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Building Up a Depleted Farm.

ONE of the greatest problems, if not the greatest problem, confronting the farmers of Michigan, and for that matter of the entire country, is the conservation of soil fertility. Through unwise methods of management the virgin soils of Michigan have been rapidly depleted of their humus and available plant food and have thus gotten into poor physical condition, which in many cases has made their cultivation unprofitable. This process has been more rapid on the lighter soils of the state because on these soils the decomposition of vegetable matter is more rapid than upon heavier soils. Also on these soils the greatest proportion of plant food is held in the humus which also fills the interstices between the comparatively large soil grains, and thus serves the double purpose of holding the plant food content of the soil in an available form for the use of the plants and making these open soils more retentive of moisture, which is an equally important factor in crop production. So, while conservation of soil fertility is an important problem on all Michigan soils, it has come to be a more pressing problem on the lighter and more open soils for the above reasons, and the problem of how to build up and reclaim for profitable agriculture the many depleted farms of this character has become a most pressing one in many sections of our state.

Many farmers have a wrong conception as to how this problem can best be solved, since they have acquired the idea that all that is necessary is to add plant food to the soil. But for the reasons above noted this is not the best or surest road to success for the reclaiming of depleted soils of this character. It is equally essential that the mechanical condition be improved and that humus as well as plant food be added to the soil in order to place it in a proper condition to again grow bountiful and profitable crops.

Thus a practical demonstration of how these wasted and depleted soils may be again placed in a condition to grow maximum crops without a large expenditure of money and with the least possible expenditure of time, is one of the things most needed by a large class of Michigan farmers today. That this can be successfully accomplished can best be demonstrated by citing examples where it has been done. One such example has come to the writer's notice, which is particularly adapted to the illustration of this fact at this time, because of the prominence of the owner of the farm in the agricultural and live stock organizations of the state, for which reason this example has been selected for presentation to our readers.

Some five years ago the firm of Reed and Knowles, of which President R. C. Reed, of the Michigan Improved Live Stock Breeders' and Feeders' Association is the ac-

tive member, purchased the farm in central Livingston county which is now known as "Fairlawn Stock Farm." This farm was originally covered with a light growth of oak and is typical of the type of land generally known as oak openings, of which there is a very considerable area in Michigan. It is a quite rolling and light warm soil and was for years a productive farm, but eventually excessive cropping without any thought of

could from the land and returned nothing, until it reached the period where humus and the fertility was practically depleted and the farm was left a barren waste, without sufficient productive power to make its cultivation profitable.

In this condition the present owners purchased the farm with the idea of some day making it again productive. The fact that they have succeeded in doing this is well illustrated by the accompany-

ing buildings, which are shown in the accompanying cut. While the large barn with the accompanying silos was in process of construction, a farmer who was well acquainted with the history of this farm asked Mr. Reed if he expected to fill such a large barn from the crops grown upon this farm, or what he expected to use it for. Mr. Reed laughingly replied that he expected to keep cattle in the stables which occupy the ground floor of the barn, and that the large haymows overhead were just a bluff. But those barns and silos are no longer considered a bluff by the men who considered the land of little value for agricultural purposes.

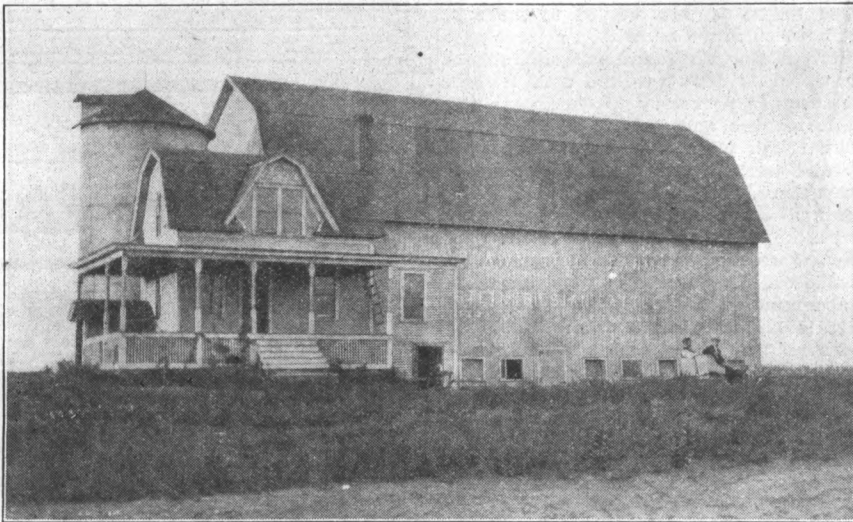
At the start only about fifteen dairy cows were kept upon this farm, but it at present supports a stock of something like sixty dairy cattle, and these dairy cows, in connection with judicious methods of tillage, have been the principal means by which this depleted farm has been reclaimed for profitable agriculture.

The one thing which has been done in this case, which is not within the means of the average farmer, was the use of a light application of feathers to the soil on two of the fields. These feathers were obtained from a nearby poultry packing house and were applied with a manure spreader as thinly as possible.

But stable manure is entitled to practically all of the credit of the wonderful transformation which has been accomplished on this farm. The silo, the silage corn and the cow have been the main factors in the solution of the problem. At first, the larger kinds of silage corn were used exclusively because these were the only kinds that would make sufficient growth to be harvestable. Ordinary dent corn would not grow over three or four feet high. Notwithstanding the small stock of cows that were kept at first, some supplementary feeds were necessarily purchased and these, of course,

helped in the making of stable manure for growing better crops of corn in future years. Now the management is mixing the silage seed corn with some of the smaller growing dent varieties in order to get a smaller growth containing a higher percentage of food nutrients.

Clover has also, as a matter of course, been made a factor in the improvement of this farm. Experiments showed that the best method of getting clover established on this farm was by sowing in August with a light seeding of rye to protect it from winter exposures. This obtains sufficient root so that in the spring it makes a rapid growth and is not easily affected by a drouth. While results have not been perfect in every case from this method of seeding, there has not occurred a complete failure of a clover seeding by this method on this farm. Alfalfa has been successfully grown on a smaller scale and has demonstrated the soil's



Big Barn and Silos Built on a Depleted Farm for Future Crops.

maintaining soil fertility depleted its content of humus and available plant food to a marked degree. But little stock was kept upon the farm and practically its entire product was sold, as has been the case upon many farms of similar character and with like results. This state of affairs was followed until the owner moved away and began to rent the farm, when each successive renter took all he

ing cut, showing the corn grown upon the farm last year, as well as by the young seedlings of clover which cannot be well illustrated. How this transformation has been brought about cannot but be interesting to thousands of farmers in the state of Michigan who are confronted with a like problem.

The first step taken by the present owners of this farm was to build suitable



Corn Fifteen Feet High, Estimated to Produce Eighteen Tons of Ensilage Per Acre.

adaptability to its successful growth.

Now, from this method of improving a depleted soil what has been the result? As above noted, only a very small growth of corn could be produced from the land before its improvement. There are now two silos on this farm, one 14x38 and one 14x24 feet. These two silos were last year filled from the product of ten acres of land and later were refilled, taking about two and one-half acres more. It was thought that this corn would yield about 18 tons per acre. It was a very heavy growth and very tall, as will be seen from the first page cut, some of the stalks being 15 feet high.

This is the simple story of the effective way in which one depleted farm was quickly and cheaply reclaimed and made to produce profitable crops. It is not more than any man can do by the use of intelligence and up-to-date methods in connection with dairying or live stock farming. The clean corn fields show that tillage has been an important factor in the solution of the problem upon this farm and this example proves that good cultural methods in producing feed for the maintenance of live stock upon the farm, the manure being returned to the soil to build up its mechanical condition and fertility in connection with clover, will rehabilitate the depleted farms of this class without a large expenditure of money on the part of the owner, or a long lapse of time in its accomplishment.

BARNYARD MANURE.

Will you give your idea as to the value of and best method of handling barnyard manure and oblige an old subscriber? Also would like to ask your opinion as to what share of crops I ought to have from my land when I furnish teams, tools, seed and board and pay the taxes on the land? I own 200 acres, all improved except 25 acres.

Newaygo Co.

A. E. H.

I don't like the term barnyard manure. In my opinion there ought not to be any barnyard manure. It is an indefinite term. Stock in Michigan ought to be fed in the stable on a cement floor and I would call the resultant manure stable manure and not barnyard manure. Who knows the value of barnyard manure? What does it mean? If the cattle are turned out in the day time and fed in the barnyard, coarse cornstalks, straw, and clover hay there gradually accumulates during the winter time quite a layer of this coarse roughage which is unevenly mixed with a certain amount of the voided feces of the animal. Now, how much is this worth? Nobody knows. Its plant food content is comparatively small. Of course, there is a large amount of vegetable matter that is worth saving, but considered from the standpoint of plant food it is much less valuable than stable manure or manure which has been produced in the stable on cement floors, where the liquid manure is all saved, and where it is protected from the weather, and hauled out as fast as it accumulates and spread on the land. I would do away with the term barnyard manure entirely because, as I say, I believe all stock ought to be fed in the stable on cement floors. But, if we can't do that then there ought to be a distinction made between barnyard manure and stable manure.

It is not necessary to go into the chemical analysis of stable manure or barnyard manure at the present day. Its analysis differs very materially, depending upon the kind of food which the animal consumes and also upon the kind of animal to which it is fed. The manure from a fattening animal is more valuable than the manure from a young, growing animal, because in the first case more of the nitrogen is voided, which makes the manure more valuable. And so the manure from every kind of animal varies with the age of the animal and with the kind of food which the animal uses in its ration.

Barnyard manure is more valuable than its chemical analysis will indicate because almost invariably our soils need vegetable matter. It is rare indeed that any farm in the state of Michigan contains all the humus or vegetable matter that is needed to have it in the best possible condition. New virgin land is full of vegetable matter and we get good crops. There is an accumulation there of vegetable matter, for ages perhaps, and the decaying of this vegetable matter produced organic acid which acts upon the insoluble plant food in the soil and renders it available. The humus itself contains soluble plant food which has been rendered available in years gone by and held there or absorbed by the humus. After we grow crops on the soil

for a considerable length of time by poor management we deplete the soil of vegetable matter. So it is safe to say that all land, after it has been farmed for a few years, needs added vegetable matter. Of course, we can supply vegetable matter in the form of green manure, turning under crops like clover and cowpeas, and the stubble and roots from other grain crops help to furnish vegetable matter. But when we practice live stock husbandry the waste product of this industry is stable manure. We have got to get rid of it, it accumulates and is in the way, and consequently must be taken care of. It contains soluble plant food. It contains a large amount of organic matter or vegetable matter and besides it is pregnant with bacteria which, when the manure is added to the soil, continue their work of breaking down the vegetable matter and making insoluble plant food in the soil soluble. Consequently none of us are apt to place too high a value upon stable manure. If we could only get enough of it so that we could use it liberally, our profits in farming could be largely increased. The quantity of it, however, is limited, and the man who feeds all of the roughage grown on his farm to live stock and saves the manure carefully can only cover a small portion of his farm with stable manure each year.

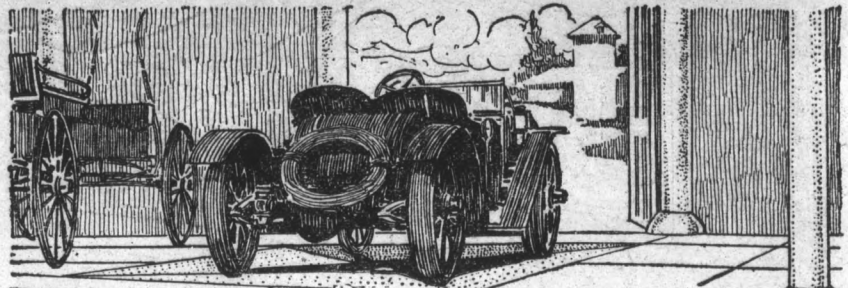
Since stable manure is valuable it is a business proposition to save it the most economical way and with the least loss of plant food and vegetable matter. It used to be thought that stable manure should be thoroughly rotted or decomposed before it was applied to the soil, but now, since we know that a large part of its value consists in the vegetable matter which is added to the soil, it does not seem so necessary to decompose the stable manure and we can apply it in a bulky rough state and plow it right under and work it into the soil and it will decay there, and in decaying there in the presence of insoluble or inert mineral food some of this will be rendered available. Consequently it is better, all things considered, to apply the manure soon after it accumulates, before it rots or decays. If it is hauled directly from the stable and spread upon the land it can be handled with the least amount of labor and since this manure is a bulky product containing a large per cent of moisture the method which will place it upon our field where we desire it with the least expenditure of labor is the most economical. Stables ought to be constructed so that one could drive behind the cows or, if fattening animals are fed running loose in covered barn yards or enclosures, then the manure truck or spreader can be drawn directly into the stable and the manure loaded so that it won't have to be wheeled out and handled over again. Remove the manure where it is deposited by the animal directly to the manure truck or manure spreader and take it out to the land at once. That is the cheapest way to handle it. A certain percentage of the ammonia in the voided feces of the animal is volatile and is liable to be lost and it is a good plan to use some absorbent in the stable which will form a chemical combination with this volatile ammonia and make it a stable product. Scientists now, I believe, agree that probably the very best absorbent that can be used would be superphosphate, as this not only traps the volatile ammonia but it also furnishes phosphorus to the manure. Since stable manure is deficient in phosphorus this is a move in the right direction.

What Share of Crops Should Labor Have?

I must confess myself as incompetent to answer this question. I do not know what share of the crop labor should receive in this case. If A. E. H. owns the land, furnishes teams and tools, and boards the help, what share of the crop should he pay the men? It is simply figured down to a wage proposition. A common way of renting land is where the renter furnishes tools and teams and does all the labor he gets two-thirds and the land draws one-third. If a man furnishes the live stock and half of the feed and pays the taxes he gets one-half. Of course, where labor is hired in this way labor takes part of the risk. A poor crop brings light wages. A good crop brings good wages, and it would be extremely difficult to strike an average and say what part of the crop labor should have.

COLON C. LILLIE.

Horses are in less urgent general demand than at the beginning of the month, with too large offerings of the common and medium grades, and in many cases country shippers paid too high prices to admit of fair profits when their consignments come to be sold in the



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HOW MUCH CORN?

I was much interested in the article by B. F. Washburne, of Washtenaw county, on one man's raising and harvesting 100 acres of corn, and have had it in mind to say a word on the subject since reading his statements. I should like to know where Mr. W. found a farm implement dealer so benighted that he had never seen a horse planter, only nine years ago. The check-row planter was certainly in common use at that time. And while I am speaking of the check-row planter, I want to say, right here, that no man can do a good job of planting and rowing with that machine and get over 25 acres in a day. It can't be done, and I make the statement without any fear that the practical farmers of the state will contradict me.

But about one man doing the work on 100 acres of corn. It looks easy—on paper—but there would be several big "ifs" in practice, with our climate, and of these Mr. W. appears to take no thought. I think a man would be in luck if he got 100 acres plowed in from 20 to 25 days from the time he began in April and early May, and some years it would be longer than that. And it would be the same with harrowing. There would almost certainly be interruptions, and supposing the 100 acres was ready for the planter to start, and a heavy rain should come, a condition which frequently occurs, necessitating a harrowing of the ground again, hence delay. It is my opinion that one man even with the best of teams and tools, will have a strenuous time of it to properly fit the ground and plant 100 acres in season, in an average year. But suppose the corn is planted in time, and is ready to cultivate, and then there should come several days of rain, and sunny days follow? Unless Mr. W. has killed off all the weeds on his place, by his "intensive farming," I've an idea that some of the hundred acres would look more like a pasture than a cultivated field before the cultivator reached it, and there would often be more rain to delay the work. What would the end be? Some years four cultivations might be plenty, and then again it might need twice as many as that to secure the maximum yield. And then for the harvesting. A man would be more than optimistic to count on unbroken fine weather in September for harvesting and shocking a hundred acres of corn, even in the record time Mr. W. gives for doing the work. I, of course, do not know what sort of corn Mr. W. raises, but if he can set up 14 acres of such corn as we grow on our farms here in Eaton county, I should like to employ him, by the day, to shock our corn next fall. He would certainly earn his wages. We think we have some pretty good men here, as well as good farms, but even our best men don't take any contract to set up 14 acres of good corn in shocks. Mr. W. says his troubles are over when he has the corn in the shock, but for my part I would feel a lot more comfortable when the cattle and hogs were sold, and I had the \$3,000 for my season's work in my pocket, or in the bank.

What is done with the other 400 acres? Does he ever stop work in the corn field to help out on some other crop? There must be a lot of work on the big farm to take up time, and from what was said we are left to infer that the only help employed is a man to pitch manure in the spring, for covering 50 acres of the corn ground. The most of us are after the almighty dollar in a greater or less degree, but it seems to me that the man who sets out to raise a hundred acres of corn all alone is paying too dearly for that dollar. There are many things in this world that are far better than dollars, and the man who has a good forty acres, with a small balance in the bank to which he can add a little each year is going to get a lot more out of life than the owner of 500 acres, whose nose is kept to the grindstone all the year, and who is often trying to do two men's work. I am not in favor of large farms, nor in one man's trying to do a two-man job.

I am not questioning Mr. W.'s word, but his article in The Farmer has all the ear marks of farming on paper, and there is a heap of difference between that and actual farming. The former is easy, and all things work out smoothly, according to program, while in actual work on the farm one thing and another may be counted on with practical certainty to occur to upset the program which we have arranged, and then we must do the best we can under the circumstances.

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U. S. Department of Agriculture

Farmers' Bulletin No. 308, among other things, says that *the best farmers have a better understanding of the value and use of commercial fertilizers in growing large crops of superior quality. Also that the importance of taking into consideration all the factors which influence the use of fertilizers can hardly be over-estimated. A plant must have all the essential fertilizer constituents present in available form or its growth will be hindered in proportion to the deficiency of the lacking constituent.*

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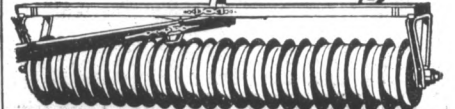
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IS THE AVERAGE FARMER SUCCESSFUL?

There seems to be much adverse comment on Bro. Washburne's corn article in The Farmer of December 30. The broad statement that one man can raise 100 acres of corn in 79 days, has stimulated his brother farmers into an animated discussion of the subject.

Any article that will stimulate an interest in advanced methods of economic production and feeding of any farm crop, should be a stimulus to other farmers in adopting that part of the method which seems best fitted to their particular need.

The average farmer, I believe, does not put forth his best effort to grow and feed his farm crops to the most economic benefit to himself or his farm. His effort may appear to him, at the time of application, the best, but at the end of the year, on a closer, unbiased self-analysis he will see where, if at the beginning of the season he had made a closer study of the market demands, and a still closer study of the economic culture of his crops, and had taken a broader general view of farming as a business, he would have been financially better off at the end of the year. This perhaps is a pretty pessimistic view of the average farmer; but let every reader of this article ask himself this question: "Is the average farmer a successful farmer?"

