfortably filled at all of the sessions. The program was interesting throughout from the moment of opening to the close of the last session and the veteran workers in the organization, many of whom were present, voted it fully up to the standard in the unbroken line of successful meetings held by the organization.

The first session on Tuesday was devoted to the routine work of the organization. The afternoon session opened the real deliberations of the meeting. The music for this session was furnished by the Grass Lake Quartette and their numbers were greatly appreciated by the audience. The first address of importance was the report of the Associational Secretary, Mrs. J. S. Brown, of the Howell Farmers' Club, which was in substance as follows:

Secretary's Report.

This year has marked a steady advance in Club movement. Five new Clubs have been organized, while literature has been sent for the formation of other Clubs, three have joined the State Association, and some who had dropped their membership from the Association, after an explanation and plea from the secretary as to its benefit, have been reinstated. Dr. Mumford of the extension department offered the use of county agents in the formation of New Clubs throughout the state. D. L. Hagerman, Ottawa County Agent, assisted by Director Burk, who was sent by the executive committee as Club worker, organized two new Clubs in that county, viz: The Allendale and Olive Township Farmers' Clubs, the Allendale having joined the State Association, and sent her dues in, the first dues to be sent in. R. V. Tanner, Mason County Agent, was sent constitutions and by-laws and at Freesoil a Club was organized, known as "Meade Farmers' Club." Also the Grandon Farmers' Club was organized, since our annual meeting last year on December 17, and the Hartwick Farmers' Club, both in Osceola county, and now comes good news from Beaverton, Gladwin county, for literature to organize new Clubs; two new counties on our roll this year, Ottawa and Gladwin.

We have seen agricultural interests organizing and co-operating as never before, and the number of disbanded Clubs in the history of our organization expressed by a cipher (0).

Your secretary has been much gratified to know that our Agricultural Colleges and personal friends think it one of the best organizations for the farmer and his family. D. L. Hagerman, Ottawa County Agent, says, "The church principles of many of our people here will not allow them to become members of secret organizations. They, however, need co-operation and I believe the Farmers' Club will fill the bill." A request has been received from Prof. H. S. McKnight, field organizer of Texas Agricultural College, for information regarding the organization and great success of the Farmers' Club movement in Michigan.

And we may be all justly proud in being a part of this organization which has accomplished so much for the farmers in this state, while yet in its infancy, and we acknowledge with gratitude that the few men who organized this movement "built better than they knew." And again we meet for mutual good, all ready to add our

strength for the very best interest of the Farmers' Clubs.

The resolution adopted by an executive committee in 1905, provided that during the month of November each year, each local Club shall report immediately after receiving a report blank, necessary for the secretary to make a complete annual report. This year over 124 report blanks were sent out and up to date 62 have been filled out and returned. Six last year sent reports after the annual meeting and sent in their dues to the amount of \$19. I have mailed 585 letters and 250 credential blanks, 130 constitutions, by-laws for local Clubs to the number of 60 have been sent out. Two hundred programs of annual meeting have been mailed. On the revised membership roll I have 105 active Clubs represented in 36 counties of our state.

Sixty-two of the active Clubs have filled out and returned report blanks this year, as requested. There are still 48 whose reports did not reach me in time to be included in this report. Of the 62 Clubs who have returned reports, the total yearly reports compiled from those blanks received to date are as follows: Number of Club members 366, 43 Club meetings were held with an average attendance of 42. River Bend Club of Grand Rapids, holding the largest number of meetings, viz., 26 in one year. The Lenox and Chesterfield Club of Macomb county has the largest number of members, 162, Ingham County Club coming next with a membership of 125, and the Howell Farmers' Club, of Livingston county, third, with 116 members, four more than a year ago. Forty-two Clubs have annual picnics, 27 use yearly programs, 17 have Club fairs and 27 hold temperance meetings.

The death of 39 members was reported from these Clubs. Only two girls' sewing clubs, two corn clubs and one potato club reported.

The Hartwick Club, of Osceola county, organized this year, has the boys' potato club and the girls' sewing club. Riley and Olive Township Farmers' Club, organized in 1909, joined the State Association this year.

The Allendale organized in April of this year joined the State Association and was the first to send in its dues.

