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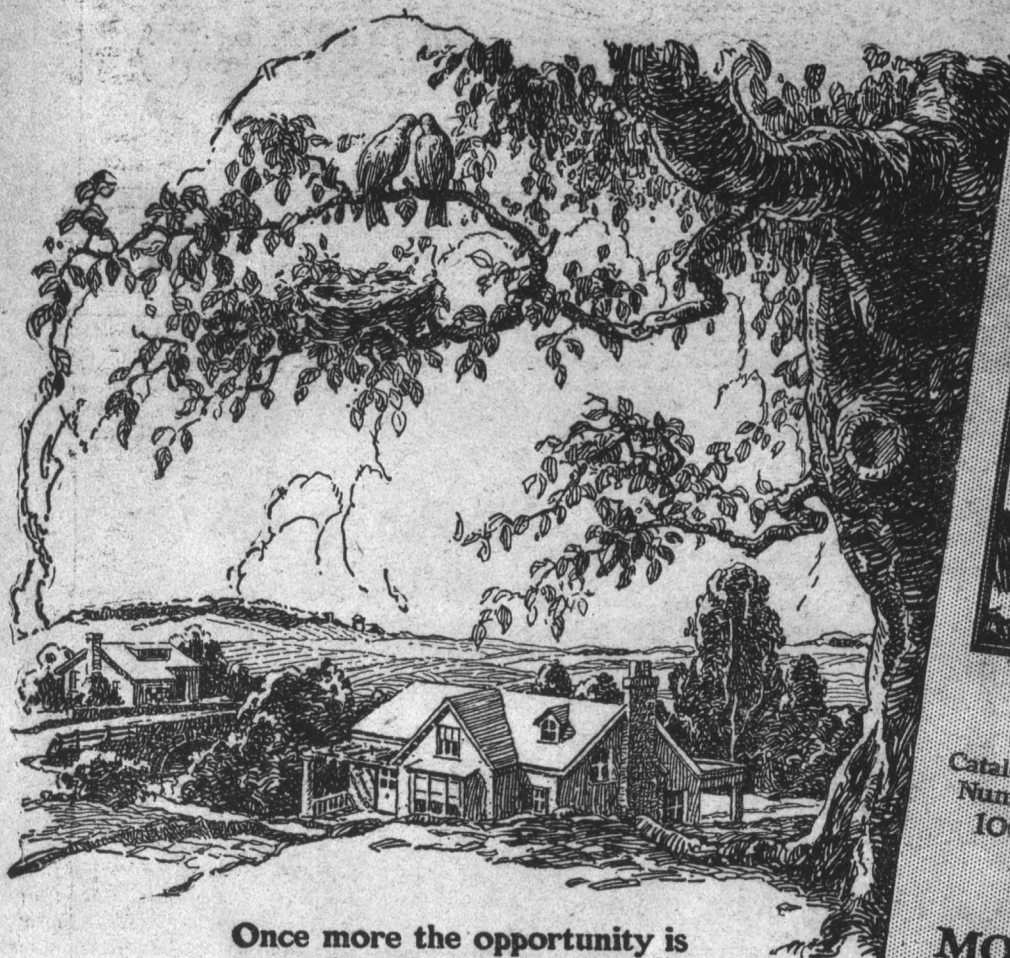
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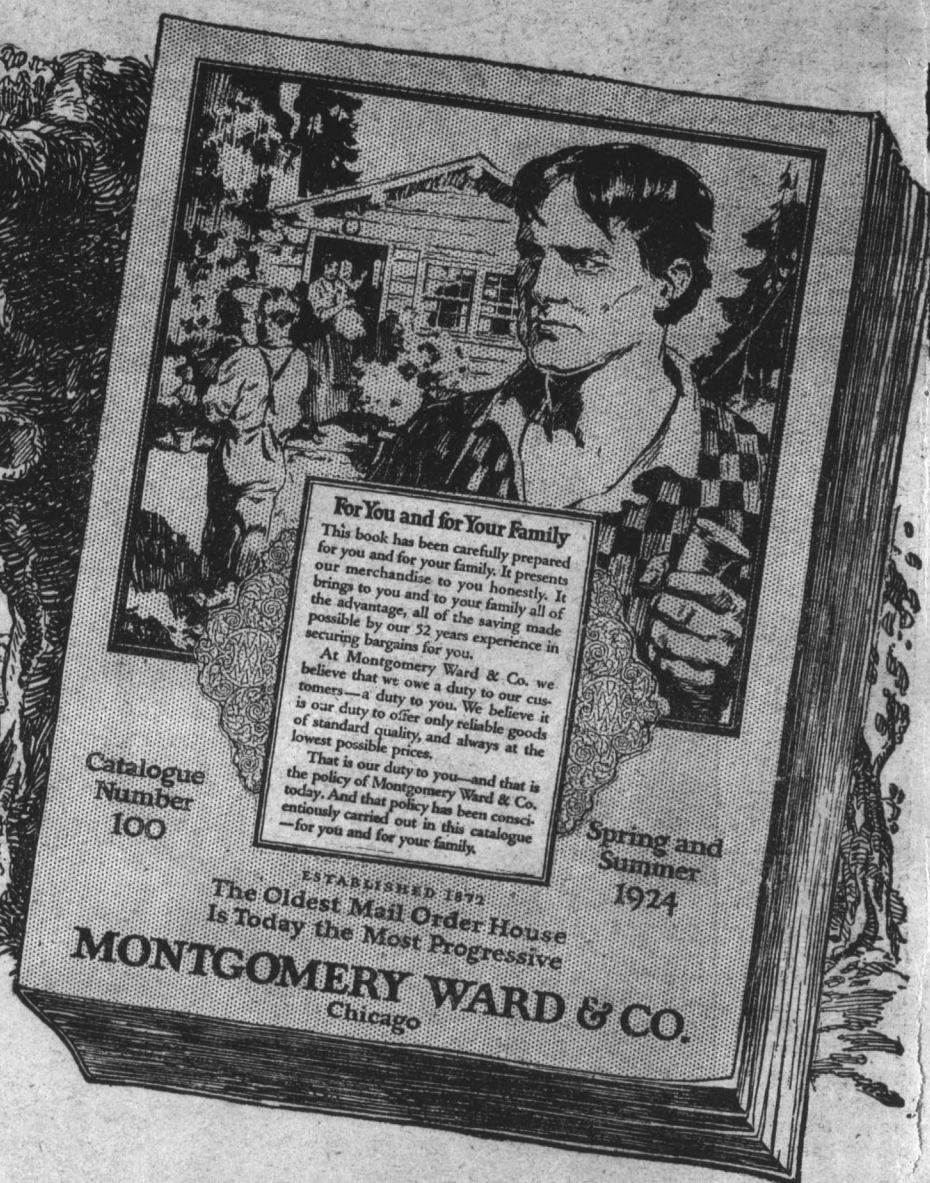
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MICHIGAN FARMER

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PUBLISHED WEEKLY
ESTABLISHED 1843.

A Practical Journal for the Rural Family
MICHIGAN SECTION THE CAPPER FARM PRESS

QUALITY
RELIABILITY
SERVICE
NUMBER ONE

Air-Cooled Storage for Apples

A Solution of the Problem of Getting Prices for Michigan Apples

By Roy E. Marshall

MICHIGAN must eventually have public cold storage for at least two million bushels of apples. These storages should be located at from five to ten apple and fruit-producing centers. This would mean having five to ten cold storages with from 50,000 to 150,000 barrels capacity each. Since it is not considered profitable to build cold storages to care for less than 50,000 barrels, a great deal of in-

recommendations as to the number and size of these intakes, but they are all fundamentally the same, namely, that these intakes should be about eighteen inches high and twenty-four to thirty inches in length, and that they should be located about ten or twelve feet apart. The ventilators or warm air outlets should be straight, perfectly smooth, insulated, and extend a few feet higher than any nearby buildings. The combined area of these outlets should be about one-half to two-thirds of the combined area of the cold air intakes. False floors are used in some air-cooled storages and certainly facilitate air circulation, but whether their value is sufficient to offset the added expense in construction and amount of storage space which they occupy, is still an open question.

Power-driven fans of the propeller type increase the movement of air through the storage but they are rather expensive to install and operate. It is cheaper to build larger openings to provide for a movement of a large volume of air at a slow rate, rather than to provide smaller openings and use fans to force or increase the rate of

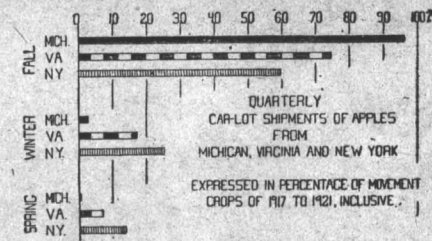
the air movement through them. Insulation materials used in the walls are: Dead air spaces which must be small and should not extend vertically for more than a few inches at the most. Sawdust and kiln-dried shavings are frequently used where it is possible to keep them absolutely dry. Cork is the best insulation material but is rather expensive. Hair felt and other fibrous materials, such as refuse from sugar cane, are sometimes used and give quite satisfactory results.

The floors should be dirt so as to provide proper humidity in the storage. Windows are not advisable but one or two must usually be constructed where electric lights are not available. All doors, intakes and outlet doors, should be well insulated.

So far as I know now, there are fourteen strictly air-cooled apple storages in Michigan with a combined estimated capacity of 107,000 bushels. During 1922 and 1923 twelve of these storages having a capacity of 95,500 bushels were built with the advice received directly or indirectly from M. A. C. Eight of these are new build-

ings, erected especially for this purpose, and four are remodeled barn basements, barns or hog houses. A description of several of these storages will follow as the pictures of them are shown.

In stacking the fruit in storage, there should be two or three inches between the rows of packages and some eight or ten inches between the

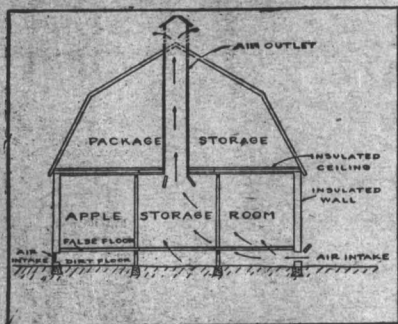


This chart shows clearly that too many Michigan apples are marketed at harvest time, resulting in lower prices than the growers would get if they would keep more of their apples after the harvesting period. The air-cooled storage will help them to take advantage of the better after-harvest prices.

outside wall and the fruit. The fruit should be kept off the floor by piling it on two-by-fours which are placed on edge, or by the use of some similar materials. Placing the fruit in bins has not proved satisfactory as the air moves very slowly through a bin of apples compared with the rate of movement about the packages.

The department of horticulture is conducting some investigations with these air-cooled storages at present and it is found that the number of air changes per hour in the storage depends upon the size of the intakes and outlets. For instance, in two storages of similar capacity, one having one square foot of outlet to each 3,500 cubic feet of storage space, (three outlets 18x18 inches square), gave five complete changes of air per hour; the other having one square foot of outlet to 1,000 cubic feet of storage room (furnished by outlets four-by-four inches in size), gave nine and one-half air changes per hour. Furthermore, during the last week in October there was a difference in temperature in fruit in these two storages of six degrees in favor of the latter. This dem-

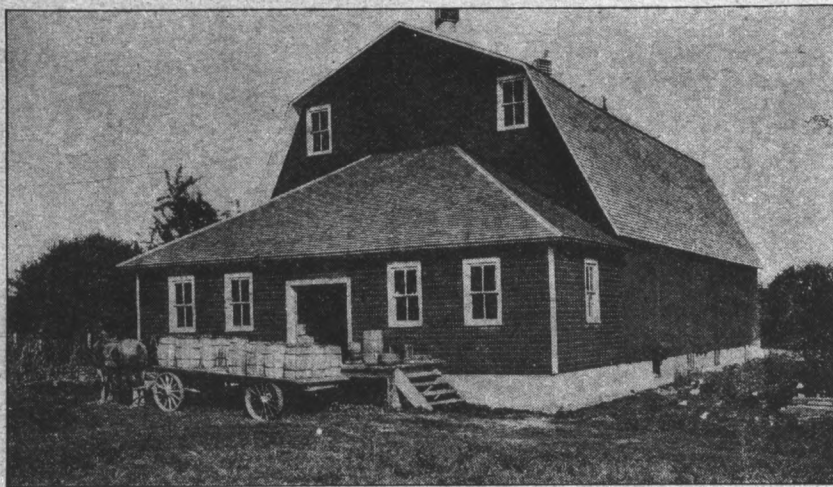
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A Diagram of a Proven, Efficient Farm Storage Plant.

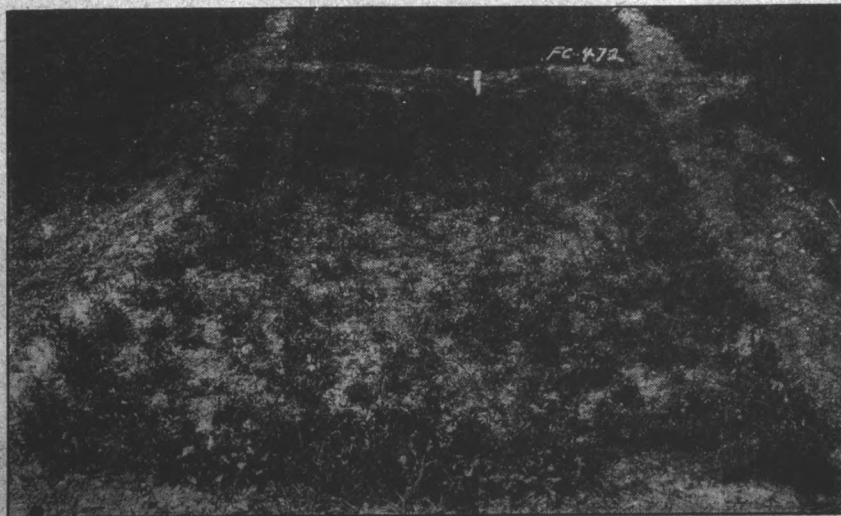
terest has centered about the air-cooled storage. They have the following advantages: They provide low cost for four to five months' storage for quantities too small to warrant building of cold storages. They make the grower independent of marketing conditions at harvesting time. They enable the grower to use all of his available labor in harvesting the crop and placing it in the storage tree run; then the apples can be graded and sold. They enable the grower to provide the buying public with constant supplies of fruit from fall until spring.

The essentials of an air-cooled storage are: To provide for an intake and circulation of a large volume of cold air and the conservation of this cold air at times when the outdoor temperature may be warmer than that inside. This circulation of air is accomplished by opening the cold air intakes which are located just above the surface of the ground, and opening the warm air outlets which extend from the ceiling through the roof of the building at times when the outdoor temperature is lower than that inside the storage, and closing them whenever the reverse condition obtains, so as to conserve the cold air. There are several



The Farm Storage House of S. J. Wilson, of Tecumseh, which Has a Capacity of 10,000 Bushels. Mr. Wilson Sold Every Apple at the Door of His Storage House at Prices Above the Prevailing Market, Because the Condition of His Storage Apples Was so Good.

How About Your Cloverseed Supply for Spring Seeding?



The Above Cuts Show Plots of Red Clover Sown at the Same Time and Under Identical Conditions at the Experimental Grounds of the Michigan Agricultural College. The One at the Left was Sown with Michigan-grown Seed and is in Excellent Shape, while the One at the Right was Sown with Italian Seed and the Plants Succumbed to the Freezing of 1922-23.

MICHIGAN SECTION THE CAPPER FARM PRES



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CURRENT COMMENT

It is a real test of character not to chafe at poverty instead of getting lessons from it.

When the crops of one season have been laid away, the seeds for another should be considered.

Our economists say that 1924 will end better than it started for the farmer, so why shouldn't the farmer look forward?

Doing It With Cows

AS I leaned against a post, listening to an apostle of the dairy business for northern Michigan and watching old Brindle devouring a well-filled manger of green alfalfa hay, former ideas of dairying sometime becoming the mainstay of agriculture in the northern counties of the state, coming back to me.

In fact, this transition from pioneer types of farming has already well begun. Newaygo, Oceana and Grand Traverse county farmers years ago were giving much attention to dairying. At the beginning of the century, these farmers were doing constructive work in building dairy herds of merit and as a result of their effort, the cow-testing association was introduced into America.

Throughout the upper half of the Lower Peninsula there has been a gradual development of an appreciation by farmers of the dairying business. Thus, in the Alpena, Charlevoix, Arenac, Ogemaw, Otsego, and other areas, farmers have gradually turned their attention from the production of hay, potatoes and grain growing to dairying. Word has just come, also, of the inauguration of a movement at Pinconning to give the dairy cow the center of the stage in the agricultural program of that community.

No less has been the activity in the Upper Peninsula. There, every county agent, with the college extension men and the development bureau are cooperating in spreading the gospel of dairying and the advantages of using high-grade dairy cattle. To this end, the scrub bull has been marked for the block and a campaign has been instituted to put a thousand pure-bred sires on Cloverland farms during the season of 1924.

These are only the high spots of a general movement in favor of the dairy cow for the more sparsely settled districts of the state. They indicate that the work is no "flash in the pan." It has been gathering moment-

um for over a quarter of a century. During that period, opportunity has been offered for getting a proper perspective of the business and for laying a broad foundation for carrying on this line of farming. Not only in crop production, particularly of legumes, which are essential to economical dairying, but likewise in the development of the cooperative creamery and cheese factory which have had opportunity to grow up, get over all their youthful self-consciousness and awkwardness and become a real factor in the marketing of the products of the dairy cow.

This is a most opportune time of the year for the farmers of northern Michigan to consider their part in this transition from special farming to a diversified type, with the dairy cow as the central factor. In general, our advice to the individual farmer would be to make this change in his farm practices slowly by taking a few years to develop his herd. This will enable him to gain experience, to secure his herd for less money, to better adapt his whole farming program to the dairying business, and for him and his neighbors to develop a market for their dairy products.

The Easy Dollar

THE easy dollar is the one we are all looking for. Few of us have found it around the farm of late. It seems, however, that if the time some of us have expended in looking for it, had been utilized in trying to make it, the supply in our pockets might have come easier and been more plentiful.

We have been listening to the dreams of organizers, the theories of cooperation, to agitation and exaggeration of all sorts of schemes to benefit the farmer, some good, some bad, some worse. We have, no doubt, counted too strongly upon the immediate results of such things, and very many of us have been disappointed. We should not allow ourselves to become discouraged over the failure of some of our pet schemes. Eventually, the good in them will be discovered and put into practical operation. We should remember, however, that all theories do not work out in practice; that magic wands are rather too vague and visionary to apply to practical farming; and that each individual is the architect of his own fortune.

Therefore, along with our efforts to work out problems for the benefit of farmers as a class, we should not lose sight of the fact that, the easiest dollar, for us as individuals, lies right within our own grasp and on our own farms. There are many things that we do, or fail to do, about the farm that are worthy of careful thought.

Are we feeding that dairy cow a ration that means the most milk for the least money? Are the hens scratching contentedly in deep, dry litter, and laying eggs? Is that bunch of shoats living on corn and water, and raising a crop of lice and squeals, or is it getting a well-balanced ration? Is our farming program arranged to make the most of our efforts by spreading our tasks out evenly through the year, or are there periods when all things need doing at once, and corresponding periods of idleness? How about the seeds we are using and the fertility of the fields?

Perhaps there are more profit dollars in working half the land and do-

ing it right; in milking half the cows and milking good ones; in caring for half the pigs and hens and making life comfortable for them. These dollars are the easy ones, if there be any such, and are accessible to both you and me.

Exercise and Work

A GREAT many people have the delusion that work and exercise are the same thing. They believe that exercise is all right for those who have sedentary work to do, but for those who are active in outdoor work, it would be folly as they get all the fresh air and exercise they need.

Exercise is bodily activity which stimulates and invigorates the bodily functions and produces better carriage. Work, however, involves the use of the body for the performance of some duty. It fulfills the effects of exercise only if it produces more vigorous health. But if it wears a man out and deforms him, it does just the opposite of exercise. Work very often stiffens the body, exercise makes it more supple.

So much of our physical work involves just the use of certain muscles which it develops at the expense of others and often at the expense of the vital organs. Some work will make us stoop shouldered or slant shouldered, or may deplete bodily vitality so that tuberculosis and other diseases may develop.

It is interesting from this standpoint to learn that the farmers of East Prussia, Germany, have taken up physical culture in order to keep in trim. They have realized that pitching hay and following the plow stiffens them instead of making them graceful and efficient physically, and, therefore, in addition to their work, they are doing calisthenics, playing football, handball, basket ball and other games to keep them supple. They realize that suppleness is characteristic of youth, and that suppleness may be retained by refreshing exercise.

A Brass Tack

DO not get mad when we say that, from the standpoint of the individual farmer, his greatest financial advantage lies in better farming methods rather than in improved marketing equipment.

This, however, we devoutly believe to be true, since experience in the marketing of every line of farm products from the citrus fruits of southern California to the cranberries of Massachusetts, shows, without exception, that products of quality, standardized and graded, are the only products that can be merchandised successfully by either private or cooperative marketing service.

These products of quality come with high acreage production; and, fortunately, high acreage production reduces the cost per bushel or pound. If, then, the farmer will give himself to a careful analysis of farm conditions in order that he may bring forth larger acreage yields, not necessarily larger total yields, he will be giving first aid to better marketing and, at the same time, making profitable farming possible under even present conditions. Therefore, better acreage production, we believe, to be a brass tack which every farmer should constantly keep in sight.

Cannot Be Justified

WE are sold on cooperation, but there can be no justification of a cooperative organization shipping products which are not up to grade or are unfit for food. We have, however, reliable information to the effect that one large marketing organization in this state has had many shipments rejected for these reasons.

Paying freight on something that cannot possibly bring returns may be excused to an individual; but, to the manager of an organization that was brought into being for the purpose of economizing in marketing, there can be no excuse.

Without doubt, there is sterner competition just around the corner for all kinds of marketing organizations. The efficient will survive. It is time that members study closely the practices of the managers of their respective organizations to the end that every species of inefficiency be eliminated. Unless a cooperative or a private concern is rendering a worth-while service, there can be no reason for its existence.

Retaliate

THE other day Miss Jones was saying that Judson Smith was being retaliated for what he did to Jim Hudson. Well, I was wonderin' what was happenin' to Judson Smith, so I goes to see my friend Webster's book about it, and it said he was gettin' back just like what he give. So, bein' retaliated is kinda gettin' what we deserve. Only the preacher says retaliatin' ain't a good thing, 'cause, if a fellow slaps our face, we should give him a chance to slap it some more, so we don't spoil his enjoyment, I suppose.

Last Xmas I was what you call retaliated. A year ago I give Oscar



Swanson a hamburger steak red and asparagus green neck-tie with the season's compliments, and the followin' year I gets a nice package from Oscar with the same steak and asparagus neck-tie in it. Oscar can't write good English. But anyhow, he had "with the season's compliments" on the package. Now I gotta wear that tie or give it to somebody else next year. And then I will maybe get some more what you call retaliashun. It'll be a regular retaliatin' neck-tie before it gets worn out.

Now this retaliatin' business ain't so bad if we look at it right. Fer inst., if we give back all the good what has been given us, it 'ud be O. K., but we ferget soon about the good and don't return it. But the bad is just like red and green neck-ties; we can't help but notice it and want to give it back, 'cause it bothers us.

Now, I know I'd like Oscar Swanson lots better if he'd a given me a nice tie what I could wear to church without hurtin' the preacher's eyes. Then he'd a returned good for evil. But seein' as I got that neck-tie on my hands I gotta make a present of it to somebody else.

Sophie just says, "Yes, that's just the way you figure things out. Why won't you let me have that tie to put in the new soffe pillow I'm makin'?"

I says, "No, my head wouldn't never rest easy with that pillow in the room."

"All right," she says, "I'll cut it up and make book marks outta it."

"That's fine," says I. "It'll make a good book mark, 'cause you kin always tell right where your place in the book is, all right."

So I guess I kin use that retaliatin' neck-tie to mark in the Good Book where it says we shouldn't retaliate.

HY SYCKLE.

An Index For The Asking

ANOTHER volume of the Michigan Farmer has been completed and indexed. This index is separate and will be mailed to anyone requesting same. It covers the various departments of the paper, directing the reader to any article, news item, or illustration appearing in the 674 pages published from the first issue of last July to the last number of December. Remember, it is free and can be had by sending your request on a postcard to Miss Ross, Editorial Department, Michigan Farmer, Detroit.

Campbell's Spuds Fill the Crates

This Otsego County Farmer Early Found a Place for Potatoes In General Farming

By B. Wermuth

A SMALL group of men, including the writer, were standing in a circle in the lobby of the hotel at Gaylord. General remarks on the potato situation were being passed, when, with a "Bang," the front door flew open and in stepped a short, swarthy man of over fifty winters with a basket of potatoes—potatoes which we learned shortly, were worthy to be brought into the front door of any hotel in the country.

We hastened to the aid of the man and became immediately interested in his load. As he sat the basket on the floor, he remarked with a twinkle of pride in his eye, "How are those, boys?"

After examining more carefully the spuds, it was obvious that they merited more praise than was evident at the first glance. The man was Hugh Campbell, who grows certified seed on his 320-acre farm, a few miles out from the city of Gaylord.

Inasmuch as this year's crop yielded over 400 bushels per acre and were sold to Pennsylvania parties for seed at ninety cents per bushel, the story of how the crop was handled will be of general interest.

Mr. Campbell came to this country from Canada forty-five years ago, and was one of the first settlers around Gaylord. While these early farmers found that potatoes were peculiarly adapted to Otsego county soil, Mr. Campbell developed his farm along general lines. Now, besides growing good potatoes, he has around twenty high-grade Guernsey cows, and a herd of Poland China hogs. A by-product of his live stock feeding is a healthy manure pile which has worked out many economies in crop production. Rye and vetch are grown for hog feed. Considerable mammoth clover and sweet clover are also produced. Potatoes, hay and cream are his cash crops.

It was intended in 1922 to use the

field, which had grown this large crop of potatoes, for producing spuds. It was then in sweet clover. The season, however, proved too dry to do the plowing. But, before this was known, a heavy coating of manure had been spread and the land which, being clay loam with a clay sub-soil, held practically all of the plant food contained in this manure until the present season. In the spring of 1923, another dressing of manure was added and the field was disced three times before it was plowed around the twentieth of May. At that time the sweet clover was about eight inches high.

One of Mr. Campbell's principles in growing potatoes is to plow the land shallow. In this case, he allowed the plow to run only deep enough to properly turn under the manure and the sweet clover. The field was then worked down thoroughly with disc and harrow. He states that it took a team nearly three days to fit a single acre

of land for planting. He calculates that the preparation of the land cost him about sixteen dollars an acre. The field was planted on June 11.

Hill selection of potato seed has been practiced by this good farmer. "I early learned that good potato crops can only be grown from vigorous seed," he stated. "I, therefore, concluded to grow my own seed, since it was impossible, before the days of certified stock, to secure dependable seed from any source. Now, I am very particular," he stated, "to know the type of hill from which the seed comes. This information can be had only by selecting the hills as they grow in the field. I chose my seed just before the crop is harvested."

Regarding the method of planting, Mr. Campbell explained, "This field was planted in rows both ways, being thirty inches in one direction and three feet in the other. By cultivating the crop both ways, we reduce the

amount of hand labor required to keep the field clean. The crop was cultivated eight times."

Keeping a strict account of the cost of production has been a factor in aiding this man to know where he is at in his farming business. From these accounts he also learned exactly what it is costing him to produce these big crops.

As stated above, it cost \$16 per acre to prepare the field. The crop was sprayed four times. This brought the cost to \$27.50 per acre. Fifteen bushels of certified seed, cultivation, digging and hauling to the storehouse occasioned a total outlay of \$69.50 per acre to produce this crop. Even allowing a reasonable amount for interest on investment, overhead, and other items that should be charged against the crop, Mr. Campbell figures that he could still make a reasonable profit by selling the spuds at the then prevailing price of thirty cents per bushel. On that day he was, however, disposing of a carload to Pennsylvania parties for seed at ninety cents per bushel.

Mr. Campbell contends that growing big crops on fewer acres is the only means whereby the potato grower can make this crop a profitable one. Good seed and rich ground, properly prepared, are, to him, the fundamentals in growing high yields. Furthermore, this man is not sold on the idea that sandy land is the only place on which to grow this crop successfully. By handling heavy soils properly, one can grow more potatoes year after year than it is possible to produce on the lighter soils. The quality may be kept high, through the use of an abundance of decaying vegetable matter in the soil. This, he provides through manure from his stables and from crops, like sweet clover, plowed down. In testimony of his farm practices, it is reported that Mr. Campbell seldom grows less than 300 bushels of potatoes to the acre.



The Campbell's Pose Behind a Basket of their Prize Spuds.

Danes Built on Business Basis

These People Hold that Cooperative Marketing Should Stand Upon Its Own Feet

By Chris L. Christensen

IN their forty years of experience in marketing, the Danes have evolved certain fundamental principles upon which each of their associations must rest in order to be successful. (1) The Danish cooperative associations are strictly business organizations. They are organized, operate and function purely along economic lines and are developed free from all political, state, religious, or social class influence. They have found that to build on a business basis is not only sound but highly essential, as it always provides a common ground upon which the membership may meet.

In the whole field of agricultural cooperation in Denmark there is only one instance where a cooperative association has received financial support or aid from the government, that being the cooperative breeding associations for cattle, horses and swine. These associations are undoubtedly looked upon as of high educational value in furthering better live stock improvement. They may be classified as improvement rather than business associations.

(2) No cooperative association is organized in Denmark, whether it be local or national, until a sufficient amount of patronage is assured to enable the association to operate in an economical and efficient manner. In the cooperative bacon factory it was found in building the plants in pre-war years that such a plant could not op-

erate efficiently unless it handled at least 25,000 to 30,000 pigs annually. Consequently, before an association built its plant, sufficient membership guaranteeing this necessary supply of hogs was subscribed before the association was completed.

The same principle is true of the cooperative creamery. In pre-war days no community would go ahead with a cooperative creamery unless it was sure that the total milk production from at least 500 or 600 cows in that community would be delivered to the creamery for a definite period ranging from five to ten years. No effort, however, has been made among the Danish farmers to control the volume of production unless the volume is necessary for efficient operation. Efficiency and economy in operation, and not monopoly, is the goal.

(3) The structure of the cooperative organizations from the local to the central association rests upon an intelligent membership. The Danish cooperation organization is characterized by strong local organizations which possess an intelligent, well-informed producer membership, informed of the activities of both the local and central associations. While the Danes fully appreciate the value of sound central organization, they insist that a strong local development is essential to effi-

cient cooperative business operations. It is of further significance to find, that the large Danish cooperative associations which have now been operating successfully for twenty-five to thirty-five years, have in each case, started from a comparatively small beginning and as its management and membership gained wider experience, it enlarged its business activities along sound lines.