I contend that not more than one-half of the average farmers are successful farmers. The average make-up of the unsuccessful farmer is a happy-go-lucky fellow, taking solid comfort with "the world wag as it will!" expression on his face, laying all his misfortunes to the dry or wet season, whichever it happens to be, or some other equally non-excusable excuse. He is one who does not take much stock in what he reads in the farm papers, because he says that the fellow who wrote that probably had a first-class farm and lots of money given to him by his father. Neither does he believe in buying good breeding stock from some reliable breeder, because that fellow he says is getting rich by suckers paying him fancy prices. Likewise it doesn't pay to paint the buildings. "Oil is so high, and anyhow they will last as long as I live, if they don't burn down, and if they do I would be the cost of the paint ahead."

He is always looking on the bright side and doing well enough. The only thing against his getting rich is farming, for he thinks that if he were in some other business success would come right in the door and take a nice comfy chair beside the stove.

Ingham Co.

LACEY GRIEB.

IS IT DESIRABLE TO GRADE SEED CORN?

Is it advisable to plant all the corn that grows on the ear, or grade it before planting? I have been advised by some that if I do not plant the tip and butt kernels the ears of the new crop will not fill out well. I would also like to ask some of the readers of The Farmer as to what seed graders and fanning mills are made for.

Montcalm Co. E. A. S.
A kernel of corn from the tip of the ear will produce just as good a corn plant as one from the center of the ear or from the butt of the ear. But it is advisable to grade seed corn if you are going to plant with a power planter. What you want is to drop about four kernels in a hill. Now if you shell the whole ear and have tip and small butt kernels mixed in with the larger kernels from the middle of the ear, you can't set your planter so that it will drop uniformly. That's all the trouble. Some hills will have four kernels and some will have six or eight. If you are drilling in corn for ensilage and intend to plant 12 or 16 quarts to the acre, it doesn't make so very much difference. In fact, for ensilage corn, I hardly think that it would pay to grade the seed.

COLON C. LILLIE.

LOOK AFTER THE SEED CORN.

All through this section it was so wet all the fall, that the majority of corn was damp when put into the crib, and it still remains damp, the cob does not seem to dry out. For this reason but little corn that has been stored in cribs will be fit for seed. Even the corn that was selected for seed at husking time ought to be fire dried in some way in order to insure good germination. Over my dining-room there is quite a large garret, and for a number of years I have utilized this room for curing my seed corn, and have since had no trouble about my corn coming up good.

JOHN JACKSON.

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I want 10 men or more in every township to write me quick for a special offer on the sized engine they need. When you get this offer you'll buy. I make it practically irresistible. Then everybody in your neighborhood will know the truth about Galloway—his quality and savings—and all will understand the foolish tales the dealer tells in order to get his big price and personal profit.

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You'll soon see the reason for the really funny things that dealers say of Galloway—"Galloway has no factory"—"Galloway's pretty near broke"—"Galloway's stuff is poor quality"—those are a few of their stories. But I'm going to call their bluff and make such prices to 10 or more men in every township that will bring the orders and show up the dealers' "jokes" in their true light. In the meantime I'm getting hundreds of letters like this: A. L. Westphal, St. Francis, Minn., writes: Last winter I investigated 5 or 6 different engines on the market, but I bought the Galloway, and I am very well satisfied with it. I have saved at least \$100.00 on it.

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WM. GALLOWAY, President

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LIVE STOCK

THE LIVE STOCK MEETING.

A section of the address of President R. C. Reed, before the recent meeting of the Michigan Improved Live Stock Breeders' and Feeders' Association.

The Michigan Live Stock Breeders' and Feeders' Association is again in session. Another year with its joys, its sorrows, its victories and its defeats has passed into history. We cannot recall the past, but we can recount its opportunities. We should profit by its experience, and past defeats should be but stepping stones to future victories. It is not wise to attempt to bury the thought of all the defeats of the past, but we should so consider these past experiences as to enable us to avoid these difficulties and defeats in the future. And I feel that at no point have we so much reason to feel that we have made real gain. The agricultural and live stock interests of the state and nation have taken a decided step forward. In no one instance have we risen from the rut into which we had fallen as much as in regard to the estimate that the agriculturist places upon his own ability to think for himself. He does receive an inspiration and an impetus from some outside source, as all men do and should, but the agriculturist of today is recognized as a thinker, as a man of brains. He is thinking for himself today as never before, along social, political and economic lines. And the great shifting of political affiliation today is but an indication of the determination of the American people to do their own thinking, and to act independently. The coming new political alignment is but a result of the determination on the part of the people of this great nation to think and act and speak for themselves. This is a very significant fact, and we expect that in the new era, in the new alignment that lies just before us, the agricultural interests shall have a proper recognition, and a square deal; that we have not had this in the past is history, and is attested by the records left of past legislation, as we see them in abandoned fields and farms in various portions of the nation. These fields, lying as they do in close proximity to the great centers of population, should be furnishing their products to supply the needs of the residents of those cities. These farms should be increasing in productivity, instead of becoming barren and unfruitful, and at last being abandoned, as are thousands of farms in the east, and some in Michigan.

Our government is, and should be, exercising great care over the natural resources that warm and light and furnish power for this nation. Those mineral resources that are to furnish the sinews of war and the equipment for commerce should be so protected by this government, that the hand of the despoiler shall be withheld, and unborn generations shall not be robbed of their birthright. This heritage shall be protected and handed down to them. This is all important for upon this shall the coming generations depend for heat, light, power and commercial equipment.

Our Future Food Supply.

But, friends, if it is necessary for coming generations to have the products of our mines, how much more essential is it that they shall have productive soil from which to derive the food for their existence. I believe that the first concern of this nation should be to preserve the fertility of the soil. This is of more importance than deepening our waterways and extending our commerce. The food for the nation should be its chief concern. There is really but one source of soil fertility, and that is from the soil itself, excepting those gases that are drawn to the plant from the air. Then we have this axiom: "The secret of soil fertility is plant production; the secret of plant production is soil fertility."

While we have been opening up our own lands in the west, this has not seemed to be of so great moment, but today we are feeling another problem that causes us to realize that the greatest question that confronts the American people is the food supply for coming generations. Already there has been a great agitation about the high cost of living. Friends, the high cost of living to the average American is not in the necessities, but luxuries, of life. It is not in the absolute food supply, but in the indulgence of those things that are classed as the luxuries.

But if we are concerned in keeping the

actual necessities of life at a lower level of price, our first concern must be to guard and protect our resources from which these are derived. Soil fertility is the greatest of all our natural resources, and as this can only be maintained by the use of animal manure, then we should readily see that every possible protection should be given to the live stock industry of the nation. I esteem that the live stock industry is of that importance to this republic that every protection that can be should be given to it. The sheep industry in this and other states should be given that protection that would stimulate the growth of flocks so that they would occupy the hillside lands of the New England states, to furnish food and clothes for the nearby city man. But the city man has cried out against the protection to our flocks, "The tariff on wool," until he has been heard, and his demand granted; but he has continued to spend ten times as much each week for tobacco and booze as has been saved to him, and has by his demand multiplied the cost of transportation of the meat that he consumes. And he has placed within the reach of the great meat packers the control of the price of his food, and a great area of our country has been deprived of the only industry that could be a financial success there, and those places that were once happy homes and prosperous farms in New England are now growing up to underbrush and briars, and we have been talking of reciprocity with Canada to supply the necessary food for our rapidly increasing population.

The great manufacturing interests have studied the utility of by-products until today in many of these plants there is more profit in what was once the by-product than in that which was once the main product of the plant. Yet this nation has turned to waste that which was once a great source of wealth and manhood, the inspiring landscape, the invigorating atmosphere, and the rugged hillsides of New England. The toiling masses of the New England cities could well afford to give a premium to every sheep and every cow that should exist there upon her hillsides, but instead of this, on account of the adverse legislation, there is only one cow to 17½ population in the state of Massachusetts, the sheep industry has been annihilated and the New England consumer is crying out against oppression of the Chicago meat trust, and the excessive cost of transportation. Millions of sheep and hundreds of thousands of cattle should be living upon the hillsides of New England and furnishing profit to the owner, fertility to the soil, and clothing and food to the nearby city man. Michigan is following in the wake of the New England states, and we cry out against this! We want protective legislation, not hostile legislation to the live stock industry of this state and nation.

Protective Legislation.

Again I repeat that everything that can be done should be done to encourage the live stock industry of the nation. It seems to me that where such vital interests are attached to any industry, where the interests of all people of the nation depend upon it, that there ought to be given to such an industry the most liberal legislation, a legislation that will both stimulate and protect, not an entanglement of laws that will be a menace to the industry. Laws are often enacted, ostensibly in the interests of public health, for this is the alarm cry that will arouse the millions. We heartily concur in any law or movement that will guard the health of the people. The great white plague should be fought, but why make the cow the scape-goat for the sins of so many. Some of these young women who sat on the ice-covered bleachers at Ann Arbor in zero weather for four hours with peek-a-boo waists on to see the Michigan-Pennsylvania foot ball game, are even now wondering why they should be compelled to go to the sanatorium at Howell to be treated for tuberculosis, and the doctor is trying to find out if some time in her life she did not take a drink of cow's milk. If she did, there is where she got the "bug." Did you ever hear of the tuberculin test being applied to those who desired to gain admission to a public dance, where for long and strenuous hours people mingle in close proximity to each other? Did you ever hear of a physician warning his patient that it was dangerous to do this? No, no danger to public health there. But there is such grave danger to the public in moving a seemingly healthy animal from one locality to another, that

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trustworthy. There is lots of money in breaking colts and curing horses of bad habits. The field is unlimited.

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Some of Prof. Beery's graduates are traveling, giving exhibitions in cities. Some now own profitable training stables. Some are getting rich buying up cast-off kickers, "man-killers," tricksters and horses "afraid of autos" for next to nothing, handling them a few days and selling at tremendous profit. J. O. Brown, Cameron, Mo., writes: "Last month I made \$90.00 training colts, besides doing my regular farm work."

S. M. Ryder, Mercersburg, Pa., writes: "I am making money buying 3-year-old kickers cheap, handling them a few days and selling them, perfectly broken, at a large profit." O. B. Hill, Robinson, Ill., Route No. 3 writes: "Three weeks ago I paid \$125 for a 5-year-old kicker, yesterday I sold her for \$225."

King of Horse Trainers and Tamers

Prof. Beery was tremendously successful in giving exhibitions of his marvelous skill in training horses and mastering man-killing stallions. He traveled all over the United States, thrilling vast audiences everywhere. Honors were showered upon him by admiring thousands. He has now retired from his marvelous career in the arena and is giving the world the benefit of his priceless knowledge, having established a correspondence system of horsemanship, the only instruction of its kind in the world.

Make Worthless Horses Valuable!

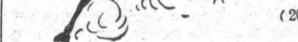
Prof. Beery's System of Horse Training enables you to turn horses whose viciousness or bad habits make them utterly worthless and unsalable into valuable, useful animals. Prof. Beery is unalterably opposed to harsh, cruel treatment of horses. His methods are humane, safe, simple and successful even in the most extreme cases. You can learn to tell any horse's disposition at first sight.

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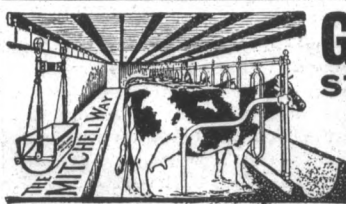


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\$2,000 Imported Belgian Stallion

Seven years old, weight about 2,000 lbs., dapple bay. This horse is right also his breeding, have colts to show. If you want an A No. 1 horse at a bargain, it will pay you to write or phone. OLINTON M. DIX, R. No. 2, Washington, Macomb Co., Mich.

Breeders of Jacks and Percheron Horses—20 three year old jacks, 15 yearlings. Some nice Percheron Stallions, Mares, Colts and Tamworth swine. All stock registered or subject to registry. We would be glad to have you visit our farm or write for circulars. H. T. Brown & Co., 156 W. Short St., Lexington, Ky.

For Sale, Pair Percheron Mares, 4 yrs. old, weight 1,800 lbs. One imported Percheron mare 8 yrs. old, weight 1,700, all in foal. One imported Percheron stallion 3 yrs. old, wt. 1,800, a first prize winner at Grand Rapids. One American bred Percheron stallion 14 yrs. old, wt. 1,650. All black and all reg. First class in every respect will be sold right if taken soon. WM. BIRD, St. Johns, Mich.

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I have black & gray, all young and registered, with quality, bone and weight. Earl W. Barnard, Saranac, Mich.

REGISTERED PERCHERON and Light Harness Horses, Short-horn cattle, Duroc Jersey swine, Shropshire Sheep and Buff Cochins chickens. M. A. BRAY, Okemos, Ingham Co., Mich.

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Biggest jack offering ever made. 90-day sale on 55 head of extra big registered Mammoth jacks at 60% of their value. Prices \$250 to \$1,200 each. I am importing 200 Percheron and Belgian mares and 80 stallions and must close out a lot of jacks to get money and make room. Write for catalog, photograph, description and price list.

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JACKS and MULES

Raise mules and get rich. 13 jack and mule farms under one management, where can be seen 400 head fine large jacks, jennets and mules, 14 to 17 hands high. Good ones. Stock guaranteed. Write for prices today. Address

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has for sale two black PERCHERON STALLION COLTS out of Calypso mares—one coming two years old in June the other one year old in April.

Imported and pure bred Stallions. We make a speciality of Belgian & Percheron Stallions, all of Quality, Bone and Weight. G. & H. LOCHER, Bluffton, Ohio

the federal authorities are called in, and the most rigid scrutiny is exercised, with laws and officers to guard this.

In regard to those menacing laws, the cattle breeders of this state have enjoyed a great degree of immunity, for with our conservative and level headed Live Stock Sanitary Commission, I believe that the greatest care has been taken, in using the various tests to determine the presence of disease, to be both careful and thorough. But friends, this it not always so. Undoubtedly, sometimes an effort is made on the part of the owners of animals to nullify the tests, but as many times there is an effort made on the part of some official to show some excuse for the existence of the office. But when we come to consider the question of reliability of the tuberculin test, this brings into the question an element of uncertainty that is indeed a serious question, and I feel that I desire to be very careful in my statement here. I do not want to be misunderstood. I do not want to advocate reactionary measures. I do not want to impede the course of any reform movement. But I am satisfied that the tuberculin test is not sufficiently understood by the practitioners, so that at this date there can be on the part of the people confidence in it. Go out from this room and ask the different practitioners that you meet what reading constitutes a reaction, and you will receive about as many answers as you make inquiries. Some claim that a raise of one per cent constitutes a reaction, and the variations from this to an average of three per cent above normal temperature. Go out from this room and ask the different practitioners that you meet what the variations in the normal temperature of animals may be, and I am sure that the answers will be as varied. Go again and ask what the dosage of tuberculin is, and here again you will find a great discrepancy. I know where the dosage has ranged all the way from 2 to 9 c. c., B. A. I. tuberculin, for mature animals. Then I know that erratic and unreliable thermometers are used. I have seen the reading vary one per cent on an animal with two thermometers at the same time. I have it upon the authority of one of the most conspicuous men in the profession in the United States that not long since an entire herd of twelve animals were condemned and slaughtered. Each animal was posted, and not a single tubercular lesion was found in any of the animals. It was afterward discovered that the thermometer that had been used on the test the second day was a worthless thing. We are not yet ready to advise as has been done in some instances, but we do believe that this test needs a great deal of care, and should be so jealously guarded as to avoid the loss so ruthlessly made. Gentlemen, this thing today, the way it is used by some, constitutes a peril to the live stock industry of our nation. If our dollars are to be played with, then we ought to have something to say about the game.

In my own experience I am sure I have been fortunate, for I have never had but one animal condemned, but I have had the variations in the preliminary test so great that they would have constituted a reaction on the following day, a variation of 3 1/2 per cent with no apparent discomfiture on the part of the animal on the day previous to the injection of the tuberculin, and no possible explanation could be made. I am not advocating the abandonment of the tuberculin test, yet some have done this. I would not advocate the position that I think Germany has taken. But I do believe that animals should never be condemned on the test alone. A clinical examination as well should be relied upon to make this determination, upon which depends the destruction or the usefulness of that animal. The most reliable data that I have been able to obtain from M. D.'s causes me to believe that not two per cent of the human tuberculosis can be attributed to bovine infection. There is hardly another source of human tuberculosis but to which you may charge a greater degree of infection.

We must safeguard the health of the public, but let us raise the alarm cry all along the danger line and let us cause the people to understand that the unwise and often sinful practices of the people themselves is the greatest source of human tuberculosis. The above referred to law is only one of the many laws which we should refer to if we had the time, which are not accomplishing the purpose for which they are created.

Editors' Note.—Extracts from the balance of President Reed's address will be published in a future issue.

NOW YOU CAN DRAIN YOUR LAND

YOU know drainage is the most valuable improvement you could make to your farm, but you have not felt like tiling before because it meant too heavy an investment—two much labor—too slow a job. Now—the horse power Cyclone Tile Ditching Machine cuts the average cost of a finished tile ditch down to 3 or 4 cents per rod—ditch cut—tile laid and covered.

We guarantee this successful horse power machine cuts tile ditch, 10 inches wide, 24 inches deep, at the rate of 300 rods per day in ordinary soil.

In our valuable free book, showing The Money Making Way of Draining Land, C. G. Elliott, Drainage Expert of U. S. Dept. of Agriculture, shows how with good drainage—"Land is ready for seeding earlier. Crops begin healthy growth at once. Fertilizers are not wasted by surface washing. Crops are better able to withstand drought. Frost does less injury to crops. Crops make much more vigorous growth. Profits from land are greatly increased. Disease among farm animals is decreased." The

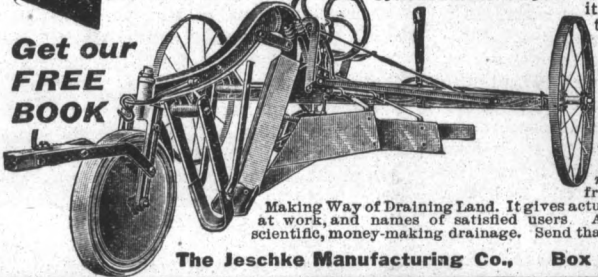
Cyclone Tile Ditching Machine

pays for itself over hand labor in tiling the first 20 to 40 acres, according to spacing of laterals—the added returns from the land, year after year are clear profit.

When you have finished your own ditching with a Cyclone, you can make money by cutting tile ditches for others. You can earn more money with a Cyclone Ditching Machine than with a threshing outfit which costs about ten times as much.

Get the facts and see how much a Cyclone will bring you in actual cash in a year. Our book lays the whole matter before you. If the Cyclone will double your farm profits you want to know it. No experience needed to operate this wonderful machine but we will see that some one goes to your farm to make sure that the machine is set up properly and that you get the right start. You do not pay one cent until we demonstrate and prove to you that the Cyclone does every single thing we claim for it. Write a postal note before you forget. Ask for free booklet showing The Money Making Way of Draining Land. It gives actual photographs of the Cyclone at work, and names of satisfied users. Also valuable information on scientific, money-making drainage. Send that postal note.