The Four Townships Farmers' Club, of Tuscola county, has changed its name to Commonwealth.

The above is a correct report of the 62 Clubs who have filled out and entered their report blanks.

The feature of greatest interest of this program was an address on the milk situation, by R. C. Reed, Field Secretary of the Michigan Milk Producers' Association. The interest in this subject was so great that the substance of Mr. Reid's address will be published in a future issue, in preference to giving a brief report at this time. The discussion of this subject was led by Mr. H. F. Probert of Jackson county, who gave his experience in the marketing of a high-class dairy product.

Tuesday Evening.

The Tuesday evening session was begun with a banquet at the First Baptist Church, which was attended by the delegates in a body. Following the excellent meal served by the ladies of the church, President Robb gave his annual address in an informal but heart to heart talk which was much appreciated by the delegates. This was followed by a round-table session to which many prominent delegates and guests contributed fittingly.

The Resolutions.

At a subsequent session the following resolutions were submitted by the committee on national affairs, consisting of Messrs. Clayton Cook, B. P. Brooks, F. M. Piggott, L. E. Dwelle and A. C. Rolander. These resolutions were adopted in the following order:

National Affairs.

Whereas, there is a growing demand in the cities for an embargo on food products to reduce the cost, and

Whereas, all that enters into the production of those food products has greatly increased in price

Be It Resolved, that if an embargo be declared it should in all fairness

cover every article of commerce which has materially raised in price during the last two years.

Whereas, the life of a nation depends upon its ability to raise money to meet its financial obligations, and also upon its power to protect and enforce its rights, and

Whereas, in a democratic government burdens should bear equitably upon all the people,

Therefore be it Resolved, that we favor some form of universal military training which will give the United States adequate protection while interfering with our civil life as little as possible.

Whereas, congress is spending at the present time the largest sums of money for internal improvement, and

Whereas, in the past millions have been wasted to please certain sections for political purposes,

Be it resolved, that we condemn the pork bond appropriation and request all Michigan congressmen to vote for economy and efficiency only, and

Be it further resolved, that we recommend the budget system of appropriation.

Be it resolved, that the secretary send a copy of these resolutions to each United States representative and senator.

State Affairs.

The committee on state affairs, consisting of Chas. B. Scully, C. J. Reed, G. F. Stowe, David Gage and Frank A. Groger, submitted the following, which were adopted:

Resolved, that we favor the taxation of our water powers on a basis that shall place them on an equality with the other wealth producing properties of our state.

Resolved, that we re-affirm our position in favor of woman suffrage.

Further resolved, that we are in favor of the Torrens System of Land Transfers.

Co-operation and conservation of the food supply are essentially the problem of all the population; therefore,

Resolved, that we recommend organizations which can handle larger units of distribution and be acquainted with supply and demand; that these organizations shall endeavor to eliminate superfluous distributors and establish among all groups, whether engaged in producing, distribution or transportation, equitable compensation for their services rendered. We recommend the federation of all organizations which have this common object in view.

The burden of taxation is now borne by real property; therefore be it

Resolved, that a graduated income tax be levied to meet the exigencies arising from the continually increasing number of individuals and corporations whose contributions to state taxation are now relatively small. We believe that the experience of the state of Wisconsin would allow us to raise the total state tax, aside from the primary school fund, from sources above mentioned, and leave real property for local purposes of taxation.

We recommend that the president appoint a legislative committee of three from the Farmers' Club to assist in the common purpose of agricultural good and to co-operate in the initiating of law-making.

Believing that the present mortgage tax law is working an injustice to the taxpayers of Michigan, and whereas we favor the enactment of such laws as will build up rather than retard the interests of the farmers of the state:

Resolved, that we are opposed to the present mortgage tax law in its present form and ask for such amendments or modifications as will require all individuals or corporations to bear their just and equal share of taxation.

Whereas, the University of Michigan with its literary and professional courses justly has its governing board of regents from those having such vocations and interests; therefore be it

Resolved, to secure a similar service to agriculture from those in control of the Michigan Agricultural College by asking legislative enactment prescribing that a majority of the State Board of Agriculture shall be identified with agriculture in one or more of the following prescribed and pre-requisite qualifications by residing upon and operating a farm or engaged in agriculture or educational publicity.