(4) In all Danish cooperative associations one man has one vote. The vote of the small farmer with two or three cows, counts as much as the vote of the larger farmer with 200 or 300 cows.

(5) The affairs of the local associations, as well as of the central associations, are managed through a democratic producers' membership control. In the local associations, a board of directors is elected by the members. This board appoints a technically trained, qualified manager to lead the actual business operations of the association. In the central associations representatives are appointed by the members of each local association, which in turn appoints a board of directors for the central association.

(6) Sound, capable business management is recognized as one of the most essential factors for the success of any cooperative association in Den-

mark. The members have come to recognize more and more the value of employing highly trained technical and efficient business men, familiar with the trade, to handle the business of their association. It is appreciated that only the right salary can attract the right type of manager.

(7) The Danes have found it sound business to organize their cooperative marketing and selling associations along commodity lines. The trend of agricultural cooperation in Denmark has been toward specialization. Both in the selling of agricultural products and in the buying of farm supplies, special associations for special purposes are formed. As a result of organizing along commodity lines it is not uncommon in Denmark today to find a farmer on a forty or fifty-acre tract who is a member of twelve or fifteen cooperative associations. His milk is delivered to the cooperative creamery, his pigs to the cooperative bacon factory, his eggs to the cooperative egg marketing association; he will be a member of a cooperative buying association through which he purchases his feeding stuffs, such as corn and oil cakes, and of another through which he is supplied with commercial fertilizers, and so on.

The value of organizing along commodity lines is the assurance that the members within a particular association handling a single commodity have identical interests, and that each com-

modity, whether in selling or buying, requires special treatment and handling, which necessitates the employment of skilled men who possess expert knowledge of that one commodity.

In organizing along commodity lines, the Danish cooperative movement is characterized by a strong local development, the local association being usually formed in a local community for one purpose, which with similar associations formed for similar purposes in other communities will federate to form the central association. In practically all cases the membership of the central association consists of local associations which in turn are made up of individual members rather than the individual members being tied to the central association directly.

(8) That an association may be assured of a proper volume of business, contract agreements are made between the association and its members for the delivery of their total production for a definite period. The same principle applies to the purchasing associations. These contract agreements exist between both the central association and the local association and be-

tween the local association and the individual members. The period covered by contract agreements varies with the nature of the commodity handled and in many cases varies with different associations, the time ranging from one to twenty years.

(9) Pooling is a common practice. The members' products are shipped to the association where they are classified according to grade and quality which serves as a basis on which each individual member is paid. A partial payment usually representing between eighty-five and ninety-five per cent of the actual price which the product will return to the producer is made when products are delivered to the producer. In many cases this partial payment is a price which is approximately near the market value of the particular product. To determine what the partial payment shall be, a "Quotation" service has been established, to quote prices as determined by market conditions and representing a price near the actual market value. At the close of the year the difference between the price paid the producer on delivery of the product, and the sales

price, is turned over to the producer.

(10) Denmark has no special cooperative legislation, as the Danes have found by experience that real cooperation is not promoted by protectionist methods or government favoritism. They prefer to be treated as any business agency, relying upon their own powers in the business world.

The validity of contracts existing between cooperative associations and their members, is recognized by the courts. Practically all cooperative creamery and bacon factories and egg, butter and bacon selling associations are non-stock, unincorporated associations. There are a few share-stock associations incorporated under the Danish corporation laws.

An interesting and rather unique aspect of the Danish cooperative associations is that in the constitution and by-laws of practically all the cooperative associations provision is made that all disputes and disagreements arising between members and the associations are to be settled by a board of arbitration, and in most cases the association's constitution and by-laws specifically state that such disputes

and disagreements can not be carried into the courts. The members of this board of arbitration are elected from among the members by the associations. The system has worked out satisfactorily, as the men on the arbitration boards have a sympathetic understanding of the farmers' problems.

(11) The necessary capital for equipment and operation is provided by a loan executed by the association and guaranteed jointly by the members of the association on their personal credit. In the local association the members are usually jointly and severally liable for all financial obligations incurred by the association. However, when a local association joins a central association the amount of this guaranty is always limited, the individual members in the local association signing guarantee pledge certificates stating the specific amount for which their association is liable. These certificates are forwarded by the local association to the central association, which in turn deliver them to the bank to secure loans or credit. This method is typically Danish and adapted to their credit system.

The Farmers' Marketing Problems

The First Step In Its Solution. By I. R. Waterbury

IN February of last year the writer was driving along a paved highway and noticed a loaded truck standing at the roadside near the intersection of another main road. The truck was loaded with large, fine looking oranges, from which another traveler was selecting a sackful of choice fruit.

I stopped to investigate and found that the owner was selling the oranges from this roadside stand at the low price of twenty-five cents a dozen. The oranges were the largest, finest looking specimens I had ever seen. I bought a dozen and proceeded to sample one. There was nothing the matter with it from the consumer's standpoint.

I asked the man why he was peddling such fine oranges at a much lower price than much smaller fruit was selling for in the public markets, and straightway got another jolt. He made the astounding reply that the oranges were culls from a nearby packing house.

Needless to say, this did not happen in Michigan. The roadside setting was in Southern California. The fruit was a product which is perhaps more intelligently marketed than any other product grown by American farmers.

California oranges are sold co-operatively. They are sorted to size and quality in large packing houses and put out in standard packages and grades, and under a brand which insures the buyer that he will get just what he pays for. The big oranges did not fit into any of the standard grades. They were not sufficiently plentiful to make it profitable to add a separate grade for them. They would not supply any considerable market demand if the demand were created. The creation of a demand which could not be supplied would injure the trade. Hence, these fine oranges were sold as culls for what they would bring and move quickly.

This is an extreme example illustrating in a striking way the fact we would emphasize in this article, viz., that the first logical step in the solution of the farmers' marketing problem is the production of an article which will appeal to the consumer and the maintenance of a standard quality in shipments which the trade will recognize as superior.

A Plural Problem.

We speak of the farmers' marketing problem in a plural sense for the reason that, for most farmers, it is that kind of a problem. In isolated cases where individual farmers have produced a special product and developed a

special market for that product, they have solved the problem on an individual basis.

Farmers who live adjacent to a large consuming center to which their products can be hauled and sold on the open market where the prospective customers can see and judge for themselves the quality of the goods offered, can do the same thing. But, the average farmer living in an isolated locality is in a wholly different situation. His products must for the most part, be merged with others of their kind in carlot shipments and his receipts will depend in no small measure upon the average quality of the season's shipments of like nature.

That the means used to secure the desired end of uniform quality of average shipments is not so important as the end itself, is easily proven. California citrus fruit growers have secured it in the fullest measure through cooperative selling agencies. So have Washington and Oregon apple growers, as have many other groups of producers in other lines. And this is undoubtedly the best way to accomplish a full measure of this desirable result. But, whenever and by whatever means the standardization of a product along quality lines is accomplished, the result is an improved market for that product and a better average price to its producers.

A Case in Point.

Let us cite a single example to prove this fact. Michigan produces a fine quality of white beans. For years, the Michigan bean crop has been standardized under fairly rigid grading rules by privately conducted marketing agencies, with the result that Michigan beans have gained an enviable reputation in the market, and bean growers as well as bean dealers have profited by this fact.

There is an old saying that the rule is always proven by the exception. In this case there is an exception which furnishes adequate proof:

During the war period we had a wet fall and a badly damaged bean crop. Beans were a short crop and high in price. The bean jobbers weakened, and through their association changed the grading rules so as to permit some three per cent higher moisture content in beans of standard grades. The result was that the beans did not stand up in shipment and distribution. There were many rejections and heavy losses on the part of shippers which far exceeded what it would have cost them to maintain the standard grade and reduced the moisture content of the beans to conform therewith before shipment.

But, the result was more far-reaching than this. Michigan beans received a black eye in the markets of the country from which growers suffered until the confidence of the trade was restored.

True, Michigan bean growers, and we believe, with reason, are dissatisfied with the grading rules as applied to them. There is much room for just improvement in this regard. But there is no doubt that Michigan bean growers have prospered under this system of grading, notwithstanding its injustices to them, more generally than would have been possible under any form of marketing, minus the rigid grading and standardization of the product.

The Answer to the Problem.

The acceptable answer to the farmers' marketing problem is a better price for his products. Cooperative selling has been widely heralded as the best means of securing this end. And, wherever cooperative selling has been accompanied by intelligent mer-

chandising methods, it has proven to be all that its most ardent advocates have claimed for it. When this has not been done, the results have not been wholly gratifying to the cooperators and the success of the enterprise hangs in the balance.

Intelligent merchandising is an important factor in any successful business. This is as true in the selling of farm products as in any other line of business.

The first essential in the intelligent merchandising of farm products is grading them as to quality in a manner which will appeal to the trade and establish the confidence of consumers. As compared with this factor, the method of selling becomes of prime importance, as we shall attempt to show in future discussions of this problem.

In the meantime, here is something for the reader to ponder: While we have been promoting various cooperative enterprises in this state with a varying degree of success during recent years, there has been no concerted movement to apply this method of marketing to our one crop best suited to such development. Michigan is a controlling factor in the production and distribution of white beans. Cooperative selling of this crop, coupled with intelligent merchandising methods would seem to insure Michigan bean growers a better opportunity for improving their situation than is open to cooperators along other lines. Yet this has not been attempted. On the other hand, this product offers the only example in the state where cooperators and private marketing agencies work together as well as along similar lines.

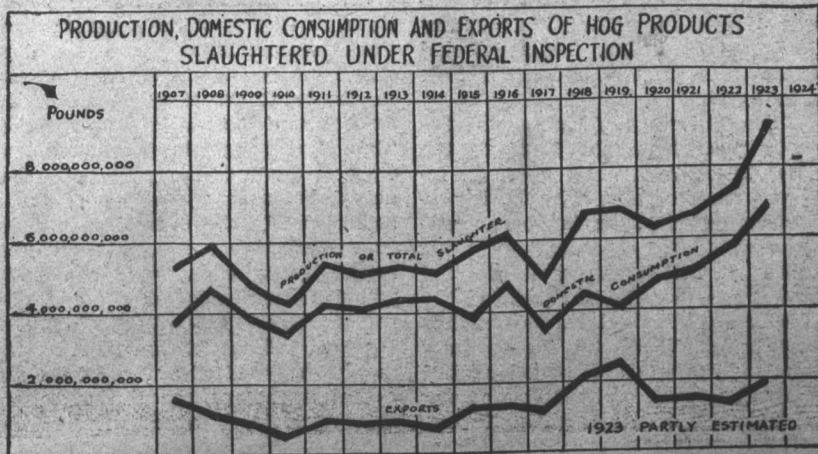
Why?

Is it because Michigan beans are already better merchandised than other Michigan farm products?

WELLS RESIGNS FROM POTATO EXCHANGE.

AT the December meeting of the board of directors of the Michigan Potato Growers' Exchange, Mr. C. C. Wells presented his resignation as general manager. Mr. Wells may remain in the office for some time until his successor is named.

Several cow-testing associations in Wisconsin have begun the practice of publishing their annual reports and other information of special value to dairymen, generally in pamphlet form.



Fordson

"In every age and in every section of the world, the happiness and prosperity of the people, generally speaking, can be measured by their success in harnessing power so that each individual can produce more with less effort."

A score of years ago Henry Ford recognized this.

And lest the happiness and prosperity of farm life, the life to which he was born, fall behind the industries of the city, he patiently tested, built and rebuilt in search of a dependable farm power.

The farmer has been handicapped—compelled to sell the things he produced by slow and laborious methods and to buy clothes, house furnishings farm machinery, and other material produced more economically with the aid of power.

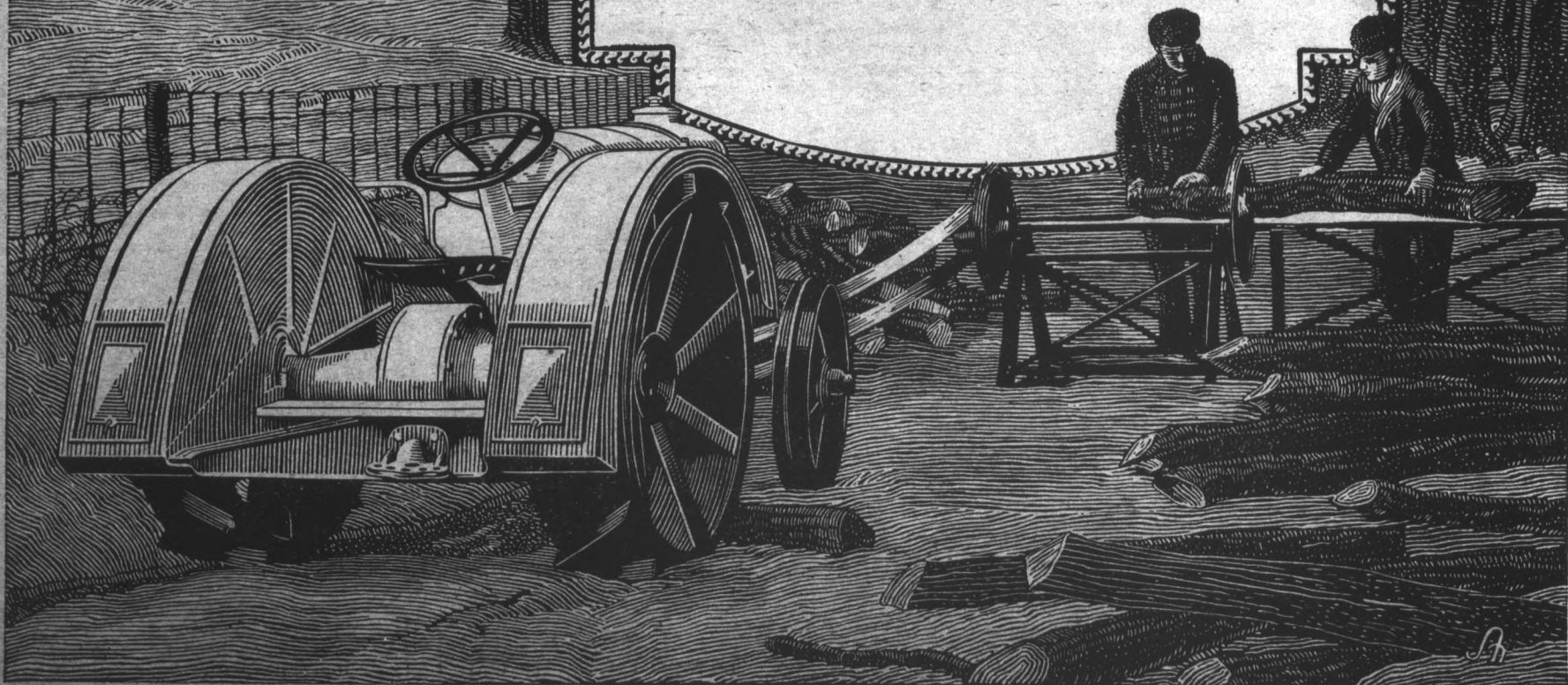
The Fordson has changed this. The production of bigger crops, the opening of new sources of farm income are possible now with proper power on the farm the same as in city manufacture. This is being proved today on thousands of Fordson farms.

Tilling in a matter of hours the same acreage that formerly took days, increasing farm income with work often neglected or left undone, replacing work animals with profit producing livestock, Fordson farmers have found life more pleasant and profitable.

Ford Motor Company

CARS · TRUCKS · TRACTORS

Ask any Ford Dealer



LATE AGRICULTURAL NEWS

INHERITANCE TAX ON TAX-EXEMPT SECURITIES.

A BILL providing for an inheritance tax on tax-exempt securities has been introduced in the senate by Senator Arthur Capper. The tax rate begins with one per cent of the amount by which the net estate exceeds \$50,000, and does not exceed \$150,000, and increasing by a sliding scale up to twenty-five per cent when the net estate exceeds \$10,000,000, and twenty-five per cent of the amount of tax-exempt securities.

BILLS PROVIDE FOR STANDARD TYPES OF WEIGHTS AND MEASURES.

TWO bills which have the backing of the farm organizations generally have been introduced by Congressman Vestal, of Indiana. One empowers the bureau of standards to pass upon each type of weight or measure manufactured, offered or exposed for sale for use in trade or commerce, and to approve or disapprove of said type. The bureau of standards shall approve each type of weight or measure submitted for approval by any manufacturer if such type is so designed and constructed that it gives correct results in terms of standard weights or measures, and does not facilitate the perpetration of fraud.

The other Vestal bill provides the standard of weights and measures for flours, hominy, grits and meals, and all commercial feeding stuffs, the standard measure for such commodities when packed for sale in packages of five pounds or over, shall be a package containing net averdupois weight one hundred pounds or a multiple of one hundred pounds, or one of the following fractions, thereof, five, ten, twenty-five, or fifty pounds, and for flours, one hundred and forty pounds, and for commercial feeding stuffs only sixty, seventy or eighty pounds, each package bearing a plain legible statement of the net weight.

BEET GROWERS MEET THIS MONTH.

THE annual meeting of the Michigan Sugar Beet Growers' Association will be held at the Michigan Agricultural College, January 23-25. Representatives of the Federal Department of Agriculture will be present, bringing suggestions on the solution of production problems. These men will also have conferences with the manufacturers during their stay in the state.

WOULD AID SOLDIERS.

A BILL to be known as the National Reclamation Act, and providing an appropriation for a National Reclamation Fund, has been introduced by Senator McNary, of Oregon. This bill provides for the issuing of government bonds to develop more irrigation projects. As in the case of former schemes of this kind, the world war veterans are to be given preference in the matter of employment and the establishment of rural homes.

FARM TENANCY.

M. R. C. L. STEWART, agricultural economist in the division of land economics, department of agriculture, says there is danger that the country be lulled to indifference by reports that the rate of increase of farm tenancy in the United States is rapidly diminishing. It is true that the number of tenant farmers per thousand grew from 353 in 1900 to 370 in 1910, an increase of five per cent, whereas from 1910 to 1920 it grew from 370 to

381, an increase of three per cent. When measured on a basis of acreage and value, however, the number of rented acres per thousand, and the number of dollars worth of rented land per 1,000, was not only higher than shown on the preceding basis, but it has been growing at a much faster rate during both decades since 1900, especially during the decade just ended. While the proportion of rented farms increased but three per cent between 1910 and 1920, the proportion of leased property values, and of leased acreage increased eleven per cent. The tenure of American farms cannot be correctly stated in terms of farms only.

WOULD LICENSE COLD STORAGE CONCERNS.

A COLD storage licensing bill, introduced by Senator Owen, of Oklahoma, provides that no person, firm or corporation shall operate a cold storage warehouse without first having paid a license fee of \$500 to the internal revenue collector, said fee to be paid annually. A correct report of the kind and quantity of food products in said warehouse on the first day of each month is required to be made under oath, and mailed to the secretary of commerce. All food products admitted to cold storage warehouses must be correctly labeled with kind and quantity and date when received for storage. Inspectors from the department of commerce are required to visit and examine all licensed cold storage warehouses.

FUNDS FOR WHEAT GROWERS.

A GOVERNMENT aid proposition is contained in a bill introduced by Senator Norbeck, of South Dakota, which "provides for an emergency commission to promote a permanent system of self-supporting agriculture in the northwestern wheat states.

The ultimate plan of this scheme is to set up the wheat farmers of the northwest in the dairy business. There is a steadily growing number of farm leaders who are reaching the conclusion that the government extension of our agricultural areas in time of overproduction is uncalled for at this time

when we are producing more than can be sold at a fair price to the producer, and that financing the northwestern wheat growers in developing the dairy business is unfair to the older dairy sections where the farmers have never asked nor received government aid.

NITROGEN MANUFACTURING QUESTION IS UP.

THE report of the director of the Fixed Nitrogen Research Laboratory of the Department of agriculture contains interesting information in view of the fact that a Norwegian nitrogen products company has brought suit against the United States Tariff Commission to compel the commission to permit the company to inspect the petition of an American nitrogen products company for an advance on the import duty on sodium nitrates.

The past year, according to this report, has seen Germany operating fixation plants, the output of which has rendered her almost entirely independent of outside sources, and it is predicted that in the next few years she will be exporting large quantities of nitrogenous fertilizers. Although Germany has by far outstripped other countries in producing fixed nitrogen, many of the latter are making progress. This is most clearly shown by the fact that in 1920 more than thirty-six per cent of the world's production was supplied by the fixation of atmospheric nitrogen. In the peace-time development of actual producing plants for nitrogen fixation this country has taken practically no part, less than one per cent of our present requirements being supplied by the fixation of atmospheric nitrogen within our borders.

WANTS TO ESTABLISH PUBLIC WAREHOUSES.

THE federal government would build warehouses in conjunction with the states and in cooperation with legally organized farmers' cooperative associations for the storage of non-perishable farm products, for the insurance of such products when in storage, and for government loans on warehouse receipts, if a bill introduced by Representative Swank, of Okla-

homa, is passed and becomes a law.

The secretary of agriculture of the United States, the president of the board of agriculture in any state where such warehouses are located, and a representative chosen by the farmers' cooperative associations in said state, shall constitute the board of control for said warehouses in each of said states. This board of control will jointly operate, manage and control the warehouses within the state.

The official standards of the Federal Department of Agriculture are to be the official standards of the warehouses created by this act.

When any state makes an appropriation as provided for in the bill, and farmers' cooperative association may make application to the president of the board of agriculture of the state for the location of a warehouse, and this official and the representative of the farmers' cooperative association shall locate the site promptly, with the approval of the secretary of agriculture of the United States.

Any bank may loan money on the warehouse receipts, and in the event the local bank shall refuse to loan money on the receipts, then the Federal Farm Loan Bureau shall immediately make provisions for loaning the money through the intermediate credit banks, and no bank can charge to exceed six per cent interest on the loans, which shall be made for a period of at least six months at one time if the borrower desires such time.

The sum of \$100,000,000 is authorized by the bill to be appropriated to carry out its provisions.

NOTHING ACCOMPLISHED.

CONGRESS adjourned on December 20, for the holidays, after a profitless session of nearly three weeks. Owing to the obstinacy of the northwestern progressives, the senate failed to reach an agreement on the selection of a chairman for the interstate commerce committee, and the matter was left over to be taken up when congress convenes January 3.

The success of the progressives in preventing the election of Senator Cummins to the chairmanship of the interstate commerce committee affords ample evidence of their power to block legislation they do not favor, and thereby make trouble for the administration.

TOO MANY SIZES OF HAMPERS.

INVESTIGATIONS made by the bureau of agricultural economics indicate that there are altogether too many sizes of hampers used for fruits and vegetables in our markets. It is found that New Jersey shippers pack fruits and vegetables in twenty-four different sizes of containers. Apples are packed in twelve different sized containers.

Of hampers alone there are eighteen different sizes. The bureau market specialists are proposing the elimination of thirteen of these hampers, and the legalizing of only five standard sizes of hampers. These five are 8, 16, 24, 32 and 48 quarts.

The adoption of the proposed series of standards, they say, means the elimination both of the five-eighths and seven-eighths bushel hampers, which have prevented for three years the passage of standardization legislation. Users of the seven-eighths bushel hamper will accept the twenty-four quart, or three-quarter bushel size as a substitute.

Friends of better marketing are hopeful that some effective fruit and vegetable package standardization legislation will be passed by congress this session.

Old Man Congress Is Convinced at Last that the Golden Egg Goose Needs Protection



TOAST CAMPAIGN SPREADS.

OVER one hundred and thirty New England towns and cities have joined the "more toast" campaign in the national movement to increase the consumption of wheat. It is expected that the toast drive will, in a comparatively short time have spread to practically every section of the country. The industrial centers, particularly, are cooperating in support of the movement.

ADVISES A FIVE-YEAR FARM CENSUS.

TO better work out a balanced agricultural program, Doctor Taylor, of the Federal Department of Agriculture, suggests the advantages of a five-year farm census. This, he believes to be particularly advisable since the census figures collected in 1920 are inadequate. At that time American agriculture was still in a period of readjustment from war conditions and bore much of the transitory effects of the war, rather than giving data from which national agricultural policies may be developed. He believes that 1925 figures may safely be used in planning for the future of our farming industry.



L. J. Taber, newly-elected Master of the National Grange, with ten other prominent National speakers, is coming to Michigan this month to assist in a big Grange drive.

WILL STICK TO THE FARM.

THERE were sixteen hundred boy and girl delegates at the second National Convention of the Boys' and Girls' Club Congress, held in Chicago during the International. Ninety per cent of the boys and girls in attendance declared that they intended to make farming their life work.

We cannot measure the influence that these leaders of thought in our junior agricultural world will have on the next quarter of a century of American agricultural activities. It is, however, one of the real hopeful things, as we survey the situation at the present time.

HAS LONG DISTANCE AGRICULTURAL POLICY.

A LONG-time agricultural program and policy for the state of Pennsylvania, which will coordinate the activities of all the farm organizations in the state is now being formulated under the direction of the State Council of Agricultural Associations. A tentative program is being drafted by a committee which will be referred to each of the state organizations. Final action on the proposed program is expected to be taken at the annual meeting of the state council during the time of the State Farm Products Show to be held at Harrisburg the third week in January.

The organized marketing of farm products can become efficient and effective only when backed by a well-balanced production program.

Sensational Building Offer For the Spring of 1924!

Harris Brothers Company lead today as during the past thirty-two years in the sale of building material and general supplies. And this announcement is probably the greatest we have ever published. It brings you the chance you've hoped and waited for. Our stock today is complete, but there is no telling how long it will last at such low prices as these. So don't delay! Order direct from this announcement. Our well-known guarantee protects you in every purchase, large or small.

Roofing Lumber & Millwork Paints

Galvanized Sheets
per 100 sq. ft.
No. WA-21. Heavy weight overhauled galvanized roofing or siding sheets, 2 1/2 inch corrugated. Good condition. Painted red. Per square of 100 square feet..... **\$3.00**
No. WA-22. Medium weight overhauled, painted, 2 1/2 inch corrugated roofing and siding sheets, per square of 100 square feet..... **\$2.50**

Roll Roofing

No. WA-24. New heavy weight red or gray green slate coated roofing. Per roll of 108 square feet with 1/2 inch trimmings..... **\$1.80**
No. WA-25. Heavy weight smooth surfaced roofing. Per roll of 108 square feet with trimmings..... **\$1.40**

Poultry Netting

Per Bale **\$2.75**

Best quality heavily galvanized Bessemer steel wire poultry netting. Made of 19 gauge wire in 2 inch mesh. Two heights. Bales contain 150 lineal feet. These low prices made possible by a special purchase.
No. WA-300. 36 in. high, per bale..... **\$2.75**
No. WA-305. 72 in. high, per bale..... **\$5.40**

Hog Fence

No. WA-6. Made of No. 11 top wire and No. 14 intermediate wire and stay wires. Spaced 6 in. apart, 3, 4, 5, 6 and 8 in. spaced from bottom upwards. Barbed bottom. 26 in. high, per roll..... **24c**
Largest stocks of field fencing at lowest prices.
No. WA-10. White porcelain enameled roll in kitchen sinks furnished complete with two faucets and trap. Size 18 in. x 24 in. Size 18 in. x 30 in..... **\$12.00**
Size 20 in. x 30 in..... **\$13.00**
Size 24 in. x 30 in..... **\$14.00**

Wall Board 3 1/4c

Per Square Foot
No. WA-5. Gold Medal wall-board furnished in 48 in. width. Lengths up to 12 ft. Price per sq. ft. **3 1/4c**
Plaster Board
No. WA-6. Finest quality plaster board 1/2 in. thick. All sizes in stock. Our price for sheets size 48 x 32 or 36 x 48 in. Per sq. ft. **4c**

HOMES COMPLETE
We will furnish guaranteed quality of ready-cut lumber including in. sills, millwork, glass, roofing, plasterboard, hardware, nails and paint to build this cottage with four rooms, bath and closets. Size 20 ft. x 28 ft. Sale price..... **\$730.00**
Ask for free Plan Book No. WA-77

Finest grades of lumber and millwork of every kind here in America's greatest stocks. Some idea of the big savings can be had from the four bargains below. Mail Coupon Today!

\$2.95 All Other Sizes at Low Prices
No. WA-105. Economy Special, 5 cross raised panel fir doors, size 2 ft. 6 in. x 6 ft. 6 in., 1 1/2 in. thick. Outside measure 2 ft. 4 1/2 x 3 ft. 10 in. Each **\$2.25**
No. WA-106. Two light 24 x 20 in. glazed check fir windows, 1 1/2 in. thick. Outside measure 2 ft. 4 1/2 x 3 ft. 10 in. Each **\$2.25**
No. WA-107. Window screen, size 2 ft. 4 1/2 in. x 3 ft. 11 1/2 in. 1 1/2 in. thick. Black wire and frames. Each **\$1.35**
No. WA-108. Special combination screen and storm door. Size 2 ft. 8 1/2 in. x 7 ft. 1 in. Painted gray. Quickly changed. Complete. **\$6.15**

Guaranteed Plumbing

\$26.00 **\$26.50** **\$11.50**
No. WA-110. Low pattern closet outfit with white bowl, mahogany finished seat and cover. White vitreous china tank. **\$26.00**
No. WA-115. Enamelled bathtub 5 ft. long, 30 in. wide. Complete with nickel plated double bath cock, waste and overflow. **\$26.50**
No. WA-120. White porcelain enameled lavatory. 18 x 21 ins. with nickel plated faucets and brass trap. **\$11.50**
No. WA-125. Bathroom outfit consisting of low closet outfit, bathtub and lavatory as described. Complete, special at... **\$62.50**

Complete Stocks of Plumbing Supplies
Experts are waiting here to help you plan your water works and sewage systems. Our big stocks are complete with everything needed to install modern plumbing equipment of every kind. Lowest prices prevail at all times on big stocks of plumbing fixtures, pipe fittings, valves, soil pipe, etc.

Complete Stocks of Plumbing Supplies

Experts are waiting here to help you plan your water works and sewage systems. Our big stocks are complete with everything needed to install modern plumbing equipment of every kind. Lowest prices prevail at all times on big stocks of plumbing fixtures, pipe fittings, valves, soil pipe, etc.