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are made of the strongest rubber in the world. They're made on honor by people who know how, on a special plan of construction that experience has demonstrated a success. The duck vamps are made by forcing the highest grade rubber into the best quality of canvas duck by powerful hydraulic pressure instead of by hand. As a precaution against cracking at the ankle, we use an extra ankle reinforcement of pure gum, while others use a strip of cloth. Cloth is cheaper. Century Soles are made from the toughest compound known, and will outwear the soles of the average rubber boot two to one. Here we reinforced again by running a strip of pure gum all the way around the edge of the sole, making a connection so firm and lasting as to absolutely prevent breaking. It's not easy to tell a good rubber boot by appearances, and even the dealer gets fooled occasionally. More often he yields to the temptation to make what looks like a little "easy money" by stocking up on a "cheaper" article on the representation of some smooth salesman that "it's just as good" as the Century. Why take chances on goods of doubtful quality when you can have Century Boots, backed by years of success, at no greater cost? It has paid thousands of people who insist on having the Century Beacon Falls Rubber Footwear is "always the best for the money"—best for wear—best for style and fit. Ask your dealer for it. If he can't supply you, write us, giving his name. We will see that you are fitted out. Illustrated booklet free. Write for it. [1]

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New York Chicago
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LIVE STOCK NOTES.

The long spell of severely cold weather, with snow storms now and then, made serious interruptions to the live stock shipments to Chicago from the surrounding country. Many stockmen preferred to wait for a rise in the temperature before shipping stock to market, while in numerous instances the railroad officials refused to accept consignments when offered, realizing fully the extreme uncertainty as to getting them in anywhere near schedule time. For two consecutive weeks the Monday receipts of cattle, hogs and sheep were cut down to very small numbers, and prices had good advances for cattle and hogs, while lambs had a ready outlet. Stock showed large shrinkages when shipped during the most severe weather and arrived very late in the day frequently, so that many consignments had to be carried over to the following day, thereby adding to sellers' expenses. Many shipments of hogs had to remain a day at country shipping stations, and it was impossible with the accommodations provided generally to keep them comfortable. It is usually wise during spells of unusually severe winter weather to keep stock on the farm.

Butter and eggs have had a big boom in prices that carried them to the highest figures recorded in many years. Following the example of the Elgin Board of Trade, the Chicago Butter and Egg Board advanced fancy creamery butter to 40 cents a pound, and retailers thereupon raised their price to 50 cents in some instances. High prices have greatly checked the demand for butter and eggs, and egg prices were lowered when it was found that sales were slow. Following the butter boost, Assistant District Attorney A. G. Welch declared that he had sufficient evidence to warrant a demand for an injunction and that he would ask an order to restrain the president and members of the two boards from fixing arbitrary prices for the provisions traded in on both exchanges. Butter dealers complained that the production of first-class butter was below requirements, and this is doubtless true. At any rate lots of inferior butter is offered in the city groceries at prices quoted for prime grade butter, and but-terine is having an enormous sale.

A prominent feeder of Colorado says there are 700,000 sheep and lambs on feed in that state, this being about the same number as a year ago. A few Colorado lambs have shown up in the Chicago market, their quality being good, but no general shipping movement from northern Colorado is expected before late in February or early in March. Colorado feeders claim that in order to get even, they must obtain an average of \$1 per 100 pounds more for their lambs than last year, or an average selling price of \$7 per 100 pounds on the Chicago market, and recent lamb prices have been made well above that price, the best lambs having brought \$7.40. Flocks went into Colorado feed lots on an average of 20 to 30 days later than last year, but their general condition is said to be as good as a year ago. Shipments are now being made from southern Colorado, and they will gain in volume as the season advances. Feed in Colorado costs 30 to 40 per cent more than last year, corn averaging \$1.12 to \$1.25 per 100 pounds, while hay costs \$7 to \$8 per ton. In the North Platte country located in the extreme western part of Nebraska and in the extreme eastern part of Wyoming there are 150,000 sheep and lambs feeding, an increase of 75,000 over a year ago.

The long spell of extremely cold weather has greatly increased the amounts of corn fed to live stock on the farms everywhere, and this tends to strengthen prices, although dealers have been counting on a larger marketing of farmers' surplus corn with milder weather. The way corn prices have held up is a surprise to many people, and it tends to show the confidence that the average farmer has in the value of that cereal. Recent corn sales have been as much as 16 cents a bushel higher than a year ago, and some cash lots of No. 3 white have been made in the Chicago market as high as 63 cents a bushel. Hay, too, is scarce and extremely high, the best timothy selling at wholesale in Chicago for \$24 per ton, and choice prairie hay for \$18.50. The best prairie hay is brought from Kansas and Oklahoma, while choice Iowa, Nebraska and Minnesota prairie hay brings \$14.50 to \$15.

Nebraska breeders of Hereford cattle report the best demand for pure-bred cattle, as well as the highest prices, seen in ten years. Breeders everywhere are reported as short on cattle. In the north-western range country rangemen and cattle feeders can no longer depend upon neighbors and the country at large to furnish feeder cattle and consequently they are forced to raise their own cattle. Where once there was a demand for 40 to 50 bulls, it is now for 10 to 15, and orders are larger in numbers, while calling for fewer head. The time has come when corn belt farmers will have to breed and raise cattle.

John A. Eyler, live stock agent of the Burlington railroad, looks for a shortage of western range cattle this year. He says: "Our corn belt cannot be expected to supply much beef for the next few months, and the number of cattle on feed is considerably less than last year. The reasons for this include higher prices of cattle and the difficulty of getting stock cattle at a cost that promises to let feeders out even. More range cattle were moved out of Montana and Wyoming in 1911 by the Burlington road than we had expected, and knowledge of what is left warrants my prediction that offerings next summer and fall will be 50 per cent less. What puzzles me now is where the young cattle to reinstate the industry in the west are coming from."

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**Does Work of FOUR Ordinary Plows
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Saves Manure—
Protects You Against Drought**

Wonderful improvements have lately been made in plow making. After 40 years' endeavor, a real *all-purpose* plow has been invented—an implement which does perfect work on tame sod, heavy clay land, sandy land, mixed land—in any kind of soil. Spreads each slice *evenly* and *smoothly*. (No kinking.) *Pulverizes* the soil so as to give you a perfect seed bed with less moisture, less manure and less harrowing than you ever thought possible.

We want every farmer in America to know this great plow, and if you will simply send us your name, we will forward, postpaid, complete story of the Rock Island (C.T.X.) Universal Plow—how it came to be invented—how it works—how it will save you work, time and money—how it will greatly increase your crops. And we will also send you letters from farmers now using "Universal" Plows.

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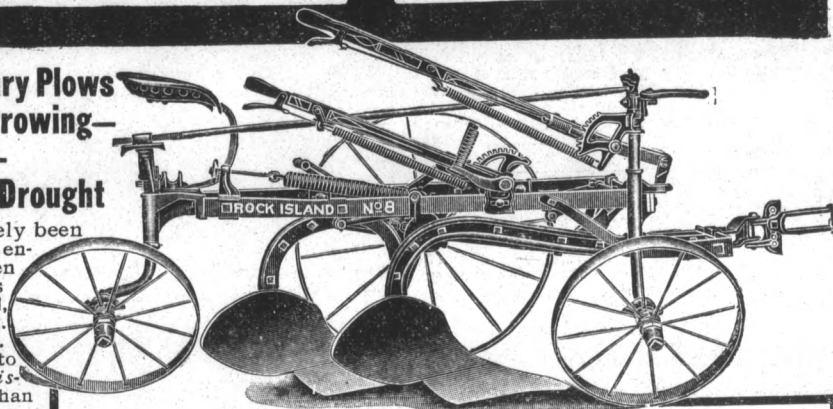
There is no other plow like it. There are plows for tame sod, for heavy clay, for sandy loam, for use in *stubble*, *cornstalks* and *trashy* land. But the "Universal" is the *only* plow with which any farmer in any *township* in your *state* can properly plow up any field on his farm.

Saves Hours and Hours of Harrowing

Don't overwork yourself, your hired help and your horses *harrowing* your land. Get a "Universal"—the plow that not only turns over the soil and covers all trash, but *leaves* that soil in such condition as to make it a simple matter to prepare your seed bed. Then you won't need to harrow so much. *Save time, labor and expense by less harrowing.*

Makes Manure Go Farther

The U. S. Government says the manure from one horse or cow in one year is worth \$27. It's certainly too valuable to WASTE. Even with a manure spreader, one wastes *tons* of valuable fertilizer *unless the seed bed is porous enough to take up the manure rapidly*. And good plowing is the *first and most important* step in preparing any seed bed.



Note the peculiar corkscrew, auger-like twist of the mouldboard. A slice of any thickness spreads out evenly over the surface without crimping and turns clear over, partly pulverizing the soil and burying all trash completely. No spilling over into the furrow or slopping forward onto the land. Lightest draft and easiest on the horses of any plow made. We control the shape of these mouldboards and they cannot be had on any other make of plow. Has more up-to-date features than any other plow, besides the great exclusive advantage of the Universal Bottom. For full description see our free book, called "The Plow as a Manure Saver" (pages 11-16). Write for it.

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Save the rain that *falls* and thus save your crop from "burning up." When you plow see that each slice turns over *smooth* and *flat*, without crimping, and is better pulverized. The top soil will touch the *subsoil* without air spaces, and thus in dry weather pull the water up from below like a *lamp wick* pulls up kerosene. Deep plowing is often a safeguard against drought. With a Rock Island "Universal" you can plow as deep as any farmer would care to, and you will always have *flat, smooth* furrows.

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WRITE! Send us name and address on a postal. Get the story of the Rock Island Universal Plow in *complete form*. You will also learn the price and be given an opportunity to inspect one of these wonderful, all-purpose plows. *Please put your R. F. D. Number on postal.*

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VETERINARY

CONDUCTED BY W. C. FAIR, V. S.

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Leucorrhoea.—Have a mare 17 years old, bred last June, that has had a thick white vaginal discharge ever since. Our local Vet. has failed to help her and I might add she is not in foal. G. N. N., Sheridan, Mich.—Give your mare 1/2 oz. Fowler's solution at a dose in feed three times a day. She should be well fed and have good care. If you inject her use the following lotion, which is made by dissolving 1 dr. permanganate potash in 5 or 6 qts. of tepid water and applied by using a small rubber tube with tin funnel.

Stocking.—I would like to have you tell me the cause of stocking in horses. I have a six-year-old horse that does not seem to be sick, but his hind legs stock. M. J. L., Carsonville, Mich.—Stocking is not a disease, but a result of other ailments. Very often it results from generous feeding and for want of exercise. Regular exercise and good care, keeping the bowels open and the kidneys active, with perhaps bandaging, will generally remedy it. Give your horse 1/2 oz. fluid extract buchu at a dose in feed three times a day.

Chronic Laminitis.—Inflamed joints.—Last spring I bought a young Belgian mare that was represented to be sound, but soon showed some foot soreness in front and her joints were somewhat swollen. Our local Vet. who has treated her for soreness and stiffness tells me she will never fully recover. R. C. A., Ann Arbor, Mich.—She will travel less sore if you apply rolling motion shoes in front. Dissolve 1/4 lb. sugar of lead in one gallon of cold water, adding one pint fluid extract opium and apply to sore joints three times a day. Chronic soreness of this kind is seldom permanently relieved.

Warty Condition of Skin.—There are three sores on my cow's udder and one of them extends one-half way down teat. These patches appear as if the skin was thickened, but there is no wound. How should they be treated? N. H. M., Shepherd, Mich.—Apply iodine ointment every day or two.

Itchy Condition of Skin.—Lice.—Warts. My yearling Holstein bull licks and chews at himself almost continually; mostly on hind legs, thighs and scrotum. Two weeks ago his skin seemed to be in a perfectly healthy condition. I would like to know of a lice killing remedy that can be used in cold weather. Would also like to know what to apply on warty places on cattle. F. S., Edwardsburg, Mich.—Apply one part sub-nitrate of bismuth and four parts vaseline to itchy parts of bull every day or two. He may need a good washing with soap and water. Dust on Persian insect powder once a day. Apply iodine ointment to warty parts of calves three times a week.

Impure Blood.—Scabs on Body.—We have a calf that has a great many small scabs on skin, causing him to rub as if itchy. F. G. H., Dor, Mich.—Give your calf a dessertspoonful fluid extract sarsaparilla and 20 drops Donovan's solution at a dose in feed three times a day, and apply vaseline to sore parts of body three times a week.

Pneumonia.—I would like to know what you think caused the death of my small pigs last summer and autumn. They refused food, panted as if short of breath and after lingering several days died. F. W., Pinckney, Mich.—Your young pigs no doubt died of either pneumonia or heart trouble. Perhaps they had both heart and lung trouble; treatment in such cases does little or no good. Good care and feeding them plenty has a tendency to prevent ailments of this kind.

Choking.—Food in Lungs.—One of my hogs weighing 60 pounds commenced to eat ravenously and then quickly acted as if choked. I lifted him up by hind legs, shook him and this seemed to afford some relief. Local Vet. thought it might be congested stomach or larynx trouble, or it might be some of the middlings dropped down the windpipe. We feed separator milk and middlings twice a day and corn three times daily. L. V. R., Muir, Mich.—Warm their feed and make it thin. Some of the food no doubt went down windpipe, after lodging in throat, causing partial choking. Little can be done to relieve such a case.

Abscess in Ear.—Our three-year-old collie dog has a gathering in both ears and I would like to know what can be done for him. First noticed this ailment one year ago. His hearing is much affected. A. J. T., Kingston, Mich.—Drop in one part hydrogen peroxide and eight parts water slowly and this will clean out pus, then apply a little boracic acid. He should be treated once a day.

Catarrh.—Several of my pigs discharge from nostrils and are not thriving. I am feeding skim-milk and middlings night and morning and corn at noon. Nearly all of them are pot-bellied. E. B. L., Litchfield, O.—Mix together equal parts ground gentian, ginger, bicarbonate soda and salt and give a teaspoonful to each full grown hog two or three times a day. Perhaps a change of feed would help them as much as drugs.

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AYRSHIRES—One of foremost dairy breeds; young bulls and bull calves for sale. Berkshire swine. All pure bred. Michigan School for Deaf, Flint, Mich.

For Sale—3 Registered Guernsey Bulls; 5 registered large Yorkshire sows, bred. For prices write John Ebels, R. No. 10, Holland, Mich.

FOR SALE, CHEAP, ONE GUERNSEY BULL, registered, 1 year old. P. PHILLIP, Wayne, Mich.

Guernsey Bull Calves sired by half-brother of Rose of Langwater, m. 12,965.5 lbs.; b. f. 66,989 lbs., 2 yrs. 7 mo. Allan, Kelsey, Lakeview, Mich.

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One \$70 Bull

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We have some very choice ones a little higher. Write for description and pedigree.

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A fine young bull from an Advanced Registry dam, Beauty Pieterje Korndyke King No. 78950.

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SIRE—Willowbridge Bos, who is a grandson of Beauty Pieterje, who has an official record of 30.51 lbs. butter in 7 days and was the first 30-lb. cow of the breed to produce a 30-lb. daughter.

DAM—Anna Howtje Lenore, who has an official record as follows: Milk, 1 day, 84.3 lbs.; milk, 7 days, 546.2 lbs.; butter, 7 days, 20.25 lbs. She gave 14015 lbs. milk last year in 312 days at 10 years old. She has given 10165 lbs. milk in 9 milking periods averaging 326 days each. She has 2 A. R. O. daughters. One has a record of 23.22 lbs. butter in 7 days at 4 years 3 mo. old. He comes from large producers on both sides, is a good individual, nicely marked, with a little more black than white. Price \$100.

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FOR SALE YOUNG BULL

from A. R. O. dam with over 20 lbs. of butter in 7 days. Sire a grandson of DeKol Burke. Here are bargains—I have three bulls, 7, 8, and 9 months old: sire Johanna Concordia Champion, whose two grandams averaged over 34 lbs. butter in 7 days. \$25.00 to \$35.00

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Send for my Dec. Announcement. Select a bull from it, order him QUICK. Several from A. R. O. dams, and sired by Johanna Concordia Champion, the only bull in service whose grand dams average 34.06 lbs. butter in 7 days. Also yearling heifers bred to him.

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HEREFORDS—7 bulls from 2 mos. to 2 years old, all reg. and of the very best breeding. Also big boned Poland China hogs. ALLEN BROS., Paw Paw, Mich.

Holstein Bulls from 4 to 9 months old. Their sire is best breeding. ROBIN CARR, Fowlerville, Mich.

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REGISTERED JERSEYS For Sale.—Some combin. ing the blood of St Louis and Chicago World's Fair Champions by HERMAN HARMS, Reese, Mich.

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T. F. MARSTON, Bay City, Michigan.

Crystal Springs Jerseys for Sale from testing cows. C. A. BRISTOL, R. No. 2, Fenton, Mich.

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Cows all in yearly test. Several splendid Bull Calves. A few Heifers and Heifer Calves. I guarantee satisfaction or money refunded.

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JERSEYS of the best breeding. Cows officially tested. A few bull calves from cows making splendid records. SAMUEL ODELL, Shelby, Mich.

Red Polled Bull Calves 6 to 7 months old \$40 to \$50. Cows \$50 to \$75. Also Percheron Stallion 3 years old, fine style, a big bargain at \$250. E. BRACKETT & SON, Allegan, Mich.

RED POLLED—Choice lot of females any age, also some bull calves. J. M. CHASE & SONS, Ionia, Michigan.

Herd Bull—White Hall Master 24656, by White Hall Sultan, out of Imp. Scotch Lass for sale. W. C. OSIUS, Hillsdale, Mich.

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Surplus stock all sold. J. B. HUMMEL, Mason, Mich.

For Sale—Eight registered SHROPSHIRE EWES, 2 and 3 years old, cheap. JONES & MORRIS, Flushing, Michigan.

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WANTED—Walnut Logs in large quantities. Can send men to inspect. Geo. I. McClure, 23-724 Chamber of Commerce, Detroit, Mich.

Mare Sleeps Standing.—I have a nine-year-old mare that never lies down in barn to sleep and when driven she appears all right, but when hitched to post she is inclined to fall asleep and tumble down. She has a drowsy appearance and her eyes are dull. K. B., Boyne City, Mich.—Give your mare 30 grains calomel, 7 drs. aloes and 2 drs. ginger at a dose. This will purge her some. Also give her a teaspoonful bromide of potash and 1 oz. bicarbonate soda at a dose in feed three times a day. Her bowels should be kept open and this is best done by feeding her well salted bran mash or roots. Try keeping her in a box stall.

Cracked Heels.—Our 1,500-lb. mare is troubled with cracked heels and does not lie down. She appears to be in good health. J. R. S., Crosswell, Mich.—Apply one part iodoform and 6 parts vaseline to cracks once or twice a day and give her a dessertspoonful of Fowler's solution at a dose in feed three times a day.

Sprained Shoulder.—One month ago one of my horses went lame in fore leg and I applied a blister which seemed to help him. When he travels on rough ground or in soft footing he is inclined to drag toe and I have thought that the muscles of shoulder were shrinking. T. J. W., Standish, Mich.—Blister shoulder lightly with cerate of cantharides, but before doing so you had better clip off hair.