Resolved, that we as members of the State Association of Farmers' Clubs recommend the budget system of purchasing supplies for the various state institutions by one central board or control.

We heartily endorse the efforts and work of the Michigan Milk Producers' Association and urge the co-operation of the local Farmers' Clubs in the or-

ganization of local milk producers' associations in every Farmers' Club community in the state.

In the face of the fact of the large majority vote in favor of state-wide prohibition and the doubly decisive vote against the home rule amendment we are justified in believing that the 1917 legislature will enact as effective legislation as is in force in any other prohibition state.

Resolved, that the State Association of Farmers' Clubs hereby expresses its approval of the proposed change in the registration laws providing for registration by township and city clerks instead of by boards of registration except in townships and cities which may desire to continue the present system. We believe that the proposed plan will work a much needed reform and will result in the saving of many thousands of dollars to the people. The law as it stands today is cumbersome, expensive and inefficient. We therefore commend this subject to the careful consideration of the legislature.

Temperance Resolution.

The committee on temperance, consisting of W. K. Crafts, Mrs. Thomas Wingad and F. M. Crow, presented the following, which was unanimously adopted:

Whereas, one year ago the State Association of Farmers' Clubs placed itself in favor of state-wide prohibition, and

Whereas, by an overwhelming vote of the electors of the state such an amendment has been accepted.

Therefore resolved, that we endorse the vote of the people and pledge ourselves to heartily co-operate in the enforcement of the same, and that we ask of our legislators the enactment of such laws and of our executives the enforcement of the same.

Officers were elected for the ensuing year as follows: President, C. B. Scully, Almont; vice-president, C. F. Hainline, Alma; secretary-treasurer, Mrs. J. S. Brown, Howell; directors, R. E. Moore, Bellevue; J. E. Aylworth, of Hudsonville.

(To be continued).

NAT'L GRANGE PROCLAMATION.

(Continued from page 601).

We believe that in some instances production has been restricted by the trusts and monopolies. This is particularly true of the meat situation. As many of the villages, towns and cities in many sections are not permitted to kill their own meats because of the unfair competition from the packing interests. We further believe that while the crops have been short, yet there is plenty for all in this country and some to sell. But at the same time economy should be practiced along all lines. The high price of potatoes and vegetables this year does not mean that the same price will prevail next year. By taking a ten-year average the producer is not getting a living price, and under present conditions we are only getting a fair price. That at present some articles, such as milk, taking into account its food value, is still cheap.

Other causes might be enumerated thus:

The alarming increase of insect and fungus pests.

Gambling in food products, which should be prohibited.

There should be more storage warehouses in the country and under the control of the farmers themselves.

The duplication in delivery service in the village, town and city, also the lack of marketing facilities in some towns and cities.

The American farmer is farming as well as he can afford. He will increase the yields as he gets pay for increased production. Increased production means increased cost, and unless prices warrant this increase the farmer cannot go ahead. With the high prices now prevailing many farmers are getting no returns for their labor. With the increased development of scientific knowledge turned over to the farmer through agricultural colleges, experiment stations, and particularly the work done by the National Department of Agriculture with other agencies, we can assure the American consumer that the American farmer, if given a fair chance and a square deal, will not only continue to feed America but will have some to spare.

Treatment of Feeding Disorders with Roots and Herbs

By FRANK J. PATTERSON

CONSTANT forcing, constant feeding of the same ration, however balanced, may often impair an animal's digestive apparatus.

What Roots and Herbs to Feed

For example, the ground root of the gentian plant, is one of the oldest and best known aids to digestion.

Bi-carbonate of soda, commonly known as plain baking soda, has long been recognized and used as a corrective, to relieve and prevent sour stomach, to neutralize acidity and as a preventative of indigestion.

Charcoal, as everybody knows, is very useful in checking digestive disturbances and as an absorbent for various kinds of material or acid poisons as well as gases of the stomach.

The ground seed of the Egyptian Anise bush is one of the best known appetizers and stimulants for the digestive organs and is also acknowledged to be of great assistance in turning food into blood.