Pipe Fittings **Heating Plants** **Hog Troughs**
No. WA-20. Iron pipe in random lengths with cuttings. All sizes. One inch, per ft. **5c**
1 1/2 in., per ft. **8c**
2 in., per ft. **12c**
We offer everything needed to install modern steam, warm air and hot water heating systems for new or remodeled buildings at lowest prices. Our engineers will help you. Send a rough sketch of your building showing size of rooms, doors, and windows.
No. WA-7. Strong troughs for hogs, sheep and cattle. Heavy steel. Size 12 in. wide, 5 ft. long, each **\$1.95**
8 ft. long, each **\$2.95**
10 ft. long, each **\$3.95**
SPECIAL: Troughs 2 ft. long. Each **85c**

Cream Separators

No. WA-80. Latest patented exclusive improved design. Fully guaranteed.
Size Cap. lbs. Sale Price No. per hr. Price
1 175 \$31.50 5 500 \$54.00
2 250 35.00 7 750 62.00
3 375 49.00 9 950 68.00
*Indicates table sizes. All machines are ready for shipments from Minn., Pa. and Chicago. 3 per cent discount is allowed if cash is sent with order.

Gasoline Engines

No. WA-90. Guaranteed gasoline engine with Webster oscillating magnet. Full power. Sure starter and steady worker. All sizes. **\$130.00**
7 H. P. size, special at...

House Paint

\$1.85
No. WA-12. Guaranteed best quality house paint in white, black and 26 non-fading colors. Per gal. **\$1.85**

Barn Paint

No. WA-13. Guaranteed barn or garage paint. Red, yellow and maroon. Per gallon..... **\$1.25**
Green slate or red, per gallon..... **\$1.50**

Best Varnishes

No. WA-70. Best wearing floor varnish, per gal. **\$2.25**
No. WA-71. Best inside spar varnish, per gal. **\$2.75**

Painted Barbed Wire

Per Reel **\$1.40**

No. WA-200. Painted barbed wire, made of 12 gauge open hearth steel wire with 4 point barbs, spaced 3 in. apart. 58 lb. reels, contain 700 ft. Price per reel..... **\$1.40**
No. WA-205. 112 lb. reels, containing 1400 ft. Per reel..... **\$2.75**
No. WA-105. Smooth galvanized 6 and 9 gauge wire, suitable for fences, grape vines and general purposes. One piece rolls of 100 lbs. Per roll..... **\$3.25**
No. WA-110. Smooth galvanized fence wire, 9 to 14 gauge. In 100 lb. bundles. 250 ft. lengths and longer in each bundle. Per 100 lbs. **\$2.95**

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NEW TRAFFIC LAW.

Is a signal by stop-light on auto a legal signal, the same as a signal by the extended hand?—B. W. H.

Session Laws 1923 No. 96, require that persons stopping or turning a corner with a motor vehicle shall give timely warning to persons behind of his intention to do so by extending the arm, or by some mechanical or electrical device.—Rood.

HUNTING.

A. posts his farm, "No hunting allowed." Does he violate the law if he hunts on his own land now? Can a land-owner hunt on his own land without a license?—W. L.

Wild game is subject to the game laws, and not the property of the owner of the land on which it may stray, and he may take it only by complying with the game laws. I know of no provisions extending special privilege to the owners of the land, other than Sec. 1 of Act 50 Sessions Laws 1923, permitting farmers and fruit growers to kill rabbits with ferrets, etc., on permit from the department of conservation.—Rood.

KEEPING LIVE STOCK FENCED.

I have a pretty good barbed wire fence. It keeps out horses, cows and calves, but not hogs, sheep, lambs or turkeys. I keep only horses, cows and calves, but my neighbor keeps hogs, sheep and turkeys. They claim I must build a woven wire fence to keep out their animals. Neighbor's fence has mostly fallen down. I have called two fence viewers, but they tell me to put up a woven wire fence. Do I have to put up such a fence? What are requirements for line fence?—J. E.

Except where there is a properly established line fence, all owners of stock must keep it from trespassing at their peril. Where a line fence is established, it means such a fence as will turn the animals usually kept on the farms, including sheep and hogs.

EMPLOYER'S LIABILITY.

A., a single man, rents 240 acres and hires what farm work he cannot do himself. B. and family live in tenant house on the land. The Michigan Sugar Company rented and paid A. \$30 for house and their help. None of the beets that B. cares for are on the ground rented by A. One day A. hired B. to help harvest radish seed, but it rained, so A. and B. worked inside, cleaning the stable. B. did not like using a fork, so went out in the rain after a shovel, and in climbing a fence fell on a board that had been nailed there to strengthen a hog trough. A. took B. to the doctor and paid \$2 to the physician, who said B. had cracked two ribs. B. says, "Me no feel like work; you damage me \$100." Can B. recover damages? If so, how much?—C. C. D.

I understand that B. was not sent for the fork, but went of his own motion. I do not regard this as coming in the doctrine of safe place to work, but is rather an assumed risk by B., and he could not recover.—Rood.

COOKED BEANS WITH CORN SILAGE FOR COWS.

Am feeding milk cows mixed hay, silage and cooked beans. What should I add to make a ration? Are cooked beans good for little pigs?—M. A.

If you feed a proper amount of beans in the ration, you have a theoretically well-balanced ration. For instance, if you feed the equivalent of one pound of bean meal per day for every pound of butter-fat produced in a week, that will furnish the protein and the carbohydrate in such proportion as to make a very well-balanced ration, because beans contain about twenty per cent protein and will balance the corn silage in pretty fair shape. Cooked beans, however, contain considerable moisture and enough

more should be fed to furnish the equivalent of dry beans.

It is a question if cows should be fed so much beans, for they make a hard, dry, tallowy butter. In this respect, they are a better summer feed than a winter feed. Most butter is too hard in winter.

Experience seems to show that cows can not be induced to eat a full ration of beans. They don't like them very well; however, cooked beans are more palatable than raw beans, and if some pains are taken to educate cows to eat cooked beans, this objection might be overcome. Some other grain is usually fed with the beans as ground oats, or oats and corn. But when this is done you do not have as much protein and it is advisable to feed a little oil meal to keep the balance of the ration.

Cooked beans are very satisfactory as part of the ration for young pigs. It is better to mix them with wheat middlings, half-and-half.

NECESSARY FEED FOR A YEARLING CALF.

How much hay will a yearling calf fifteen months old eat from now until the middle of May (also other feed)?—Mrs. R. W. T.

This question can not be answered with any degree of accuracy. Animals eat in proportion to their live weight. Other things being equal, an animal weighing 500 pounds is supposed to require only one-half as much food as one weighing 1,000 pounds. The weight of this animal is not given. Again, if an animal is fed entirely on hay, much more hay will be consumed than as though some grain was fed with the hay. Now the inquirer wishes to know how much hay it will take to feed a calf until May 15, and also how much other grain. As a matter of fact, you could feed a lot of grain and very little hay, or mostly hay and a very little grain, or you could feed hay alone.

According to Wolf's Standard Feeding Tables, a young growing animal needs two pounds of protein per day per 1,000 pounds live weight. Assuming that this calf only weighs 500 pounds then it would need only one pound of protein per day. We can omit the carbohydrates in the calculation because, if you furnish food containing sufficient protein there will be an adequate amount of carbohydrates.

Now, if you fed only clover hay, which contains 7.1 per cent protein, or seven pounds in 100 pounds of hay, then it will take about fourteen pounds of hay per day. But if you feed timothy hay containing only 2.8 per cent protein, or 2.8 pounds per 100 pounds of hay, it will take thirty-nine pounds of hay per day. The most practical and economical way is to feed a small amount of grain (ground oats or corn meal and wheat bran, mixed equal parts), and then what hay or other roughage you happen to have that is eaten without waste.

INCREASES MILK CHECKS.

THE secretary of the Avoca cheese factory gives us a little interesting data from his records, regarding the receipts of dairymen who deliver milk to the factory. He states that the average income per cow of men who are not members of cow-testing associations is \$50, of members who have belonged but one year, \$65, and of continuous members the income goes to \$95 per cow.

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With the self-balancing bowl. Positively cannot get out of balance therefore cannot vibrate. Can't remix cream with milk. Runs so easily, bowl spins 25 minutes after you stop cranking unless you apply brake.

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of Fruit Trees, plants, Ornamentals, Garden and Flower Seeds. 3 to 4-foot Apples 25c; 3-foot Peach 20c each postpaid. Send for 1924 catalog of Reliable Trees and Seeds. Allan's Nursery & Seed House, Geneva, Ohio.



CREAMERY BUILDS COMMUNITY.

EIGHT years ago a group of one hundred and sixty-five men in and about Westphalia, a small town in Clinton county, elected to form a small cooperative creamery by each purchasing a \$10 share, thereby raising \$1,650. With this money a small plant and equipment was secured.

Had anyone prophesied the returns which this small investment would mean to those men over a period of eight years, it is doubtful if the prophecy would have received very much consideration.

However, during the eight years just passed, \$14,673.64 in patronage dividends has been declared, besides purchasing a house and lot valued at \$2,000, and paying for cream on the same basis with other creameries and cream buying stations.

The fact that during the last year their total business of \$34,035 shows an increase of approximately \$7,000, demonstrates that there is a considerable element of satisfaction in its management which, during the past year, has decreased expenses \$600.

Mr. Theodore Bengel, who has been secretary for a number of years, prepares each year a detailed statement assembled on a sheet of paper, which this year was nearly fourteen feet long and two feet wide, showing each patron's name, each check sent out, a total at the bottom of this column and



Pure-bred Guernsey Belonging to Alber Brooks, of Otsego County.

also his patronage dividend figured out. This gives neighbors an opportunity to see just how they stand and also an opportunity to review their year's work with the creamery.

Mr. Bengel states that it also gives a very graphic record of the stability of patrons; that is, it is easy to note the blank column and the weeks in which no check was sent to certain patrons showing that some were shopping around, which, of course, tended to decrease the patronage dividend and this in some cases amounted to as much as \$40, which makes a splendid Christmas present for loyal members.

The success of the creamery is reflected in the agricultural prosperity of the community and one has but to drive through to know that some force is behind the well-kept farms and farm buildings.—H. V. Kittle.

NEW CREAMERY STARTED.

THE Northern Dairy Products Company is an organization of which Mr. Ernest G. Loeb is secretary-treasurer. Its purpose is to erect creameries in the northern part of the state wherever there is sufficient dairy interest to warrant. Their first plant will be at East Jordan, where they are erecting a building 30x60, which will have a capacity of 8,000 pounds of milk per day. This will be gradually increased until it will take care of 16,000 pounds. It will start with the promise of the product of 500 cows. The purpose to which the milk will be put will be mainly for cheese making.

Mr. Loeb is manager of Loeb Farms,

of Charlevoix, on which he has demonstrated the possibilities of dairying in northern Michigan. It is his purpose to cooperate with other farmers in developing the dairy interests of that section of the state.

MANUFACTURED MILK OUTPUT INCREASES.

THE report on the output of condensed and evaporated milk plants in the United States during the month of October has just been released. It shows a total production of 17,539,000 pounds, as compared with 14,444,444 pounds for September, and 16,066,000 pounds for October of a year ago.

In gradually increasing the number of good cows we are following the course of older civilizations where the cow is indispensable.

American Fence

R.R. RAIL SECTION POSTS

ARROW T-STEEL POSTS

American Fence is made of full gauge wire, full weight and full length rolls. Use American Fence for economy—long life service and more dependable stock and crop protection.

Ask your dealer for Arrow Tee Steel Fence Posts—built like a Railroad Rail—with larger anchor plates which lock the post into the ground as driven. Frequent notches provide means for attaching every line wire if desired.

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A Better DeLaval Separator for fewer pounds of butter



In 1913 it took 231 lbs. of butter to pay for a popular sized De Laval Separator—based on average butter prices for the year.

Today you can buy a popular-sized De Laval Separator for 25 lbs. or 11% less butter than was required for the same size machine in 1913. In addition the De Laval of today is a very much better machine, having 10% more capacity, a Bell Speed-Indicator, self-centering bowl, bowl-holding device, and other improvements and refinements. Therefore, you can get a better De Laval for fewer pounds of butter.



In 1923 it requires only 206 lbs. of butter (average price for first ten months) or 11% less than in 1913, to buy the same size machine, which has since been greatly improved.

The New DE LAVAL the best Cream Separator ever made



Self-Centering Bowl



Easy Running—Low Wearing—Driving Mechanism

The new De Laval Separator, which has now been on the market for over a year and of which there are already more than 100,000 in use, is acclaimed on all sides as being the best De Laval ever made. That is saying a great deal when it is considered that De Laval Separators

- have millions of users who regard them as the finest machines made;
- have won more than 1100 prizes for efficiency of operation;
- are overwhelmingly endorsed for efficiency of service by cow testers, who reach over 6000 dairy farms and test skim-milk from separators;

1 Self-Centering Bowl. Sufficient freedom is given in the De Laval Bowl at the point of spindle support to permit the bowl to center itself when it attains separating speed. Thus the bowl runs smoothly and without vibration, which adds to the efficiency and life of the machine.

2 Light Running. The De Laval Bowl is so designed as to shape, height, diameter and distribution of weight as to afford the least possible resistance in being revolved, which together with the automatic oiling system and superior design and construction of the driving mechanism, causes the De Laval Bowl to require the least power (per pound of capacity) to drive, and affords the least strain and wear on the supporting and propelling parts.

—are used and approved by creamerymen, college and dairy authorities, and the best dairymen and farmers;

—and have the longest record of use, as proved by the average life of the thousands of machines entered in the "Oldest De Laval Users Contest," which averaged over 20 years.

With such remarkable achievements a new De Laval must be very good indeed to be better—and it is. Ask your De Laval Dealer to show you the new De Laval. Try it alongside of any separator made and you will be convinced of its superiority.

3 All-Around Superiority. A combination of the foregoing features, together with superiority of De Laval design, workmanship and materials, enables a De Laval to separate more thoroughly under all conditions of use, delivering a smoother cream capable of making better butter; to separate a richer cream with less loss of butter-fat; and to separate with greater efficiency at lower temperatures.

4 Greater Convenience. is also obtained in the new De Laval through the use of a bowl holder which is attached to the supply can support.

In addition, these new De Laval have other improvements and refinements, all of which give their owners the greatest value obtainable in a cream separator.



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Convenient Bowl Holding Device

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Ask your De Laval Agent about the New De Laval

\$6.60 to \$14.30 Down
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If you want to buy a cream separator on the installment plan you can now get a De Laval on extremely easy terms. Practically all De Laval Agents sell them that way. For \$6.60 to \$14.30 (depending on the size) you can start using a high-quality, long-life, cream-saving De Laval; and then for \$3.96 to \$8.58 per month you can easily pay for it out of cream checks or butter money. (Prices slightly higher on Pacific Coast and in Canada.)

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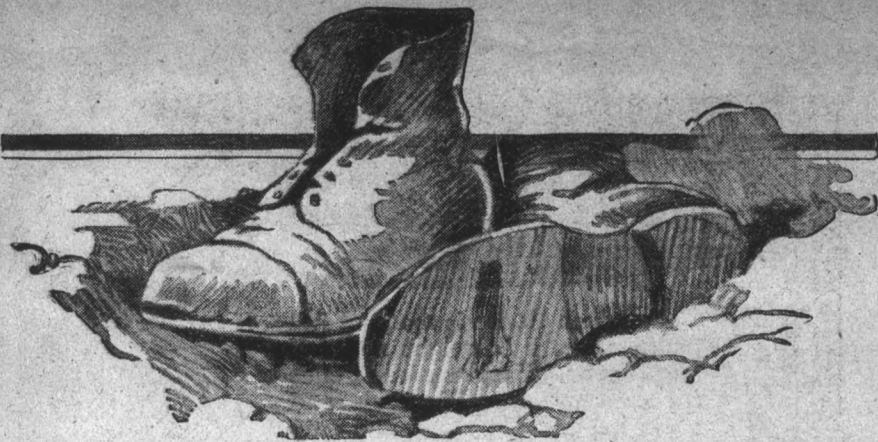


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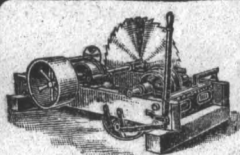
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ABOUT THE FARM

CORN FODDER OR STOVER TOO EXPENSIVE.

MICHIGAN is becoming more and more of a corn state. The crop for the past three years has been remarkably good, and, with the higher freight rates and probable corn prices, the acreage will increase.

My impression is that there is a general over-estimate of the value of corn stover, when measured by the most of securing it. When the smaller varieties of corn was grown, and the grass and legume hay crops harvested largely by hand, corn stover was relatively more economical than at present.

Alfalfa hay comes into the feeding ration as a greater forage competitor and is scarcely touched by expensive hand labor. Corn silage and legume hay are being more nearly balanced, and the excess of stover is scarcely needed. Cornfield feeding of hogs and lambs will care for considerable corn in the fall. For later finishing of sheep, cattle, and hogs without cattle, the corn in the binder bundle can well be used without the necessity of husking.

Corn is an inexpensive crop to grow, but expensive to harvest. There is a popular belief in the southern states that corn is never quite so good to the animal taste as when removed from the husk at time of feeding. Corn husking costs from fifteen to twenty per cent of the value of the grain, or around \$8.00 an acre. Is the stover saved worth that with the added cost of returning the manure to the fields?

A meadow that is to be plowed the following spring makes a good winter feed lot, the manure being on the ground where needed. The old men who used to husk corn at three or four cents per bushel are gone, and without them the corn grower must find a cheap way to realize on corn for feeding live stock.

Barley on good soil will approximate corn in production of grain and at a low cost. There are, however, many acres of good corn land which is not good for barley. The farmer who has good barley soil and fails to use at least 200 pounds of acid phosphate per acre is missing a good investment. Barley is wonderfully responsive to phosphate, quite as much so as wheat.

For feed purposes an early oats grown with barley, say one-half bushel to the acre of oats, adds to the crop and assists in holding the barley up, and also makes it handle better when being harvested and threshed. Ground barley and oats make an excellent combination for horses, cows and pigs, and often at a time when the corn crib is empty and spring pigs are in need of grain feed.—J. N. McBride.

STARTS PEA GROWING IN ONTONAGON.

ONTONAGON county is proud of the results achieved by farmers there at the recent International Grain Show held at Chicago. Pedigreed Scotch green peas raised in Ontonagon county won first and second prizes. Martin Peterson, of Bruce's Crossing, took first, and Adolph Trousil, of Ewen, took second. This is reported to have been the first year that Scotch peas have been grown in quantities in the county. The seed was secured from Wisconsin and distributed by a local grain-dealer of Ewen.

It is predicted that in 1924 a much larger crop of these peas will be sown, since there is at hand this positive demonstration that the soil and climate of southern Ontonagon county are favorable to peas. This, however,

is no surprise to those who have kept in touch with the agricultural possibilities of the section. Ontonagon farmers will standardize on the Scotch Green variety of pea.

WINE MAKING DECLINING.

FIGURES of the Michigan grape crops during the past few years are interesting. For instance, in 1920, 4,607 cars of grapes sold at an average price of \$105 per ton; while in 1921, with a crop one-fourth as large, the price of the fruit was approximately \$96 per ton. Apparently the business depression tended to dampen the thirst of the American public, who made less wine at a lower cost than the year before.

In 1922, the Michigan growers sold 6,020 cars at an average price of \$60 per ton, while during the past year the production was only about 4,000 cars, with the price around \$50 per ton.

Comparative figures show that the 1921 crop of 4,000 cars sold for \$105, while that of the past season, approximately the same size, sold for \$50. Apparently the novelty of "making your own" is passing, and there is not the rushing demand for grapes that there was in 1920. This is undoubtedly a good indication that people are getting used to prohibition and are weaning themselves from the drink with a kick in it.

There is a big opportunity for the Michigan grape men to increase the sales of fresh fruit, as well as to encourage the drinking of unfermented grape juice, which was curtailed during the time of high prices for grapes.

AIR-COOLED STORAGE FOR APPLES.

(Continued from page 3).

onstrated quite clearly that if we expect quick cooling we must provide large intakes and large outlets.

Humidity is another very important factor. Experimental work has shown that it occurs much more rapidly on the unblushed side of the fruit than on the colored side; also that there is more wilting in a crate than in a barrel, due to the fact that the barrel is a tight package and tends to conserve the moisture of the fruit. Delicious and Rome have been found to be the least susceptible to wilting of the common varieties, and Baldwin to be one of the most susceptible varieties. The ideal relative humidity for storage should be from eighty to eighty-five per cent, although this may be as low as sixty-five per cent if the fruit is well colored. If the humidity increases to eighty-five or ninety per cent the development of molds and rots are encouraged. We experienced little trouble with humidity in the common storage during the fall months when the ventilators were kept open practically every night. In the winter when the outside temperatures are very low and it is necessary to keep the storage closed up tightly, the humidity is likely to run low enough to cause a withering of the fruit. As previously mentioned, dirt floors permit higher humidity than concrete or wooden floors. If the humidity runs rather low, the floor of the storage should be sprinkled or wet sheets should be suspended in the storage. If the humidity should become high enough to encourage mold development, the ventilators should be opened sufficiently to dry out the room and reduce the humidity.

When the chickens sneeze, look for germs, not fleas.

Where Alfalfa Blooms

Old Fields Furnish Background for Pushing this Crop In Wexford County. By C. E. Miller

THERE are a number of stands of alfalfa in Wexford county which are from fifteen to twenty years old. These fields have been the source of much satisfaction and profit to their owners.

The stabilizing effect of an alfalfa field on the farming system early attracted the attention of County Agent Johnston. He observed that the assured supply of nutritious hay permitted the keeping of more live stock, that, in general, the quality of the stock was better on farms growing alfalfa, and that the yields of other crops were on a higher level on such farms. The significance of these facts was quickly grasped by the agricultural agent. To his mind the suggestion came that alfalfa might be made the basis of a more profitable and stable agricultural system.

The Foundation of a Permanent Agriculture.

Having thoroughly convinced himself that alfalfa offers a foundation on

cases, however, were found where the surface soil was quite sour, and yet alfalfa grew abundantly. In such soils, it was found that there was an ample supply of lime in the upper subsoil.

Parties of farmers were taken into the field and shown how to use the new test. Granges were visited and the method demonstrated. Farmers who attended the meetings showed their neighbors how to test their soils and soon the fact that lime is the first fundamental in alfalfa production was quite generally established.

Other Essentials.

Then they got hold of another idea which has contributed much to their success—the necessity of sowing good seed. As a consequence, Grimm and Cossack have gotten a double-Nelson hold. Local seed dealers saw to it that their patrons were supplied with high-grade northern-grown seed. Occasionally, a farmer is now found who is going in for seed production by making use of the new Hardigan vari-



County Agent W. C. Johnston demonstrating the use of "Soiltex," the soil acidity test developed by Professor Spurway, of the Soils Department of the Agricultural College. This stand of Grimm alfalfa on the farm of John Rydquist, Clam Lake township, is growing on soil naturally rich in lime, which explains why an application of lime to a portion of the field did not prove of benefit to the crop.

which to build a system of permanent agriculture, the county agent started on a crusade. He thought alfalfa, talked alfalfa and dreamed alfalfa, and, shortly, he had a large share of the county well infected with alfalfa fever.

But here was a matter requiring repeated explanations: There is more mineral plant food removed from the soil by alfalfa than by any other common crop. For instance, a thirty bushel crop of wheat, considering both grain and straw, removes about 8.6 pounds of phosphorus, 27.5 pounds of potassium and 5.0 pounds of calcium; while a three and one-half ton crop of alfalfa contains approximately twice as much phosphorus, four and one-half times as much potassium and twenty-six times as much calcium. It is evident, therefore, that the alfalfa should not be sold off the farm, but that the hay must be fed on the farm and every precaution taken to get the manure on to the land with as little loss as possible.

Experiment results and experience both show that alfalfa responds wonderfully to application of phosphate fertilizer and on sandy soils to fertilizers containing both phosphate and potash.

Primarily a Soils Problem.

On a soil deficient in lime, alfalfa is like a fish out of water. So equipped with "Soiltex," the new soil acidity test developed by Professor Spurway, of the Agricultural College, Mr. Johnston proceeded to demonstrate to the farmers that where there was lime there was alfalfa, and where there was no lime there was no alfalfa.

Spots in fields which refused to grow the crop were generally found to be acid, while areas producing a luxuriant growth were rich in lime. Some

ety which was developed by the M. A. C. for seed purposes.

Wexford county farmers were urged to prepare the seed-bed to the depth of plowing and not to massage the surface, leaving the under layers loose and open. To this end, the generous use of the cultipacker has been found highly effective on the lighter soils.

Spreading the Gospel.

Scores of farmers participated in the tours of inspection inaugurated by the county agent. Owners of fields of alfalfa and sweet clover visited, informally told just how they obtained their stands and how the crop is handled.

The interest, so stimulated, has done much to put across the "grow alfalfa right" campaign, and many farmers are finding their alfalfa fields a safe anchor and a firm foundation on which to build a system of permanent soil fertility.

TAX PROPOSAL SUBMITTED.

ADRAFT of the Mellon tax proposal has been submitted to the house ways and means committee for use in consideration of tax revision legislation. In a statement accompanying the proposal, Secretary Mellon says the twenty-five per cent reduction on incomes below \$4,000, and the additional credit of twenty-five per cent to be granted on earned incomes, would amount to about forty-four per cent.

A glance at the New York egg price lists will prove that it pays to cooperate in working up a reputation in standardized high-quality products. The egg cooperative marketing associations are getting a premium of nearly ten cents over the market on their products.

Look for the RED LINE 'round the top!

"STRAIGHT-LINE"
Rubber Overshoes for the entire family

It is very easy
to identify the *best* rubber footwear

It is marked with a Red Line 'round the top. That is the sign of the genuine "Hi-Press" rubber footwear—made by Goodrich—backed by 54 years of experience—and preferred by millions!

If you want to save money on your rubber footwear bills; if you want absolutely uniform quality; if you want that long, unequalled service that has earned universal approval from men who appreciate real footwear—see that the Red Line marks your next pair.

Sixty-five thousand dealers sell and recommend "Hi-Press"
THE B. F. GOODRICH RUBBER COMPANY

Goodrich
HI-PRESS
Rubber Footwear



Easy to slip off and on—one of the big convenient features of the "U. S." Walrus

In and out of 'em a dozen times a day

Slide 'em right over your leather shoes—snap the buckles shut—and you're ready for the stickiest muck and mire the barnyard offers.

You can walk in mud or icy slush—these big overshoes are as watertight as a boot. And their heavy fleece lining keeps your feet always warm and dry.

Then when you're through, a douse of water washes off the caked dirt in a flash! Mud has a hard job sticking to that smooth rubber surface.

Wives have a real interest in the "U. S." Walrus, too! No miry tracks on the kitchen floor—no dried mud around the house! Just flip open the buckles—kick your Walrus off—and you walk inside with clean, dry feet, no matter what the job outside has been!

Other "U. S." Footwear—all built for long, hard wear

"U. S." Boots, built so tough and rugged they're famous wherever boots are worn—Rubbers and Arctics, all styles and sizes for the whole family—"U. S." Bootees, the all-rubber lace shoe, for spring and fall use—every kind of rubber footwear you could possibly need is included in the big "U. S." line.

Every single one is backed by 75 years of skilled experience. It will pay you to look for the "U. S." trademark—the honor mark of the largest rubber organization in the world.

United States Rubber Company



Ask for
"U. S." Walrus

NEWS FROM CLOVERLAND

LEADS LIST OF HIGH-PRODUCING POTATO GROWERS.

WITH a yield of 420 bushels per acre, John Delongchamp, of Champion, Marquette county, is announced as the champion potato producer in the club of nineteen organized by the Michigan Potato Producers' Association among these in the 300-bushel class. It is stated that H. Vandersilk, of Central Lake, is the only other member who attained the 400-bushel class.

Mr. Delongchamp has long been known as an unusually successful grower of potatoes, and has shipped carlots of seed potatoes to Maine, Long Island, and to the Cadillac Exchange. Champion is situated west of Marquette, and was at one time a mining location, but it is maintained now chiefly as a railroad junction point. It is only a few miles south of Lake Superior. Mr. Delongchamp's achievement is by no means unheard of in the northern peninsula. There are those who claim knowledge of past yields of 500 and 600 bushels per acre.

FARMERS MUST SECURE OWN CAPS.

IT is announced from the office of Dr. L. F. Livingston, land-clearing specialist of the Michigan Agricultural College, located at Marquette, that the supply of 75,000 blasting caps, which were received from the government's war salvaged stock and have been distributed with sodatol, has been exhausted and that further supplies cannot be expected from this source.

These caps were furnished without additional charge with each 100 pounds of sodatol and picric acid. To the middle of December, twenty-seven cars of sodatol were distributed among Michigan farmers, it is stated. This amounts to 504,550 pounds of the explosive. Ten cars of 211,750 pounds were disposed of in the Upper Peninsula. So far the sale price to farmers has been \$6.25 and \$8.00 per hundred pounds, the price varying with the distance from the cartridge plant.

Menominee county took four cars, thus leading the Upper Peninsula county, while Baraga county took 24,000 pounds; Marquette, 21,000 Gogebic, 20,000; Delta, 18,000; Alger, 16,000, and Schoolcraft, 16,000. Orders for fifteen cars for spring delivery at the same price, have been received. Farmers, however, will have to secure their own caps hereafter, unless further arrangements with the government can be effected.

OPPOSE CHRISTMAS TREE CUTTING.

THERE is evidence of increasing objection locally to the annual denudation of the land of spruce and balsams in the annual Christmas-tree harvest. "Iron Ore," of Ishpeming, in commenting on the shipment of several cars of trees from Ishpeming, D'Orte and Humboldt, remarks that not a little of this cutting is unauthorized and that prosecution for trespass is likely to occur in at least one case.

Land owners are subjected to the practice of tree-cutting without asking leave, and with little regard to any principles save those of reaping an unearned income from other people's property.

Farmers, the state and large land-owning corporations have equally an interest in protecting their rights against trespass in this fashion, and, although the present laws in regard to larceny and trespass may be adequate, additional legislation specifically directed against this evil may be sought from the next legislature. It is rec-

ognized that, if we are again to cover our vacant lands with marketable evergreens something must be done to reconcile sound principles of conservation with the liking of people—especially city people—for their annual Christmas tree.

WOULD CONSERVE SKIM-MILK.

A business man, interested in manufacturing at Escanaba, calls attention to waste milk from the creameries. He insists that this milk has greater value for manufacturing purposes than for food purposes, and advises the erection of a by-product factory on the outskirts of the city to take care of this waste.

It was ascertained that for the five warm months all the skim-milk from the largest dairy plant in the place is emptied into the sewer. This business man asserted that every pound of this skim-milk is worth at least three cents. This milk could be utilized by a by-product plant in the manufacture of various articles, the market for which is already established. The secretary of the Escanaba Chamber of Commerce hopes to see something done in the direction that is here suggested for it is recognized that it will benefit the farmer and, hence, ultimately, the business men of the city.