Bunch on Fore Part of Stifle.—I have a four-year-old colt that has a bunch on fore part of stifle which produces some stiffness, but not any lameness. A. K., Denton, Mich.—Apply one part iodine and 10 parts lard to enlargement two or three times a week.

Looseness of Bowels.—How to Float Teeth.—I have a mare that is about 14 years old which is troubled with looseness of bowels and I have had her teeth filed two different times by men who claim to know how. This has not done her any good. How should the teeth be filed? R. J., Deckerville, Mich.—Horse dentistry is not well understood by laymen and for this reason traveling impostors very often talk farmers and stockmen into having dental work done when it is unnecessary. The sharp edges of outside upper grinders should be filed and the inside sharp edges of lower rows taken off. Kindly understand the table surface of tooth is for crushing and grinding grain, therefore it is easy to ruin a horse by narrowing the grinder teeth too much. Give your mare 1 oz. ground ginger, 2 drs. sub-nitrate of bismuth at a dose three times a day until her bowel movements become near normal, then reduce the dose of bismuth, but continue giving ginger.

Dehorning Cattle.—I have four heifers that I dehorned one year ago and their horns have grown out nearly two inches. Would it be advisable to operate on them again? A. R., Oshtemo, Mich.—Wait until latter part of March, then operate and apply one part iodoform and 10 parts powdered alum to sores once a day.

Leucorrhoea.—Barrenness.—Cow came fresh last spring, was not bred until December, since then she appears to be continually in heat and has a thick yellow vaginal discharge. T. W. K., Fennville, Mich.—She will not get with calf until discharge ceases. Give her 40 drops carbolic acid in a quart of water either as a drench or mixed with feed once a day and dissolve 1 dr. permanganate of potash in 4 qts. water and inject her once a day.

Food or Water Poison.—We are losing calves, sick only from six to 12 hours, slight looseness of bowels followed by great emaciation, considerable pain, jerking motion of body followed by stupor and death. Sometimes death results in six hours and in all cases in less than 12 hours from the time they take sick. Have given castor oil, sub-nitrate of bismuth, salol, but seldom have given more than two or three doses before they died. Have withheld all milk, gave two rice water, one plain boiled water. Three were from three to four weeks old, one was six weeks old and another four days old—the last mentioned one sucking cow. The youngest one was only sick six hours. The six-weeks-old one was eating oats with a small handful of Blatchford calf meal dry on oats and what alfalfa hay it would eat with 2 1/2 qts. of separator milk twice a day. The others had mostly whole milk and were just beginning to eat other food. Have sprinkled lime all over the stable floors and sprayed with disinfectant and will spray with carbolic whitewash first warm day. Two of these calves were bought near my place and came out of healthy herds. The young calf had his navel treated with bichloride of mercury solution and teats of cow washed with disinfectant solution. Have removed our well calves to other quarters and still have several cows to freshen among our cows. M. T., Jackson Co., Mich.—Their food and water supply should be looked into very thoroughly because their death is perhaps the result of an exciting cause of some kind. The best way to find out cause of death is to make a close examination after death. The symptoms you give indicate death caused by a toxic poison and not an infectious or contagious ailment. You should employ a competent Vet., perhaps your state Vet., to examine a dead calf, then he could tell you positively what caused death. I am inclined to believe they die the result of a toxic poison of some kind. Have they all died in the same barn or pen? A removal of the cause is your only relief, for drugs will not help them after sickness sets in.

Weakness.—Have a filly four years old that showed great weakness at birth; was unable to stand up, knuckled over badly, but improved. She has shown lameness in right fore leg all her life and our local Vet. believes her incurable. F. C. S., Powers, Mich.—Your young mare is incurable.

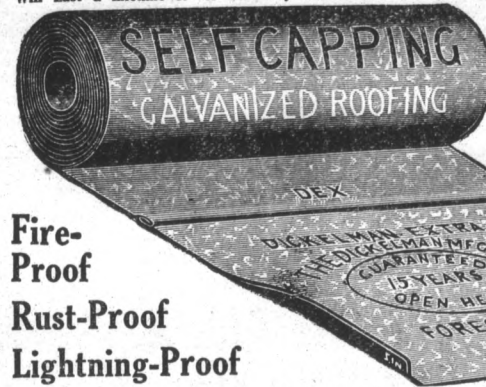
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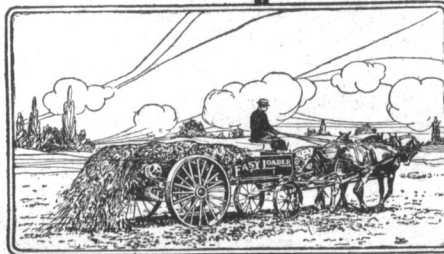
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THE DAIRY

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GOOD COWS AND A GOOD DAIRY-MAN.

I wish to give you the results of my last year's work with my cows and if you can I would be very much pleased to have you discuss it in The Farmer. I have milked seven cows for the last year. One is a two-year-old, one a four-year-old and the balance seven and eight years; only one is a full blooded Jersey and the rest are just cows.

My creamery checks show that I have received \$420.00 in cash for fat at the creamery. I have sold \$40 worth of veal calves, besides having what milk we used and making our own butter for a family of five, besides extra help required, of which we have no exact record. But I think we averaged a churning of between eight and nine pounds of butter every two weeks, which we will say makes an average of four pounds per week, or 200 pounds of butter for the year. Now then, what I am after is to know if this is a creditable record or not. I have tested my cows monthly with the Babcock test and the scales and I find that my poorest cow, (which is a two-year-old), tests 200 pounds of fat besides vealing her calf, while my best one, a registered Jersey, tests 375 pounds of fat alone. The rest tested as follows: Two hundred and ninety pounds of butter-fat and a veal calf from an eight-year-old; 262 pounds of butter-fat and a veal calf from eight-year-old; 250 pounds of butter-fat and a veal calf from four-year-old; 335 pounds butter-fat and a calf to raise from a seven-year-old; 308 pounds butter-fat and a calf to raise, from an eight-year-old.

I am feeding at present 40 pounds of corn ensilage, four pounds bran, one and a half pounds beet pulp, and two pounds cottonseed meal per day, besides what shredded fodder and mixed hay they will eat per day each, and am getting about six pounds of butter-fat daily from six cows, the seventh cow has just freshened and we shall veal her calf. Bran costs \$26 per ton; beet pulp, \$22 per ton; cottonseed meal, \$30 per ton. Jackson Co. C. W. WELKER.

This is a good showing for a herd of cows. Besides the money received from the creamery, cows should be given credit for the skim-milk for at least 25 cents per 100 pounds. These results certainly show good cows, good management and good feeding. The registered Jersey that produced 375 pounds of butter-fat would make her eligible to the register of merit had this test been official. Two hundred pounds for a two-year-old heifer would not quite come up to the limit but it is a very creditable showing for a two-year-old heifer. I think the ration that C. W. W. is feeding is a good one but I believe it could be cheapened a little bit by leaving out the wheat bran entirely and feeding a little more beet pulp with the cottonseed meal. Cottonseed meal at \$30 per ton furnishes digestible protein a good deal cheaper than you can get it in wheat bran at \$26. Therefore, it would be cheaper to cut out the bran and feed a little more beet pulp and a trifle more cottonseed meal. I think the profits might be increased perhaps a little bit by feeding each cow in proportion to the butter-fat which she gives rather than by feeding all the cows alike. If C. W. W. would adopt the rule of feeding a pound of the grain per day for every pound of butter-fat produced in a week I think he would probably increase the profits. Otherwise I have no changes to suggest.

THE BEST MATERIAL FOR SILO.

I would like to know what is the best kind of a silo to build. Which would be best, solid concrete or the concrete blocks?

Allegan Co. E. E. B. There is very little difference between a solid concrete wall for a silo and concrete blocks. Both of these materials make splendid silos if they are properly built. They will not crack if they are built on a good foundation. You must remember that walls of cement blocks 20 to 30 feet high are heavy and you must have a good foundation. You must go down into the ground until you get to a solid base. Then, if the walls are built true there will be no trouble about cracking. If the silo is built of either of these kind of materials the silo must be

plastered on the inside with a rich mortar. A stave silo is a good silo. If it is made out of good timber and properly put up it will last for years and is the cheapest kind of a silo to make but, of course, wood will not last as long as cement. A steel silo, of course, will be good for nothing unless it was plastered with cement because the steel would soon rust. They have now a steel form that you can plaster on the inside and also on the outside with cement. This cement form will cost you about as much as a concrete or the cement block silo.

HOLLOW CEMENT BLOCK SILO DOES NOT PREVENT SILAGE FROM FREEZING.

I built a concrete hollow block silo last season with a continuous air space through same, but the ensilage freezes through the blocks, which are 8 inches through, for about 6 to 8 inches into the silage and across the top. The door at the bottom of chute was not put in, thinking that the warmth from the cattle going up through the chute would keep the ensilage from freezing. Now the question is, does the holes from the top of the silo blocks, which are open, make the ensilage freeze and if I mixed some cement and filled the holes in the top of blocks, making a dead air space, would it overcome the difficulty? Is the frozen ensilage dangerous to feed?

Ottawa Co. C. E. S. Stopping up the openings of the blocks at the top of the silo making a dead air space would be an improvement. As these holes are continuous from the top of the silo to the bottom so that the air can circulate through them the silage is certain to freeze in cold weather. Whether the stopping of these openings could completely prevent the silage from freezing or not, I do not know, I doubt if it would. These holes could be shut up with old burlap sacks if it is too cold to use cement and as long as they lasted would be just as effective as cement. I think, however, that you will find it almost impossible to build any kind of a silo that will not freeze when you have several days of zero weather. A lighted lantern or an oil stove in the silo will almost entirely, if not quite, prevent any freezing. There may be too much ventilation in the silo. The top of the silo should be made so that in cold weather it can be shut up tight thus preventing much of the heat from the silo and the cow barn escaping; then a lantern or an oil stove would be more effective if the hot air could not escape through openings in the roof or around the silo. Frozen ensilage can be thawed out and fed to the cows. Throw it down into the feed alley where the heat of the stable will get to it and thaw it out, or it will drop down from the sides of the silo wall after a few days of warmer weather. It is better to feed it immediately after it is thoroughly thawed out.

SILO QUESTIONS.

I desire to build a silo, 10 ft. in diameter, 20 ft. high. The soil is red clay. Would it be necessary to go below the frost line for foundation wall, and how much cement would it require in either case? I intend to build the wall one foot above surface. For frame I will erect 2x4 studs. How far should they be apart, and what length and thickness of lath should be used? The interior is to be plastered. How thick should it be spread, and would it be well to use hair? How much cement required? What kind of outside sheeting could I use so that each strip would help to form a hoop? Montmorency Co. S. C.

With a red clay soil it will be necessary to go into the ground for a foundation only just nicely below the frost line. Go down into the ground so that the frost won't get under your wall and it will be permanent. The amount of cement to use will depend upon the thickness of this wall. For this kind of work you want to mix gravel and cement in about the proportion of one to six or seven. If this is mixed thoroughly when dry and then wet the material will make a firm foundation. Use 2x4 studding and set them 16 inches apart on a circular sill. Then wrap a common galvanized No. 8 fence wire twice around the outside of the bottom and then between each door way as you go up the silo. This will act as a hoop and add strength to the silo so that there will be no trouble whatever about its giving away. If you use elm that is not thoroughly cured, for lath, cut it one-half inch thick and string this around on the inside of the silo and nail it to the studding; but any dry material will not bend without breaking and if you use dry material the best way is to cut it 16 inches long and nail onto each studding. If you use the plaster board lath

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which is really matched lumber with grooves to hold the mortar it makes an excellent silo because you have a matched-lumber surface and a coating of plaster. The plaster on the inside is just thick enough to nicely cover the surface. I should say one inch thick would be plenty thick enough and I don't know but one-half inch would be all right, depending upon the smoothness of your lath. You want it thick enough so you can make a smooth surface. The plaster on the inside of the silo should be made rich in cement. This should be done by mixing clean sharp sand with cement in the proportion of two parts of sand to one of cement. Mix it thoroughly while dry and then wet it. You need not use any hair or any other binding material. This cement mortar will stick to the lath firmly, you can hardly get it off.

For the outside I would use any good six inch pine lumber, cut one-half inch thick, and jointed. Board the outside up by placing these strips one on top of the other tight together. If you try to use clapboards and have them lap over on a round silo they will not fit well because where they lap it will be a little farther around. By using one-half inch lumber jointed it will fit close enough so that it will be impossible for sufficient moisture to get in to permanently injure the silo. Good sound hemlock lumber or any other kind of lumber would do just as well as pine lumber for this purpose. Simply get good sound lumber and material that will cost the least and at the same time will preserve it from the weather.

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Now that it is time for cream to churn hard it would be well to say that part of the trouble is in the cow as well as in the conditions that surround her and the care of the cream, such as poor feed, lack of salt, advanced period of milking, freezing of the milk, or not ripening the cream properly. All of these things count; but yet it is true that under the same conditions some cows' cream will churn in a few minutes while others takes many times as long. As easy churning is quite an item with those that make butter it ought to be considered in breeding and selecting our dairy cows the same as other good qualities while the hard churning should be weeded out of our herd unless good enough in other ways to pay to keep.

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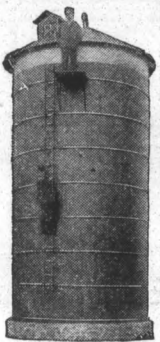
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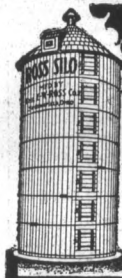
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DETROIT, FEB. 3, 1912.

CURRENT COMMENT.

The movement for the conservation of our national resources has, owing to the principle involved, received general commendation and support from the people of the country as a whole. But in far too many cases the conservation of natural resources has meant too little to the people who have been supporting it so loyally, especially to the country people. To them it has too generally meant only the conservation of those natural resources the title to which has not yet passed from the government, such as mineral lands, forests and water powers. But, important as is the conservation of these natural resources, there are other natural resources which lie right at our door, the title of which rests with us rather than with the general government and the conservation of which is far more important to ourselves and to the country at large.

One of the most important of these natural resources is soil fertility, which should always be carefully conserved if not actually improved, to the end that our farms may be more productive and profitable and the food supply of the country made adequate to the demands of our people for home consumption with a reasonable surplus of the staples for export when the balance of the world can use the same at reasonably remunerative prices. Yet this question of the conservation of soil fertility has not been given the attention which it merits in years past.

It is true that our farmers are not wholly at fault in this connection, from the fact that under conditions which have prevailed they have, in years gone by, been compelled to be soil robbers in order to support their families and meet their obligations. When there was an abundance of virgin land coming under cultivation at a time when the advent of labor-saving machinery cheapened the cost of production, as well as enabled many lines of production to be conducted on a large scale in the fertile prairie sections of the country, the farmers of Michigan were compelled to compete on rather unequal terms and could not give the thought to the conservation of soil fertility which they are now in a position to do. As a consequence, many Michigan farms were depleted of their fertility and gotten into a poor mechanical condition,

which makes their cultivation less profitable at the present time than would have been the case had the virgin fertility of these soils been properly conserved from the start.

But the conservation of soil fertility should not be longer neglected on any farm, and the rehabilitation of the soils that have become depleted from unwise methods of management, whether from necessity or from a lack of an adequate knowledge of the principles involved in maintaining soil fertility, should not be longer neglected. In order that these principles may be brought home more clearly to every Michigan Farmer reader, we shall undertake to present them in plain and concise form during the present year, touching upon every phase of this problem of the conservation and building up of soil fertility, to the end that the future prosperity, as well as the present success, of the farmers of Michigan may be aided thereby. We believe that every reader who carefully follows these discussions will find the particular problem with which he is confronted, elucidated in a manner which will be helpful to him, and for this reason bespeak the careful attention of our large family of readers to the articles bearing upon this subject, which will appear in every issue of the Michigan Farmer during coming months.

Is Separation of Taxes Desirable?

Continuing the discussion of the proposition of the separation of state and local taxation, which was commented upon in our last issue, let us briefly review some of the advantages claimed for this scheme by its advocates and a few of the more prominent objections which may be advanced against it. Chief among the benefits to be derived from a separation of the state and local taxes is the elimination of the necessity of a state equalization.

Under the present method of assessment the valuations placed upon the property of the townships and cities by the local assessors are reviewed by the various boards of supervisors in the several counties of the state each year, and the assessed valuation of these different municipal divisions of territory is equalized for the purpose of spreading the state and county tax. By equalization is meant the adding to or taking from the assessed valuation as determined by the local assessors in the various municipalities in such manner as, in the judgment of the supervisors as a whole, will make the burden of the state and county taxes equal in these various municipalities. This necessity or practice is the result of a general recognition of the fact that the letter of the law, which requires that all property be assessed at its cash value, is not equally complied with in all of the various municipalities.

Then, under the state law the assessed valuation of the property of these various counties, as fixed by the several boards of supervisors, is reviewed at regular five-year periods by the state board of equalization and the valuation of all counties is arbitrarily fixed by this board for the purpose of spreading the state tax, equalization being made in such manner as, in the judgment of this board of equalization, will place an equal share of the burden of the state taxation upon the property of the various counties in the state.

By the separation of state and local taxes, this last process would be eliminated and the county would be the largest unit for such equalization of the assessed valuation of property. At each five-year period when the state board of equalization meets, the several different counties are represented by counsel to show why the county which they represent should be given a low valuation by the state board of equalization, and obviously it is somewhat more difficult to reach a just conclusion where the entire state is the unit of equalization than where the county is the unit. Still, this difficulty is not as great as was the case before the state tax commission was created, and the data available to the state board of equalization from that source is a valuable aid in simplifying their work and insuring that the equalization be justly made. There are other minor arguments in favor of a separation of state and local taxation, but the above is advanced as the strongest reason for such separation of the taxation.

On the other hand, any other scheme of raising taxes for state purposes really involves the indirect taxation of the people of the state in such a manner that they will not know when they pay their state taxes, or feel the burden of state

taxation more than they now feel the burden of federal taxation. This means that there will be a less wide general interest in the affairs of the state government and would probably mean a more marked tendency toward the increase of state expenses, which increase is bound to be constant in any event, due to the greater demands upon the state government which are inevitable with the increase in population of the commonwealth. In a sense it would be a step toward the further removal of the state government from the common people, which is somewhat contrary to the tendency of the day.

However, this plan of separating state and local taxes is in force in a number of states, as previously noted, and is giving an excellent degree of satisfaction. But in practically all of those states the conditions which are fixed by precedent and fundamental law are different from those which obtain in Michigan, which makes the proposition a somewhat different one in our state, and one which should be thoroughly understood by all the people before it is either adopted or rejected.

HAPPENINGS OF THE WEEK.

National.

Twelve persons are thought to have lost their lives by attempting to cross the Mississippi river at Cairo in a small boat. It is thought the boat was caught in an ice jam.

A review of the year's traffic on the Detroit river shows that 9,204,143 persons were handled by the steamers running out of the Detroit harbor. One life was lost during the season. Chicago boats for the same period handled an aggregate of 1,687,966 passengers, while all other ports in the district had less than 600,000.