Then there is the ground inner bark of the elm, for blood purifying and for aiding assimilation; foenugreek for quick fattening; ground root of elecampane for stimulating saliva and making the feed more palatable; African ginger as a tonic and laxative; quassi and blood root for expelling worms.

Of course, it would be practically impossible to mix these ingredients in scientific proportions without the proper facilities, which few of us possess, but this is now unnecessary. I understand that in Wilbur's Stock Tonic these ingredients are already scientifically proportioned so that each dose contains the correct amount of each ingredient for best results.

Results of Their Use

Not long ago I had a talk with Mr. Marshall, President of the Company, and he cited many instances of what the results were from feeding Wilbur's. One case was that of some horses which were "in terrible condition," as the owner expressed it.

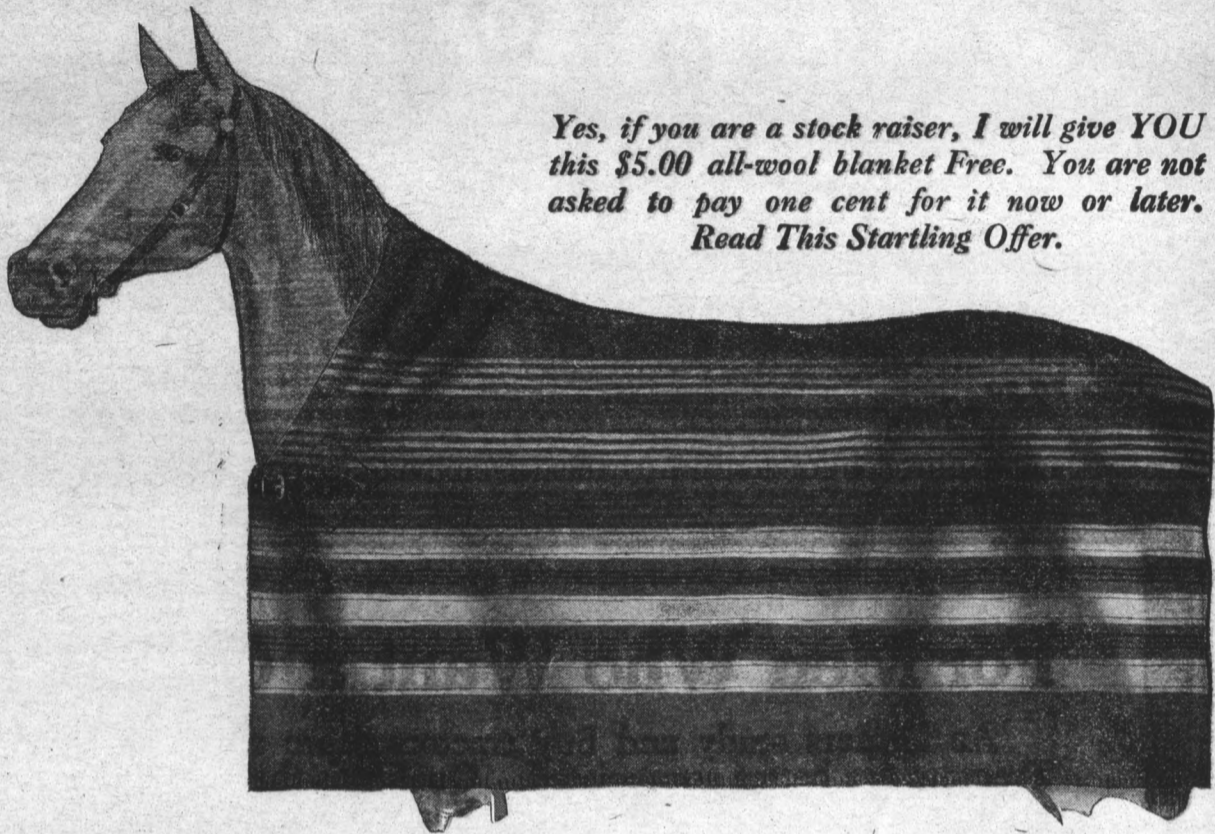
Another case was that of a Jersey that had been fed many different rations but with no satisfactory result. She remained in a very poor condition, her coat was rough, the milk flow was practically nothing and her owner, a prominent doctor in the West, had about despaired of ever making her a paying investment.