COWS SHOW UP WELL.

GOGEBIC county dairy cows make a good showing, according to a report recently made by the state's seventy-three cow-testing associations. Only St. Clair and Wayne counties exceeded Gogebic county in milk and butter-fat production for that month. The ten high cows in the St. Clair association had a monthly average of 66.83 pounds of butter-fat; the Wayne average was 64.82 pounds, and the Gogebic average was 64.49.

Gogebic farmers have been greatly improving the quality of their herds through importations of high-grade and pure-bred stock, and especially by the use of pure-bred sires. It is reported that those herds which have employed pure-bred sires for the longest period show the highest returns in milk and butter-fat, and hence in profits. There are about 300 cows under test in Gogebic county at present.

IRON MINE FACTS.

MICHIGAN farmers may be interested in some facts about one of our large iron mines which were recently presented in a talk by its assistant superintendent to the Iron Mountain Rotary Club. It illustrates what the creation of a great mine involves in effort and outlay.

The mine in question is the Chapin at Iron Mountain—not the largest, but one of the largest and best established mines of the peninsula. There are about ten miles of active underground openings in this mine. There are in these workings four miles of trolley lines, operating fifteen electric locomotives on four different levels, drawing about 250 mine cars. In 1920 there were consumed ten carloads of powder, over one million feet of fuse and nearly one-quarter million of caps.

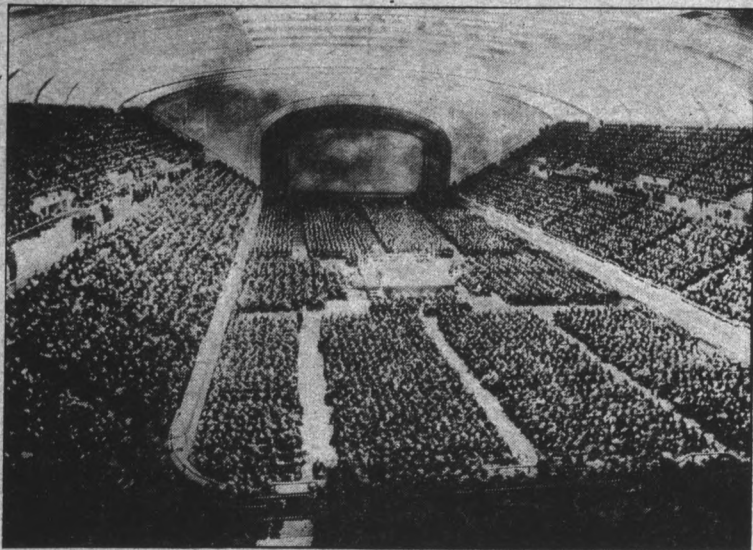
The annual consumption of logs for mine timber, etc., is about one and one-quarter million feet and about 250,000 pieces of lagging are required. Miscellaneous supplies run into many figures.

Daily there is pumped to the surface 4,189,000 gallons of water, which is sufficient in quantity, it is stated, to supply a city with five times the population of Iron Mountain. It is calculated that 11.5 tons of water is lifted to the surface for every ton of ore,

WORLD EVENTS IN PICTURES



New York's newest sky-scraper, the Standard Oil building, will be finished next summer.



The Republican National Committee has selected this auditorium in Cleveland, Ohio, as the scene of the Republican National Convention confab.



Selma Lagerlof, famous novelist, finds time to direct farm staff of fifty-three servants.



A world's record is set by Mrs. Fannie Harwood, of Crescent City, Ill., and her family—a total of fourteen school teachers in one family. Mrs. Harwood began teaching during the Civil War.



Three members of the Passion Play cast are putting the finishing touches to their carvings and pottery, which they will exhibit while touring this country.



When Rev. J. L. Zengirth, of Philadelphia, was ordered to bed by his physician, he delivered his Sunday morning sermon by radio.



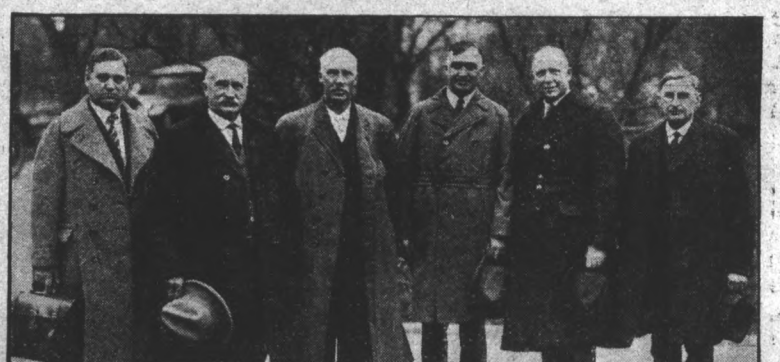
In 1883, Robert E. M. Cowie was office boy, now he is president of American Express Company.



Jockey F. B. Rees escaped the thundering feet of death unscathed, when he was unhorsed in the Barnes races.



This is the first of the "lower taxes and less legislation" prairie schooners started by Youngstown Grange, Ohio. Hundreds of these wagons will parade the streets of Washington.



Officers of the Cooperative Live Stock Association called at the White House to express their faith in the President's promises to aid the farmers of the nation.

THE new road will," said the French-Canadian. Peuff! When they start to build eet, blooey! Eet will be no time."

"The new road? I didn't know there was to be one."

"Ah, oui, oui, oui!" Ba'tiste became enthusiastic. "They shall make eet a road! Eet will not wind over the range like this one. Eet shall come through the mountains with a six-mile tunnel, at Carrow Peak where they have work already one, two, t'ree year. Then eet will start out straight, and peuff! Eet will cut off a hundret mile to Salt Lake. Then we will see!"

"When is all this going to happen?"

The giant shrugged his shoulders.

"When the railroad, eet is ready, and the tunnel, eet is done. When that shall be? No one know. But the survey, eet is made. The land, eet is con-dem'. So it must be soon. But you say you no know lumber?"

"Not more than any office man could learn in a year and a half. It wasn't my business, Ba'tiste. Father thought less and less of the mill every year. Once or twice, he was all but ready to sell it to Thayer, and would have done it, I guess, if Thayer could have raised the money. He was sick of the thing and wanted to get rid of it. I had gone into the real estate business, never dreaming but that some day the mill would be sold and off our hands. Then—then my trouble came along, and my father—left this will. Since then, I've been busy trying to stir up business. Oh, I guess I could tell a weathered scantling from a green one, and a long time ago, when I was out here, my father taught me how to scale a log. That's about all."

"Could you tell if a man cut a tree to get the greatest footage? If you should say to a lumberjack to fell a tree at the spring of the root, would you know whether he did it or not? Heh? Could you know if the sawyer robbed you of fifty feet on ever' log? No? Then we shall learn. Tomorrow, we shall go to the mill. M'sier Thayer shall not be there. Perhaps Ba'tiste can tell you much. Bien! We shall take Medaine, oui? Yes?"

"I—I don't think she'd go."

"Why not?"

"I'd rather—" Houston was thinking of a curt nod and averted eyes. "Maybe we'd better just go alone, Ba'tiste."

"Tres bien. We shall go into the forest. We shall learn much."

AND the next morning the old French-Canadian lived true to his promise. Behind a plodding pair of horses hitched to a jolting wagon, they made the journey, far out across the hills and plateau flats from Tabernacle, gradually winding into a shallow canon which led to places which Houston remembered from years long gone. Beside the road ran the rickety track which served as a spur from the main line of the railroad five miles from camp—the ties rotten, the plates loosened and the rails but faintly free from rust silent testimony of the fact that cars traveled but seldom toward the market, and the hopes of distant years had not been fulfilled. Ahead of them, a white-faced peak reared itself against the sky, as though a

The White Desert

By Courtney Ryley Cooper

sentinel against further progress—Bear Mountain, three miles beyond the farthest stretch of Empire Lake. Nearer, a slight trail of smoke curled upward, and Ba'tiste pointed.

"The mill," he said. "Two mile yet."

"Yes, I remember in a hazy sort of way." Then he laughed shortly.

"Things will have to happen and happen fast if I ever live up to my contract, Ba'tiste."

"So?"

"Yes, I put too much confidence in

tiste left the wagon and, Barry following him, walked toward the mill and its whining, groaning saws.

"Watch close!" he ordered. "See ever-thing they do. Then remember. Ba'tiste tell you about it when we come out."

Within they went, where hulking, strong-shouldered men were turning the logs from the piles without; along the skidways and to the carriage of the mill, their cant hooks working in smooth precision, their muscles bulg-

FREEZE vs. THAW

By Rex Ellis

When the north winds gits to howlin',
'Round the shanty on our farm,
And the snow-flakes gits to fallin',
And a addin' to it's charm;

When icycles gits to freezin',
And the window panes are white,
And the tree limbs sag so heavy,
That they shut out all the light;

Then, is when I hanker,
For my bed, to crawl within,
Between the woolen blankets,
And pull 'em to my chin.

And as my maw brings in some quilts,
To fold across my knees,
I'll say, "Hunt out my old galoshes,
Fer it's shore a goin' to freeze."

When the clouds begin to scamper,
'Cross the heavy laden sky,
And rabbits hop around about,
And grouse begin to fly;

When the sun, it gits to peepin',
Out across the snow real nice,
And the water gits to runnin',
In riv'lets 'cross the ice;

Then is when the woolens,
Gits to feelin' sort a warm,
And somethin' gits to itchin',
And a "crawlin'" on my form;

Then I wake up in the mornin',
And I holler to my maw,
"Hunt out my old galoshes,
Fer it's shore agoin' to thaw."

Thayer. I thought he was honest. When my father died, he came back to Boston, of course, and we had a long talk. I agreed that I was not to interfere out here any more than was necessary, spending my time, instead, in rounding up business. He had been my father's manager, and I naturally felt that he would give every bit of his attention to my business. I didn't know that he had other schemes, and I didn't begin to get on to the fact until I started losing contracts. That wasn't so long ago. Now I'm out here, and if necessary, I'll stay here and be everything from manager to lumberjack, to pull through."

"Bon! My Pierre, he would talk like that." Then the old man was silent for a moment. "Old Ba'tiste, he has notice some things. He will show you. Golemar! Whee!"

In answer to the whining call of the giant, the wolf-dog, trotting beside the lazy team, swerved and nipped at the horses' heels. The pace became a jogging trot. Soon they were in view of the long, smooth mound of sawdust leading to the squat, rambling saw shed. A moment more and the bunk house, its unpainted clapboards blackened by the rain and sun and snows, showed ahead. A half-mile, then Ba-

ing as they rolled the great cylindres of wood into place, steadied them, then stood aside until the carriages should shunt them toward the sawyer and the tremendous, revolving wheel which was to convert them into "board feet" of lumber. Hurrying "off-bearers," or slab-carriers, white with sawdust, scampered away from the consuming saw, dragging the bark and slab-sides to a smaller blade, there to be converted into boiler fuel and to be fed to the crackling fire of the stationary engine, far at one end of the mill. Leather belts whirled and slapped; there was noise everywhere, except from the lips of men. For they, these men of the forest, were silent, almost taciturn.

TO Barry, it all seemed a smooth-working, perfectly aligned thing: the big sixteen-foot logs went forward, rough, uncouth things, to be dragged into the consuming teeth of the saw; then, through the sheer force of the blade, pulled on until brownness became whiteness, the cylindrical shape a lop-sided thing with one long, glaring, white mark; to be shunted back upon the automatic carriage, notched over for a second incision, and started forward again, while the newly sawn

boards traveled on to the trimmers and edgers, and thence to the drying racks.

Log after log skidded upon the carriage, and was brought forward, while Houston, fascinated, watched the kerf mark of the blade as it tore away a slab-side. Then a touch on the arm and he followed Ba'tiste without. The Canadian wandered thoughtfully about a moment, at last to approach a newly stacked pile of lumber and lean against it. A second more and he drew something to his side and stared at it.

"Oh, ho!" came at last. "M'sieu Houston, he will, what-you-say, fix the can on the sawyer."

"Why?"

"First," said Ba'tiste quietly, "he waste a six-inch board on each slab-side he take off. Un'stand? The first cut—when the bark, eet is sliced off. He take too much. Eet is so easy. And then—look." He drew his hand from its place of concealment, displaying a big thumb measuring upon a small ruler. "See? Eet is an inch and a quarter. Too thick."

"I know that much at least. Lumber should be cut at the mill an inch and an eighth thick to allow for shrinkage to an inch—but not an inch and a quarter."

"Bon!" Ba'tiste grinned. "Eet make a difference on a big log. Eight cuts of the saw and a good board, eet is gone."

"No wonder I don't make money."

"There is much more. The trimmer and the edger, they take off too much. They make eight-inch boards where there should be ten, and ten where there should be twelve. You shall have a new crew."

"And a new manager," Houston said it quietly. The necessity for his masquerade was fading swiftly now.

"And new men on the kilns. See!"

Far to one side, a great mass of lumber reared itself against the sky, twisted and warped, the offal of the drying kilns. Ba'tiste shrugged his shoulders.

"So! When the heat, eet is made too quick, the lumber twist. Eet is so easy—when one wants some one to be tired and quit!"

To quit! It was all plain to Barry Houston now. Thayer had tried to buy the mill when the elder Houston was alive. He had failed. Now, he was striving for something else to make Houston the newcomer, Houston, who was striving to succeed without the fundamentals of actual logging experience, disgusted with the business and his contract with the dead. The first year and a half of the fight had passed—a losing proposition; Barry could see why now, in warped lumber and thick-cut boards, in broken machinery and unfulfilled contracts. Thayer wanted him to quit, his father's death had tied up the mill proper to such an extent that it could neither be leased nor sold for a long time. But the timber could be bought on a stumpage basis, the lake and flume leased, and with a new mill.

"I understand the whole thing now!" There was excitement in the tone. "They can't get this mill—on account of the way the will reads. I can't dispose of it. But they know that with

AL ACRES—Slim Says a Correspondence Course Is Good Enough for Him.

By Frank R. Leet



the mill out of the way and the whole thing a disappointment, that I should be willing to contract my timber to them and lease the flume. Then they can go ahead with their own plans and their own schemes. It's the lake and flume and timber that counts, anyway this mill's the cheapest part of it all."

"Ah, oui!" The big man wagged his head in sage approval. "But it shall not be, eh?"

Houston's lips went into a line.

"Not until the last dog dies!"

CHAPTER VIII.

OH, oui!" Evidently Ba'tiste liked the expression. "Eet shall not be until—what-you-say—the last dog, eet is dead. Come! We will go into the forest. Ba'tiste will show you things you should know."

And to the old wagon again they went, to trail their way up the narrow road along the bubbling, wooden flume which led from the lake, to swerve off at the dam and turn into the hills again. Below them, the great expanse of water ruffled and shimmered in the May sun; away off at the far end, a log slid down a skidway, and with a booming splash struck the water, to bury itself for a hundred feet, only to rise at last, and bobbing, go to join others of its kind, drifting toward the dam with the current of the stream which formed the lake. In the smoother spaces, trout splashed; the reflections of the hills showed in the great expanse as the light wind lessened, allowing the surface to become glass-like, revealing also the twisted roots and dead branches of trees long inundated in forming the basin of water.

Evidently only a few men were working in the hills; the descent of the logs was a thing spaced by many minutes, and the booming of the splash struck forth into the hills to be echoed and re-echoed. Houston stared gloomily at the skid, at the lake and the small parcel of logs drifting there.

"All for nothing," came at last. "It takes about three logs to make one—the way they're working."

"Oui! But M'sieu Houston shall learn."

Barry did not answer. He had learned a great deal already. He knew enough to realize that his new effort must be a clean sweep—from the manager down. Distrust had enveloped him completely; even to the last lumberjack must the camp be cleaned, and the start made anew with a crew upon whom he could depend for honesty, at least. How the rest of the system was to work out, he did not know. How he was to sell the lumber which he intended milling, how he was to look after both the manufacturing and the disposing of his product was something beyond him, just at this moment. But there would be a way; there must be. Besides, there was Ba'tiste, heavy-shouldered, giant Ba'tiste, leaning over the side of the wagon, whistling and chiding the faithful old Golemar, and some way Houston felt that he would be an ally always.

The wagon had turned into the deeper forest now redolent with the heavy odor of the coniferous woods, and Ba'tiste straightened. Soon he was talking and pointing—now to describe the spruce and its short, stubby, upturned needles; the lodgepole pines with their straighter, longer leaves and more brownish, scaly bark; the Englemann spruce; the red fir and limber pine; each had its characteristic, to be pointed out in the simple words of the big Canadian, and to be catalogued by the man at his side. A moment before, they had been only pines, only so many trees. Now each was different, each had its place in the mind of the man who studied them with a new interest and a new enthusiasm, even though they might fall, one after another, into the maw of the saw for the same purpose.

"They are like people, oui!" Old

Ba'tiste was gesticulating. "They have their, what-you-say, make-ups. The lodgepole, he is like the man who runs up and looks on when the crowd, eet gathers about some one who has been hurt. He waits until there had been a fire, and then he comes in and grows first, along with the aspens, so he can get all the room he wants. The spruce, he is like a woman, yes, oui. He looks better than the rest—but he is not. Sometime, he is not so good. Whoa!"

THE road had narrowed to a mere trail; Ba'tiste tugged on the reins, and motioning to Barry, left the wagon, pulling forth an axe and heavy cross-cut saw as he did so. A half-hour later, Golemar preceding them, they were deep in the forest. Ba'tiste stopped and motioned toward a tall spruce.

"See?" he ordered, as he nicked it with his axe, "you cut heem as far above the ground as he is thick through. Now, first, the undercut."

"Looks like an overcut to me."

"Oh, ho! Ah, oui, so eet is! But eet is called the undercut. Eet makes the tree fall the way you want heem!"

The axe gleamed in blow after blow. A deep incision appeared in the trunk of the tree, and at the base of it Ba'tiste started the saw, Barry working on the other end with his good arm. Ten minutes of work and they switched to the other side. Here no "undercut" was made; the saw bit into the bark and deep toward the heart of the tree in a smooth, sharp line that progressed farther, farther—

"Look out!"

A crackling sound had come from above. Ba'tiste abandoned the saw, and with one great leap caught Houston and pulled him far to one side, as with a roar, the spruce seemed to veritably disintegrate, its trunk spreading in great, splintered slabs, and the tree proper crashing to the ground in the opposite direction to which it should have fallen, breaking as it came. A moment Ba'tiste stood, with his arm still about the younger man, waiting for the dead branches, severed from other trees, to cease falling, and the disturbed needles and dust of the forest to settle. Then, pulling his funny little knit cap down over his straggly hair, he came forth, to stand in meditation upon the largest portion of the shattered tree.

"Eet break up like an ice jam!" came at last. "That tree, he is not made of wood. Peuff! He is of glass!"

Barry joined him, studying the splintered fragments of the spruce, suddenly to bend forward in wonderment.

"That's queer. Here's a railroad spike driven clear into the heart."

"Huh? What's that?" Ba'tiste bent beside him to examine the rusty spike, then hurried to a minute examination of the rest of the tree. "And another," came at last. "And more!"

Four heavy spikes had revealed themselves now, each jutting forth at a place where the tree had split. Ba'tiste straightened.

"Ah, oui! Eet is no wonder! See? The spike, they have been in the tree for mebbe one, two, tree year. And the tree, he is not strong. When the

winter come, last year, he split inside, from the frost, where the spike, he spread the grain. But the split, he does not show. When we try to cut heem down and the strain come, blooey, he, what-you-say, bust!"

"But why the spikes?"

"Wait!" Ba'tiste, suddenly serious, turned away into the woods, to go slowly from tree to tree, to dig at them with his knife, to squint and stare, to shin a few feet up a trunk now and then, examining every protuberance, every round, bulbous scar. At last he shouted, and Houston hurried to him, to find the giant digging excitedly at a lodgepole. "I have foun' another!"

THE knife, deep in the tree, had scratched on metal. Five minutes more and they had discovered a third one, farther away. Then a fourth, a fifth; soon the number had run to a score, all within a small radius. Ba'tiste, more excited than ever, ranged off into the woods, leaving Barry to dig at the trees about him and to discover even more metal buried in the hearts of the standing lumber. For an hour he was gone; to return at last and stand staring about him.

"The spike, they are all in this little section," he said finally. "I have cruise' all about here—there are no more."

"But why should trees grow spikes?"

"Ah, why? So that saws will break at the right time! Eet is easy for the iron hunter at the mill to look the other way—eef he knows what the boss want. Eet is easy for the sawyer to step out of the way while the blade, he hit a spike!"

A long whistle traveled over Houston's lips. This was the crucial explanation of broken saws, just at the crucial moment!

"Simple, isn't it?" he asked caustically. "Whenever it's necessary for an 'accident' to happen, merely send out into the woods for a load of timber from a certain place."

"Then the iron hunter—the man who look for metal in the wood—he look some other place. Beside," and Ba'tiste looked almost admiringly at a spike-filled tree. "Eet is a good job. The spike, they are driven deep in the wood, they are punched away in, so the bark, eet will close over them. If the iron hunter is not, what-you-say, full of pepper, and if he is lazy, then he not find heem, whether he want to or not. M'sieu Thayer, he have a head on him."

"Then Thayer—"

"Why not?"

"But why? He was the only man on the job out here. He didn't have to fill a whole section of a forest full of spikes when he wanted to break a saw or cause me trouble."

"Ah, no. But M'sieu—that is, whoever did eet—maybe he figure on the time when you yourself try to run the mill. Eh?"

"Well, if he did," came sharply, "he's figured on this exact moment. I've seen enough, Ba'tiste. I'm going to Denver and contract myself an entirely new crew. Then I'm coming back to drop this masquerade I've been carrying on—and if you'll help me—run this place myself. Thayer's out—from the minute I can get a new outfit. I'm not going to take any chances. When he goes, the whole bunch here goes with him!"

"Ah, oui!" Ba'tiste grinned with enthusiasm. "You said a what-you-say—large bite! Now," he walked toward the saw, "we shall fell a tree that shall not split."

"If you don't mind, I'd rather go back and look around the place. I want to get lined up on everything before I start to Denver."

"Ah, oui." Together, led by the wolf-dog, they made their way to the wagon again, once more to skirt the lake and to start down the narrow roadway leading beside the flume. A half-hour more and there came the sound of hammers and of saws. They stopped, and staring through the

(Continued on page 19).

GOOD READING

Books, new and old, reviewed for Michigan Farmer readers. These books can be secured through your dealer, or orders with remittance enclosed, may be sent to "Book Reviewer," Michigan Farmer, Detroit, Michigan. Ordinarily it will be ten days or two weeks after order is placed before book can be delivered.

"Open Spaces," by John C. Van Dyke, \$2.00.

If you have felt the lure of the open spaces when as a schoolboy you crept unwillingly to school, especially in the springtime, when the honk-honk of the wild geese, flying above you in the sky, seem to call to you to

Follow by stream and hollow,

Follow, oh follow

you will have the longing satisfied to an immeasurable degree if you have not had the opportunity to go about much in the open spaces, in John Van Dyke's book. It is a breezy and bracing record of his personal experiences in the outdoors and it is a book every nature lover will want to read. There is a chapter on sleeping out, riding the open, desert days, trailing in mocasins, the cowboy mountain and forest trails, canoe and paddle, the river, trolling and spearing, and trout fishing, the deer family, game birds, and also a chapter on wolves and bears.

"The Covered Wagon," by Emerson Hough, \$2.00.

Can you visualize a long procession of covered wagons which plowed their way over the sands of the desolate prairies to find new homes in the west? This book by Mr. Hough depicts the procession starting out with high courage, a courage not to be daunted until the end of the trail was reached, although they were perfectly aware of the danger that would confront them. These pioneers made only eleven miles a day and there were something like two thousand miles to be traveled. Emerson Hough, now deceased, could so aptly portray, also, how the women kept the men from turning back when difficulties came upon them, how they brought with

them their household treasures, how they guarded them and what a sacrifice was theirs when they were forced to abandon them, how they danced to the twanging of a banjo and sang, Oh! Susanna, in the light of camp fires at night, how each helped the other on over the hard places to their final triumph.

The horses were patient, stolid beasts without the trappings of the age of chivalry. The mules were plodding and slow. Yet, all the romance and color of colonization are in the story of their dragging march across the prairies to Oregon.

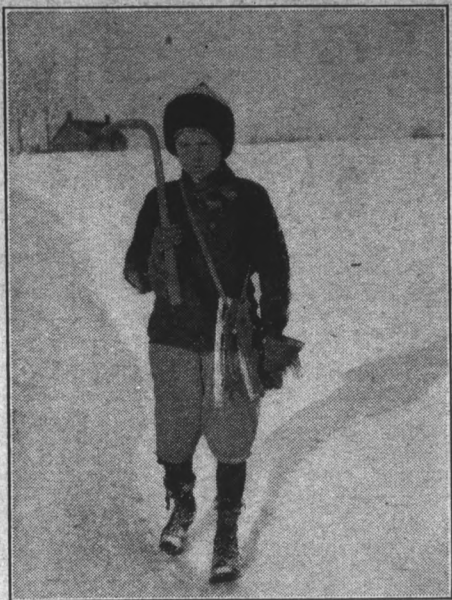
"Wanted, a Mother," by Clarence Hawkes, \$1.50.

The story of a little girl who left the New England poor farm where chance had placed her, and went to visit her uncle and aunt on their farm. Aunt Lucretia didn't want small Eleanor to stay because she still nourished a grievance against Eleanor's mother, but her brother, Uncle Nathan, would not send the child away, and Eleanor did enjoy the old farm house and the wide fields and the brook, and Peter, the dog, and kind Uncle Nathan, who stood in such awe of stern Aunt Lucretia. Finally, of course, Aunt Lucretia came to love Eleanor and the little girl won a family and home. A thoroughly delightful story, full of humor and sunshine, one that will appeal not only to children, but to all who love lovable child characters.

"The Wild Heart," by Emam Lindsay Squier, \$2.00.

"Wild Heart" is considered by the writer and by Gene Stratton Porter, the much loved naturalist, as one of the greatest nature books ever written for children. It is also a book that adults will enjoy to read and remember, for it widens their sympathies and initiates them into the fraternity of those who know the secrets of the woods, fields and waters. It is a book that children and adults will remember when they confront lions in their own path. Therefore its pages breathe of good citizenship. "Wild heart" is a record of the experiences of a little boy and girl who had, not so many years ago, lived on the shores of Puget Sound.

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The Bible's Grand Old Man

Our Weekly Sermon—By N. A. McCune

BACON, in his essay, "Youth and Age," says, "Men of age object too much, consult too long, adventure too little, repent too soon." And Montaigne declares that "old age plants more wrinkles in the mind than in the face." However, the best rules are the rules with exceptions. Some old men hold the vigor and fire of manhood almost up to the day of death. France was guided through the horrible morass of the World War by Clemenceau, well past seventy. The daily press carried the picture not long ago of a Missourian who had graduated in law at seventy-three and was beginning to practice, while from a northern college comes word of a minister of seventy-three who is studying for his master's degree. Abraham had not lost the spirit of adventure, and that is one of the secrets of his fame. "Now the Lord had said unto Abram, get thee out of thy country, and from thy kindred, and from thy father's house, unto a land that I will shew thee." "And Ab-



ram was seventy and five years old, when he departed out of Haran."

Abraham must have had a very great confidence in God, to receive such a command and act on it. It was a call to break all the ties of the years, and to go out "not knowing whither he went." How the call came to him, we do not know. It was very likely the call of the inner voice. We are very apt to think of Bible characters as having had experiences totally different from our own. But they did not, for the most part. They simply used common experiences in an uncommon way, and thereby achieved uncommon results.

A bit of zinc, a tear drop, do not excite our curiosity, but Lord Kelvin declared that "with a capsule one-fourth the size of a percussion cap, containing zinc so small as to be invisible to the naked eye, with a drop of water as large as a tear, he could generate enough electric current to send a message from England to America."

sleeping flowers; for this, for everything we are out of tune." Well, Abraham was not out of tune with the silent voices about him. He was emphatically in tune with them, or, more rather, he was in tune with It, with Him; and when the call came, he heard the Voice and could interpret its meaning. "One thing is certain," says a Bible scholar; "the writer did not, any more than the Oriental of the present day, imagine that God spoke to the outward ear. 'God has spoken to me,' is a common Arab phrase to-day when a man feels a deep impression on his soul."

ONE cannot help appreciating the words of Joseph Parker, the greatest English preacher of his day: "Mozart says in his letters that whenever he saw a grand mountain or a wonderful piece of scenery, it said to him—'turn me into music, play me on the organ.' So the mountain spoke to Mozart, and the piano spoke to Fanny Hensel, and why should we hesitate to say that the Lord spoke to Abram, or that he is speaking to ourselves?"

The spirit of hope had not died out in the breast of this old man. He hoped against hope. When hope quits us, there is not much left. That is one of the greatneses of the Christian religion. It hopes. It never gives up. It strives. It expects. It eagerly awaits. A traveler who was on the borders of Russia last year, where thousands of refugees were living in a beggared condition says, that in every hovel where he went, he found flowers growing. Sometimes there were cut flowers in a tin can, or a plant was growing in a kettle which had had the bottom knocked out. And Abraham was not disappointed. Are our deepest spiritual hopes ever disappointed? Experiences came to him beyond the scope of his dreams. "And he brought him forth abroad and said, Look now toward heaven, and tell the stars, if thou be able to number them: and he said unto him, So shall thy seed be. And he believed the Lord; and he counted it to him for righteousness."

The events that came and went showed our Grand Old Man that he had not believed in vain. The promise that he was to be a universal blessing was really a foregleam of the Nazarene who was to come, bringing healing, hope and life to all men. When Abraham was returning from his military adventure and had rescued weak and selfish Lot, he was met by a man named Melchizedek, king of Salem. Nothing more is told us of Melchizedek. The author of Hebrews calls him "King of righteousness." Springing suddenly into the story, he as suddenly vanishes, "without father, without mother, without descent, having neither beginning of days, nor end of life." And he, too, is a symbol of the Life that was to come in Galilee. Then follows that scene that tingles with interest and pulses with power, when Abraham is commanded to offer up his only son as a sacrifice. "This sacrifice transaction has been compared by enemies to the sacrifice of children to Moloch and other heathen gods but most unjustly, for on the very face of it, it bears the mark of a very different spirit. The spirit of submission was equally beautiful in the father and in the son." And the mountain where father and son went for this ceremony was a dimly etched picture of the mount whereon the Christ was crucified.

SUNDAY SCHOOL LESSON FOR JANUARY 6.