A mass meeting of unemployed men was held in Cleveland Sunday, where it was voted that an attempt should be made to gain an audience with President Taft, during his visit at that city, to request that the federal government give unemployed men work. Should they fail in this, the men voted to organize a second army to march upon Washington.

Secretary of War Stimson has decided, after reviewing the carefully prepared report of the general staff, that sixteen and probably eighteen of the existing army posts of the country should be abandoned at once. He believes that such an action would decrease the expense of the army and would secure a higher efficiency in the organization and disciplining of troops. Fort Wayne, at Detroit, is among the posts recommended to be abandoned.

At a conference of the scale committee of the United Mine Workers of America, held at Indianapolis, it was decided that unless the employers grant a wage increase of 10 per cent that the men walk out. The operators, on the other hand, demand a decrease in the scale of a like per cent. It is believed by those in touch with both sides that an agreement will probably be reached upon the present scale.

More than \$20,000,000 worth of automobiles were exported from this country during the year 1911. This is twenty times the value of the machines exported one decade ago.

Contracts have been let for the drainage of 10,000 acres of land in Houghton and Baraga counties in Michigan. The land, when drained, will constitute one of the most fertile regions of the Upper Peninsula.

Frank P. Glazier, former state treasurer, was paroled from Jackson prison by Governor Osborn after having served two years of a sentence of from five to ten years. It was believed by his physicians that had the former official remained in prison he would not have lived for more than two or three months.

Eugene Schmitz, former mayor of San Francisco, is defendant in a trial now on being charged with bribery. Schmitz was associated with Abe Ruef, who is now serving a term in the penitentiary for bribery among the city officials of the western metropolis.

Hearings are being held before the senate committee on judiciary for the purpose of securing information upon which to frame a bill for preventing the shipment of liquor into dry states.

Judge Benjamin A. Harlan, formerly of Grand Rapids, Mich., but for more than twenty years past special examiner of the pension bureau at Washington, died in that city from the effects of an automobile accident a week ago. He was secretary of the Michigan Society at the federal capital.

Clarence S. Darrow, noted socialist and prominent attorney of Chicago, has been indicted by a grand jury, being charged with bribing two jurors in the McNamara cases.

Rioting at Lawrence, Mass., where the mill men are on strike, overtaxed the police department of the municipality and caused Gov. Foss of that state to order 12 companies of infantry and two troops of cavalry to the scene at once.

A rear-end collision near Durand resulted in two men being killed and three hurt.

Foreign.

A. W. G. Duff, brother-in-law of King George of England, and Duke of Fife, died in Egypt Monday night.

The citizens of Ulster, Ireland, which constitutes the northern portion of the island, are protesting against the movement to give Ireland home rule. All the other districts are practically unanimous in favor of the movement, and as a result the protests made at Ulster are causing a stormy political situation there, which at times threatens to develop into (Continued on page 125).

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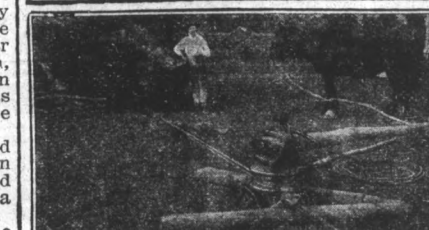
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JOURNAL
ESTABLISHED 1843.

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

THE OLD MISSIONS OF CALIFORNIA—BY W. J. WRIGHT.

AGED and hoary, venerable monuments to the patient, self-sacrificing Padres who prayed and worked and starved for the salvation of their Indian brothers; now robbed of their social significance—many even in ruins—the old missions of California still savor of the romance of generations past and gone when around them were centered the only civilized activities of the great southwest. On their very walls one can almost read the history of their past, when they bloomed like flowery oases on the arid wastes and taught a faith of which their melancholy cloisters are the sad memorials. Then the Padres and their hosts of dusky followers rose at the first signs of the morning dawn to chant their sunrise prayers, and patiently toiled throughout the day, to be met on their return at evening by the dusky-eyed señoritas; and music, music everywhere, the sweet, melodious strains of the guitar or violin mingling with the appealing, persuading mission



Ventura Mission, last of those Founded by Serra, dating from 1782.

quarters of a century later, by a treaty between the United States and Mexico, they came under American influence and from that time they trace their downfall. Many have been abandoned and fallen into decay. Others still exist as a place of worship, and a few, notably those at Santa Barbara, still maintain, in a feeble way, a trace of their former work and organization.

The first of the California missions was the San Diego de Alcalá, founded by Padre Junipero Serra in 1769, six miles from the present city of San Diego. Others of special interest are: San Carlos Borromeo or El Carmel, also founded by Serra in 1770 and the resting place of his remains; San Antonio de Pádua, founded by Serra in 1771; San Gabriel, the center of the little village about 12 miles from Los Angeles which bears its name, founded by Camón and Somera also in 1771; San Juan Capistrano, the most magnificent of all the missions, originally covering six acres of ground



San Luis Rey Mission—Partially Restored as a Franciscan College.



San Antonio Mission which has been Deserted for Nearly a Decade.

chimes—a happy, pastoral scene now hidden in the golden haze of memory. Silently their influence is still working despite the American conquest. Theirs is the prevailing style of architecture, their ruins are always points of interest, and they have given to the locality an atmosphere of romance found nowhere else in this country.

The missions were founded in the latter part of the eighteenth century by Spanish priests for the purpose of converting the Indians to the catholic faith. They are massive structures, built mostly of stone and brick, much of the material having been brought "round the Horn" from Spain. By no means identical, they nevertheless bear a strong resemblance to each other and are readily recognized. Their locations were determined by fertile sections of the country where water could be readily obtained for irrigation, and around which have grown up many of California's cities. They were the religious and social centers of the early communities which clustered around them. Indians were converted by the hundreds, taught to work in the fields, to spin, weave, and care for the fields and vineyards until, little by little, the missions became vast centers of wealth, often owning thousands of acres of the most fertile land, large flocks of sheep, herds of cattle and other domestic animals. In 1820 the San Gabriel mission alone is said to have possessed 160,000 vines, 23,000 fruit trees, 25,000 head of cattle and 15,000 head of sheep, and to have had 20,000 acres under cultivation.

While our forefathers in the east were struggling to throw off the yoke of England these missions were developing the country to the southwest, but, three-

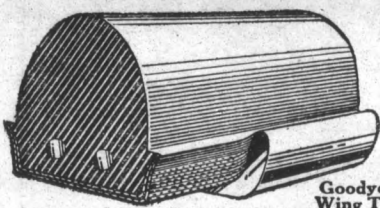


Santa Barbara, regarded the Best Preserved and Most Prosperous of the Missions.

but partially destroyed by an earthquake in 1812, founded by Serra and Amurrio in 1776; San Buena Ventura, the last work of that great man, Junipero Serra, founded in 1782; Santa Barbara, founded by Lausen, Paterna and Oramus in 1786; San Miguel, founded by Lausen and Sitjar in 1797; San Fernando de Espana, within whose lands is said to have been the Comulos Rancho made famous by Helen Hunt Jackson as the home of Ramona, founded by Lausen and Dametz in 1797; and San Luis Rey, the eighteenth in order of the missions, founded by Father Peyri in 1798. Several others were established throughout the state, among which may be noted those at Los Angeles and San Francisco.

Of the above, the Santa Barbara mission is the best known and best preserved. San Gabriel still sheds its influence over the little village which bears its name but its lands are wasted and gone. San Luis Rey has been partially restored as a Franciscan College. Most of the others are fast falling into decay. Unless some successful effort is made to restore them, a heap of ruins will be the only testimonial to the great work once done within their walls.

Around some of the missions there still stand some of the adobe houses which sheltered the people of the old mission communities. Life was then simple in the extreme. There was little furniture and no pictures or books. The fare was simple and unchanging, monotonous enough to the modern epicure, but the free outdoor life and the absolutely perfect health brought to the homely table that best of all relishes, a healthy appetite. The evening hours were whiled away with music or in conversation with the occasional traveler, to whom food



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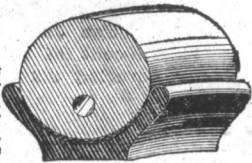
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and shelter were always given with a hearty welcome. But with the coming of the American frontiersman came a change in the social life. The missions slowly lost their hold upon the natives; little by little their land slipped away; the old regime was broken up and community interest sacrificed in the competitive struggle for existence among the ambitious usurpers. Bravely the priests fought to retain their hold upon their flock, but slowly they lost ground until, reduced to absolute poverty, many were forced to leave or become traveling missionaries.

The direct benefit of the missions is

hard to estimate. Left to themselves they would probably have solved the Indian problem as we have about decided to solve it, by absorbing them into the race. Unfortunately for them, the American invasion came before this had been accomplished and, in time of adversity, their hold upon the natives quickly waned and the work of a generation was lost. Whatever may be said to have been the benefit of the missions as an organization it must be admitted that the personal influence of many of the priests as they traveled up and down the country wrought much good among whites and Indians alike.

THE BACHELOR UNCLE

BY EVERITT McNEIL.

I think Harry Rodney must have read on my face something of what was passing in my mind; for, suddenly the smile left his lips, and I saw his eyes take a quick measurement of my form, and he threw back his head as if preparing for a struggle.

"Mr. Rodney," I answered, and my voice was low and my words came slowly, "I have that to say to you concerning this same Widow Thorpe and certain other matters that requires a place less public than this. Come," and I led the way toward a small wooded park back of Dr. Goldthorp's house.

For an instant my rival hesitated, then a flash of fire came into his eyes and he drew his lips tightly across his teeth and answered: "I really can not imagine what there can be that you should wish to say to me, John Delvin, that you can not say here and now. I assure you that I have given you all the information I can about Widow Thorpe; and I am in something of a hurry, for Elsie is awaiting me, and you know how impatient lovers are. But I am at your service, only make the interview as short as possible," and he followed after me. He did not offer to walk by my side, and I was glad that he did not, for I knew, in spite of all of his polite words, that the hatred in his heart for me was as deep and as bitter as that in mine for him.

On the north side of the park is a small thick grove, and in the center of this grove is an opening, perhaps three rods in diameter, well-hidden by the surrounding trees, and covered with a smooth grass-grown turf.

I led Rodney direct to this spot. As we entered the opening I saw him glance quickly around, and read his thought. He was as anxious as was I that no one should witness this interview. Not a human being was in sight.

I could feel my muscles stiffening as I turned and faced Rodney, and yet I was never more calm. Now that the critical moment had come the heat had fused my passions into the supreme determination to know why it was that Harry Rodney was so anxious to keep Belle Murdock and Widow Thorpe from speaking to me, and what Widow Thorpe's note meant. This I had a right to know; and before either of us left this spot I was determined to know it. If he refused to tell me I would force him to show his hand. There is no bit on the tongue when anger holds the reins. I knew that Rodney had a quick temper, and I calculated on being able to get him into such a white-heat of passion that he would unwittingly give me the clue I was seeking. But to do this I must retain complete mastery of myself. Besides, for Elsie's sake, there must be no vulgar fist pomelling; and to keep my hands off the man whom I hated so bitterly because I believed he had wronged me so deeply, I must not relax the controlling grip on my temper for an instant.

I looked Rodney straight in the eyes, and he looked back straight into mine; and, then before I could find my first word, he said, with cool effrontery: "John Delvin I am here to listen to your tale of woe; and I assure you before hand that you have my sympathy. I, who have won, know what you have lost. But, don't overdo the rejected lover act, or," and his lips were drawn back in a smile that showed his white teeth, "I shall lose my temper and give you the thrashing you appear to need so badly. During my four years at college I held the heavy-weight boxing championship against all comers; and," he measured my form scornfully with his eyes, "I have often wished to test my skill on that big body of yours, so do not tempt me overmuch."

"Harry Rodney," I answered, keeping my eyes on his face, "I dislike skulking in the bush. It is a cowardly trick. If I

have an enemy I go to his face, not to his back; and I have brought you here to demand an explanation of certain things which have happened recently, not to test your skill as a boxer. Read this note and tell me what it means," and I gave him Widow Thorpe's note.

Rodney took the note and I could see his lips tighten as he read it. "And so this is what has set the bee to buzzing in your bonnet," he said, as he handed the note back. "Simply because a meddling old fool of a woman gets a notion in her head that something mysterious and suspicious is happening right under her nose that she can't ferret out you—"

"What does that note mean," I broke in sharply.

"How under heaven should I know," he retorted. "Go ask Widow Thorpe. I am not responsible for the notions of every gabbling old female idiot in the neighborhood, nor for the jealous suspicions of every discarded lover." I could see his eyes beginning to lighten dangerously, and I felt the heat coming back into my blood.

"Widow Thorpe is not here and you are," I answered. "Besides I prefer to get my information at first hand. Why did you discharge Widow Thorpe and send her to New York so suddenly and mysteriously? Why did you secure a new nurse and a new doctor for Belle Murdock? Why does this doctor, your doctor, keep her constantly under the influence of opiates? Why have you taken this sudden and unaccountable interest in Belle Murdock? What secret of yours is it that she knows, and which you are so fearful that she will reveal or that I shall discover? These are the things that I demand to know, Rodney, because I feel that the knowing of them concerns me most deeply, and may be the means of preventing the marriage of a scoundrel to as good and true a girl as ever lived."

For a moment Harry Rodney glared at me, his eyes glowing with concentrated hatred and wrath; and then, hoping I am sure to take me unawares, he leaped toward me and struck a blow straight at my head. But I had seen the danger signal in his eyes, and sprang to one side just in time, for his fist grazed my left cheek and his cuff, in passing, cut through the skin.

There is no man worthy of the name who will not defend his body from violence. But one reply can be made to a blow; and when to the blow is added insults and bitter wrongs and deadly hatred the man is more than mortal or the basest of cowards who will not fight; and, as I leaped aside from Harry Rodney's blow, I felt every cord and muscle tighten and the blood jump like the spring of a tiger through my veins, while a fierce joy that now I could punish with my own hands the villain who had wronged Elsie and had robbed me of her love, drove every thought out of my head.

The "nigger" was off the safety-valve. The instant Harry Rodney had struck and missed me he had leaped back; and we stood facing each other, the two biggest and strongest men in the county, each eager to be at the other. I am sure we both realized the desperate nature of the coming struggle. Harry Rodney was as large a man as I was, and a trained athlete. I had heard many accounts of his physical prowess, and knew that now hate and wrath would steel his nerves and muscles to do their utmost. On the other hand not a little fame had come to me because of my feats of strength and skill as a wrestler, while the results of the one or two encounters I had been forced into had made my fists feared by all the bullies in the county. A knowledge of these facts, doubtless, was what made Rodney pause, even in the madness of

(Continued on page 120).

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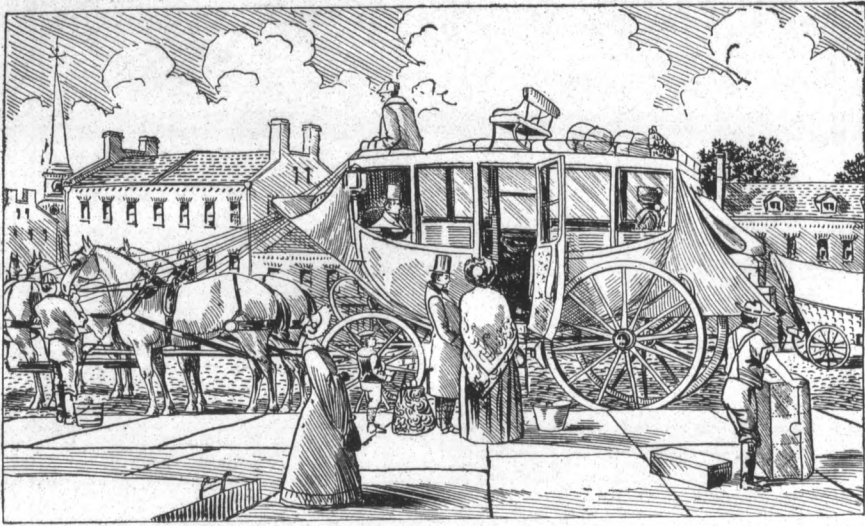
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IN THE DAYS OF THE STAGE COACH.

BY G. C. S.



Seventy years ago—the era of the stage coach—is distinctly recalled by few of this day and date. That staunch and popular vehicle, however, was a marvel to the boy of that period, and one of his most cherished recollections. To be on hand at the hour of its arrival was, to him, a duty and a pleasure, and the manner of its arrival—horses at a smart trot, trace chains jingling, the cracking of the driver's whip and, as it approached its destination at full speed, the harsh grinding of the brake under the foot of the driver, bringing it to a full stop at the postoffice door—was of unusual interest to all.

With past experience to measure with and from, it surely seemed a marvel of speed, reliability and comfort, but I wonder, now, what a present-day traveler would say to being inserted into one of those stuffy interiors, heavily upholstered in leather, his arms in heavy strap slings to keep him upright as the "ship" swayed up and down and from side to side on its leather slings (for the steel spring had not yet been introduced) and discussing with his fellow travelers the Dred Scott Decision, the results of the war with Mexico, the Jacksonian idea as to banks, and the exact value of the different state bank issues that fluctuated more than the price of staples today. Withal a man "got within the shell" of his fellow man, and political differences as to the Whig ascendancy were of absorbing interest and furnished food for discussion. The southern question loomed big on the horizon, and, while it was of universal interest, no man thought of what it finally brought us to in order to settle it once and for all.

Verily, the stage coach was a counterpart of the French salon in a small way, and I wish men of today, in different walks of life, could meet face to face in discussion, as was possible then. True, we have the great dailies, but they endeavor to shape public opinion, and do

inspect the surroundings and be inspected by the rural contingent attracted by our arrival. Speed was an asset then, as now, and it required a very short time to make a change of horses, supervised by our high and mighty driver whose word was law unto the hostlers and his stage charges, as well as to add a few mail bags, a trunk or two, carpet bags, bandboxes, etc., to the load. "All aboard" was the word, and again we were off. Leaving the village we made smart pro-



The Chimes of San Gabriel Mission.

There were originally six of these bells, but two are now missing and the others cracked and nearly useless.

gress until the outskirts and pike were reached; then we settled down into a smart and steady trot which was kept up hour after hour, broken only by ascending a long hill at intervals.

It has been related that in early days when cane sugar was produced for general use and transported in large hogsheads to the dealer, and white sugar came to us in high-towered domes wrapped in blue paper and designated "loaf sugar," they were only found in well settled communities and on the stage routes. Maple, being everywhere plentiful, was used quite generally and one of the table embellishments was a large lump of maple sugar, suspended from the ceiling by a string with a short piece of elastic inserted in it. The diner simply reached for it, inserted it in his coffee, and after a few turns, allowed it to go back to its original position. It was called "sweetening." At that period, the old remark that "the table groaned" was well placed, for plenty was the rule, and spreads common in those days are not known now. The "apple slump," a potpie made by lining the iron pot with crust and filling the center with quartered apples, sweetened with New Orleans molasses and seasoned with spices, was a great favorite, and the calves' head dinner—the head on a platter by itself, the brains served separately and the tongue with a small boiled cornmeal pudding and a gravy broth—was held a great delicacy. Apple turnovers fried in lard, seed cakes, pumpkin pie and mince pie were always in evidence, with cider a common beverage.