Still another case was that of a man in Iowa who has been feeding Wilbur's regularly for some time. Mr. Marshall showed me the letter this man wrote and it was indeed a pleasure to read it.

An Unusual Offer

And so it went. There were many other instances of almost miraculous results obtained by mixing a little Wilbur's with the feed. If you would like to secure enough of Wilbur's for a test, without expense or risk, merely write to Mr. Marshall, President, Wilbur Stock Food Co., 63 Huron Street, Milwaukee, Wis., and 100 pounds will be shipped without deposit.

FREE! To Stock Raisers Only \$5 Wool Blanket, Free!



Yes, if you are a stock raiser, I will give YOU this \$5.00 all-wool blanket Free. You are not asked to pay one cent for it now or later. Read This Startling Offer.

THIS is a fine quality genuine wool blanket. It measures 84 inches wide by 90 inches long—a big size that comes up well around the neck and covers the animal's body completely.



E. B. MARSHALL, President

enough for a few weeks. It is a case of "first come first served." Write me now.

Why this Offer!

This is such an amazing offer that perhaps you wonder why I make it. Let me tell you the reason. I am willing to give you this wonderful blanket to induce you to TRY Wilbur's Stock Tonic AT MY RISK.

Now just a word about my tonic. It has been fed with sensational success for 30 years! It contains 12 separate ingredients, including roots, herbs and barks which are acknowledged to be the finest tonics, appetizers, digestive aids and worm expellers known to medical science.

chickens that are "off-feed" it will quickly put them in strong, healthy, thrifty, profitable condition.

I KNOW these things are true about Wilbur's Stock Tonic because I have thousands of letters in my office from those who have FED it with the results I have mentioned. I have so much CONFIDENCE in what it will do for YOUR stock that I gladly send you 100 pounds to TRY without asking a penny in advance.

Send No Money

The blanket is the smallest gain you will make by accepting this liberal offer. The biggest gains will come from the improved condition of your stock and poultry. BUT YOU ARE THE JUDGE, and your decision is FINAL.

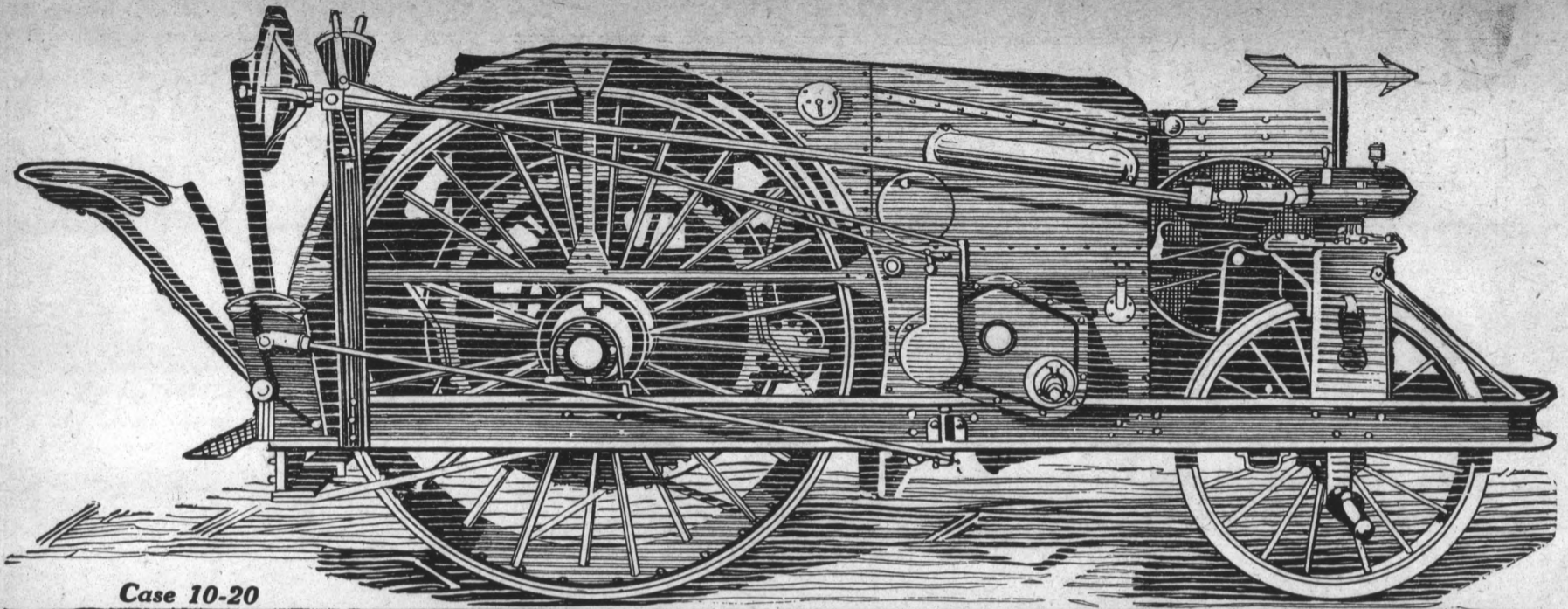
Mail Now!