SUBJECT:—A chosen leader and a chosen land. Genesis 12 to 25.10.
GOLDEN TEXT:—In thee shall all nations of the earth be blessed. Gen. 12.3.

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The White Desert

(Continued from page 17).

scraggly trees, made out the figures of half a dozen men busily at work upon the erection of a low, rambling building. All about them were vast piles of lumber, two-by-fours, scantlings, boardings, shingles—everything that possibly could be needed in the building of not one, but many structures. Ba'tiste nodded.

"The new mill."

"Yes. Probably being built out of my lumber. It's a cinch they didn't transport it all the way from Tabernacle."

"Nor pay M'sieu Houston. Many things can happen when one is the manager."

LARRY made no answer. For another mile they drove in silence, at last to come into the clearing of Barry's mill, with its bunk house, its cook house, its diminutive commissary, its mill and kilns and sheds. Houston leaped from the wagon to start a census and to begin his preparations for a cleaning-out of the whole establishment. But at the door of the commissary he whirled, staring. A buggy was just coming over the brow of the little hill which led to the mill property. Some one had called to him—a woman whose voice had caused him to start, then, a second later, to go running forward.

She was beside Thayer in the buggy, leaning forth, one hand extended as Barry hurried toward her, her black eyes flashing eagerness, her full, yet cold lips parted, her olive-skinned cheeks enlivened by a flush of excitement as Houston came to her, forgetful of the sneer of the man at her side, forgetful of the staring Ba'tiste in the background, forgetful of his masquerade, of everything.

"Agnes!" he gasped. "Why did you—"

"I thought—" and the drawling voice of Fred Thayer had a suddenly sobering effect on Houston, "that you were not hurt very bad. Your memory came back awful quick, didn't it? I thought she'd bring you to your senses!"

CHAPTER IX.

HOUSTON pretended not to hear the remark. The woman in the buggy was holding forth her hands to him and he assisted her to the ground.

"Well," she asked, in a sudden fawning manner, "aren't you glad to see me, Barry? Aren't you going to kiss me?"

"Of course." He took her in his arms. "I—I was so surprised, Agnes. I never thought of you—"

"Naturally you didn't." It was Thayer again. "That's why I sent for her. Thought you'd get your memory back when—"

"I've had my memory back for long enough—" Houston had turned on him coldly—"to know that from now on I'll run this place. You're through!"

"Barry!" The woman had grasped his arm. "Don't talk like that. You don't know what you're saying!"

"Please, Agnes—"

"Let him rave, if that's the way he wants to repay faithfulness."

"Wait until I've talked to you, Barry. You haven't had time to think. You've jumped at conclusions. Fred just thought that I could—"

"This hasn't anything to do with you, Agnes. There hasn't been anything wrong with me. My brain's been all right; I've known every minute what I've been doing. This man's crooked, and I know he's crooked. I needed time, and I shammed forgetfulness. I've gotten the information I need now—and I'm repeating that he's through! And every one else in this camp goes with him!"

"I'm not in the habit of taking insults!"

Thayer moved forward beligerently, one hand reaching toward a cant hook

near by. But suddenly he ceased. Ba'tiste, quite naturally, had strolled between them.

"M'sieu Houston have a broke' arm," had come very quietly. Thayer grunted.

"Maybe that's the reason he thinks he can insult every one around here."

Ba'tiste looked down upon him, as a Newfoundland would look upon a snapping terrier.

"M'sieu Houston insult nobody."

"But—"

The voice of the big man rose to a roar.

"Ba'teese say, M'sieu Houston insult nobody. Un'stan'? Ba'teese say that! Ba'teese got no broke' arm!"

"Who is this man?" The woman had turned angrily toward Barry. "What right has he to talk this way? The whole thing's silly, as far as I can see, Barry. This man, whoever he is, has been stuffing you full of stories. There—"

"This man, Agnes," and Barry Houston's voice carried a quality he never before had used with Agnes Jierdon, "is the best friend I ever had. You'll realize it before long. He not only has saved my life, but he's going to help me save my business. I want you to know him and to like him."

A quick smile flashed over the full lips.

"I didn't know, Barry. Pardon me."

HOUSTON turned to the introduction, while Agnes Jierdon held forth a rather limp hand and while Ba'tiste, knit cap suddenly pulled from straggly gray hair, bent low in acknowledgement. Thayer, grumbling under his breath, started away. Houston went quickly toward him.

"You understood me?"

"Perfectly. I'm fired. I was good enough for your father, but you know more than he did. I was—"

"We won't go into that."

"There's nothing about it that I'm ashamed of." Still the sneer was there, causing Barry's bandaged arm to ache for freedom and strength. "I don't have to go around hiding my past."

Houston bit down a retort and forced himself to the question:

"How long will it take you to get out of here?"

"I'll be out tonight. I don't stay where I'm not wanted. Needn't think I'll hang around begging you for a job. There are plenty of 'em, for men like me."

"One that I know of, in particular. I asked you when you could get out."

"An hour, if you're so impatient about it. But I want my check first."

"You'll get it, and everybody else connected with you. So you might as well give the word."

For a moment, Thayer stared at him in malignant hate, his gnarled hands twisting and knotting. Then, with a sudden impulse, he turned away toward the mill. A moment later the whistle blew and the saws ceased to snarl. Barry turned back to Agnes and Ba'tiste. The woman caught impulsively at his arm.

"Where on earth am I going to live, Barry?" she questioned. "I don't want to go back to town. And I can't stay in this deserted place, if every one is leaving it."

"I'll keep the cook. She can fix you a room in one of the cottages and stay there with you. However, it would be best to go back."

"But I won't." She shook her head with an attempt at levity. "I've come all this distance, worried to death every moment over you, and now I'm going to stay until I'm sure that everything's all right. Besides, Barry," she moved close to him, "you'll need me. Won't you? Haven't I always been near you when you've needed me? And aren't you taking on the biggest sort of job now?"

(Continued next week).

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In the dead of night, when they are awakened by the warning, croupy cough, they rub the clean, white ointment gently over the child's throat and chest and then go back to bed.

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It does not blister like the old-fashioned mustard plaster and it is not messy to apply.

Made from pure oil of mustard, it takes the kink out of stiff necks, makes sore throats well, stops croupy coughs and colds. In jars, 35c.

The Musterole Co., Cleveland, Ohio

CHILDREN'S MUSTEROLE
WILL NOT BLISTER
MILD
BETTER THAN A MUSTARD PLASTER



Woman's Interests

Flowers on the Farm

Add a Touch of Real Livableness that Attracts the Passerby

DRIVING through the country I had occasion to stop at the home of a family that had but recently come to live on their farm. It was a fine tract of land, and had been well cultivated, but had never before been a home.

The new house was modern, the barn and other farm buildings attractive looking, and the grounds were well laid out; but there were as yet no trees or shrubs—no cosy corners or enticing slopes for the children's games. It will be many a year before the place has a home-like appearance.

Only a few miles from this farm I stopped in the shade of two wide-spreading maples that stood in front of an old dilapidated farm house. In the house were stored some of the owner's farm implements and a flock

ing-glory and moon flowers are among the very satisfactory kinds. "I take a good look at the morning glories as I make my first trip to the farm, and feel better all day," says one farmer.

Peonies are wonderfully satisfying, so luscious in their freshness. They prosper for years in the same situation. Bleeding heart, lemon lily, day lily, and June lily give an abundance of bloom throughout a long season and do not require frequent changing.

Tulips, narcissi and hyacinths are good bloomers and increase rapidly. With iris one can spend considerable money, but at a small outlay a start may be made with very lovely kinds.

If nasturtiums, verbenas and petunias are planted so as to fill considerable space, they will not only satisfy the farm family, but will also cheer

important still, it is a health builder.

Unfortunately graham flour does not keep well; therefore, it is rather difficult to keep it on hand. Perhaps our friends would be interested in my method with graham. I take the wheat, have it well cleaned by grader or fanning mill, and keep the wheat in pantry instead of flour.

Then I take a portion of the wheat, put it in colander, turn boiling water over it, then spread in dripping pan and put into oven to dry, with a slow fire. When dry it is partially baked and very crisp. Then grind in hand mill or coffee grinder. It grinds very easily after being dried this way, making much finer flour than the undried wheat.

Our mush for breakfast is made by stirring this flour into boiling salted water.

Our bread as follows:

Two cups sour milk or buttermilk.

One teaspoon soda

One saltspoon salt.

Two tablespoons sugar.

Enough flour to make thick batter. A little white flour may be added if desired and a tablespoon of shortening if sour milk is used.

Turn into buttered pan and bake in moderate oven until browned over top surface.

We also use this flour in drop cookies and spice cakes, using our everyday recipes and substituting graham flour for bolted flour.

It is needless to add that our medicine chest does not require cathartics, laxatives or remedies for pains in the stomach.—Mrs. J. C.



Well Chosen Flowers Make the Farm Home More Attractive.

of sheep wandered through its rooms at will. No longer was it used as a dwelling, the owner having bought an adjoining farm on which was a large house. "Not a very attractive picture," you are saying. But wait a minute. I saw something more.

On either side of the front door, not too close to the house, were two large syringa bushes in full bloom. Near the side door, on the almost obliterated path leading to where the ruins of the stable could be seen, was a magnificent specimen of the Persian lilac. These bushes, situated as they were, gave an air of distinction to the place, and I felt invited to walk in and look about. Upon investigating I found a fire bush, a smoke tree, roses growing in grass and weeds, great clumps of peonies and rows of poets' narcissi.

How I wished that this old house could be cleared away, that the new house I had just seen could be set down in its place, and that the barn could have been placed on the pleasant slope where were the scattered remnants of the old stable. With a little expense and some hard work, in which the children would have gladly shared, the rubbish about the trees and shrubs could have been cleared away, borders rearranged and old paths restored. Within a year or two it could have been made into a neat, attractive and altogether delightful home place for a happy family. Trees, shrubs and flowers gave an air of real distinction to a farm farm.

No farmer should be content without a fair amount of standard shrubs, vines and bushes. They are neither expensive nor difficult to grow. Lilacs of different colors, syringas and especially the large flowering fragrant sorts, forsythias, roses, honeysuckle, trumpet vine, clematis, wisteria, morn-

every passer-by with their riot of color.

It is a safe guess that the farmstead which is abundantly supplied with attractive flowers will have plenty of customers to patronize its wayside market for orchard, garden, poultry and dairy products.—L. K. Long.

GRAHAM FOR HEALTH.

G-R-A-H-A-M. This is one of the words of our language that should be written or printed in capitals or italics. It makes a food that is not only pleasing to the palate, but more

AN IRONING HELP.

PIN a Turkish towel around the left end of your ironing board when you do your ironing next Tuesday. You will come upon many bits of work while doing the ironing that will repay you for the effort. Initials, laces, bits of embroidery and heavy seams look much better when ironed over Turkish towels.

Keep a small magnet hanging in the kitchen. It can be used to pick up spilled tacks, and with it you may recover a metal part of the stove which sometimes slips out of place.

Unusual Ways with Onions

AS an excellent German cook once said: "Onions never hurt anything." That there are big points in favor of the onion no one can deny. Not only is it among the most wholesome of vegetables, containing peculiar properties for the upbuilding of the nervous system, but there are few so palatable. The average housewife knows of but few ways of cooking this vegetable. The recipes given here may prove suggestive.

Have you ever tried onion fritters? They are labeled delicious. Peel six large onions, and after they have soaked for at least a half hour, put them through the food chopper. To every pint of chopped onions add a quarter of a pint of bread-crumbs, a quarter of a teaspoonful of salt, the same of pepper, two eggs, and enough flour to hold together. Mix, and fry a golden brown in bacon fat.

Succotash with Onions.—This has unusual relish. Soak one cupful of

lima beans over night. In the morning put on to boil with enough cold water to cover. Add three slices of pork, and three medium-sized onions. When all is well cooked, add the contents of one can of sweet corn, season to taste, and allow to simmer gently for ten minutes. Serve hot.

For Mild Boiled Onions.—Peel the onions and soak in sweet milk for one hour. Then change to fresh water, and cook slowly for twenty-five minutes, adding water as needed. Incidentally, the milk in which the onions are soaked is a good basis for chowder.

For baked onions, soak in milk as for boiled onions, boil in water twenty-five minutes, remove them whole from the water, and place in a shallow pan, covering thickly with moistened bread crumbs, seasoned with celery salt and pepper. Pour over this one cupful of hot milk, in which six ounces of butter have been melted. Bake twenty minutes in a moderate oven.—Mrs. J. W.

Mistakes I Have Made

By Our Readers

WE profit by our mistakes as well as those of others. That many housewives were willing to help others by telling of their own mistakes was evident by the number of letters received in the contest this week.

What is more, the writers for their generous response at this busy season of the year, and trust that the following personal experiences may divert others from similar ones.

The five letters appearing here won a nest of five yellow and white mixing bowls.—Martha Cole.

Spoke Too Loud.

The greatest mistake I think I ever made concerned my children. Some time ago I began to raise my voice unconsciously when speaking to them. They are very mischievous youngsters and lately I have awakened to the fact that I am yelling "Don't" to them most of the time.

I was becoming a regular old scold, and it was very hard to break myself of the habit. The children mind much better since I have gotten control of myself, and I am sure they enjoy more good times.—Mrs. R. M. C., Big Rapids.

Worked in Field.

When I was first married, my housework did not take all my time. Then I thought it fun to go out in the field to help my husband with whatever work he was doing. After baby came I found that I did not have so much spare time, but my husband had become so accustomed to my help that I was still expected to work outside. The result is that I must do a large part of my work after supper and on Sundays. If I had not started doing work outside, it would not be expected of me now.—Mrs. S. K. S., Ravenna, Michigan.

Did Not Have System.

I made a mistake by not having a system for my work, so as to have the big jobs come on different days of the week. I have done the most disagreeable and hardest work myself, instead of letting the children help me and assume some responsibility of the cooking and housework.

I have also made the mistake of spending too much of my leisure time doing fancy work instead of getting out in the fresh air and enjoying the beauties of nature. I am fully resolved to sidestep these mistakes in 1924.—Mrs. D. M. D., Deckerville, Michigan.

Lost the Baby Chicks.

The mistake we made this year was a bad one. Last spring we bought 200 chicks from a hatchery, and through the courtesy of the company they mailed us some galvanized drinking fountains, which we used for feeding sour milk to our chicks. Soon our chicks were dying fast from intestinal disorders. Shortly afterwards we noticed the galvanized surface was turning black from the acid in the sour milk. Sour milk is a great chick feed, but should always be fed in earthen or granite containers.—Mrs. J. B., Marion, Michigan.

Neglected Insurance.

Four years ago we bought eighty acres of land. The insurance man wanted us to insure our holdings, but, because money was short, we put him off. Last spring a spark from the chimney caught in the shingles and burned our house. We had only time to get out a few pieces of furniture. We are fully resolved now never to be without insurance.—Mrs. C. M., Emmet, Michigan.

REMOVE SPOTS YOURSELF.

SAVE the cleaner's bill by removing spots yourself, is the advice of home economics specialists. There are very few stains that cannot be re-

moved if the proper method is used. The point of greatest importance is to know what the stain is before you attempt to remove it.

"A good practice is to always try soap and water first on material that is not water-spotted. The ring left after a stain is removed can often be taken out by steaming over the spout of a teakettle.

"A part under the hem or in the seam should be tested to make sure whether the material will water spot or not, and if the color will come out with the spot when using chemicals."

Here are some tested ways to remove ordinary stains:

Chocolate and Cocoa.—Sprinkle the stain with borax, soak in cold water and rinse with boiling water. For washable material.

Coffee.—Ordinary laundering will re-

Handy Things in the Home

THERE are hundreds of home conveniences that have been invented to give the housewife more time for recreation. Some of them accomplish this result and some do not.

In your personal tests of home conveniences, which ones have you found that really save you the most time and labor. Which ones would you particularly recommend to an inexperienced friend?

For the five best letters answering these questions, with reasons for their choice, we will give a nest of five yellow and white mixing bowls. Address your letters to Martha Cole, Michigan Farmer, Detroit, Michigan, before January 11.

move most stains in washable material.

Egg.—Cold water, then ordinary laundering, will remove egg stains in washable material. If a grease spot remains, use treatment for grease.

Fruits.—Pour boiling water through the material from a height for washable material. Silk and wool may be sponged with warm water, or bleached with lemon juice and sunlight if the color is fast.

Glue.—Warm or boiling water will remove glue stain from washable material.

Grass.—Alcohol will remove grass stains from any material. Hot water and soap may be used for washable goods.

Grease.—Warm water and naphtha soap is good for washable material. For other materials the following may be used: Gasoline, benzol, chloroform, or carbon tetrachloride. (The first two are inflammable).

Writing Ink.—Soak washable material for a day or two in milk. Material also may be soaked a few seconds in oxalic acid and rinsed in clean water. Put a few drops of ammonia in the final rinsing water.

Iodine.—Sponge with alcohol.

Paint.—Sponge with turpentine.

MEAT CANNING BECOMING GENERAL PRACTICE.

THAT there are many farmers doing their own butchering in this state this season, is evidenced by the number of requests for our meat preserving bulletin these last few weeks.

This bulletin gives methods for cutting up, curing and canning various kinds of meats, and contains numerous recipes for cooking and canning special cuts.

Copies are still available by sending five cents to cover postage and cost of mailing, to Martha Cole, Michigan Farmer, Detroit, Michigan.

Michigan Farmer Club List

THESE PRICES SUBJECT TO CHANGE WITHOUT NOTICE

EXPLANATION:—Figures in the first column represent the regular price of other publications.

Figures in the second column give our prices for subscription to the Michigan Farmer and the other publication for one year.

Figures in the third column give the prices at which other publications can be added when more than one is wanted in combination with the Michigan Farmer.

EXAMPLE:—We will send the Michigan Farmer and Detroit Free Press, each one year, for only \$4.50. If the same party wishes Today's Housewife it will cost sixty cents extra, or \$5.10 for this combination.

ABOUT DAILY PAPERS:—Our rates on daily papers are made for subscribers living on R. F. D. routes only, or in towns where the daily does not maintain regular newsboy or carrier service. If in doubt, send us your order, and we will have it filled if possible. Our rates on Michigan daily papers apply to the state of Michigan only.

DAILY (6 a week)	1	2	3
Adrian Telegram	\$4.00	\$4.50	\$4.00
Ann Arbor Times-News	3.00	3.50	2.75
Albion Evening Record	3.00	3.50	2.75
Battle Creek Enquirer-News	4.00	4.50	3.75
Battle Creek Moon-Journal	4.00	4.50	3.75
Big Rapids Pioneer	3.00	3.50	2.75
Bay City Times-Tribune	4.00	4.50	3.75
Detroit Free Press	4.00	4.50	3.75
Detroit News	4.00	4.50	3.75
Detroit Times	4.00	4.50	3.75
Flint Journal	4.00	4.50	3.75
Grand Rapids Press	4.00	4.50	3.75
Grand Rapids Herald	4.00	4.50	3.75
Jackson Citizens' Patriot	4.00	4.50	3.75
Kalamazoo Gazette	4.00	4.50	3.75
Lansing State Journal	4.00	4.50	3.75
Lansing Capitol News	4.00	4.50	3.75
Monroe News	3.00	3.50	2.75
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Niles Daily Star	4.00	4.50	3.75
Owosso Argus-Press	4.00	4.50	3.75
Pontiac Daily Press	3.00	3.50	2.75
Port Huron Times-Herald	4.00	4.50	3.75
St. Joseph's Evening News	4.00	4.50	3.75
Saginaw News-Courier	4.00	4.50	3.75
Traverse City Record-Eagle	4.00	4.50	3.75
Toledo Daily Blade	3.00	3.50	2.75
Toledo News-Bee	3.00	3.50	2.75
Toledo Times	4.00	4.50	3.75
Fort Wayne News-Sentinel	4.00	4.50	3.75
Fort Wayne Journal-Gazette	4.00	4.50	3.75
South Bend Tribune (Saturdays & week)	5.00	5.50	4.75
Chicago Herald Examiner	6.00	6.25	5.75
Chicago Daily Drovers' Journal	5.00	5.00	5.00
Chicago Tribune	7.50	7.50	7.00

SEMI-WEEKLY (2 a week)	1	2	3
Chelsea Tribune	\$2.00	\$2.50	\$1.75
Mason County Enterprise	2.00	2.50	1.75

WEEKLY	1	2	3
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Albion Herald	\$1.50	\$2.25	\$1.50
Bellefonte Gazette	1.50	2.25	1.50
Bloomfield Advance	1.50	2.25	1.50
Clinton County Republican	1.50	2.00	1.25
Chesaning Argus	1.50	2.00	1.25
Charlotte Leader	1.50	2.00	1.25
Central Lake Torch	1.50	2.00	1.25
Cedar Springs Liberal	1.50	2.00	1.25
Clare Courier	1.50	2.00	1.25
Elk Rapids Progress	2.00	2.75	2.00
Easton County Herald	1.50	2.00	1.25
L'Anse au Loup	2.00	2.50	1.75
Lenox Standard	1.50	2.00	1.25
Lowell Ledger & Alto Solo	2.00	2.75	2.00
Millington Herald	1.75	2.50	1.50
Missaukee Republican	1.00	1.75	1.00
Munising News	2.50	3.00	2.25
Nation's Tribune-Record	2.50	3.00	2.25
Noble County Ind. Democrat	2.00	2.50	1.50
Portland Observer	1.50	2.00	1.25
Schoolcraft Express	1.50	2.25	1.50
St. Johns News	1.50	2.00	1.25
Sault Ste. Marie News and U. P. Farm Journal	1.50	2.00	1.25
Sanilac County Republican	1.50	2.25	1.50
South Lyons Herald	1.50	2.00	1.25
Toledo Weekly Blade	.75	1.40	.50
Ypsilanti Record	1.00	1.50	.75

CATTLE, SHEEP, SWINE, POULTRY, ETC.	1	2	3
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American Bee Journal	\$1.50	\$2.00	\$1.25
American Canary Journal	1.00	1.50	.65
American Fruit Grower	.50	1.25	.25
American Swine Herd	1.00	1.50	.65
American Sheep Breeder	1.00	1.50	.65
American Poultry Advocate	.50	1.25	.30
American Thrasherman	1.00	1.50	.65
American Hereford Journal	1.00	1.50	.60
Breeders' Gazette	1.00	1.50	.60
Bee-keepers' Review	1.00	1.50	.60
Chester White Journal	1.00	1.50	.60
Capper's Farmer	.50	1.25	.25
Corn Belt Farmer	.75	1.15	.15
Everybody's Poultry Magazine	.75	1.40	.50
Farm Mechanics	1.00	1.50	.75
Fruit Belt	.50	1.25	.25
Game Breeder	2.00	2.00	1.25
Gleanings in Bee Culture	1.00	1.85	.90
Guernsey Breeders' Journal	2.00	2.00	1.75
Holstein-Friesian Register	1.00	1.50	.70
Hoards' Dairyman	1.00	1.75	.85
International Plymouth Rock	.50	1.25	.30
Inland Poultry Journal	1.00	1.50	.60
Jersey Bulletin and Dairy World	2.00	2.60	1.75
Market Growers' Journal	1.50	1.75	1.00
O. I. C. Swine Breeders' Guide	.50	1.25	.30
Pet Stock Journal—Hares and Rabbits	1.00	1.65	.75
Potato Magazine	1.00	1.50	.60

Add fifty cents to any second column price and the Michigan Farmer will be sent two years; add \$1.00, and the Michigan Farmer will be sent three years; add \$2.00, and the Michigan Farmer will be sent five years. If you order Michigan Farmer for more than one year, you will be entitled to order other papers at third column price, quoted in Michigan Farmer club list for the year in which you order other papers. If you do not find the publication of your choice listed in the above list, we will gladly quote you a price on any club you desire. Write us.

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Baby's Health

Little folks catch cold easily, but little stomachs must not be dosed with strong medicines. Guard baby's health with Muco Salve, an external treatment for colds. Contains menthol, oil eucalyptus, oil turpentine and other healing agents that vaporize when the salve is applied in nostrils. Thus the inflamed membranes are reached direct and cold relieved without medicine.

Muco SALVE



Use this department to help solve your household problems. Address your letters to Martha Cole, Michigan Farmer, Detroit, Michigan.

CARE OF FERNS.

Can you tell me what to do for my Roosevelt fern? It starts plenty of new fronds, but when they get about twelve or fifteen inches long the tips begin to turn brown and die back about one-half of their length.—Mrs. G. W.

Regarding your Roosevelt fern, there might be several conditions which would cause the leaves to turn brown.

First, look to the soil. Be sure that it is planted in good rich soil that is well drained. A few small stones or pieces of broken crockery in the bottom of the plant jar will help this. Or, perhaps your fern is kept where it is too warm, or the temperature changing. This will often cause the dying of the young fronds.

A good tonic for ferns is made with burned bones. Put the raw bones un-

der the lids of your cook stove, just back of the fire box. Leave them here until they seem to be very porous and can be broken up into a powder with a hammer. Add a tablespoon of this crushed bone to your fern about every four or six weeks.

ODOR OF RAW FUR.

I bought a coyote fur and would like to fix same, but do not know how to do away with the odor. Would like some information.—Mrs. A. P.

Pack your fur in an air-tight box, in which there is a dish of chloride of lime moistened slightly with water. Be very careful not to let any of the lime get on the fur.

Place the fur rather loosely in one end of the box and the dish of lime in the other end. Leave it in this box from six to eight days, renewing the lime every other day. Then give it a thorough airing by hanging in the sunshine for twelve hours.



Doings In Woodland

Bruin Is Lost

HOW I must hurry home to Rolly Rabbit's house," thought Bruin as he started off towards the woods, "Boys and men are not as bad as they might be. I thought yesterday that I might never see my friend again. I can't understand why they would keep me shut up in that little shanty all night, and then let me go so early in the morning." (But how was Bruin to know of the little boy's dream). "If I hurry along I should be at Rolly Rabbit's house for dinner. I know he has been worried about me."

As Bruin came to the first crossroad, he was puzzled. Should he turn to the right or the left? He looked at the signboard but it told him nothing.



Bruin's Pillow Was a Log.

"I am sure we came from the right," said Bruin as he hobbled along in that direction.

He had not gone far before he had lost his way. Nothing looked familiar to him, and he was hungry, too. As he stopped to eat some berries he tried to think what would be best for him to do.

"I believe if I turn off here and keep to the east that I will come to the road that leads past the Old Frog Pond," said Bruin to himself.

The day was so cloudy that he was not sure just which way was east, but he walked and walked and walked, in what he thought was that direction. Still he did not come to the Frog Pond Road. He inquired of all the animal folks he met, but no one knew Rolly Rabbit or where he lived.

Late in the afternoon he sat down near a berry patch that he might eat a few berries while he was resting. He

had tried every way possible to get the muzzle off, but could not. The muzzle would not let him get his mouth open only far enough to admit one berry at a time, so it took a long time for hungry Bruin to get enough. He was so thirsty, too, but the horrid muzzle would let him drink only half the water he wanted.

At last it grew dark and Bruin hadn't even met anyone since late in the afternoon. Now he knew he was really lost. Weary with walking all day, he lay down beside a big log.

"If I ever find home this time, I am sure I will be more careful. Had I been looking where I was going I would not have stepped into that trap. Then all this would not have happened, and I would not have caused Rolly Rabbit so much worry," thought Bruin to himself.

Finally he went to sleep, but to dream he never found any of his own Woodland friends again.

A NOTE FROM AUNT MARTHA.

Dear Little Folks:

Christmas is gone! And I wonder if old Santa brought our little readers all the nice things they wrote me they wanted him to bring. I sincerely hope so, and that 1924 holds heaps of fun and happiness for every one of you.

Elizabeth Branton writes that she and her brother planned a "different Christmas" this year. They were giving all their pennies to get a little neighbor boy who was very poor, a new sweater and cap. I am sure old Santa must have been good to them for being so unselfish.

Here is a new game for you to play. It is called "Poultry Show."

The players are all named for some kind of fowl as: Chicken, turkey, rooster, duck, guinea hen, etc. "It" names a kind and the ones called must respond with the call of the fowl they represent. If "It" calls "poultry show" all mimic their kind at once. This may be varied by making it an "Animal Show."

Happy New Year to all.

Aunt Martha.



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Rural Health

By Dr. C. H. Lerrigo

KEEP THEM ON HAND.

EVERY household should have at hand a package of absorbent cotton. We still hear this called "medicated cotton" but it is not medicated; its virtue as a dressing for wounds is solely because it is sterile. It may be bought in packages of ten cent size on up. The smallest size is the most expensive, and it is best to buy a package large enough to be of real service.

Absorbent cotton makes an excellent dressing for the chest in bronchitis or pneumonia; it always gives comfort when applied to rheumatic joints, and it is indispensable in dressing any severe wound.

However, it must not be applied next a surface upon which the skin is broken, or it will stick into the wound and retard healing. The dressing to apply next to a wound is sterile gauze which may also be bought in small or large packages as desired. When a package of gauze is opened in order that a part of it may be used, it is important that it should not be touched by anything that is not sterile. The scissors in cutting it should have been sterilized, either with carbolic acid or by boiling. A package of gauze handled carelessly is of no more value as a dressing for wounds than any old rag that lies around the house.

A safe antiseptic which should be in every household is boric acid (boric acid) which may be bought either as a powder or in crystals. The crystal form is the best for making solutions, but since the powder will not only dissolve into solution, but also will serve as a dressing, it is best to buy it in powdered form.

Boric acid is so safe an antiseptic that it may be used in washing the eye or any other delicate surface. It may be used as a mouth wash with no harm done if a little powder is swallowed. The usual way to prepare a solution is to mix a level teaspoonful of the powder in four ounces of warm water. It makes an admirable dry dressing for wounds and may be safely used in dressing burns. Mixed with enough vaseline to carry the powder, and sniffed into the nostrils it will clear the head in a bad catarrh.

EXOPHTHALMIC GOITER.

Will you please tell me if a person who has had exophthalmic goiter, and has had only part of it removed, would it keep on causing trouble? I have heard that having all of the thyroid removed would cause insanity. Is this true?—C. A.

It is not customary to remove the whole of the gland, but it has been done, and it does not cause insanity. Absence of the thyroid in children causes mental deficiency, and this is often helped by giving thyroid extract.

My experience is that operations for exophthalmic goiter, in which only a part of the thyroid gland is removed, are quite successful.

"SLEEPING" HANDS.

My husband is bothered a great deal with his hands "going to sleep." Any time after midnight he is apt to waken with his arms numb from the elbows down, and sometimes from the shoulders. He has to rub or shake them before he can have any use of his fingers. He has had trouble for several years by spells, but was usually worse when husking corn. His arms are worse the last few weeks, hurting him every night. They will even "go to sleep" when driving the car. What is the cause of this? Is there danger of paralysis?—A. B. D.