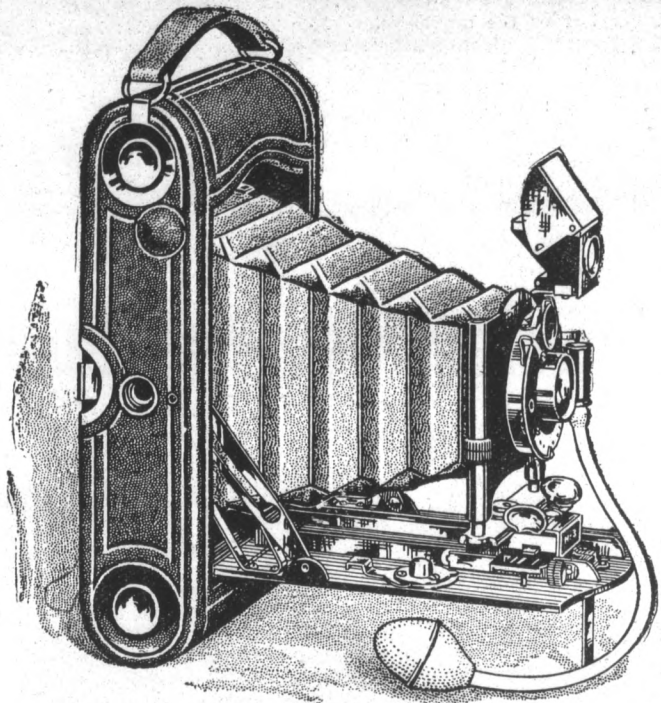
It is not generally known that the carpet bag of those days was of ample proportions, made from the English brussels or Wilton carpet, and held the place



Entrance to the Churchyard at Santa Barbara Mission, California.

largely no doubt, but I like to recall the time when the stump speaker lifted up his voice to his constituents, the day of "gingerbread and cider" and hard-headed political "whips." 'Twas interesting, then.

The arrival at a "change station"—so called because we had relays of horses on the trip from start to destination—was the sign to alight and stretch one's limbs,



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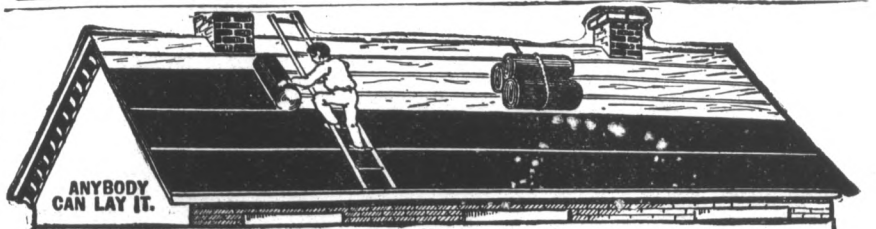


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of the present valise or "grip." The band-box was also in general use for carrying the high beaver hat or the ample poke-bonnet. The horsehair trunk—not as large as the trunk of today—derived its name from being always covered with tanned horse or cow hide, with the hair on, fastened with brass nails in fanciful design.

In the early days it was not a small undertaking for our western members of congress to make the trip to Washington, and their descriptions of it, remaining to us in their life-histories, are exceedingly interesting, revealing, as they do, much that is of historical value relating to the customs of stage coach days. It constituted, with the canal packet, a necessity of that date, and was the means of bringing about the construction of the few notable roadways, called "pikes," of those days which should have been duplicated many times in the years that have passed since then, and which are so much needed in this automobile age.

The changes since seventy years ago have been many and vast, but fleeting glimpses of the far past have in them, for an old man of eighty years, many pleasant associations, and he feels that progress, rapid, gigantic and marvelous as have been its strides, has not brought, to all, at least, more real happiness than did the days long past.

THE BACHELOR UNCLE.

(Continued from page 118).

his wrath, to summon together all his forces and to get them under control; for he knew, as I knew, that hot-headed wrath never would win this battle.

For a moment we stood thus, each facing the other, every nerve and muscle tense, eyes glaring into eyes, and deadly hatred and brutal lust for blood in each heart; and then, just as my muscles began to harden for the first blow, I saw a sudden change come over Harry Rodney's face, and, with an oath, he pointed back of me.

"Your pestiferous kids, followed by the whole town are coming," he said.

I turned quickly and saw Teddy and Ellen running hand in hand down the path which led from Doctor Goldthorp's to the opening where we stood; and close behind them ran the fat old doctor; and behind him came his fatter wife, followed by the hired girl and the doctor's driver. Teddy and Ellen were dressed in long white nightgowns, which they held well up above their knees as they ran, and both were yelling and looking back over their shoulders as if they were followed by some dreadful ogre. The good doctor's face was flushed and he was calling loudly for the children to stop; while his wife, poor woman! was blowing like a fat porpoise and trying to yell but only emitting short yelps and gasps. The hired girl had a fryin-pan in one hand, and the man carried an ax.

This much I saw; and then I felt the hand of Harry Rodney on my shoulder, and he thrust his mouth up close and hissed in my ear: "John Delvin meet me alone tonight at six o'clock in Black Man's Hollow. There will be no one to interfere with us there. Lock up your kids," and, with as evil a look as I have even seen on a man's face, he turned on his heel and strode away.

At this moment Teddy caught sight of me and yelled: "Uncle John! Oh, Uncle John! Help! Help! Save us!" while Ellen screamed, confusedly: "Oh, Uncle John! Uncle John! Mamma! Mamma! Oh Uncle John, my stomach! Save my stomach!" and both rushed at me and flung themselves into my arms; and before I could recover from their assault the doctor, puffing and blowing, and his wife panting and wheezing, and the hired girl flourishing the fryin-pan, and the driver swinging his ax, all were upon me.

"Great heavens!" I exclaimed, holding the frightened children close in my arms, "what has happened? What does this mean? Why are you pursuing these poor children?"

Before the puffing, panting doctor could get sufficient breath to answer, Teddy whirled about and faced him. "Don't you dare touch me, you wicked, cruel man!" he cried, shaking his fist at the doctor. "Don't you dare touch me, or Uncle John will punch your head off." And Ellen sobbed: "Don't let him get my stomach, Uncle John! Don't let him get my stomach!" and clung, shivering with fright, to me.

"Doctor Goldthorp what have you done to give these poor children such a horrible fright?" I asked, indignantly.

"He was going to steal our stomachs!"

He was going to pump them right out of us! Don't let him get my stomach, Uncle John! Oh, don't let him!" wailed Ellen.

And then between the doctor and Teddy and Ellen I discovered how it was that all this excitement came about. The children for some time after the doctor's wife had put them to bed were very ill; and the doctor thought he discovered symptoms of poisoning, and concluded that they had swallowed some poisonous substance while in the water, and that it would be necessary for him to use his stomach pump to get it out. Accordingly he told his wife to get the children ready to have their stomachs pumped out while he went after the pump. Neither Teddy nor Ellen had ever heard of a stomach pump before, and with a child's realism, they instantly jumped to the conclusion that in some mysterious manner the doctor was intending to pump the stomach right out of them.

"And we wouldn't have a place to put ice cream, or candy, or cake, or anything good, if he pumped our stomachs out," was the way Ellen pictured their horrible condition if this terrible catastrophe should happen. Of course no child could be expected to patiently await the inflicting of such a misfortune; and the moment Mrs. Goldthorp went out of the room, Teddy whispered excitedly, "Come, sister, we must escape now or never," and sprang out of bed, followed by Ellen. They did not stop to dress, the peril was too imminent, but rushed out of the room into the hall, through the hall into the kitchen, nearly frightening the wits out of the hired girl as they flew by her, and out of the kitchen into the backyard. The screams of the hired girl brought the doctor and his wife and the hired man; and all started in pursuit of the running children, with the doctor well ahead. Over the backyard fence scrambled Teddy and Ellen, catching sight of their pursuers as they did so; and the sight seemed to transform their flying feet into wings, as holding up their nightgowns, they fled for their lives down the path which led through the woods to the opening where Rodney and I stood, breaking in upon us at the most inopportune moment and spoiling as pretty a fight as one could wish to be in.

It was many minutes before I could convince Teddy and Ellen that Doctor Goldthorp did not wish to pump their stomachs out (there was no need now for the fright and excitement had cured them) and prevail upon them to go back with me to the doctor's and get their clothes. As soon as the children were dressed we started for home.

As I drove out of the doctor's yard Ellen heaved a deep sigh, and the look of fear left her eyes. "Oh, I am so glad, Uncle John, that you saved my stomach, because Mary Jane is going to make some frosted cake, and tarts, and raisin cookies for Teddy and me to eat when we get back and I shall need it. You can kiss me, Uncle John," and she held up her sweet little mouth; but, as I stooped to kiss her, she exclaimed in horror, "Oh, Uncle John, your face is all bloody!" and with many protestations of sympathy and terms of endearment she took out her little white handkerchief to wipe the blood away.

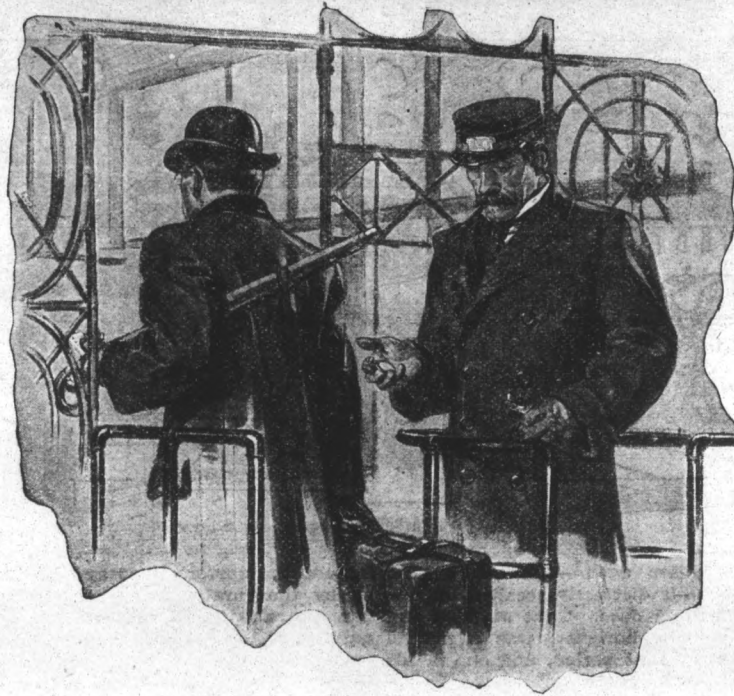
In the excitement I had forgotten all about the scratch that Rodney's cuff had made on my cheek, and I had neglected to wash off the little blood that ran from it out on my face; but this Ellen soon cleaned away, and then after having critically examined the cut, she pronounced it only a "baby scratch" and kissed it to make it well.

During this process Teddy had been watching me with an ever growing interest, and the moment it was finished he burst out excitedly: "Uncle John, Uncle John, were you going to fight the big man? I know you were because your eyes were blazing and your face was white. I know you can lick him, Uncle John, even if he is as big as you, because you are so quick and strong and brave. Oh, how I should like to see you pound him, Uncle John, because he is a wicked man, and he looks at you as if he hated you," and the little fellow doubled up his fists and shook them in sympathy.

(To be continued).

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The price of each watch is fixed at the factory and a printed ticket attached—from the 17-jewel (double roller) in a Crescent Extra or Boss Extra gold-filled case at \$40, to the 23-jewel at \$150—and the EDWARD HOWARD model at \$350.

Find the HOWARD jeweler in your town. When a man makes a permanent investment like the purchase of a HOWARD Watch he naturally wants to see what he is buying—he wants to get the jeweler's expert advice. The HOWARD Watch is sold only by legitimate jewelers—and not every jeweler can sell you a HOWARD. The jeweler who can is a representative merchant—a good man to know.

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E. HOWARD WATCH WORKS

Dept. No. 114.

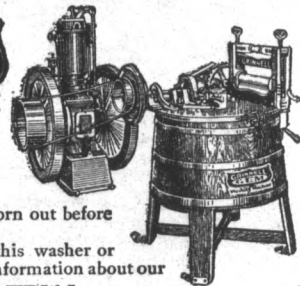
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You Rest while the Gas Engine works the washer



It's a positive shame to drudge over the washing machine when the

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hitched to a common gasoline engine at idle times would do both washing and wringing perfectly—and without a bit of work from you. Don't grow old and worn out before your time, slaving with old fashioned methods.

You owe it to your health and strength to try this washer or our Lewis Gasoline Washer at once, so write for full information about our

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Independent phones in use. Our big factory and 15 years experience back of Iron-clad Guarantee. Ask for our BIG FREE BOOK. Tells all. Write your needs today to American Electric Co., 6413 State St., Chicago.



ANDREWS MAGNETIC Mineral Springs

Our Perfect Alkaline Water Cures Rheumatism, Diabetes, Bright's Disease, Gall Stones, Nerves, Stomach Trouble, Liver, Kid.

ney, Skin Diseases. You may come on a stretcher, but a few days will show improvement, and in a few weeks your troubles will disappear, never to come back if you stay long enough to thoroughly complete the cure. You simply drink the water and bathe in it. Your appetite will return. We will serve you bountiful meals of nourishing, well-cooked food in ample variety. We will give you a good bed in a light airy room. Our rates are reasonable and winter is a good time to get effective results. Do not put off recovery. Write us today. DR. ANDREWS, Box B, ST. LOUIS, MICH.

A Round-Up

Since the Government authorities have begun to "Round Up" a few of the men who have so long brought odium upon the name of honest labor, I have been urged by some editors to publicly define the reasons for my seven years' newspaper campaign on the tyrannies of many Labor Union Leaders.

Some men endow colleges. Others build libraries.

Both educational.

I preferred to devote to newspapers my contributions toward education, warning the people to protect themselves against the greatest, most tyrannical and dangerous trust this country has ever seen.

Especially insidious and dangerous, because its inner plans were not understood by the average citizen who, seeing no immediate slavery to himself, peacefully followed his own pursuits and blindly allowed the self-seeking Labor Leaders (?) to weave their web stronger as time went on. Not one word in my entire campaign has been uttered against peaceful trade associations.

I have only tried to defend the several million honest and law-abiding workmen who protest against the bullying and abuse of those in power.

No one seemed to sympathize with the few thousand widows and orphans of the men murdered while faithfully trying to earn a living under God's permission but against the "orders" of the "Labor Trust." So I tried to present their cause from time to time.

The healthy average common citizen is perhaps deserving of at least some of the inconvenience and loss put on him from strikes and other labor leaders' tyranny as a reward for his indifference.

I knew years ago that the plan of this big labor trust was to ultimately gain control over every workman, clerk and employe in the U. S., including farm hands and government employes.

This has been partly accomplished in some localities; then followed acts which clearly show the intent.

First, to harvest initiation fees, sometimes up to \$100.00 each to "join the union."

Next, monthly dues. Say \$2,500.00 a month in a town with 10,000 "members" at 25 cents each.

Next, "fines" assessed for some infraction of "rules."

Then the lash of the slave driver came forth. Orders to strike; what to buy; what not to buy; how to vote; when to parade (to show power); and to contribute from the hard-earned pay envelope for strike benefits to other men forced into idleness pending negotiations between crooked leaders (?) and crooked employers who hire said leaders to call strikes on competitive jobs, thus making the workmen tools, kept idle while the chiefs scrap for control or bribe money.

One of the hardest strokes of the lash is the money forced from members to defend dynamiters, sluggers and murderers when caught.

But let an honest workman, who, perchance, has been driven into "the union" dare to disobey one of these orders and he is taught a lesson through the slugging or dynamiting committees.

The slavery of the honest American workingman is pitiable when "closed shop" full control is obtained by the tyrannical leaders.

Now, observe the plan of this gang to govern men and affairs.

"Organize" every trade. Insist on closed shop. Then use the power of numbers to induce government officials to permit organizing all government employes. Some of the oaths defining that the union rules shall "precede Church, State and Family."

Then force Congressmen to pass anti-injunction laws to prevent courts from stopping proposed outrages.

Force merchants to hire only "union" clerks and sell only "label" goods. Use union funds to support slugging and dynamiting crews to drive back the protesting ones or "remove" them.

Of course, in carrying out the plan for complete control by the gang, some were caught.

Whenever openly exposed the men "higher up" immediately begin to assess members to protect the criminals and always rush into print with loud cries and much mock sentiment about "the brotherhood of man" and the "defense of the wage worker," with such play upon the sympathy of the people they cover their own greed for fees and insane desire to read their names in the papers.

It would be hard to convince the widows of the twenty-one murdered men in the Los Angeles tragedy, and hundreds of others, that their husbands received much benefit from "the defense of the wage worker," nor could they well understand such working of that particular brand of the "brotherhood of man" scheme.

Late events have stripped the lamb's coat from the body of the wolf and shown most clearly the lying deceit and horrible portent underneath, which I have tried time and again to explain to the public.

Men who preferred to work and support their families have been waylaid. Fingers chopped off, with the comforting assurance that "now you can set type if you will." Crow bars and heavy weights dropped on heads. Fathers beaten unconscious and many times crippled for life; little homes blown up and many and many a corpse brought to the destitute family.

These are not "occasional cases." Such crimes run literally into the thousands, and judges and juries have been threatened with death, bribed, and witnesses slugged or put out of the way.

In the Government cases now pending the witnesses must be guarded from the agents of the "Labor Trust" with its tentacles reaching to the most remote corners of our country.

Don't permit yourself to be misled by the vaporings of sentimental, drooling degenerates who assert that these murders are justified because "society" has oppressed workingmen.

In no other country in the world are they paid as high, and as much earnest effort devoted to their welfare. Nor is there as abundant opportunity in any other country in the world for workmen to gain fortunes.

Our great railroads and industries are largely headed by former wage earners.

These murders are instigated by that class of men, always in evidence, who hate success. They coolly and cruelly plan and execute assaults and murders to satisfy their own hate and show their power over the slaves who dare protest. The nightly talk of strikes, given in many a union meeting, develops the hate and murderous instinct which waits only for opportunity to carry out.

Take the Los Angeles case as an illustration. The Times had withstood about 16 years of all kinds of attacks, not because its faithful employes were underpaid. They received wages higher than the union scale, but they refused to bow down and place themselves under control of "the gang," hence they were persistently assailed and finally 21 were murdered. These men only asked to be let alone to support their families, but union leaders determined to rule over them, hence the murders.

The whole set-up of the leaders of the great "Labor Trust," the American Federation of Labor, points toward a diabolically adroit plan to secure to those

leaders complete control over their own members who dare not protest, and also over all other workmen, legislators, congressmen, merchants and the balance of citizens.

Think it over and you will see in part what the tyranny would be if they were permitted to completely carry out their plans.

Now that the facts are known the people can protect themselves by refusing to do any act that would add power to this aggregation.

Remember, any act.

When their grip on the throat of honest labor is broken, working men can either select better leaders, or join some of the law-abiding trade organizations.

I was not driven to write this series of articles by reason of disagreements with my own thousand workmen. No troubles have arisen between us.

They have had fifty-two weeks a year steady work for many years, are a contented, high-grade class receiving the best wages in Michigan for like service, and protected from the frequent onslaughts of these "Labor Leaders" (?).