E. B. MARSHALL, Pres., Wilbur Stock Food Co., 63 Huron St., Milwaukee, Wis.



Please send me at once one of your \$5.00 Wool Blankets Free. Also send me 100 pounds of Wilbur's Stock Tonic. I agree to feed the tonic as directed for two months, and if it does what you claim, I will pay you for it at the rate of only \$2.00 after the two months' test.

Name..... R. F. D. P. O..... State..... Freight Office..... State..... I own.....cattle.....horses.....hogs.....sheep.....poultry. I own.....acres of land. I rent.....acres of land. I am..... years old. Note: This liberal offer only open to responsible farmers or stock raisers over 21 years old.



Case 10-20

For Men Who Want a *Quality* Tractor

As farmers study and buy tractors more and more, the merits of Case Tractors are better appreciated. Quality is the first thing to consider, advise authorities. Wise men heed it. For quality means performance.

Careful farmers are more inclined than ever to turn to an old-established concern which has a record behind it, one that can afford to include construction superiorities. That was evident at the demonstrations.

From grandfather to father and son (this is our 75th anniversary) has passed the word that Case machinery may be depended upon. It is almost a farm proverb. This has decided hundreds to choose Case Tractors. Few can content themselves with lesser quality.

With 24 years of gas engine experience, Case has set the pace in the farm world for kerosene and gasoline tractors, of the higher grade, as it did in the steam engine field years ago, where it still dominates.

This preference for Case was proved last winter, when over 15,000 farmers wrote to us to inquire about these farm labor-savers. Hundreds of testimonials have come in from all over the country from satisfied, enthusiastic users. At the demonstrations, farmers saw for themselves the superiorities which Case can afford to put in its machinery, and made comparisons. Farm paper and agricultural college experts praise the performance and simplicity of Case Tractors.

Most people now concede Case leadership.

Announcing a Fifth Size

In addition to the four master tractors offered last season, Case now introduces the 9-18. This smaller size follows Case principles, and is built in the same honest and careful manner as the 10-20, 12-25, 20-40 and 30-60. All are made complete at the Case plant by Case workmen. The 9-18, though designed for smaller farms, is not too light, too small nor too cheap.

At the tractor demonstrations this summer the 9-18 created a profound sensation. Orders for hundreds were received from farm owners and dealers.

All know that Case Tractors have been approved after long and severe tests. Owners have the insurance that comes with owning a *proved* tractor, not an experimental one.

Announcing a Small Thresher

Another announcement of widespread interest is that Case now offers small, light threshing machines suitable for use with tractors. While these have all the well-known perfections of the larger Case Threshers, their capacity and price make it possible for each farmer to own his own thresher.

We have just prepared a new 1917 Case album in colors in commemoration of our 75th anniversary, which we think is the finest yet produced in the agricultural world. It is a book so replete with information of value to every farmer that no one can afford to be without a copy.

This catalog describes Case kerosene and gas tractors, Case steam engines, Case threshing machines, Case road machinery, Case automobiles, and every Case product. Write today for your copy. It is free.

J. I. CASE THRESHING MACHINE COMPANY, Inc., 175 Erie Street, RACINE, WIS.

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CASE