This is because the nerves that control circulation are disordered. There is no threat of paralysis in such con-

ditions. As a general thing, paralysis is due to hemorrhage from a blood vessel making pressure upon the brain. Your husband needs to take more rest and build up his general condition.

HIGH BLOOD PRESSURE.

I am told by my doctor that my blood pressure is 180 and that very little can be done to bring it down. Do you think that a change of climate would help?—B. J. E.

It may. High blood pressure is influenced favorably by a mild climate, because it allows the patient to be out of doors a great deal and gives general freedom of action. In a severe climate the patient is obliged to take more active measures for protection. However, the advantage of a mild climate would be annulled if it entailed financial handicap, worry or mental distress to secure it.

SMALL-POX SECOND TIME.

Lately I had a breaking-out which the doctor called small-pox. I have had it once. Can you have small-pox the second time?—L. V. S.

Yes. I don't know of any disease that cannot be repeated in the same patient if he recover from the first attack. It is true that small-pox, scarlet fever, measles, whooping cough and some other diseases do seem to generate in the patient's body enough resisting antitoxin to keep off all future attacks. But in every one of these diseases exceptions have been noted. I am always inclined to think that the doctor who is on the ground and can see for himself is the best judge.

BOY WETS BED.

Can you please tell me a remedy for a boy ten years old that wets the bed? He is healthy otherwise but just that. —A. H.

I do not know of any one medicine that may be considered a cure for bed wetting. Much more can be done through careful habits and mental resolve. Sometimes the little operation of circumcision is very helpful. There are medicines that help some cases, but each case must select its own.

TREATMENT FOR DIABETES.

Please tell us if the new treatment for diabetes known as the Insulin or Letin treatment, is making good in actual practice.—Diabetic.

I am glad to say that it is. Please bear in mind that it is not claimed for this treatment that it will actually cure diabetes. What it does is to help the patient to take care of a certain amount of carbohydrate food, eliminate his poisons and thus bring him to a better state of nutrition and enable him to keep about his affairs as long as he is careful to watch his diet. It has worked wonders for some very desperate cases.

SPITS BLOOD.

Is the spitting of blood always a symptom of tuberculosis? May it not be that the blood just comes from the throat?—N. P.

Possible, but not at all likely. If the bleeding comes from the throat the next question is to ask what is the matter with the throat. If that is tuberculosis the chances are that the lungs are, too. In cases of suspected tuberculosis it is folly to try to hide the truth. The wise plan is to face the facts and immediately begin to live the kind of life that can conquer the disease. Many people are conquering tuberculosis now every year, but this is not accomplished by hiding from the truth.



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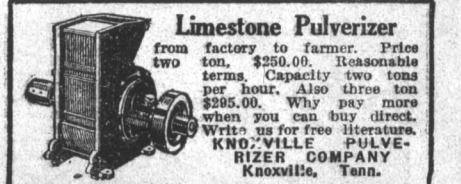
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What W. B. Didn't Get

A Few Letters from Merry Circlers

Dear Uncle Frank:

I think that I must be your once-a-year niece. I wrote to you once last year and this is my first letter this year.

I helped papa in haying again this year. We put twenty loads of hay in the barn.

After the haying was over I went camping for a week with The Camp Fire Girls, of which I am a member.

Are any of the Merry Circlers Camp Fire Girls? If any of them are, I would like some of them to write me.

I wonder if Elnora Harper is not taking Latin this year. The motto which she gave looks as if it might have come from the Latin words, "Labor Omnia Vincit." Did it, Elnora?

My hair has become shorter this year, like that of a great many other girls.

I hope that you, and all of the cousins, are well, and that I win at least a Merry Circle button and card.

From a would-be Merry Circler, Elva McClintic, Homer, Michigan.

Thanks for the few-and-far-between letters. I hope that next year you will at least be my twice-a-year niece.

Dear Uncle Frank:

We all like the Michigan Farmer very much. All except my two-year-old twin sister and brother. I have wanted to take the paper for quite a while. At last papa took it, and I never get hold of it until they get through reading it. So they must be glad they took it. Don't you think so?

I don't think that we need any officers in this M. C. My idea of making this Circle larger, is each cousin giving the amount of money that he or she wants to. A nickel or dime can easily be wrapped in paper and put in the letter. Then, if Uncle Frank will give this money to the manager, maybe we can have a larger space so that we can publish more letters, and you, Uncle Frank, will have more space to tell us about clubs, etc. I think it would be nice if Uncle Frank wrote us a letter each week, don't you cousins think so, too?

Well, I won't leave any space for anybody at all.—Your niece, Elsie Reetz, Rose City, Michigan.

I like your idea of starting a fund but it would be of no use to give it to the manager as we cannot buy space in the editorial columns. Maybe in a little while we will discuss getting up a fund for a certain purpose. Thanks for your suggestion. Come again.

Dear Cousins:

You may always be sure, Uncle Frank, that "cousins" always includes you.

I have written to a child in China and will soon receive the letter, which I will send to be translated. I will be glad to send a copy of it to Uncle Frank to print in the Michigan Farmer if he wishes. And also if any of our cousins wish to receive a letter from some foreign land they may write and ask me.—Elizabeth Baker, Bradley, Michigan.

Here is a chance to become a foreign correspondent. I think we all would be interested in the Chinese letter.

Dear Uncle Frank:

I am sending my poem on a separate piece of paper. I want to tell you that my mother helped me with it. You didn't say that we could get help, so I thought I would tell you.

These fine crisp mornings make me feel like jumping and skipping. We've had so many rabbits this fall that it is a wonder I don't feel more like hopping and skipping.

I got pretty good marks on my report card this month. I got between ninety and 100, except in writing I got eighty-five. On my geography test I got ninety-seven, which was higher than anybody else in my class.

Well, I will close now. Good-bye.—Your niece, Evelyn Batten, M. C.

I want to thank you for telling me your mother helped on your contest. Sometimes I have felt that some papers have been the work of older people, with children's names signed to

them. That is not fair to the young folks who work out their own contests. We all want to be fair, don't we?

Dear Mr. Waste Basket:

Oh, dear, I have been making poems to beat the band this evening, and I believe I could make a better living shoveling coal than I could writing poems, so you see what I think about my evening's work, don't you?

I think the Merry Circle is just lovely just as it is. It wouldn't be near as much fun as there is now if it was cornered off in branches.

If getting letters cures the blues for you, I wouldn't think you would ever get the blues. Don't you get tired of reading one letter right after another every day?

My, it gets dark so early that I hardly know when it is time to retire, the evenings are longer than the days.

Well, I guess I have written nearly enough, so will close. With best wishes to all (waste basket included). With

love, Lola Court, M. C., R. 1, Allen, Michigan.

Mr. W. B. didn't get this one, even if it was addressed to him. Yes, the nights are long, but still it is awful hard to get up in the morning. Letters do help the blues a heap, I know. No, I do not get tired reading letters; I read every one of them.

Dear Uncle and Cousins:

Uncle Frank, why can't we have more space for letters? In most all the letters, they say they have written anywhere between four to ten letters without having any published.

Uncle Frank, do you allow folks to come and see you at your office? I am coming to Detroit some time after Christmas to a meeting of the Sunbeam Club, I think, and I would like to come and see you.

I am in favor of electing officers of this club.—Yours sincerely, Wyanda Sanborn, Morenci, Mich.

I am sorry, but space will never permit the use of all the letters I want to use. If our department got more space we would crowd the other departments of the paper. Sure, come and see me, by all means.

Among the Club Workers

Donald Shepard Makes Good with Live Stock

UNDOUBTEDLY everybody who has been interested in Boys' and Girls' Club Work in Michigan has heard of Don Shepard. I heard so much about him that I wanted to learn who he really was. The opportunity came last summer at the Boys' and Girls' Club Week at the College.

I found Don a quiet, unpretentious young man, almost too quiet to make one believe he was the fellow who was one of the leading Shorthorn breeders of Eaton county, whose stock was win-

was competing against men of long experience in Shorthorn breeding. In the same year he got all firsts except one at the Eaton county fair.

During the past year, the prizes have been coming as usual. At both the Jackson and Grand Rapids fairs, Don won high honors. The winning of all these prizes makes certain one fact, and that is that Don has some mighty good animals on the farm. His herd now consists of about twelve Shorthorns, thirty sheep and quite a few hogs. That is a mighty good start for a young man who is just starting in college, and after Don finishes his work at M. A. C., I'll venture to say, he will take full advantage of the start he now has and will make himself heard to a much greater extent than now in the live stock activities of the state.

Don is probably the outstanding club member in the outstanding club county of the state. Good leadership in that county has developed several club members who have already made themselves heard from and who will take front rank among the breeders of the state. Don gives much credit to Mr. R. W. Tenny, the county club leader, who has done much to develop star club workers, and to Mr. Turner, the state club leader, for their help and encouragement.

Undoubtedly the counsel and en-



Donald Himself.

ning blue ribbons, who was secretary of the County Shorthorn Breeders' Association, and who was writing club articles for our department under the name of Johnnie.

Don started in club work in 1919. His natural-born interest in live stock gave him the enthusiasm to take the initiative in starting a pig club at that time. To get the club started he went around on horseback to get other boys and girls interested. The first year the club carried out its project, but did not win much.

The next year a Shorthorn club was formed and they started judging practice. And through winning in judging contests, Don got a trip to the State Fair and to the International at Chicago. In 1921 he entered the open classes at the State Fair and won the reserve championship in the Shorthorn class.

In 1922, Don carried out a sow and litter project, also projects in sheep and cattle. He went to the Hastings Fair that year with three Shorthorns, and won three firsts and two champions in the open classes. That's doing pretty well, considering that he



Don's Grand Champion Shorthorn.

couragement of these men have helped but it was Don's do-ability which counted. Folks are always willing to assist one who is determined to get ahead. You, too, can get all the co-operation necessary if you will but start out and demonstrate your ability and thus make known your ambition. Start now by taking part in club work, thus getting an early start in your life's work.

Inside the Circle

By Uncle Frank

WE have completed the first year of the Merry Circle, the first announcement of it having been made in January 6, last year.

Perhaps you, who have helped to make it grow, would like to know what has been done during the year just past.

We now number about five thousand members, five thousand boys and girls, who have fulfilled the qualifications of becoming a Merry Circler. Most of these young folks are from our state, but we have members in such far away states as California, Texas and New York.

Our button design has been established, and our colors, with their significance, are blue, meaning loyalty, and white, symbolizing purity.



Each member has received a Circle button and a membership card, and the name of each member is on record at the central office.

Last summer, we selected a motto by vote, the motto being, "Work to Win."

By contest and vote, we also selected the Merry Circle songs, which are as follows:

THE MERRY CIRCLE.

By Myrtle Feltis.

Tune, "Tramp, Tramp, Tramp."
We are striving for a prize,
We will show you we're quite wise,
When it comes to judging cattle,
sheep or hare;
For we know just what they eat,
And to feed we can't be beat,
When we're going to show our prizes
at the fair.

CHORUS:

Hark, hark, hark, you'll hear us
coming,
The Merry Circle boys and girls;
For we've raised for you your food,
And it makes us all feel good
To be happy, healthy, useful boys
and girls.

Then "Hurrah" we'll wave our prize
And go home again to strive
For to make still better for the com-
ing year;

Then we'll write to Uncle Frank,
Tell him he's the one to thank
For inspiring us with courage, hope
and cheer.

KEEP IT UP.

By Doris Truex.

Tune, "Yankee Doodle."
Here come the farmer boys and girls
So happy and so busy;
They work so fast at every task,
It's enough to make 'em dizzy.

CHORUS:

Everybody keep it up
And be a farmer dandy;
Everybody keep it up
And with your work be handy.

And there is dear old Uncle Frank,
The best Uncle in the Union;
Advising how to feed a calf,
Or how to plant an onion.

WORK TO WIN.

By Rex Ellis.

Tune, "Battle Hymn of the Republic."
Have you ever read the paper, 'bout
the Merry Circle club,
It will tell you what it's made of, from
the start clean to the hub,
And the members that have joined it,
say they never got a snub.
For they all work to win.

CHORUS:

Oh, the Merry Merry Circle,
Oh, the Merry Merry Circle,
Oh, the Merry Merry Circle,
Will surely work to win.

We have even got our colors, and
we've even got our pin,
And we cousins have our Motto, it is
always, "Work to Win,"
And we want the world to listen, to
the Circle's mighty din,
We'll surely work to win.

CHORUS:

There are girls and boys all over, qual-
ified for membership,
From the east and west, north and
south, they'll never let it slip,
For the Merry Circle members, hold

it with a royal grip,
They'll surely work to win.

CHORUS:

Loyalty's our watchword, and Purity's
the same,
Being loyal to our circle, is just what
gives it the name,
And endeavoring to gain knowledge,
has won us wondrous fame,
We'll surely work to win.

CHORUS:

We welcome you to join us, and we'll
surely treat you right,
We will wave on high our colors, they
are royal blue and white,
And we want the world to hear us,
we will shout with all our might,
We'll surely work to win.

The contests in which any boy and
girl from eight to eighteen can take

Winter Sports Contest

LAST winter the sport contest proved very popular. I believe another would be just as interesting now. Please tell in 250 words or less, the winter sport you like best, and why. The two best papers will win handsome fountain pens; the next three, handy tubular flashlights, and the next five, neat boxes of candy. This contest closes January 10. All writers of good papers, not M. C.'s, will get M. C. cards and buttons. Merry Circlers, please put M. C. after your name. Address Uncle Frank, Michigan Farmer, Detroit, Michigan.

part have generally proven popular. Very often seven to eight hundred replies per week came in, and at one time we had over 1,450 replies.

The Read-and-Win type of contest, and the jumbled letter contest pull the best. The essay, or story type of contest are, however, the most interesting. I would like to see more M. C.'s take part in them.

The Letter Box and Mr. Waste Basket are generally known to all young readers. The great complaint is that the Letter Box does not have enough letters, and old W. B. gets too many. It is too bad, but it can't be helped.

The correspondence scrambles have proven popular. One girl wrote that she has correspondence with fifty M. C. friends, which she has found through these scrambles. I wonder if others can beat that? I know that many have established interesting and wholesome correspondence and friendships with other M. C.'s.

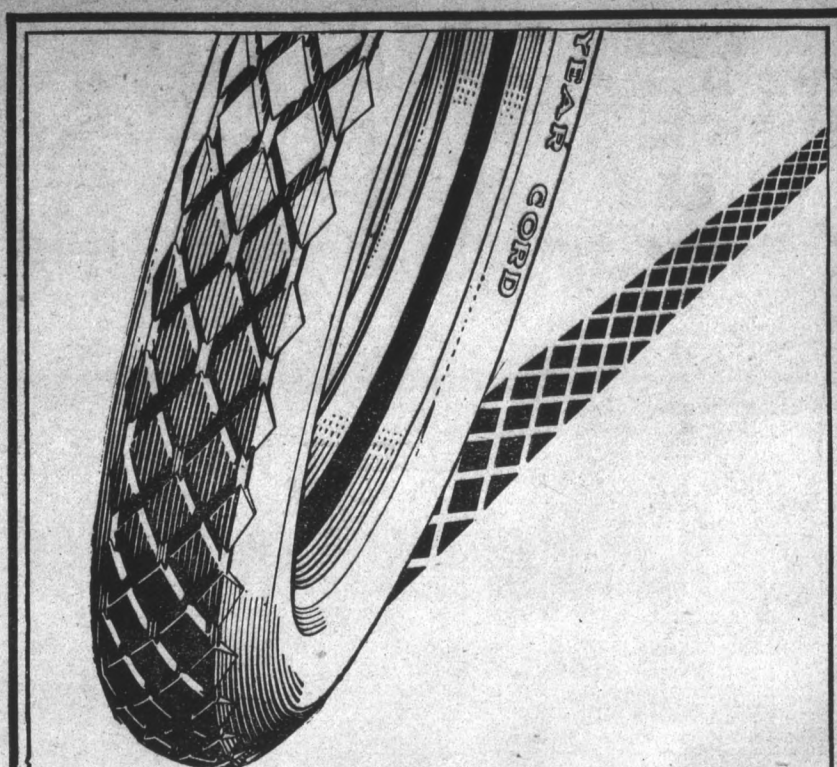
We have had many interesting discussions in the Letter Box, the chief one being on the bobbed hair and knickers question. This would probably still be going if it had not been stopped. The mystery of Uncle Frank also furnished some amusement. We have also discussed smoking, drinking, school standings, algebra and other subjects in the Letter Box. Many interesting subjects also have been considered in the contests.

The endeavors of the Merry Circlers have been to make the Merry Circle stand for active, clean living, with a wholesome interest in the activities of today as they are related to the rural young people.

As to the future? I hesitate to say anything except that the Merry Circle will continue to grow. We will build slowly, but will try to build well.

In our discussions we have decided that we do not want officers elected for the main Circle, but wishes have been expressed for local Circles which would elect officers. Perhaps that is the next step to take.

The Merry Circle is going to "Work to Win." If it works right, and hard enough, it will win. To make it work right, all M. C.'s are asked to do their share.

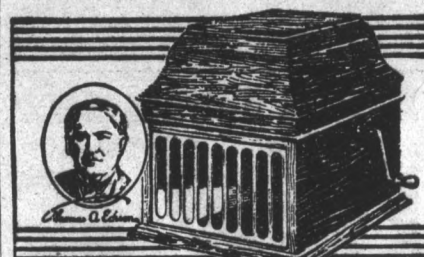


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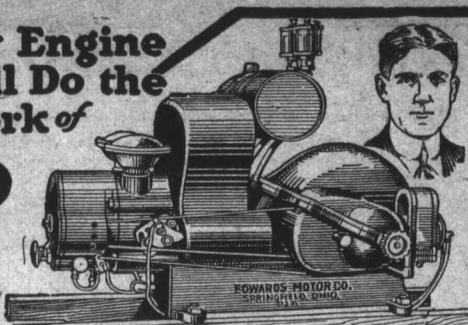
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Ivan L. Blake, of Hannibal, New York, says: "Only engine economical for all jobs. I run a 28-inch cord wood saw, a 24-inch rip saw, a washer, a pump, and a grinder, and it sure runs them fine. It has perfect running balance, and it sets quiet anywhere."

Clarence Rutledge, of Manitoulin Island, Ontario, says: "Have given my Edwards four years' steady work and like it fine. It uses very little fuel. I run a 28-inch cord wood saw, also a rip saw, 8-inch grinder, ensilage cutter, line shaft for shop, churn, washer, separator and pump. Have had ten other engines and the Edwards beats them all."

Frank Foell, of Cologne, New Jersey, says: "It's a great pleasure to own an Edwards engine. I run a wood saw, cement mixer,

threshing machine, etc. Do work for my neighbors. Easy to move around and easy to run. I would not have any other."

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Now—I want to prove my claims to you. I want to send you an Edwards Engine for absolutely free trial. Just write your name and address on coupon and mail. I will send at once complete details about my farm engine and about my free trial offer. No cost or obligation. Mail coupon now.

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Without cost or obligation, send me complete description of your engine, also details of your free trial offer.
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Pinconning Chooses the Cow

THE most recent convert to the cause of better dairying is the community around Pinconning, northern Bay county. Its proximity to Arenac county, where a wonderful dairy development has taken place during the past year, may have had a beneficial influence, but the fact remains that the business men and farmers are talking and thinking dairying as never before.

Possibly the advent of a modern milk plant at Pinconning set the folks to thinking. Mr. Halpin, the owner of this new creamery, says: "We decided on Pinconning after looking the field over for four months because we believe that it is in the center of a district that has wonderful possibilities along dairy lines. It is also so located in reference to the markets that we can always secure for our farmers the highest price." Hence, with a market assured, Bay county is preparing itself for profitable farming through dairying.

The grange and the board of commerce are cooperating and are securing assistance from various agencies such as the Michigan Agricultural College, Northeastern Michigan Development Bureau, and the Michigan Central Railroad. A series of educational meetings will be held during the winter at which it will be an offense to speak about anything not related to dairying. The Agricultural Department of the Michigan Central Railroad has already been prevailed upon to lease three pure-bred sires, without charge, to three groups of farmers. These animals were recently delivered. That they may be expected to do much to improve the standard of live stock is assured by the pedigrees, which show that all three are from dams that made over twenty-four pounds of butter in seven days, and from famous sires, two of which are from dams making over thirty-one pounds of butter in seven days.

Since that time several pure-bred bulls and heifers have been purchased by the farmers. Enthusiasm for dairying is being displayed on every hand.

DAIRYING ONE-THIRD OF FARM INCOME.

ACCORDING to an economic survey of Michigan made by the American Farm Bureau Federation, dairying furnishes about thirty per cent of the total income of farms, and is the greatest single source of agricultural gain.

Other leading items are beans, fruits and vegetables, poultry products, cattle and hogs. As a result of the climatic and soil conditions of the state, farming in this state turns largely to the production of cash crops with large quantities of hay and forage for feed for dairy animals and others.

During the fifteen years which have elapsed since 1909, the live stock industries have declined relative to total income and to crop sales, whereas the animal products group has gained until now it slightly exceeds the total of all crops in the sales account.

As the state lies north of the corn belt proper, cattle and hog feeding is of secondary importance. Wheat growing also is outranked by several crops and is a minor resource.

Among the crops, legumes and seeds and miscellaneous vegetables have gained in relative importance, the cereals have lost ground, while potatoes and apples have about held their own, though fluctuating greatly from year to year.—Mills.

COW-TESTING WORK POPULAR.

WHEN Arthur Schneider, of Alto, sold his farm and dairy cows, six neighbors made application for membership in the local cow-testing association to fill the place left vacant by

Mr. Schneider's retirement from farming. In disposing of his herd, Mr. Schneider also figured that the association records of each animal added fully \$300 more to the value of his herd than would have been realized had he been obliged to sell without this evidence of the animals' performance.

BANK HELPS DAIRYMEN.

IN Eaton county, one of the savings banks bought a carload of twenty-one head of Holstein cattle which will be offered to the farmers of the county. These cattle are tuberculin-tested and passed by both state and federal testers. They are also high-grade Holsteins which are producing well at the pail.

The plan is to sell a farmer one of these cows without down payment and have him pay for it from the earnings of the cow. The bank does not make anything on the sale, merely charging enough over the cost to take care of the expense of transporting the cattle to the farm of the buyer.

If the plan works out successfully, the bank will continue it until every one desiring to take advantage of the offer will have had an opportunity. The second carload of twenty-three head have also been disposed of.

FEED NECESSARY FOR A YEARLING HEIFER.

How much hay will a yearling calf eat between now and the middle of next May?—R. W. T.

Not enough information is given to enable any one to answer this question with any degree of satisfaction. In the first place, animals consume food in proportion to their live weight. How much does this animal weigh? Do you want to make all the growth you can, or simply keep in fair condition? What other feeds will you feed besides hay?

A young growing animal requires about two pounds of protein per day per 1,000 pounds of live weight. Now, if we feed the ordinary feeds grown on the farm, we will not have to bother about the carbohydrates and fat in the ration, as there will be more than a sufficient amount.

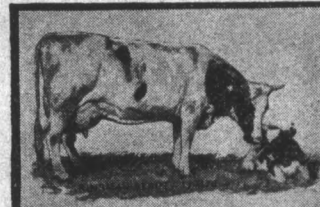
Assuming that the animal weighs about 500 pounds, it would require about one pound of protein per day and you must feed enough food to furnish this. Since clover hay contains 7.1 per cent of protein, if you fed all clover hay, it would require about fifteen pounds per day to make the ration. And for six months it would require two and one-half or three tons. If you feed other foods with the hay it will require less hay, but you must get the required amount of protein from the other foods.

In the same way, figuring that twelve hens will weigh fifty pounds, it will take about five pounds of grain per day to feed them, or nearly one-half ton for the six months.

Kent county now boasts of six cow-testing associations, K. K. Vining, the county agent, having recently announced the organization of the last association. Onney Hansen, of Big Rapids, is tester.

Fred McCrary, of Midland county, reports harvesting 220 bushels, machine measure, of Robust beans from a seven-acre field. He used certified seed. Mr. McCrary also reports harvesting a crop of eighteen acres of potatoes which averaged 380 bushels per acre.

Representatives of the federal government are studying the habits of beavers in northern Michigan, looking toward the economic reproduction of these once populous animals in this state.



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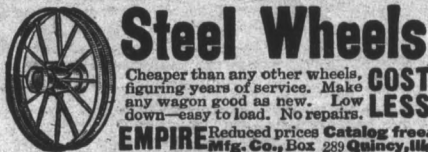
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For Sale Reg. Guernsey Bull, 3 years old, well marked, quiet and gentle, a sure breeder, excellent A. R. sire, dam A. R. No. 51405, granddams No. 59982 and 5986BP. Also Bull calves, Reg. cows and heifers. L. L. Barney, Watervliet, Mich.

FOR SALE—Guernsey Cows and Bred Heifers, May Rose breeding, A. R. Backing Bull Calf born May 2, 1923. Dam on A. R. Test. Accredited Herd. See them to appreciate them. Gilmore Bros., Camden, Mich.

10 Reg. Guernsey cows, some A. R. Record May Rose breeding, \$2,000 for all; herd bull \$100. John Ebels, Holland, Mich., R. 2.

Reg. Guernseys Two Nice Bulls, nearly ready for service. Special terms if desired. J. M. Williams, North Adams, Mich.

REGISTERED GUERNSEYS—T. B. Tested. Young Bulls, \$50; 5 Cows and 5 Heifers. Prices reasonable. Dr. W. R. Baker, 4900 Fort St., West, Detroit, Mich.

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Five Pure-bred Holstein Heifers, \$500. Four from tested dams due to freshen in Jan. and Feb. Excellent breeding; T. B. tested. SIDNEY TROLZ, Grass Lake, Michigan.

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Registered Holstein Bulls Up to eleven months of age. Good individuals and good breeding, at low prices. Also a few young cows or heifers soon to freshen. A healthy herd. I. M. SHORMAN, Fowlerville, Mich.

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Bull calves for sale. Majesty breeding. Herd tuberculous free. Come or write. Brookwater Farm, Ann Arbor, Mich.

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We have for sale a few bulls ready for service, also bull calves sired by Financial King Sensation, son of Financial Sensation, the \$60,000 sire. These bulls are from R. of M. cows. Write to Coldwater Jersey Farm, Coldwater, Mich.

Jersey Cattle Hood Farm breeding. Cows and bred heifers, bull calf for sale. Herd under state and federal supervision. Address inquiries Ira W. Jayne, County Building, Detroit. Jayne Hill Farms, (one mile south), Fenton, Mich.

FOR SALE Jersey bulls ready for service. All cows registered of Merit. Accredited herd. Would take a bankable note. SMITH AND PARKER, R. 4, Howell, Mich.

Registered Jersey cattle, young bulls, for sale. Tuberculin tested. J. L. CARTER, Lake Odessa, Mich.

15 Cows, 4 bulls from R. of M. Cows. Chance to select from herd of 70. Some fresh, others bred for fall freshening. Colon C. Little, Cooperville, Mich.

Thumb Hereford Breeders' Association can supply your needs with outstanding, well-bred registered Herefords, either sexes, polled or horned at reasonable prices. Inquire of E. E. TWING, Sec-Treas., Bad Axe, Huron Co., Mich.



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RESTHAVEN FARM,

Registered Herefords For sale: 12 cows and heifers, 7 bulls. RALPH CALHOON, Bronson, Mich.

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Revolution Jr. 573938 heads accredited herd 28917. Now offering 2 January roan bull calves of exceptional merit, reasonably priced. BIDWELL STOCK FARM, Box D, Tecumseh, Mich.

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For Sale Registered Shorthorn Bulls, Tuberculin Tested. Yearling Berkshire Boar. Simon Y. Maichele, R. No. 5, Middleville, Mich.

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Virgil Davis, Supt. Swine

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Especially long in body and well developed in form; a valuable, practical type. Send for photos and full description and price of this exceptional practical stock. STATE FARMS ASSOCIATION, 307 North Rose Street, Kalamazoo, Michigan.

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FOR SALE.—Young boars and gilts bred from the best herds in Michigan and Ohio, at reasonable prices and fully guaranteed. W. E. Bartley, Alma, Mich.

DUROC Spring boars sired by Brookwater Satisfaction 8th. Greater Duration and Sensation Roy. Prices reasonable. Write us your wants. Norris Stock Farm, Casnovia, Mich.

DUROC JERSEYS Spring pigs either sex of March April and May farrow, sired by three outstanding herd boars. If you want size type and quality combined come and see or write us. F. J. Drott, Monroe, Mich. R. 1

Duroc Jerseys Bred Sows and Gilts, \$25 to \$40 each. Fall pigs, \$12. All Reg. and guaranteed. Walt's Top Col. breeding. None better. Write us. Jesse Bliss & Son, Henderson, Mich.

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Chesters Spring boars from prize winning stock. Will ship on approval. Cholera Immuned. Fred L. Bodimer, Reese, Mich.

O. I. C.'s 25 choice young boars for fall service. Clover Leaf Stock Farm, Monroe, Mich.

O. I. C.'s 75 spring pigs, pairs not akin, from 3 good sires, also fall pigs, recorded free. Otto Schulze & Sons, Nashville, Mich.

Registered O. I. C. Service Boars and Bred Gilts. Also a few Red Sows, due soon, four Beagle hounds.—Joseph R. Van Etten, Clifford, Mich.

REG. O. I. C. Yearling Boars. Extra Yearling and Spring Sows. Satisfaction or no Pay. Shipped on approval. Fred W. Kennedy, R. 2, Plymouth, Mich.

O. I. C. Choice young boars for fall service and Red Polled bulls. Jacob Berner & Sons, Grand Ledge, Mich.

O.I.C.'s Sept. pigs. Sired by "Giant Boy," Senior Champion at West. Mich. State Fair, 1923. Milo H. Peterson, R. 2, Ionia, Mich. "Elmhurst Farm."

O. I. C.'s of prize-winning blood spring boars and gilts, open or bred, shipped C. O. D. and reg. free. J. W. Howell, Ovid, Michigan.

L. T. P. C. Bred Gilts out of the most popular blood lines. They have always made good and will again. Write your wants, also for plan of selling. M. M. PATRICK, Grand Ledge, Mich.

B IG-TYPE Poland China boar pigs, sired by Pontiac Buster, grandson of Giant Buster; \$5.00 each, with certificate of registry. Lone Cedar Farm, 111 N. Johnson Ave., Pontiac, Mich.