Mr. Gompers has repeatedly announced in public that I sought to destroy all organizations of labor.

This is in line with his regular habit of distorting facts. I have for a long time been a member of the National Association of Stationary Engineers and the National Trades and Workers' Association. These are non-strike and peaceful organizations which negotiate their trade agreements legally, with peace and honor.

I have given to the Trades and Workers' Association a \$400,000.00 home for their old members in furtherance of an honest desire to help solve this most important industrial question.

In addition, I have offered to contribute a quarter of a million dollars cash to help along a workman's movement, as defined in a letter sent Mr. Gompers Dec. 11th, 1911. Copy herewith.

December 11th, 1911.

Mr. Samuel Gompers, Pres., American Federation of Labor,

Washington, D. C.

Dear Sir:—

Press reports indicate that you are greatly depressed and harassed by fear and the disrepute brought on your Federation.

The query has arisen whether you are big enough to sense the movement of a great Power which guides humanity, and to conclude that the time has arrived when "Labor" should be honestly represented instead of misrepresented.

If the thought of truthful and earnest effort has come, and you honestly desire better conditions for the wage earners, may I tender to you an invitation to come out to Battle Creek for a conference with the President of the Trades and Workers' Association, Mr. J. W. Bryce?

If you will permit it, your expenses will be paid from the time you leave Washington until you return.

You will be put up at the Sanitarium for a week or ten days' rest and freedom from worry, as a guest, either of the Association or of myself, as you prefer.

When rested, let us consider the new movement for the workmen of America, enlisted under the banner of the National Trades and Workers' Association, free from strikes, slugging, picketing, tyranny, fines, dynamiting and murder.

Belonging to the American Federation of Labor are hundreds of thousands of self-respecting and law-abiding workmen who are members under pressure, and who deplore the tactics you and your associates have employed and forced upon them.

They want steady employment fifty-two weeks in the year and do not relish being forced by strikes into idleness pending the "negotiations" between crooked labor leaders seeking bribes, and crooked employers who hire said leaders to call strikes on competitive jobs, thus making the workmen tools kept idle while the chiefs scrap for control or bribe money.

You will perhaps reject this proposal, believing that strikes are a necessary weapon to preserve the rights of workingmen. But the new way has been in very successful operation over two years and found to have more power than the old way.

The honorable Brotherhood of Locomotive Engineers, The National Association of Stationary Engineers and the National Trades and Workers' Association perfect trade agreements without strikes, secure the highest wages and yet preserve the respect and esteem of employers and of the members themselves.

Workingmen are aroused to resentment from being forced to contribute from their hard-earned pay envelopes to defend known sluggers and murderers, and to being heavily fined for not obeying the orders of leaders when they know those leaders are simply using them to insure complete dominion over the daily lives of the American workingman.

He seeks to maintain his position as an honest, peaceful citizen and not to be forced to affiliate with and support thugs and murderers.

Personally, I have only sincere and open denunciation for the past methods of you and your associates. Nevertheless, if you are ready to join in an earnest and truthful step forward for your members and will accept this invitation in the spirit in which it is given, you will be most welcome, and will be treated with the greatest consideration we are capable of, and in addition I will agree to contribute a quarter of a million dollars in cash to the new movement.

The Trades and Workers now have a splendid \$400,000.00 home to care for their indigent members, and with the addition of the members of the American Federation of Labor and its endowment we can merit the support of the public, all working for the new day of peace with honor in the industrial field.

Yours very truly,

C. W. POST.

No reply has been received. It seems evident the present Leaders will not accept any offer of industrial peace which takes from them the fees, control of workmen, and curbs their trust methods.

When any combination either of Capital or Labor goes outside its own business and attempts to oppress, tyrannize, or forcibly dictate to others and thereby "restrains trade" it becomes dangerous and should be prosecuted.

Talk about restraint of trade!

All the capital trusts in this country couldn't bring about a minus fraction of the loss, inconvenience, misery and crime set in motion by strike conspirators.

The time has come when every home-owning patriotic citizen should speak in most unmistakable terms, if liberty is to be preserved.

Write President Taft asking when he will apply the law to the Labor Trust as well as the Capital Trusts.

Then write your members of Congress, telling them clearly that you will expect them to protect yourself and other common, everyday citizens by voting down the bills these Labor Trust leaders are pressing to give them more control.

One is a bill to prevent courts from issuing restraining orders to stop proposed acts of violence in strikes. Another is to allow labor leaders to restrain trade without being subject to the law.

You are one of a tremendous majority but you must tell your public officials your needs. Then they can act in your defense.

Then question candidates and don't accept any equivocal answers.

Insist that trade organizations can be peacefully conducted and that no laws be enacted giving leaders arbitrary control over the masses.

A few of the facts are now known and have been proven true. Many more will follow as the government investigation proceeds. Will you be patriotic and painstaking enough to write, talk and vote for your own safety?

My work in the way of public and expensive paid announcements on this subject is done.

There's a Reason,

C. W. POST.

Woman and Her Needs

At Home and Elsewhere

THE HOLIDAY AFTERMATH.

THE Christmas aftermath is on. By which you are to understand that all the little boys and girls who were gorged with sweets and pastries during the holidays are now undergoing the tortures of disordered stomachs.

"Mary has been all upset since Christmas I guess she had too good a time." "Johnnie has been having the worst vomiting spells. I don't see what's the matter." "Tommy is all out of sorts since



White Galatea with Blue.

the holidays. I never saw him look so peaked. I can't imagine what ails him." Haven't you heard these remarks on every hand from seemingly intelligent mothers? Mothers who pride themselves on being up-to-date, and who always have a magazine or two lying around on the table?

One mother, wiser or more honest than the rest, said, "I always make the rounds with the castor oil bottle Christmas night. I know I'll have to do it sometime before the next night, so I think the sooner its over with the better."

Just what part of the beautiful Christmas story is to be taught our children by allowing them to over-eat at Christmas time is a mystery I have never been able to fathom. If there was one thing more than another that Christ's life taught, it was the righteousness of temperate living. Yet at the one season of the year when we should direct our thoughts most to Him we throw off all self control. We overdo in giving and in working before his natal day, and when that glad day arrives we deliberately eat twice what we require or our bodies can take care of, and call it celebrating Christmas. What a travesty, when people celebrate the day of days for Christians by this conduct so directly opposed to every Christian teaching.

Self control is the prime duty of man, and there is no day in the year when it can be safely disregarded. And the time to learn it is in childhood. "What can you do with children at Christmas? They tease so, and it is only once a year," is the excuse of mothers. But that is hardly a truthful excuse. Children who do not tease all the time would not tease at Christmas. If they had been taught from babyhood that they could not have what was bad for them just because they cried and teased, they would not choose Christmas day as the time to wheedle mother into letting them do anything they chose. Children are going to do exactly what parents allow them to do, and if they are not allowed to eat anything and everything they cry for from babyhood up, by the time they are old enough to understand Christmas they will be also old enough to understand that they mustn't eat too much on that day any more than on any other.

Depriving children of foods they like and forcing them to eat what they do not like but ought to have, is one of the hardest things for mothers to do. But it is also one of the best things to teach your child self-control, a thing which is of more vital benefit to him than any sort of food. It happens in sickness that the doctor orders certain foods withheld.

Then we always hear, "I don't know what I'll ever do, he loves it so. Well, I will just have to stop cooking it. If he knew it was in the house he would have it in spite of me." So the whole family has to go without a dish they like, and possibly need, because the mother hasn't the courage to teach one small child self control.

In one family an eight-year-old lad had to go without meat for four or five months. For all that time the entire family were deprived of meat, although there were two other growing children and the hardworking father who needed it. The mother thought it would be better to teach the others self-denial than to cook the meat and let the little fellow learn self-control by going without something he wanted very badly.

I know these ideas are widely at variance with universal practice. If I couldn't see them being disregarded all the time, the amount of stomach trouble among the middle-aged and old people would tell me. We decry the man who can not control his appetite for drink, and make a deacon of his brother who never even thinks of controlling his appetite for any sort of food. Yet the command, "Be temperate in all things" surely includes both.

DEBORAH.

THE NEWEST THING IN LITTLE GIRLS' DRESSES.

RUSSEN KITTELL" is the unusual name of a dainty frock for small girls which is being shown this spring in a large Woodward avenue store in Detroit. The frock itself is a low neck,



A Cord and Tassel Supplants the Belt. short sleeved affair, either pleated or plain and confined with a belt. The distinguishing feature is the cross stitch embroidery which trims it. We have seen cross stitch on everything else this season, so it is only a step to pique and galatea dresses, and the effect is really pretty.

Many changes are made in the frocks by changing the embroidery pattern and the color in which it is worked. Most of the dresses are banded or piped with a color, red or blue being mostly used, and the embroidery matches in color the banding. One smart one for a five-year-old is of tan linen with bands of red. Red finishes the bottom of the skirt, the sleeves and the neck, and bands of red run over the shoulders from belt in the front to the belt in the back. These bands are embroidered in black and yellow while a design of cross stitch in red trims the skirt just above the applied band.

White galatea is very pretty with bands of light blue at neck, sleeves and skirt bottom and embroidery in darker blue. Red bands on white pique with red embroidery exactly matching in color would be pretty on a dark-eyed child. There are countless variations to be made, simply by changing the manner of applying the colored bands, to say nothing of the different designs in cross stitch that may be used. A new feature is the use of cords instead of belts, the

cords being of a color to match the trimming.

Rompers are also shown with touches of cross stitch. For semi-dress-up wear the come in white, with bands of blue at wrists and on the legs, and touches of cross stitch decking the waist.

The dresses come in prices ranging from 75 cents to \$2.50. They are all made up and stamped ready to work. Or, of course, by paying a little more you may buy them embroidered and ready to put on.

A LOOK INTO FOOD VALUES.

No. 2.

Proteids—Carbon, Hydrogen, Oxygen, and Nitrogen.—Build Tissue.

Albumen, found in white of egg, lean meat, curd of milk in cheese, gluten of wheat and grains, and in the legumens, peas, beans, and lentils. Is of two kinds, vegetable and animal, the animal being much easier of digestion.

Carbohydrates—Carbon, Hydrogen, Oxygen.—Heat Givers First. What is Not Used for Heat is Stored in Body in Form of Fat.

Starch and sugar, fats and oils, found in the grains, vegetables, cream, butter, fat meat, fruit, nuts. "Anything that comes out of the ground may be classed as a carbohydrate," says one authority.

Minerals—Form Bone, Assist in Digestion. Phosphates of lime and soda, iron, magnesia, sulphur, etc., found in water, vegetables and fruit.

If the above table be cut out of The Farmer and pasted over the housemother's kitchen table, it will be found of great help in preparing meals which will not only satisfy hunger but give to the body just the sort of food it needs. The use of the three classes is given, and the foods in which each sort is found most abundantly, and from it each woman can prepare a meal suited to her own family. The needs of the individual vary so that no writer or teacher can plan a meal calculated to do for every reader. The cook who knows her brood, their needs and peculiarities, must do this herself.

For instance, a glance at the table shows you that proteids are tissue-building, or are most useful in building up the body, though they yield fuel, or working power as well. Have you growing children in your family? Then they need plenty of proteid. A lack of proteid in the diet of developing children is responsible for many puny, spindling, anaemic boys and girls we see, that and a lack of plenty of fresh air and water both inside and out. Growing children need meat, not fat salt pork, but nourishing beef, mutton and game. They need eggs and milk, good bread, either white or brown, plenty of butter and olive oil if they like it, a good cereal in the morning, oatmeal or the prepared wheats, and pure sugar, honey and pure syrup. They need the sugar to help make heat to keep their



Rompers May be Decked with Cross-stitch.

restless, active, little bodies warm and in motion.

If you have no children, do you do a great deal of muscular work, and do the grown-ups of your family work with brawn or brain? If muscular work is the rule, the tissues are worn out rapidly and proteid is necessary to keep them in

Every Farm Needs this Chopper.

Besides its value at killing time—for grinding sausage meat, etc.—there's an everyday use for the



ENTERPRISE Meat and Food Chopper

It's the chopper that is made to give hard, honest service. Four-bladed steel knife revolves against inner surface of a perforated steel plate. Parts interchangeable. Cannot rust.

To be sure of quality and long service—look for the name Enterprise.

45 styles and sizes—hand and power.

Price, \$1.75 and Upward

Indispensable in the kitchen—the great home economizer.

Like Enterprise Fruit Presses, Sausage Stuffers, Sad Irons, etc.—made on honor.

Send 4c in stamps for our economy recipe book, "The Enterprising Housekeeper."

THE ENTERPRISE MFG. CO. OF PA.

Dept. 48, Philadelphia.

Your Skin Feels Unusually Clean After JAP ROSE The "Bubble Bath Soap" Enjoy Really Pure Pores Today

Soften, purify and beautify your skin in all water, hard—soft—hot—cold. Large cake 10c—any dealer.

Copyrighted, 1912, James S. Kirk & Co.

Complete Electric Lighting Outfits For the Farm

Shop or suburban home. Turn a switch and flood your premises with brilliant electric light. Complete outfits, including engine, dynamo, switchboard, storage batteries, etc., \$250 up, according to the number of lights desired. Cheaper to operate, handier, cleaner and safer than any other light. Write for particulars.

THE DAYTON ELECTRICAL MFG. CO., 237 St. Clair St., Dayton, Ohio. Largest Mfrs. of Ignition and Lighting Apparatus Exclusively in the U. S.

GIVEN AWAY TO GIRLS Talking Doll

I want to send every little girl a Speaking and Sleeping Doll; will say "Mama" and "Papa" The prettiest, daintiest and sweetest Doll you ever saw. Stylishly dressed; lace trimmed hat and gown; shoes and stockings; 17 inches tall. Pretty head. Long golden curls, shuts its eyes. Send No Money Just your address and say you want a "Mama" and "Papa" Talking Doll and I will tell you what to do.

EXTRA PRIZE for promptness. Do not delay and we will send you another doll as big as a real baby—is 2½ feet tall. Both dolls yours in a few days.

NOT ONE CENT OF YOUR MONEY IS REQUIRED. Write S. E. FERRY, Dept. 82, Indianapolis, Ind.

HARTSHORN SHADE ROLLERS

Original and unequalled. Wood or tin rollers. Improved requires no tacks. Inventor's signature on genuine.

Stewart Hartshorn

WANTED—A man or woman to act as our information reporter. All or spare time. No experience necessary. \$50 to \$300 per month, nothing to sell. Send stamp for particulars. Address Sales Association, 914 Association Bldg., Indianapolis, Ind.

repair. If your family live quietly, with not much wear and tear on the body, less proteid will be necessary, but do not make the mistake of cutting it out too much and trying to live on sweets and starches and fats. This system is often employed where large numbers of men are employed and fed by a business firm. The men are fed on plenty of cakes, pies, cookies and syrups, instead of meat and eggs which cost more. The appetite is cloyed with the sweet and the men feel satisfied while at table, but the resulting effect on the health is for the bad. If proteid is furnished it is quite often furnished in the shape of baked beans, split pea soup, etc. These, while very nourishing if digested, are so hard of digestion that many stomachs are not able to take care of them properly.

THE THREE POINTED JACKET IS THE SEASON'S FAVORITE.

A Reader requests instructions for crocheting a sleeveless jacket for wear under the winter coats. The jacket described below, which was found in the Columbia yarn book, is very popular this winter.

For 36 Inch Bust—Make a chain of 94 stitches.

First Row—In the 4th stitch from hook make 1 D C, then 1 D C in each of 44 stitches, 3 D C in the 46th stitch, chain 2 and 3 D C in the same stitch (this is the centre of back), 1 D C in each of 45 stitches, chain 3 and turn.

Second Row—3 D C, chain 2 and 3 D C all in the 1st stitch (always taking the back stitch to form rib for the whole garment. 1 D C in each stitch up to the 2 chain stitches in centre, 3 D C, chain 2, and 3 D C in the space of the 2 chain stitches, then 1 D C in each stitch up to the end stitch, 3 D C, chain 2 and 3 D C in the end stitch, chain 3 and turn.

Third Row—3 D C, chain 2, and 3 D C in the 2 chain stitches, then like 2nd row. Widen always in the centre of back and at each end. Make 20 rows in all. The jacket is now ready for joining. Fold over, counting 60 stitches for armhole; join the next 25 stitches for under-arm seam.

Border—Begin at neck, * make shell of 6 D C, skip 2 stitches, then 1 D C in the next stitch. Repeat from * around jacket and armhole.

Second Row—Make shells of 6 D C in each shell of previous row, with a picot in centre of each shell, and 1 D C around the 1 D C of previous row. Run ribbon through the 1st row of the garment.

LETTER BOX.

School and Home.

In a recent issue of the Michigan Farmer I was much interested in an article on "Studying School Lessons at Home." In this article the writer has touched upon a vital subject to both teacher and parents. While I do not wish to criticise unkindly, yet I think the writer of the above mentioned article takes a rather one-sided view of the case for one who admits having once been a teacher herself. I hope she will pardon me if I seem to disagree with some of her arguments later on.

The thought I wish to keep before you is the relationship of school and home, parents and teachers. Now, this is a broad subject and one that is discussed under various heads by many who are interested. During a teaching career of seven years in both rural and graded schools I have received some strong impressions and have observed closely the relationship, as it now exists, between school and home life and have wondered if that relationship could not be something different, something more than it is now.

First, let us look at the attitude of the parents toward the school. Now there are several classes of parents and therefore we will find several different attitudes toward both school and teacher. Some parents think of the school only as a place to send the little tots to be free from caring for them a part of the day, and as a place from which to keep the older ones as often as possible to gain more of their help. This is one attitude and I find from careful observation that it is taken by more people than one would imagine. There are some variations of it in the indifferent, or the too critical parents, or the ignorant ones.

Now, there is another attitude with very few variations taken by some parents. The careful, thinking parents who wish their children to gain the best in life and who realize somewhat the effect of the earlier school days upon the whole

future career of the child. These parents look upon the school as the place where the child receives many moral impressions as well as mental training. They show an interest in the work and play and the many small happenings of school life that the average child is usually so full of on coming from school each day. The teacher receives their heartiest sympathy and co-operation in her efforts. This is mainly considered the proper attitude.

Next consider for a moment the attitude of the teacher toward the school. As we all know, there are "teachers and teachers." There are some who only wish to teach long enough to earn money to buy their trousseau; others who have to support themselves in some way and are, to quote a well known educator, "always looking forward to 4 o'clock and pay day." Then there are still others, and these are the vast majority, who are conscientious, faithful workers who realize to a great extent the responsibility of their calling. This last is usually considered the proper attitude of the teacher.

A happy combination of the proper attitude in the teacher and all the parents of a district would almost bring about a perfect school, would it not? The teacher cannot make the school alone; the home influences and environments will show their effects in the schoolroom. But the teacher many times does, by a strong personality and tactful methods, counteract adverse home influences and the effect of this school training is felt in the home.