Livingston's Big Polands

Our thanks to all those who helped make our first public sale a success. Our hat is still in the ring for bigger and better Polands. Come and see. W. E. LIVINGSTON, PARMA, MICH.

BOARS at half price. Big Type Poland China. The kind that pay a profit on high-priced feed. Our pig in the Pig Club, gained 70 lbs. in 30 days on 98 lbs. of grain. Jno. C. Butler, Portland, Mich.

BIG T. P. C Aug. and Sept. pigs sired by our herd boars, \$10.00 up. Also 2 herd boars at \$75 each. Winter sale Feb. 20, 1924. Order quick for choice. E. A. CLARK, St. Louis, Mich.



TRUTH-IN-FABRIC BILL REINTRODUCED.

AMONG the measures in which the farmers are especially interested is the truth-in-fabric bill, which has been introduced by Senator Capper, and referred to the senate committee on interstate commerce.

During the conferences on this bill in the sixty-seventh congress, the farm organization leaders agreed upon a proposition to change the terms "virgin wool" and "shoddy" to "new wool" and "re-worked wool," but the bill just introduced by Senator Capper retains the definitions that were in the original bill as follows: "Virgin wool," "shoddy," "cotton" and "silk."

Whether the friends of the truth-in-fabric bill have been doing anything in behalf of their pet measure or not, I cannot say. They have not been

This definition would clearly permit the advertising of garments made of wool shoddy as "all wool," a practice which the Capper truth-in-fabric bill is designed to end.

The Lodge so-called Honest Merchandise bill makes no provision for labeling fabrics. It in nowise meets the desires of either the wool growers or the consuming public yet it has been referred to the judiciary committee, of whom Senator Brandegee, of Connecticut, is chairman, and can undoubtedly be reported out at any time the shoddy interests find it convenient to use as a weapon against the truth-in-fabric bill.

FARM TEAM HAULS BIG LOAD.

PETER Howley, of Merrill, Saginaw county, farmer, believes he has the best pulling team in the county, if not

Looking Marketward



OUT in Iowa they grow hogs. At the experiment station of that state is a man who has devoted his life to the study of hogs and kindred subjects. This man's name is John M. Evvard. Naturally, he would have some sound ideas about the hog-growing business. Here is one of his comments:

To get to market quickly and to economic advantage are two of our great outstanding porcine production ideals. Every day the pig wastes between farrow and the scales ticketing becomes an important profit absorbing consideration. Spring pigs to market in the early fall, and fall pigs to market in the early spring, provide present ideals worth while. We should look out to see that our outlook is right, that the worms are dodged, that the lice are missed, that the pig's stomach is never empty, in the marketward race. The abounding enthusiasm of these pigs will not be dampened and stifled by barren troughs nor unsanitary surroundings; their destiny is one of profit.

very active around Washington during the congressional intermission. But it may be said with a good deal of truth that the enemies of the proposed law have not been asleep.

Evidences of this are found in a bill introduced by Senator Lodge, of Massachusetts, which purports "to protect the public against fraud by prohibiting the manufacture, sale or transportation in interstate commerce of misbranded, misrepresented, or falsely described articles, and to regulate the traffic therein." It is known as "the Honest Merchandise Act of 1924."

While appearing to be a bill to protect the public against dishonest branding of merchandise, it is really a cleverly camouflaged attempt to legalize the advertising of fabrics made of shoddy as "all wool."

The Lodge bill defines the terms "virgin wool" and "new wool" as meaning sheeps' wool, lambs' wool, and hair of the Angora and Cashmere goat that has never previously been spun into yarn, woven into cloth, or felted, and is without admixture of cotton, jute, hemp, silk, re-worked wool, or any other fiber than new wool.

The term "all wool" is defined as meaning sheeps' wool, lambs' wool, and hair of the Angora and Cashmere goat that has no admixture of cotton, jute, hemp, silk or any other fiber.

in the state. He bases his belief on the horses' performance a few days ago, when they hauled more than seven tons, dead weight, a distance of two miles, without apparent difficulty. Driven by Mr. Howley's son, Bryan they finished a two-mile haul with six tons and 580 pounds of sugar beets, and neighbors who went along to watch the performance, reported that enough beets jostled off the top of the load to bring the gross weight of the load at the start to six and one-half tons. The weight of the wagon was about 1,450 pounds, making the total weight of the load hauled by the team exactly seven tons at the finish.

The team, a Belgian mare and a Percheron horse, tips the scales at 3,300 pounds.—Mills.

Emery Townsend, of Ionia county, an extensive feeder of cattle and sheep, now has 4,500 western lambs and 200 head of cattle feeding on his 750-acre farm. To house this stock, he has been obliged to rent stable room on adjoining farms.

It is the opinion of the treasury officials that if the supply of intoxicants brought in by rum runners can be dried up, it will be much easier to enforce the prohibition law throughout the country.

LEER FARMERS NOW HAVE COW-TESTING ASSOCIATION.

ONE of the latest cow-testing associations to start operation is the Alpena-Leer Association in Alpena county. This association holds an especial interest because it will show the results of a definite program of breeding. The majority of the members are also members of the Leer Guernsey Bull Association, the oldest three block bull association in the United States. Starting fourteen years ago with the native scrub cows, these men have graded up with the use of pure-bred Guernsey bulls until they now have herds of high-grade, high-producing Guernsey cattle. Just how good they are the C. T. A. will show.

There have been too few instances in the United States of a cow-testing association working along with the bull association and showing concrete results. Around Leer we will see how the production compares with districts where no definite breeding program has been carried on, and with those herds where the owner has had to depend on himself alone to buy herd sires without the cooperation of his neighbors.—J. G. Wells.

NATIONAL STALLION BOARD MEETING.

THE annual dinner and business meeting of the National Association of Stallion Registration Boards was held this year on Tuesday evening, December 4, during International Week. The attendance was larger than usual, especially those representing state stallion licensing boards and farmer-breeders.

The work of the past year was reviewed by the various state secretaries at a business meeting, and it was agreed that the recognition of only standard pedigree associations as decided upon a year ago, had worked out to the advantage of horse breeders, and the same recognition would be continued by the various stallion boards.

THE ELITE OF HOGDOM.

WE made a passing call a few weeks since at the hog establishment of the Detroit Creamery Farms. There are 1,800 acres all told, out on Gratiot Road, near Mt. Clemens. This farm is one of the greatest show places of the entire country. It is under the direct supervision of Mr. Schultz, and he has as his assistant in charge of the hog department, a very likeable young man, R. D. Scheck by name. Mr. Scheck very kindly piloted me over some eighty acres of hog lots and pointed out for my observation some very wonderful hogs.

There were some 600 head on the farm at the time of my visit, consisting of Duroc Jerseys, Poland Chinas, and Chester Whites, all registered stock. I saw here one of the best Duroc boars, and the best Chester White sow it has ever been my privilege to look at, and among the Poland Chinas there was a great array of rather remarkable individuals.

Mr. Scheck tells me they aim to produce all the size possible to get in their hogs, but that they insist on lots of constitutional vigor and an abundance of quality along with the extreme growth. That they are realizing their ambitions may be shown by the fact that a pair of yearling boars of exceptional breeding and quality had not

only won everything in sight at the State Fair, but had made the greatest gains up to six months of age of anything either he or I had ever heard of in the hog line.

It would be well worth the time and effort of any admirer of superior swine to visit this institution. He will not only get an eye full of top-notch hogs, but he can pick up many pointers from the very efficient layout of lots and buildings to take home and put into profitable and practical operation upon his own farm.—Pope.

TO DEODORIZE MILK CANS.

We had gasoline in cream cans. How can we get the odor from the cans so that we can use them for cream cans again?—Mrs. S. H. R.

If you will place a small amount of chloride of lime in an earthen dish in the bottom of your milk cans and moisten slightly and keep closed for forty-eight hours it will remove the odor of gasoline. Then wash thoroughly with a strong solution of soap and water and scald with boiling water.

FARMER'S DOLLAR GAINS.

THE November index number of wholesale prices of farm products as reported by the U. S. Bureau of Labor Statistics was 146, compared with 143 last year. The index number of all commodities on the other hand declined from 156 in November, 1922, to 152 this year. Fuel and lighting, building materials, house furnishing goods and the miscellaneous group have declined, while the foods group, metals and metal products and chemicals and drugs, as well as farm products have advanced.

The exchange value of farm products in terms of all commodities, based on the figures above, rose from eighty-nine last year to ninety-six this year. In other words, wholesale prices of farm products as a group in November this year, were not far from the general price level.

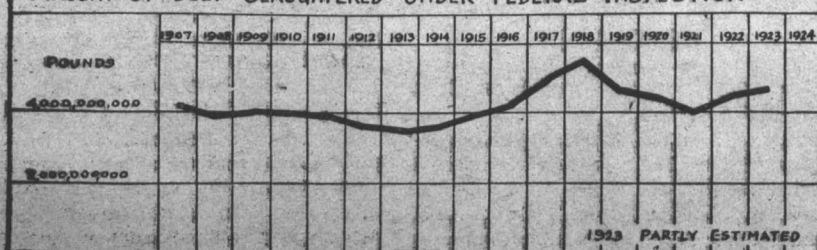
Based on farm prices of crops and live stock compiled by the department of agriculture, and the wholesale price of non-agricultural commodities in October, 1923, the purchasing power of unit quantities of farm products was seventy-five, compared with sixty-five last year. Since farm products advanced in price during November, and since declines predominated in non-agricultural commodities, the November purchasing power index number for farm products would be higher than in October and probably the highest in nearly three years.

WHY THE FARMER'S TASK IS HARD.

THERE is one manufacturing establishment in Michigan for every twenty-three farms. In all, 550,000 people are engaged by the 8,300 manufacturers, while 350,000 persons are employed on the 196,000 farms of the state. From this it is not difficult to see how the great industries can coordinate their work to consumer demand, while agriculture, pretty largely, must be content to take things as they come.

One of the sad things about diversified farming and live stock raising is that one gets so closely acquainted with the animals that he saddens when it is time for them to travel to the big market.

AMOUNT OF BEEF SLAUGHTERED UNDER FEDERAL INSPECTION



WYNGARDEN'S "EGG-BRED" BABY CHICKS

Are the best laying strains on earth. Genuine Barron English White Leghorns, Brown Leghorns and Anconas backed by 19 years' actual breeding on our own farms. Experts cull out our flocks yearly, and mate them with large, vigorous 260-288 Egg Pedigreed Males from Hollywood & Funk Farms direct. This guarantees—not a few high record birds—but an extraordinary flock average. During 1924 we will sell 30,000 weekly of these active, healthy, carefully hatched baby chicks—the kind that will keep your Egg Basket full. Hundreds of our customers are making Big Profits. It will pay you to buy our Egg-Bred Chicks. Our 1924 catalog tells the whole story, it's free—write for your copy tonight.

WYNGARDEN FARMS & HATCHERIES
Box M Zeeland Mich. U.S.A.

Certified Pure Bred Baby Chicks

Trap-nested direct from world champion layers; the famous Tom Barron and Hollywood strains of White Leghorns. Order these chicks from pedigree stock now at bargain prices! Hatched in the largest and finest hatchery in Michigan at the rate of 150,000 eggs to a setting. Also get our prices on Barred Rocks and other popular breeds. Satisfaction guaranteed or money back. Write for FREE illustrated catalog and special DISCOUNT PRICES—today.

SUPERIOR POULTRY FARMS
Box 200 Zeeland, Mich.

WORLD'S CHAMPION LAYERS

Hollywood and Improved English S. C. WHITE LEGHORNS. The American Business Hens: 250-300 egg bred line. Large White eggs. Winners at National Shows and Egg-Laying Contests.

HIGHEST QUALITY CHICKS
from certified tested hens mated to high power pedigree sires. Discount on early orders. Valuable instructive CATALOG FREE.

DEVRIES' GRANDVIEW POULTRY FARM, R.R. 6, Zeeland, Mich.

64BREEDS Most Profitable chickens, ducks, turkeys and geese. Choice, pure-bred northern raised. Fowls, eggs and incubators at low prices. America's great poultry farm. At it 31 years. Valuable 100-page book and catalog free.

R.F. NEUBERT Co., Box 814 Mankato, Minn.

DUNDEE CHICKS

PURE-BRED CULLED FLOCKS

Our chicks are from pure-bred flocks, carefully culled by experts. Anconas are direct from Sheppard. Leghorn flocks headed by males from Michigan A. College. Rocks are from a 230-302 egg strain. Reds are Liddicoat's best. Write for catalog and price list. It will save you money. Ref., Dundee State Savings Bank, this city. **DUNDEE HATCHERY, Box A, Dundee, Michigan.**

S. C. WHITE LEGHORNS

Bred for egg production since 1910. Our 15 years of experience in hatching and shipping chicks gives you the big, strong, healthy chicks that grow to maturity in the shortest possible time. 100 per cent live delivery guaranteed. Let us mail you our 32-page catalog with price list.

WOLVERINE HATCHERY, R. 2, Box 20, Zeeland, Mich.

WINTER EGGS ARE PROFITABLE

McCurdy's gable top bar feeders and winter fountains will produce Winter EGGS. Open construction, sanitary, economical. No waste. Feeds from both sides. 3-Peck, 25-inch feeding space, \$3; 6-Peck, 50-inch feeding space, \$4; 3-bu., 92-inch feeding space, \$7.50. Send for catalogue of larger feeders and winter fountains. Freight prepaid at catalogue prices east of Mississippi River.

THE McCURDY MFG. Co., Box B, Ada, Ohio.

The SOFT HEAT Way

Beats the Hen

26 points of Superiority over other makes

Most practical incubator discovery and improvement in all time. Results of 30 years study and manufacturing experience of L. N. Porter, the incubator master. Thousands endorse it. Make good guarantee.

Porter SOFT HEAT INCUBATOR

Four sizes, Oil or Electric. Shipped Prepaid. Cooler lamp—equal heat. Exclusive patented moisture device. Automatic control of heat, moisture and ventilation. One filling of lamp for complete batch. Eggs turn semi-automatically. Twenty-one other distinctive features. Big book on SOFT HEAT Method includes a comparison of other makes.

Send your name on postal for your copy today!

PORTER INCUBATOR CO., 133 Porter Ave., Blair, Neb.

DON'T LET THEM DIE!

ACT QUICK! SAVE THEIR LIVES BY USING

SMOKE 'EM, THE GUARANTEE ROUP CURE fills the poultry house with medicated smoke and is positively GUARANTEED to cure colds, roup, canker, diphtheria, and chicken-pox. Sold under a money-back guarantee. Sick chickens cannot be profitable. Write for low prices and FREE CATALOG.

THE H. M. SPARK BREEDING ESTATE, Dept. 38-K, Beale, Frederick Co., Maryland, Telephone Office, Thurmont, Maryland, (Live Dealers Wanted)

PURE BRED CHICKS

Real producers. Flocks culled by expert. Beautiful breeding stock. Barred Rocks, R. I. Reds, 50, \$8; 100, \$15; 500, \$22.50. White Leghorns, Anconas, 50, \$7; 100, \$12; 500, \$22.50. Leghorns are Barron stock. None better. 100 per cent live delivery guaranteed. Order from this ad and get chicks when you want them. You take no chances. Ref., McLachlin State Bank, this city.

Petersburgh Hatchery, Petersburgh, Mich.

Early Maturing BABY CHICKS

These chicks are from flocks headed by cockerels of high producing blood lines. Culled by experts. Each flock personally supervised. Pure-bred. \$13 per hundred up.

Special: We have a limited number of superior grade chicks from special matings. Write for description and prices. 100 per cent live delivery. Ref. Milan State Savings Bank.

Milan Hatchery, Box 4, Milan, Mich.

EGG-BRED CHIX

200-egg Strain S. C. English Type White Leghorns and Brown Leghorns. Large looped-comb, deep-bodied type. 12 years of breeding for high egg-production. Carefully selected breeders, headed by large, vigorous males, combined with many years of highly successful hatching methods, gives you chicks that will bring you success. 100 per cent live arrival guaranteed. Write for catalogue and prices today.

ROYAL HATCHERY AND FARMS, R. 2, Zeeland, Mich. S. P. Wiersma, Owner.

Highest Quality Chicks

Feb.-March prices. Heavy broiler chicks 12c. Barred Rocks or Reds 17c; Anconas, Black Minorcas 16c; White or Brown Leghorns 15c; White Rocks, White Wyandottes, Buff Orpingtons 17c. Extra selected chicks, built directly from contest winners, 4c per chick more. Add 30c if less than 100 wanted. Hatchery eggs. Catalog. Good reference. Beckmann Hatchery, TMF, 25 Lyon St., Grand Rapids, Mich.

JUST RITE BABY CHICKS

PEDIGREE, EXHIBITION and UTILITY MATINGS

20 popular breeds, high power layers, 20 rare breeds, 4 breeds ducks, 10 breeds geese. Nabob Quality, none better at any price. 97 per cent live arrival guaranteed. Postage Paid. Free Feed with each order. Catalogue free, stamps appreciated.

Nabob Hatcheries, Ave. 20 Gambier, Ohio
Member International Baby Chick Association

WEBER'S BEST laying, BEST paying chickens, ducks, geese & turkeys. Fine pure-bred quality. Fowls, Eggs, incubators at low new prices. 42 years poultry experience, and my 100 page Catalog and Breeders' Guide Free.

W.A. Weber, Box 19, Mankato, Minn.

Whittaker's R. I. Reds

Michigan's Greatest Color and Egg Strain. Both Combs. Our cockerels will improve your flock in color and egg production. Write for prices.

Interlakes Farm, Box 39, Lawrence, Michigan

10% Discount on orders for chicks booked before Feb. 1st, to be delivered any time this season, strong, vigorous, pure-bred chicks, bred for egg production, 100 per cent live, postpaid. Leghorns, Rocks, Reds as low as \$12.00 per 100. Write for price list M at once. **Connors Hatchery, 200 So. Parks St., Pontiac, Mich.**

EG Money in Poultry. Learn How to Feed, House and Breed; How to Select High Egg Yielding Hens; How to Hatch and Rear Poultry Successfully. Oldest, Largest and Best Poultry Paper—4 Mo. Trial Subscription 25c. American Poultry Journal, 345-523, Plymouth Ct., Chicago

CATTLE

HEREFORDS at AUCTION

Jan. 8, 1924 — 9:30 A. M.

Sale includes herd sire Donald Lad 754454. Also other live stock, tools, etc. Sale at farm, four miles west and one mile south of Byron, Mich. Good gravel road.

David Chaffee, Prop., Byron, Mich.

HOGS

L. T. P. G. Boars and Glts all go at private treaty. Service to Foxy Clansman. \$40. Michigan Champion herd for 3 years. A. A. Feldkamp, Manchester, Mich.

Large Type Poland Chinas

Boars \$25 each. Satisfaction guaranteed, all stock shipped on approval. **DORUS HOWER, Akron, Mich.**

Shamrock Stock Farm Polands

Spring Boars and Glts, a few yearling sows. One of the breed's best boars heads herd. **Geo. O. Strong, Burlington, Mich.**

Hampshires Spring Boars and Glts, and fall pigs. Pairs not alone. High year. 150 to select from. **John W. Snyder, St. Johns, Mich., R. 4.**

Hampshires Of Best Blood Lines; 100 Bred Glts and Sows, some fine Boars. Luck-hard's Model Farm, Bach, Mich.

SHEEP

Choice Bred Ewes

400 for sale in carlots, yearlings to solid months, black-faced, in good condition, bred to lamb April 10th. Located 25 miles south of Detroit on Detroit & Toledo Electric, and on Dixie Highway. Telegraph Address, Rockwood, Phone Newport. Post Office, South Rockwood. **ALMOND B. CHAPMAN & SON.**

Shropshire Rams and Ewes

write or call on Dan Booker, R. 4, Ewart, Mich



GRAIN QUOTATIONS

Wheat.

Wednesday, January 2.

Detroit.—No. 1 red \$1.12; No. 2 red \$1.11; No. 3 red \$1.08; No. 2 white \$1.12; No. 2 mixed \$1.11.
Chicago.—January \$1.02½; May at \$1.07½; July 1.06½.
Toledo.—Cash \$1.10½@1.11.

Corn.

Detroit.—Cash No. 3 yellow 77½c; No. 4 yellow 73½c; No. 5, 67@69c; No. 6, 63@65c.
Chicago.—January at 69½c; May at 73½c; July 74½c.

Oats.

Detroit.—Cash No. 2 white at 47c; No. 3, 45c.
Chicago.—January at 41½c; May at 45½c; July 43½c.

Rye.

Detroit.—Cash No. 2, 74c.
Chicago.—January at 68c; May at 73½c; July 74½c.
Toledo.—73c.

Barley.

Barley, malting 72c; feeding 68c.

Buckwheat.

Buckwheat.—New milling \$2 cwt.

Beans.

Detroit.—Immediate and prompt shipments \$4.75 per cwt.
Chicago.—Choice \$5.30; red kidneys at \$7.30.
New York.—Choice pea at \$5.50@5.75; red kidneys \$7.25@7.50.

Seeds.

Detroit.—Prime red clover cash at \$13.10; alsike \$9.40; timothy \$3.95.

Hay.

New Hay.—No. 1 timothy \$22.50@23; standard and light mixed \$21.50@22; No. 2 timothy \$20.50@21; No. 1 clover \$20.50@21; wheat and oat straw \$11.50@12; rye straw \$12.50@13.

Feeds.

Bran \$34; standard middlings \$33; fine do \$34; cracked corn \$37; coarse cornmeal \$35; chop \$34 per ton in 100-lb. sacks.

Apples.

Chicago.—Barrels, "A" grade Greenings \$5@5.50; Jonathans \$4@5; Grimes \$3.50; Spies \$4.50@5; Kings at \$4@4.50; Baldwins \$3.75@4.50; Spitzenberg \$4@4.50.

WHEAT

The wheat market is still backing and filling without giving any clear-cut indication of what the major trend during the winter and spring is to be. Holiday dullness has been a feature during the past week. The market made no response to the confirmation of the decrease in acreage which had been foreshadowed by unofficial estimates. The higher condition of this year's crop gives practically as good a prospect as last year. Flour trade has become dull as a result of the holidays and the usual inventory period and premiums for choice wheat have declined to some extent. Export sales of wheat are of modest volume as Europe shows no anxiety over future supplies and shipments from the United States have fallen sharply.

RYE

The rye market shows little independence of wheat, although sales for export are reported larger and demand for rye flour has been commendable. In spite of the reduction in the 1923 crop, it appears that only about 25 per cent of the exportable surplus has been cleared to date.

CORN

The corn market has been dragging during the last two weeks, although a fairly stable undertone is apparent. While corn is disappearing rather rapidly from commercial channels, the movement from the country has been heavy enough to cause some accumulation and the visible supply is practically up to normal size for this season of the year. Producers generally are loath to sell at the decline which has taken place during the last two months, but the number who are obliged to sell, whether willing or not, is sufficient to keep a fairly broad stream flowing toward primary markets. Present corn prices are the lowest since last January and slightly below the average level in December, 1922. The future of the market depends to a great degree on farm consumption during the winter. This promises to be relatively heavy, although open weather thus far has reduced requirements. Prices have not gone low enough to induce extensive

sales for export. Clearances of corn in November totaled 955,000 bushels, compared with 7,521,000 bushels last year.

OATS

The movement of oats from the country has increased during the last two weeks without a proportionate increase in shipping demand with the result that about half of the recent loss in the visible supply has been regained. Exports of oats during November totaled 87,000 bushels, compared with 2,614,000 bushels in November, 1922. Canada has piled up rather large accumulations of oats at visible supply points, present holdings being 10,319,000 bushels, compared with 2,921,000 bushels a year ago.

SEEDS

The cloverseed market has been relatively steady for the last two or three weeks. Demand from distributors is likely to expand after the first of the year as prospects for spring trade become more settled. Timothy prices have worked slightly higher, although no great activity is shown. Compared with last year at this season, cloverseed prices at Toledo are slightly lower in spite of the much smaller crop, while timothy seed is higher.

FEEDS

Demand for by-product feeds is still relatively dull as open weather has materially reduced consumptive requirements. Wheat feeds are relatively strong at western milling centers, with flour mills operating about 12 per cent below the corresponding period in 1922. Some supplies of wheat feeds in transit or on spot are available at lower prices than for future delivery. The demand for oil meal is of small volume, but prices are firm. Corn feeds are dull with prices practically unchanged.

BUTTER

Butter prices gained slightly last week and are hovering around the high points for the year. Receipts have not expanded a great deal from the low point at the end of November and consumptive demand continues broad, although a slight falling off in distribution is noticeable. The volume of imports has not changed materially. The undertone of the market is rather unsettled, as production reports have shown an increase in the make during each of the last three weeks and January receipts are due to expand. Furthermore, offerings of butter from New Zealand, Australia, and the Argentine will be more of a factor in the next thirty to sixty days. It is probable that prices will begin to ease off gradually during the winter, although a fairly high level of values will be sustained.

Prices were: Chicago 50c; New

York 50c. In Detroit fresh creamery in tubs sells for 44@49c.

POULTRY AND EGGS

The fresh egg market scored a sharp recovery from the low point a week ago. Lighter receipts as a result of the decline in prices and increased demand due to the same cause, brought a decided change in the situation. It is probable that the market will fluctuate around the prevailing level during the next month or two, but with declines more probable than advances. Weather conditions have been unusually favorable for production and the trend at this season is invariably toward an increase. Receipts of poultry of all kinds for the holiday trade were heavy but the demand was also extremely broad and prices were sustained at the levels recently prevailing. In fact, moderate scarcity of heavy hens has developed in the last few days and prices are higher. Total stocks of poultry in storage at four leading cities are only slightly larger than a year ago.

Chicago.—Eggs, miscellaneous 36@37c; dirties 21@22c; checks 19@20c; fresh firsts 38c; ordinary firsts 32@35c. Live poultry, hens 22c; springers 19c; roosters 13c; ducks 21c; geese 17c; turkeys 24c.

Detroit.—Eggs, fresh candled and graded 38@42c; storage 23@25c. Live poultry, heavy springers 21@22c; light springers 20@21c; heavy hens 22@23c; light hens 20@22c; roosters 13c; geese 18c; ducks 20@24c; turkeys 25@30c.

HAY

The hay market has weakened sharply in the last few days. Even the better grades which have been in good demand heretofore have been affected. Alfalfa hay at Kansas City has declined nearly \$3 per ton, and prairie also is weak. Timothy hay prices show practically no change. Presumably, open weather and the usual holiday dullness are factors in the softness of the market.

POTATOES

The potato market advanced slightly during the last week. Receipts have been moderate for several weeks and the demand is fairly broad. Northern sacked round whites are quoted at \$1.20@1.25 per 100 pounds at Chicago, while eastern round whites, both sacked and bulk, are selling at \$1.60@1.85 in eastern cities.

APPLES

The apple market is fairly steady, although receipts are heavy for this season of the year and stocks in storage are unusually heavy. New York Baldwins are quoted at \$4@5 per bar-

rel in the eastern consuming markets, while midwestern Greenings are bringing \$5@6 in Chicago; Jonathans \$5@5.50; Spies \$5.50@6; Baldwins \$4@4.50.

BEANS

While the bean trade ruled quiet during the holiday season many are confident that business will pick up early in the new year. This is particularly the case in the central western markets where stocks appear to be short and buyers will need supplies in the near future. The sea-coast markets are better supplied and there the trade is easy. Limas are short and promise to go skyrocketing before many moons. This may have some effect upon the trade in other kinds.

WOOL

The demand for wool was rather light for the last week of the year, but what business has been done was at firm prices both here and abroad. With the closing of the primary markets for the holidays about one-half of the clip for the southern hemisphere was sold. In the wool goods market there is nothing which indicates that there will be the big demand for heavy weight goods this year as there was last year, and therefore prices will not stand advancing very much. Quotations are as follows: Michigan and New York fleeces, delaine unwashed 53@54c; fine unwashed 47@48c; half-blood unwashed 53@54c; three-eighths blood unwashed at 54c; quarter-blood unwashed 51@52c.

CHEESE

Demand for cheese was extremely light last week, partly due to seasonal dullness. Dealers were willing to make some concessions in order to move goods, although the undertone appeared slightly firmer at the close. This was particularly true of the better grades of held cheese, the supply of which is not overabundant. Receipts at country markets remain relatively heavy and storage stocks are burdensome while the abundance of cheese in Canada and Great Britain precludes the likelihood of export sales in volume.

Chicago.—Twins 21½@21¾c; single daisies 22½@22¾c; double daisies at 22¼@22½c; longhorns 22¾@23c. Foreign styles, Swiss selected fancy 40c; limburger, fancy 27½c; brick fancy at 20c; choice 19c.

New York.—Flats 21½@23¼c. Philadelphia.—Flats at 24½@25½c; double daisies 24½@25c; longhorns at 24½@25c.

GRAND RAPIDS

Hot-house leaf lettuce forged into new high ground early this week, going to 17 and 18 cents a pound. It finished the old year at this level and began the new strong at 18 cents. Unfavorable weather retarded production prior to New Years, while the strong holiday demand encouraged growers to cut all leaves of marketable size. This has brought about a temporary shortage and contributed to the forward movement in prices. Potatoes also began the new year in higher ground, selling better at 50 cents a bushel. Inquiry was better at Greenville, too, and prices at that loading point averaged 20 cents a hundred-weight higher than on January 1 a year ago. The usual post-dullness invaded the poultry market while colder weather tended to check the downward movement in prices on fresh eggs. This market was steady at 37@38c per dozen. Butchers are predicting a better market on all kinds of live stock within a short time, basing their predictions on the belief that all "distress" cattle and hogs now are out of the way. They look for the higher trend to set in after January 10, the last day for taxpaying. Markets on other farm products were quiet.

COMING LIVE STOCK SALES.

Holsteins.
Feb. 4.—Michigan State Holstein Association, East Lansing, Mich.
Herefords.
Jan. 8.—David Chaffee, Byron, Mich.
Durocs.
Feb. 5.—Detroit Creamery Farm, Mt. Clemens, Mich.
Poland Chinas.
Feb. 20.—Detroit Creamery Farm, Mt. Clemens, Mich.

Live Stock Market Service.

Wednesday, January 2.

DETROIT

Market is 50@75c higher than last week's close.

Good to choice yearlings	\$ 9.75@10.00
Best heavy steers	8.25@ 9.00
Handyweight butchers	6.75@ 8.25
Mixed steers and heifers	5.75@ 6.75
Handy light butchers	5.00@ 5.50
Light butchers	4.00@ 4.75
Best cows	5.00@ 6.00
Butcher cows	3.50@ 5.00
Cutters	3.00@ 3.50
Canners	2.25@ 3.00
Choice bulls	5.00@ 5.25
Bologna bulls	4.25@ 5.00
Stock bulls	3.25@ 4.25
Feeders	5.25@ 6.75
Stockers	4.25@ 6.25
Milkers	\$ 45@ 75

Veal Calves.

Market steady.
Best \$15.00@15.50
Others 6.00@14.00

Hogs.

Market slow.
Mixed and heavies \$ 7.50@ 7.60
Pigs 7.00
Roughs 6.25

Sheep and Lambs.

Market strong.
Best lambs \$13.25@13.50
Light to common 6.00@ 9.75
Fair 10.50@11.75
Fair to good sheep 5.50@ 7.00
Culls 1.50@ 3.50

CHICAGO

Cattle.

Receipts 17,000. Market slow and 10@20c higher. Bulk of good butchers \$7.40@7.50; few prime 300-lb. butchers to shippers at \$7.60; bulk 150 to 225-lb. average \$7@7.35; packing sows \$6.75@6.90; slaughter pigs \$6.65@6.75.

Cattle.

Receipts 7,000. Market is uneven. Killing class 25c higher. Stockers and feeders scarce. Demand now for bulk choice fat steers at \$6.75@10; yearlings \$11; near choice 1,500-lb. bullock \$10.60; less desirable heavy steers at \$10.50; weighty bulls \$5.25; vealers 50c higher; upwards to \$10.40.

Sheep and Lambs.

Receipts 11,000. Market is active. Few woolled lambs around 15c higher. Clipped steady to strong. Choice and feeding lambs around steady. Good fat woolled lambs \$13.50@13.75; tops at \$13.90; good clipped lambs \$11.50; no choice fat ewes offered; Choice 59-lb. feeding lambs \$12.50.

BUFFALO

Cattle.

Receipts 20 cars. Market is slow. Calves at \$15.

Hogs.

Receipts 60 cars. Market is steady. Heavy \$7.50@7.60; yorkers at \$7.40@7.50; pigs \$7.40.

Sheep and Lambs.

Receipts 75 cars. Laurel top lambs \$13.25; yearlings \$10@11; wethers \$8@8.50; ewes \$6@7.50.

PROVIDES FOR REPRISALS IN FARM LOAN ACT.

A PROPOSED amendment to the act establishing the Farm Loan Bureau provides that whenever the appraisal of land contained in the report of any land bank appraiser is less than the appraisal made by the loan committee of any national farm loan association, then the applicant for a mortgage loan may ask for a re-appraisal of the land by another appraiser before the amount of the loan is finally determined by the federal land bank.

VETERINARY.

Feeding Sweet Clover.—I would like to know what the results might be from feeding sweet clover to horses, and especially if fed to brood mares. J. W. Levering, Mich.—If fed moderately it will prove a good feed for both horses and brood mares.

Warts on Heifers.—I have two heifers that have ugly black warts on their neck. R. H. Otisville, Mich.—Cut them out and apply boric acid to wound twice a day. Strong vinegar applied daily will take off warts.

Piles.—I have a sow two years old that has had two litters of pigs; every one of the pigs had piles and died from the effects of them. The pigs seem to be pretty well until they reach six weeks old, then they commence to have piles. My neighbors tell me it is the result of breeding the sow to her own brother. The sow and boar are both in good condition. J. H. J., Cadillac, Mich.—I do not agree with your neighbors. If this ailment was congenital it would show up at birth. Constipation is a common cause of piles, and if you will feed young pigs food that has a laxative effect you will pretty much prevent the ailment. If necessary give mineral oil.

Sore Mouth.—We have a calf that is troubled with sore mouth. J. A. H., Lupton, Mich.—Dissolve two and one-half teaspoonsful of salt in one quart of water and flush the mouth three or four times daily.

Nasal Catarrh.—Several of my sheep have a mucus discharge from nose and I have been told it might be grub-in-the-head. I wish you would tell me what ails the sheep, and what to do for them. D. W. F., East Leroy, Mich. This ailment usually results from exposure, or from an invasion of parasites. Treatment mainly consists in removing the cause. Pine tar smeared over the nostrils, also give a tablespoonful of the following: Beechwood creosote, two drams; spirits of camphor, one ounce in half pint of raw linseed oil. Shake and give two doses daily, but not more than a half ounce (a tablespoonful) at a dose to each sheep. Perhaps it is needless for me to say the sheep would be well fed and have good care before winter sets in.

SAVE YOUR MAPLE TREES

Earn money by making maple syrup. Great demand for quality product.

CHAMPION EVAPORATOR

Produces finest quality. Saves time, fuel and labor. Pays for itself in a couple of seasons—lasts for many years.

Sap Spouts, Tanks, Full Line of Sugar Maker's Supplies.

Champion Evaporator Co., Hudson, Ohio



The Eclipse Spray Pump is simple in construction, durable and efficient. Made in several sizes to meet the various needs.

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ASK FOR CATALOG
MORRILL & MORLEY MFG. CO.
Box 23 Benton Harbor, Mich.

Patents

Write today for free instruction book and Record of Invention blank. Send sketch or model for personal opinion. CLARENCE A. O'BRIEN, Registered Patent Lawyer, 65B Security Savings & Com'l Bank Bldg., directly across St. from Patent Office, Wash., D. C.

Ship Your Hay and Grain to the OLD RE LIABLE HOUSE
GEO. E. ROGERS & CO., Pittsburgh, Pa.

ICE FLOWS TOOLS Plows \$2.00 up. Wm. H. Pray, Mfr. La. Grangeville, New York

FARM WAGONS High or low wheels—steel or wood—wide or narrow tires. Steel or wood wheels to fit any running gear. Wagon parts of all kinds. Write today for free catalog illustrated in colors.
ELECTRIC WHEEL CO., 35 Elm Street, Quincy, Ill.



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"Veterinarians said, 'better kill, than try to cure so bad a case.' I had not used him for three months before I wrote for your free book. It is six months since I stopped treatment and there is not a mark of the trouble left. After I started treatment, I worked the horse and he was cured in about two months." L. J. Cornwell, Watertown, N.Y.

More than 380,000 satisfied users have had similar experiences with Save-The-Horse. It has unrivaled record of success for 30 years.

SAVE-TH-HORSE

is Guaranteed by signed MONEY BACK contract to cure SPAVIN, Ringbone, Thorpin, or Shoulder, Knee, Ankle, Hoof and Tendon Disease. Write today for FREE 96-page Save-The-Horse BOOK—on how to locate, understand and treat 58 kinds of lameness; also sample Guarantee and expert veterinary advice—ALL FREE; no obligation; write today.
TROY CHEMICAL CO.
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At Druggists and Dealers with Signed Contract or sent prepaid.

CLIPPED COWS Give More and BETTER MILK When cows are stabled, clipped, under the flank and underline once a month. Clip them all over in the spring. It pays with more and better milk. Cows keep cleaner and in better condition.

Stewart No. 1 Clipping Machine is the Best Made, Ball-bearing, easy running. Clips fast. Anyone can use it. At your dealers, \$12.75; or send \$2 and pay balance on arrival. Guaranteed satisfaction or money back.
Chicago Flexible Shaft Company
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World's Largest Makers of Clipping and Price Complete Shearing Machines. Complete Catalog on Request. \$12.75

Saws Logs—Falls Trees—Buzes Branches—Does Belt Work
One Man Saws 15 Cords a Day!
—Easy with the OTTAWA Log Saw! Wood selling for \$3 a cord brings owner \$45 a day. Use 4 H. P. Engine for other work. Wheel mounted—easy to move. Saws faster than 10 men. Shipped from factory or nearest of 10 branch houses. Write for FREE Book today.
OTTAWA MANUFACTURING CO.
1501-U Wood Street Ottawa, Kansas
Room 1501-U Magee Bldg., Pittsburgh, Pa.

GIVEN WRIST WATCH

Handsome, guaranteed time keeper, given for selling only 40 packs of vegetable or flower seeds (mention which) at 10c per large pack. Easily sold—EARN BIG MONEY OR PREMIUMS. Get sample lot today. Send no money. We trust you will need a gold.

AMERICAN SEED CO. Box A-150 Lancaster, Pa.

MISCELLANEOUS

SALVAGE OATS AND BARLEY.—For carload buyers of feeds we have a lot of 30 cars of salvage oats and salvage barley, and some rye. If you are a rye feeder of hogs or sheep, write us at once for samples and prices on economical feeds in carloads. Oats and barley for sheep, dairy and fat cattle, or you can grind it for hogs. Write at once if you are going to feed now or next month, as the supply won't last long. C. E. Dingwall Co., Milwaukee, Wis. Economical feeds for feeders.

WE ARE in position to supply you at all times with good second-hand egg crates, including fillers and covers, complete for shipping, at the following rates: Carload lots F. O. B. Detroit, 14c each; less than carload lots, 15c each. Wm. Spitz & Sons, 2645 Chene St., Detroit, Mich.

OLD MONEY WANTED. Have you an odd or old coin or bill? It may be worth several dollars. Get posted. Send 4c for Coin Circular. May mean much profit to you. Send now. Numismatic Bank, Dept. M, Fort Worth, Texas.

WANTED SEEDS. All Kinds—Soy-beans, Pea Beans. Send samples and prices. Klingensmith's Seed Store, Indianapolis.

RAILWAY POSTAL CLERKS. Start \$133 month; railway pass, expenses paid. Questions free. Columbia Institute, R. 6, Columbus, Ohio.

GLADIOLAS. beautiful mixture of colors, 100 small bulbs (bulbets), postpaid for only 20c silver. Ruth Field, Shenandoah, Iowa.

TOBACCO

HOMESPUN TOBACCO.—Five pounds chewing, \$1.75; ten, \$3.00; twenty, \$5.25. Smoking, five pounds, \$1.25; ten, \$2.00; twenty, \$3.50. Pipe and recipe free. Send no money. Pay when received. Kentucky Tobacco Company, Paducah, Ky.

LEAF TOBACCO.—Chewing, five pounds, \$1.75; ten, \$3.00; Smoking, five pounds, \$1.25; ten, \$2.00; pipe and recipe free, pay when received. Cooperative Farmers' Paducah, Kentucky.

Farms and Farm Lands For Sale

PAY NO ADVANCE FEE; don't give option or tie up real estate for any kind of contract without first knowing those you are dealing with are absolutely honorable, responsible and reliable.

80-Acre Michigan Farm with Stock, Tools, Crops; \$1000 Cash

Owner a business man with distant interests, sacrifices all for amount insurance buildings; fertile district, fine cooperative creamery, splendid high school; class 2 depot town; 3 noted lakes; 33 acres loamy fields, 10-cow pasture, woodlot, 55 fruit trees, grapes, berries; excellent 2-story, 9-room brick house, porches, 2 barns, granary, windmill, etc. \$3,600 gets it, horses, 3 cows, poultry, tools, implements, vehicles, crops, etc., included if taken now. Part cash. See picture and details page 33 New Illus. Bargain Catalog. Covers many states. Copy free. **STROUT FARM AGENCY, 427KH, Marquette Bldg., Chicago, Ill.**

For Sale 40 Acres Bottom Land, Not on Clay Bottom. All can be cultivated. No stones. 15 acres cleared, rest easily cleared. A small 3-room house. Located 3 miles south of Houghton Lake, a popular summer resort. Can grow anything, and sell all you grow. Sale Price, \$1,000. Address **CHARLES BORGESON, Houghton Lake, Mich.**

800 Acres Nearly level; good clay and railroad town; close to good highway; well-watered with 3 small lakes; well-fenced with woven wire; 70 acres cleared; excellent grass land; barn 36x40; 5-room house; would make wonderful dairy and stock proposition; owner is past seventy years of age; price if taken within sixty days, \$8.00 an acre. Write **W. F. UMPHREY, Evert, Mich.**

3500 Acres of Cut-over Land For sale at bargain prices. Will sell any part. Most of the land is well watered but not swampy. Well adapted for cattle or sheep pasture. **Crowl Lumber Co.** For information write **F. W. Crowl, Harbor Springs, Michigan.**

Pasture Land For Sale In southern Midland County, Michigan, in parcels up to 1,000 acres. Good roads and water. Shipping points, Shepherd, St. Louis, Breckenridge or Midland. Write **W. S. ROOT, Mason, Mich.**

FOR SALE OR EXCHANGE

Eight hundred eighty (880) acres of land, partly cut over, in Sanborn township, Alpena County. This land is free and clear and is in one parcel, one-half (1/2) mile from the D. & M. Railroad, and on highway known as M-10. Considerable timber left, and the land itself is above the average for this section. **CITY SUBURBAN REALTY COMPANY, 615 Oakland Building, Lansing, Michigan.**

1916 Acres \$38,320 Improved, a part yielded 32 bu. wheat per acre. Near school, etc. Good well, 2 mi. lake frontage. **H. MILTON MARTIN, Edmonton, Alberta, Canada.**

Sell your property quickly

for cash, no matter where located. Particulars free. Real Estate Salesman Co., 315 Brownell, Lincoln, Neb.

Would you Buy a Home? With our liberal terms. White people only, good land, healthy progressive country. Write for list. **Mills Land Co., Booneville, Ark.**

IF YOU WANT TO LIVE in California write Kings County Chamber of Commerce, Hanford, California, for free booklet.

Cash Buyers want farms—various localities. Describe fully and give best price. **U. S. Agency, Box 43, North Topeka, Kans.**

WANT TO HEAR from party having farm for sale. Give particulars and lowest price. **John J. Black, Copper St., Chippewa Falls, Wis.**

FARMS WANTED.—We have buyers for Michigan Farms. Give description and lowest cash price. **Warren McTear Farm Agency, Logansport, Ind.**

Farm Wanted Near school; at spot cash price. Mean business **Fuller, Wichita, Kas**

101 Acres Well imp. 55 acres bottom, well located. \$3,500. **Jenkins & Jones, Ava, Mo.**

Wanted to hear from owner of land for sale. **O. K. Hawley, Baldwin, Wis.**

CLASSIFIED ADVERTISING

This classified advertising department is established for the convenience of Michigan farmers. Small advertisements bring best results under classified headings. Try it for want ads and for advertising miscellaneous articles for sale or exchange. Poultry advertising will be run in this department at classified rates, or in display columns at commercial rates. Rates 8 cents a word, each insertion, on orders for less than four insertions; for four or more consecutive insertions 6 cents a word. Count as a word each abbreviation, initial or number. No display type or illustrations admitted. Remittances must accompany order. Real estate and live stock advertising have separate departments and are not accepted as classified. Minimum charge, 10 words.

Rates in Effect October 7, 1922

Words	One time	Four times	Words	One time	Four times
10.....	\$0.80	\$2.40	26.....	\$2.08	\$6.24
11.....	.88	2.64	27.....	2.16	6.48
12.....	.96	2.88	28.....	2.24	6.72
13.....	1.04	3.12	29.....	2.32	6.96
14.....	1.12	3.36	30.....	2.40	7.20
15.....	1.20	3.60	31.....	2.48	7.44
16.....	1.28	3.84	32.....	2.56	7.68
17.....	1.36	4.08	33.....	2.64	7.92
18.....	1.44	4.32	34.....	2.72	8.16
19.....	1.52	4.56	35.....	2.80	8.40
20.....	1.60	4.80	36.....	2.88	8.64
21.....	1.68	5.04	37.....	2.96	8.88
22.....	1.76	5.28	38.....	3.04	9.12
23.....	1.84	5.52	39.....	3.12	9.36
24.....	1.92	5.76	40.....	3.20	9.60
25.....	2.00	6.00	41.....	3.28	9.84

Special Notice

All advertising copy discontinuance orders or change of copy intended for the Classified Department must reach this office ten days in advance of publication date.

PET STOCK

GERMAN Shepherd. Airedales, Collies; Old English Shepherd dogs; Puppies; the illustrated instructive list. **W. R. Watson, Box 35, Macon, Mo.**

BABY CHICKS

PURE-BRED BABY CHICKS.—Barred Rock, Buff Orpingtons, White Wyandottes, Rhode Island Reds, February 15th to April 15th, \$15.00 per hundred. After April 15th, \$13.00 per hundred. 98 per cent live delivery guaranteed. Brookdale Poultry Farm, Box 522, Paw Paw, Michigan.

BABY CHICKS.—20 leading varieties hatched from heavy laying strains. Live delivery guaranteed anywhere in the U. S. Lowest prices ever offered. Write for catalog and price list. **Miller Hatcheries, Box 651, Lancaster, Mo.**

QUALITY CHICKS. eggs; fifteen standard bred varieties; best winter laying strains. Free delivery. Reasonable prices. Catalogue free. **Missouri Poultry Farms, Columbia, Mo.**

BABY CHICKS from heavy-laying strains. All leading pure breeds. Low prices. Prepaid. Live delivery guaranteed. Catalog Free. **Smith Bros. Hatcheries, Mexico, Mo.**

HAI LOOK! 100,000 chicks 12c and up, 15 varieties. From highest producing contest winners. Hatching eggs. Circular. **Lawrence Hatchery, R. 7, Grand Rapids, Mich.**

BABY CHICKS.—White Leghorns, Anonas, Barred Rocks, Low Prices. Catalogue. **Oak Dale Hatchery, Box Y, LeRoy, Minn.**

S. C. BUFF LEGHORN Baby Chicks from good laying strain. **Willard Webster, Bath, Mich.**

POULTRY

INCUBATORS, Brooders, Poultry Supplies. Catalog free. **Cycle Hatcher Co., Box C, Elmira, N. Y.**

QUALITY BIRDS CHIEF.—Pure-bred Pullets, Hens, Cockerels, Turkeys, Geese, Ducks, Bantams, Guinea. Baby Chicks. Satisfaction Guaranteed. Catalogue Free. **Evergreen Poultry Farms, Hatcheries, Hampton, Iowa.**

SINGLE COMB REDS.—Cockerels and pullets, March and April hatched. Reduced prices for quick sale. They win, lay, weigh and pay. **Harry J. Theis, 283 Hunter St., Battle Creek, Mich.**

MAPLEWOOD FARM HATCHERY. Dept. 1, Wabash, Indiana. All our breeders have been blood-tested for bacillary white diarrhea, by accredited state veterinarians. Send for catalogue.

10 Breeds Chickens, Turkeys, Ducks, Geese, Bantams, Guinea, English Bulls, Fox Terrier Pups; 300 Pekin Ducks. **Jesse Burnside, Judson, Indiana.**

S. C. R. I. RED COCKERELS.—Pure-bred, dark, even color. \$3 and \$5 each. **Louis Morris, Mt. Morris, Mich., R. 1.**

FINE Barred Rock Cockerels. \$3.00 Each. **C. M. Cade, East Lansing, Mich.**

WHITE WYANDOTTES from my prize-winning, heavy-laying strain. Males \$3 and \$5. Females \$3 each, \$5 pair. **David Ray, Ypsilanti, Mich.**

GIANT BRONZE TURKEYS from prize winning birds. Large, healthy, unrelated stock furnished. **Mrs. La Verne Brownell, Belmont, Mich.**

MAMMOTH BRONZE TURKEYS.—Gold Bank Strain. Unrelated Stock. Vigorous, healthy, birds. Write for prices. **Mrs. Perry Stebbins, Saranac, Mich.**

68 VARIETIES of Fine pure-bred chickens, ducks, geese, turkeys, fowls, eggs, chickens. Large catalog 5c. **A. A. Ziemer, Austin, Minn.**

RINGLET Barred Rock Cockerels. Exhibition and laying strains. Satisfaction Guaranteed. **Earl Murphy, Britton, Michigan.**

WHITE LEGHORN COCKERELS.—Chicks, Eggs from best flock in country. Catalogue. **Oak Dale Farms, Box Y, LeRoy, Minn.**

BARRED ROCK.—Cockerels, Chicks, Eggs, Chicago Winners, Great Layers. Catalogue. **J. A. Schneider, Box Y, LeRoy Minn.**

WHITE ROCK COCKERELS.—Choice stock, \$3.00 and \$1.00 each. **Wesley Hill, Ionia, Mich.**

PURE-BRED Giant Strain Bourbon Red Turkeys. **Mrs. Rena Meek, Belmont, Mich.**

BOURBON RED TURKEYS.—Hens \$8; Toms \$12. **H. O. Ruggles, Milford, Mich.**

MAMMOTH bronze turkeys from best breeding stock. **Mrs. Eugene Ramsdell, Hanover, Mich.**

FOR GIANT BRONZE TURKEYS.—Toulouse Geese, Buff Orpingtons, write to **M. B. Noble, Saline, Mich.**

JUMBO BRONZE TOMS.—Hickory Hill Strain. **Archie Bennett, Rockford, Mich.**

BOURBON RED turkeys; Regal-Dorcas White Wyandotte cockerels. **Chas. A. Beatty, Milford, Mich.**

BUFF WYANDOTTE COCKERELS for Sale. **J. G. Lange, Inkster, Mich.**

WHITE HOLLAND TURKEYS.—Large, vigorous birds. **Henry Griffin, Napoleon, Mich.**

GESE, DUCKS, Extra Large Embden. Toulouse Geese, \$4 each. African, White China, Brown China, \$3.50. Ducks, Pekin, Rouan, Aylbury, Cayuga, Blue Swedish, Buff Orpington, Black East India, White and Colored Muscovy, \$2.50 each. **Columbia, Golden, Silver, White Wyandotte, Barred, White Buff, Part-Ridge Rocks, S. C. and R. C. Reds, R. C. and S. C. Brown, Black, Silver Leghorns, \$2.00 each. Cedar Lawn Poultry Farm, Wapakoneta, Ohio.**

GESE.—Ducks, leading varieties. Free Circular. **John Hass, Bettendorf, Iowa.**

WHITE CHINA GESE, excellent layers, \$10.00 trio. **Mrs. Alice Bonow, Mattawan, Mich.**

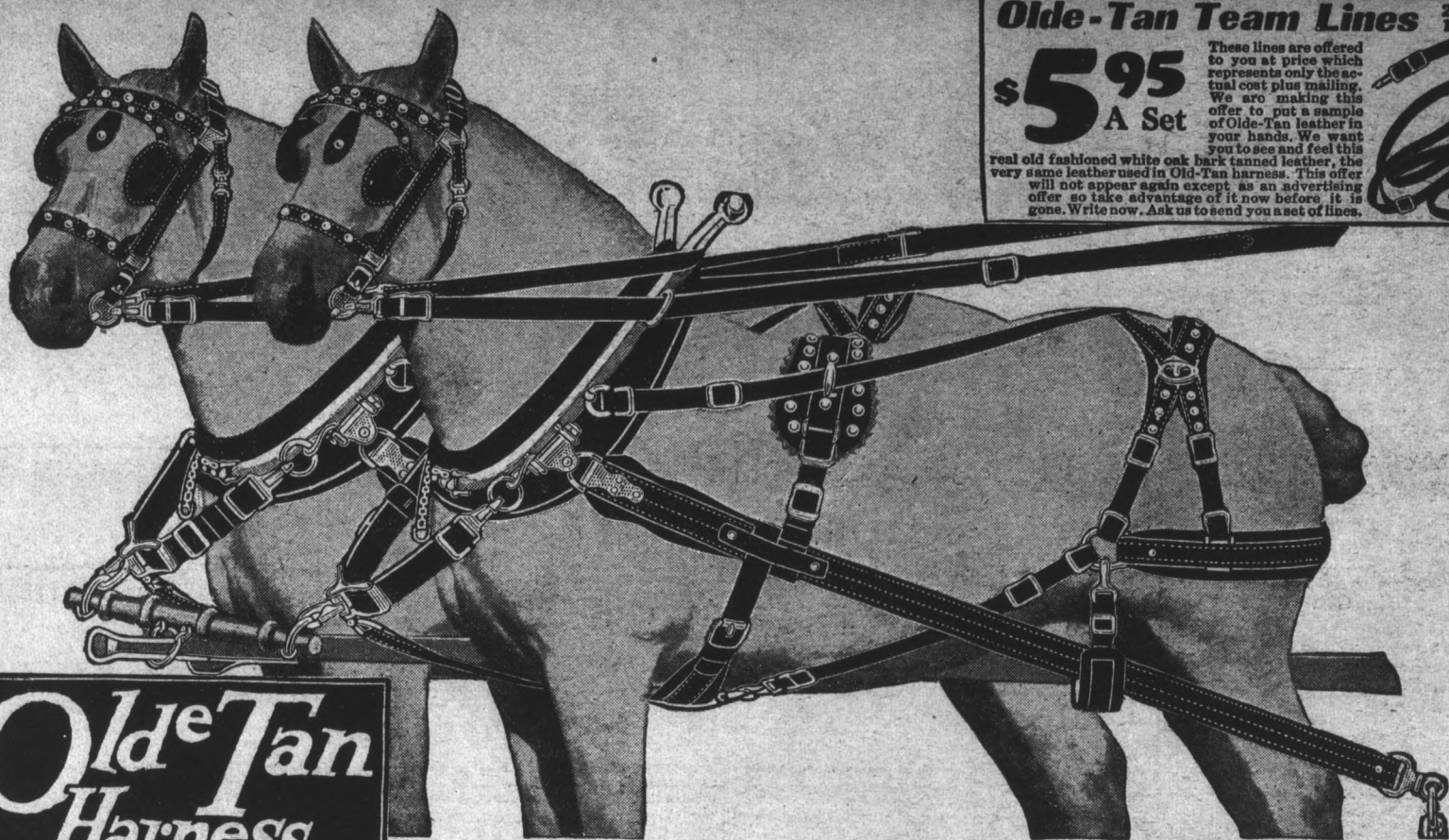
HELP WANTED

MARRIED FARMER WANTED.—Want good progressive farmer to go in sheep and poultry business with me. Have 400 acres land, fine house, machinery. No money needed. Will give man that has had good experience in above business a very unusual opportunity, he to take full charge. Write at once. **C. A. Mirzek, Star Route, Stephenson, Mich.**

FARMER WANTED.—Married man to work on farm situated ten miles from Detroit. Must understand care of cattle. No milking. House and fuel provided. Good wages to right man. **Box 1229, Michigan Farmer.**

WANTED.—Single, experienced farmer with good references, for steady work, with a good man to help milk and drive team. Apply **C. Nielson, Jersey Farm, Farmington, Mich.**

WE PAY \$200 monthly salary, furnish car and expenses to introduce our guaranteed poultry and stock powders. **Bisler Company, X583, Springfield, Illinois.**



Olde-Tan Team Lines

20 Feet Long
1 inch Wide

\$5.95
A Set

These lines are offered to you at price which represents only the actual cost plus mailing. We are making this offer to put a sample of Olde-Tan leather in your hands. We want you to see and feel this real old fashioned white oak bark tanned leather, the very same leather used in Olde-Tan harness. This offer will not appear again except as an advertising offer so take advantage of it now before it is gone. Write now. Ask us to send you a set of lines.



**Olde-Tan
Harness**

Double Wear Certain! Metal-to-Metal Does It

WRITE for the free Harness Book which tells you why Olde-Tan harness wears twice as long as any other high grade harness.

Every spot where there is excessive wear, strain or pull is protected by tough metal, shaped and fitted so that rounded metal parts are adjusted one against the other, thus taking away all corner pulls and sharp strains. No patching or mending of this harness because there are no places for Olde-Tan Harness to wear out. When you buy Olde-Tan Harness you do away with repair bills.

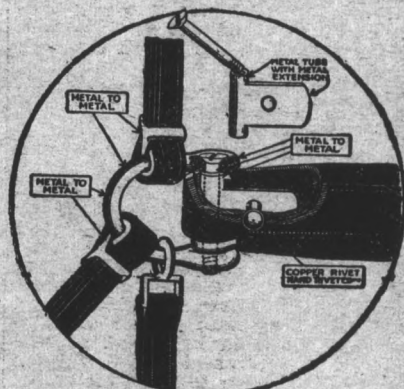
There is 70 year-old tanning skill behind Olde-Tan leather. Three generations of tanner-manufacturers have supervised the production of Olde-Tan Harness, following every step through the tannery and harness factory until the harness is ready for your horses. No wonder that it is known throughout America for its superior quality!

Olde-Tan Harness has every adjustable feature—yet few buckles are used. These are placed only where

convenience in putting on and taking off the harness is essential. No place where there is excessive strain or pull will you find a buckle on Olde-Tan harness.

You don't have to worry about your harness, if you are sure about the quality of the leather and if it has metal-to-metal construction. Olde-Tan Harness is nothing radical or "new style". We just recognize the fact that nothing wears like metal. We merely place metal against metal to make sure of longer wear. Then, in addition to that, the finest leather that can be tanned is used.

Every Olde-Tan Harness is sold under a guarantee which protects you during the entire life of the harness. Make no mistake. Find out all about Olde-Tan before you buy another set of harness. Write for the free Harness Book today. You may as well have the last word in harness—especially when it costs no more than any other harness you would buy.

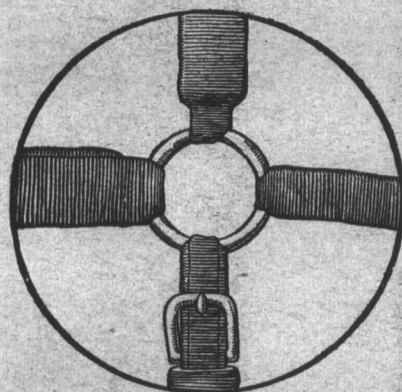


Metal-to-metal construction. Metal bushing. Leather held tight without play or friction. Note special riveted metal extension in breeching.

\$7.50 Puts This Harness
Down On Your Horses

Write today for Free Olde-Tan Metal-to-Metal Book which tells you how for only \$7.50 down you put this Olde-Tan Metal-to-Metal harness on your horses. You will find in this book information which any man buying harness should know. The Olde-Tan Harness book tells how Olde-Tan Leather is tanned, all the different processes from

the raw hide through the liming and washing pits into the tanning drums and out again, finally to be made into what leather experts declare is the finest leather to be found in the whole world. Remember, our offer is to send you an Olde-Tan Harness absolutely no money down. After the first payment of \$7.50, you may pay the balance in easy monthly installments.



Never this in metal-to-metal construction. All pull strain and wear is on metal.

Babson Bros., Dept. 31-01

19th Street and Marshall Blvd., Chicago, Ill.

Please send me free your Olde-Tan Harness Book and all about your \$7.50 down and easy monthly payment offer on Olde-Tan Harness.

I am } including \$5.95 for lines.
I am not }

Print Name and Address Plainly.

My Name.....

My Address.....

Write—

FREE

Ask for our free harness book. Get your copy even if you don't expect to buy harness right away. Learn about how metal-metal construction—and Olde-Tan leather have doubled the life of a harness. Learn why you should buy a tanner-manufacturer harness. Mail coupon today and free book will be sent to you at once.

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