The parents and teacher can do much toward bettering a school and bringing school and home into closer relations. But what teacher can go into some of the schoolrooms scattered about the country and do her best? And what pupil can go into the same schoolroom and do his best? Poorly heated, badly ventilated and with almost no equipment whatever. I know this is not so in many districts but in too many others it is so and often in districts that could afford a good building, well equipped and with modern conveniences. A proper public spirit on the part of the people of the district could remedy much of this. Sometimes the people who could help the most in this way say, "We do not have any children to send to school, what does it matter to us what kind of a school our district has." If a man or woman is a wideawake, self-respecting citizen it will matter little to him or her if they have children in school or not, they will want to see a good school in their community.

Some parents complain that their teacher is not fitted for rural school teaching. She (or he), hates the country, and does not know a robin from an owl or a thistle from a clover. Here again the people of the district may remedy this fault. The school board selects the teacher. The people elect the school board. What kind of men act in this capacity? Occasionally men who cannot write their own name but have their children or some kind neighbor do any necessary writing that is to be done. Also men who say, "Forty year ago when I went to school we sat on wooden benches and kept the schoolhouse warm with a box stove and I don't believe in wastin' no money on these new fangled improvements." If these are the men who select our teachers can we expect them to use much thought in their choice? Right here let me say, however, that the state is demanding specially qualified teachers for rural schools. The Grange also is exerting an influence toward obtaining rural teachers who are interested in country life so that it will soon be hard to err in the choice of a teacher.

Another thing—what sort of a library do we find in many rural schools? Classic works of science, history and fiction or cheap editions of cheaper authors that would improve the mind of no pupil? Can we not, as communities, do something to make a school library to be proud of?

I wonder how many parents ever visit school! Oh, yes, of course, we go the day before Thanksgiving or to the Christmas tree or the last day exercises. But do we drop in at the schoolhouse every once in a while to notice how Mary or John recites in arithmetic or history, or to give teacher a word of encouragement or cheer? I fear many of us would feel very much out of place in the schoolroom on such errands. Yet, if we do not know what our children are doing and how they do it how can we give them full understanding and sympathy.

Just a word also about the parents who



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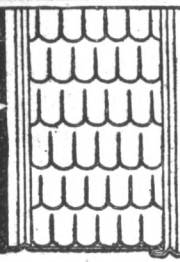
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object to Mary and John bringing home work to do evenings. I think you can find that under the sixth grade no pupil is supposed to take work home. Above the sixth grade and including the same, it is almost impossible for a pupil to recite in from six to eight subjects a day and prepare all of them at school. However, all work is carefully explained for the following day and it is not necessary for the mother to have to work problems or draw maps or write sentences for the child. No teacher expects that or even wishes it. A child is usually told to ask no help at home. If careful attention is given to explanations and class work an hour at longest will suffice to do the home work with no bothering of mother. Often parents are to blame for pupils bringing home a large amount of work. The parents know very little of the lessons given out or how much home work the child is told to do and consequently mother is annoyed when Mary comes home with an amount of work to do in one evening that would necessarily take three or four evenings to do unless some one assists her. To illustrate, let me give you a case that occurred in my own experience. Mary came home one night very much in a flutter and nearly crying. A large map of Europe must be drawn with the countries outlined in colored inks, and parallels and meridians all in their proper places. This was Wednesday night and Mary must hand in that map on Friday. Of course, mother must help Mary or it would not be finished in time. Mary's mother was rightly indignant and said she would call up teacher and ask her what she meant by giving a child such an amount of work to do. Mary wept at this and at last confessed it was her own fault as the work had been given out two weeks before and was to be done a little at a time each evening.

Perhaps some parents will say, "We have a teacher, a school board, a commissioner and various other officers to look after our schools. If we see that our children are there on time every day that should be the extent of our obligations." That was the popular idea for many years and because of it we have been a long time in waking up to the fact that something was wrong with the schools—or was it the parents? The schools of large cities are taking the lead in reforms that are expected to bring about great changes for the better in their institutions.

Perhaps some parents will say, "How can we interest ourselves in our children's school life? We are not educated ourselves. We do not know a good teacher from a poor one and would hardly be able to tell whether John is advancing or going backward." If parents of this sort have the desire to do these things they say they can't do, there is much hope for them. Several years ago I read of a young couple starting out to make a home for themselves in the country. After a time a little one came to live with them. Neither parent had had more than a few months' "schooling" and were barely able to read and write. They realized their responsibility, however, and determined to make themselves worthy parents of their child. A part of their hard earned money was invested each year in books, text books and the best magazines, science, history, mathematics, and others and by the time their child was ready for school they were ready to take an understanding interest in his work. They knew their school-house was an uncomfortable, badly lighted, poorly ventilated building, with desks and seats that were deforming the pupils, and these people were able to create a sentiment in the community that changed their school entirely.

For those who think they are too busy to interest themselves in these matters let me say this. Is there anything else more important than the educating of our children? What else is our time for? Let us do a little more serious thinking on the relation of their school and home life in our own communities and each use our influence, no matter how small, toward the closer union of school and home life.

ALBERTA.

Home Study Sometimes Necessary.

Editor of Household Department:—I would like to say a few words on Mrs. Cameron's article entitled, "Studying School Lessons at Home." Now, to my mind it all depends upon circumstances whether or not a child should study lessons at home. I think I can view the matter from at least three different angles. First, as a small boy going to country school; second, as a teacher of sixteen years' experience in country

schools, and, third, as a father sending children to school.

If a child has the privilege of nine or ten months' school, as they usually do now, I don't think it necessary to compel a child to study much, if any, at home. But if a child is interested in his studies to such an extent that he wants to study at home, I think it proper to encourage it to a reasonable degree, not to over study, I don't mean. Again, if a child is rather backward and slow to learn, a little personal help at home often does a deal of good. The personal help that a teacher can give is often too limited for some children. Her time is largely taken up, especially in large schools, with class work. Some children do not need much personal help but the slow ones frequently do. In my own case, my education would not have amounted to much, had I not studied at home and received help from mother. I was slow to learn and had only four months school in a year after I got big enough to work, so that at 20 I had no more education than a child may have now at 13 or 14. In my case it was very desirable, almost necessary, that I study at home.

I think Mrs. Cameron overdraws the matter when she says most teachers require home study. I think it the exception rather than the rule. As a teacher I never required home study although I encouraged it. In case of children who live in sparsely settled districts where only a few months school is obtainable in a year, I think it desirable for children to bend all their energies to their school work during the short term they have. They can stand harder work for four or five months in a year than they can for nine or ten months.

Mrs. Cameron speaks of the "arduous (?) work" of the teacher. Yes, if she does her duty by her school, she usually has arduous work, without the question mark. I speak from experience. I have tried both teaching and farming. The latter is less arduous. Let me say to the young, if you are looking for an easy job, don't take up teaching.—A. L. D.,

MICHIGAN FARMER PATTERNS.

These patterns may be obtained from the Michigan Farmer office at the prices named. Be sure to give pattern number and the size wanted.



No. 4789, Ladies' Shirt Waist. Cut in 6 sizes, 32 to 42 inches, bust measure. For 36 bust it requires 3 1/2 yards of 27 inches wide. Price, 10 cents.

No. 4046, Childrens' Rompers. Three sizes, 2, 4 and 6 years. For 4 years it requires 2 1/2 yards 36 inches wide; 1 1/2 yard 36 inches wide for bloomers alone. Price, 10 cents.

No. 1584, Boys' Blouse. Ten sizes, 3 to 12 years. For 8 years it requires 1 1/2 yards 36 inches wide. Price, 10 cents.

No. 4295, Ladies Kitchen Apron. Four sizes, 32, 36, 40 and 44 inches, bust measure. For 36 bust it requires 3 1/4 yards 27 inches wide. Price, 10 cents.

No. 5002, Ladies' one-piece Closed Drawers. Six sizes, 22 to 32 inches, waist measure. For 24 waist it requires 2 yards of 36-inch material. Price, 10 cents.

No. 5398, Ladies' Two-piece Skirt with Side Panels. Cut in 5 sizes, 22 to 30 inches waist measure. Size 24 measures 2 1/2 yards around lower edge and requires 2 1/2 yards of 50-inch material. Price, 10 cents.



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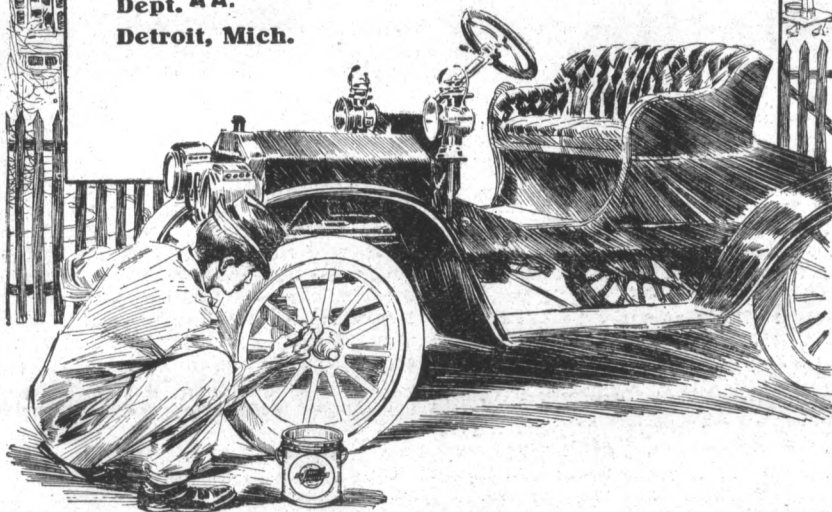
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Sew in ease—and enjoy your sewing—no matter how long the day's work may be. You can—when you sew on a Franklin. For the head of the Franklin is set closer to you than in other machines, and you can reach your sewing without bending over. You can sit straight—and sew the live-long day with never a trace of a back-ache.

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They simply must and will do all that is claimed for them.

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GOVERNMENT FARMERS WANTED—Examination living quarters. Write OZMENT, 17 F. St. Louis.

(Continued from page 116).

rioting. Elaborate police precautions are being taken to keep order in the district. General Pedro Montero, of Ecuador, who a few months ago was the popular hero of Guayaquil, was killed in that city last Friday by a mob. Last November Gen. Montero was proclaimed president of the provisional government by his troops. Later he handed over the leadership to General Olfaro. This action caused the displeasure of the populace and finally resulted in his assassination.

The Royal Bank at Vancouver, British Columbia, was robbed of its cash by two robbers in broad daylight, January 26.

The final results of the German elections show that 13 parties will be represented in the Reichstag. The socialists with 110 members have the largest number, the centists have 93 members, the conservatives 71, the radicals 42, the national-liberals 47, poles, 18, and the remainder are divided among seven other parties.

It is expected that the armistice between the republicans and the government of China will be extended. The first agreement ended Monday of this week. It is further believed that because of the reaction in favor of the republicans that the agreement will finally result in the abdication of the throne and the remodeling of the government after the plan supported by the progressives.

MICHIGAN FARMERS' INSTITUTES.

County Institutes.

Allegan Co., Plainwell, Feb. 5-6; Lake Co., Luther, Feb. 5-6; Berrien Co., Buchanan, Feb. 6-7; Arenac Co., Sterling, Feb. 6-7; Cass Co., Cassopolis, Feb. 7-8; St. Joseph Co., Constantine, Feb. 8-9; Gladwin Co., Gladwin, Feb. 8-9; Branch Co., Coldwater, Feb. 9-10; Calhoun Co., Marshall, Feb. 12-13; Kalamazoo Co., Richland, Feb. 13-14; Hillsdale Co., Camden, Feb. 13-14; Lenawee Co., Adrian, Feb. 14-15; Ionia Co., Ionia, Feb. 14-15-16; Jackson Co., Michigan Center, Feb. 15-16; Washtenaw Co., Saline, Feb. 15-16; Livingston Co., Howell, Feb. 16-17; Monroe Co., Dundee, Feb. 16-17; Wayne Co., Plymouth, Feb. 19-20; Shiawassee Co., Corunna, Feb. 20-21; Montcalm Co., Stanton, Feb. 22-23; Kent Co., Grand Rapids, Feb. 23-24; Oakland Co., Pontiac, Feb. 23-24.

One-Day Institutes.

Ionia Co., Boston, Feb. 5; Keene, Feb. 6; Belding, Feb. 7; Orleans, Feb. 8; Palo, Feb. 9; Hubbardston, Feb. 10.

Arenac Co., Maple Ridge, Feb. 5; Washtenaw Co., Ann Arbor, Feb. 5; Lima Center, Feb. 6; Dixboro, Feb. 7; Sylvan, Feb. 8; Manchester, Feb. 9; Stony Creek, Feb. 12.

Kent Co., Sand Lake, Feb. 6; Grattan, Feb. 7; Ada, Feb. 8; Alto, Feb. 9; Caladonia, Feb. 10; Carlisle, Feb. 12; Sparta, Feb. 13; Kinney, Feb. 14.

Saginaw Co., Birch Run, Feb. 6; Frankenmuth, Feb. 7; Hemlock, Feb. 8; Freeland, Feb. 9-10.

Wayne Co., Romulus, Feb. 12; New Boston, Feb. 13; Flat Rock, Feb. 14; Redford, Feb. 15; Inkster, Feb. 16; Cherry Hill, Feb. 17.

Oakland Co., Wixom, Feb. 13; Highland, Feb. 14; White Lake, Feb. 15; Ortonville, Feb. 16; Birmingham, Feb. 17.

Shiawassee Co., Carland, Feb. 12; Laingsburg, Feb. 13; Byron, Feb. 14.

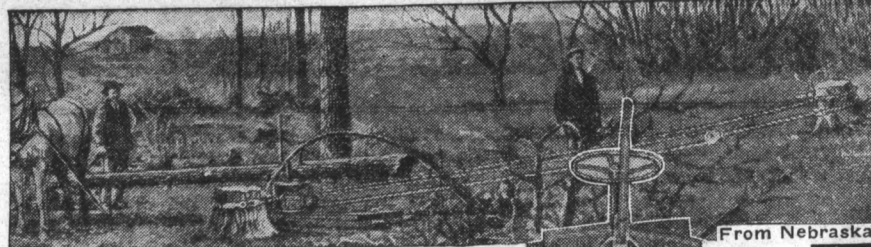
Sanilac Co., Lexington, Feb. 7; Hillsdale Co., Frontier, Feb. 5; Allen, Feb. 6.

Monroe Co., Azalia, Feb. 12; Macomb Co., Ray, Feb. 9.

Clinton Co., St. Johns, Feb. 9-10; Westphalia, Feb. 19.

Mecosta Co., Paris, Feb. 7; Newaygo Co., Hawkins, Feb. 8.

State Round-Up Institute, Agricultural College, Feb. 27-28-29 and March 1.



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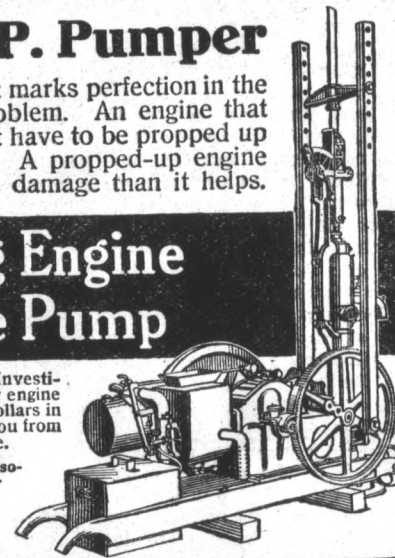
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If you don't realize what that means to you, we say, Investigate. Costs you only the trouble of writing for our engine books to find out. This knowledge may save you dollars in cash as well as in time and convenience, and save you from buying an engine that will soon go to the junk pile.

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I have been making buggies to order for 12 years. I have had to sell them in the hardest competition. I have had to save every buyer of big money to get his order. I have sold 150,000 buggies throughout the United States. I have never heard of one of my buggies that was worn out. They have all gone on free trial, all guaranteed for two years—subject to return if not satisfactory. I am the originator of selling buggies on trial. I had to make good buggies to sell on that plan. No retail dealer dares sell his buggies on a month's free trial.

H. C. PHELPS
President

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I am not selling automobiles; I am selling buggies. One or two shop-worn, dust-covered samples won't do for my trade. Everything I offer is strictly up-to-date. Auto-seat Buggies, Surreys, Phaetons, latest style traps—everything, including all kinds of Harness. All at manufacturers prices.

Doesn't this ad, so far, sound as though you ought to get my free book? It costs you only a penny. You ought to post yourself on what a buggy will cost no matter where you buy. Remember, my 150,000 customers have bought on this plan from me.

I believe I can interest you. Anyway, don't you want to accept my proposition and let me pay the postage on my big book to you? Then just write a postal card. Remember, Split Hickory Vehicles are trade-marked "Highest grade vehicles made," H. C. PHELPS, President

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of this
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PRACTICAL SCIENCE.

THE NEED FOR FERTILIZERS.

BY FLOYD W. ROBISON.

Rotation of Crops.

The principle of rotation of crops depends upon the fact that different crops do not withdraw from the soil the same amounts of plant nutrients. Much good has been accomplished through the rotation of crops and many soils have been reclaimed by this simple procedure. This theory recognizes the value of maintaining a more or less constant and uniform ratio between the various agents in the soil solution. By a rotation of crops, that is, the planting of a different type of crop upon a soil each successive year, the uniformity of the ratio between the various plant nutrients in the soil is quite successfully maintained.

Why Rotation of Crops is Desirable.

Root crops draw upon the soil agents in an entirely different manner than do cereals. That is, root crops remove the soil nutrients in different proportions than do cereals and other crops, and the demand of a root crop upon the soil is likewise entirely different than is the demand of a cereal crop upon the soil. We will find by a practical experiment that root crops, for example, thrive better on a soil which contains a considerable quantity of potash. Upon planting that soil subsequently to a cereal crop, we may find that the cereal crop has drawn particularly upon the phosphoric acid content of the soil. This peculiarity of different crops which we may perhaps, for want of a better term, call their power of selective absorption, explains why rotation of crops has been productive of so much good.

Maintaining the Uniformity.

Knowing that these different types of plants remove the nutrients from the soil in different proportions we may easily see that by planting the soil to a root crop one year and the next year planting this same soil to a cereal crop, or other type of crop, will tend to remove the soil nutrients more in a uniform ratio, therefore leaving the soil solution in a more perfect balance. This has been the principal reason advanced for advising the rotation of crops. What the sanitary effect of a change of crops on a soil may be is certainly difficult to estimate but it is no doubt considerable.

Warrington, in a New Jersey experiment bulletin is quoted as follows regarding the various plant food nutrients removed from some of the plant crops.

Crop.	Yield.	Total Ash	Nitro.	Phos. Acid	Potash	Lime
		Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Wheat	bu. 30	172	48	21.1	28.8	9.2
Barley	bu. 40	157	48	20.7	35.7	9.2
Oats	bu. 45	191	55	19.4	46.1	11.6
Corn	bu. 30	121	43	18.0	36.3	...
Meadow Hay	1½	203	49	12.3	50.9	32.1
Red Clover	ton 2	258	102	24.9	83.4	90.1
Potatoes	ton 6	127	47	21.5	76.5	3.4
Turnips	ton 17	364	192	33.1	148.8	74.0

The Ordinary Amounts of Fertilizers Used do not Return the Nutrients Removed in the Crop.

One of the main reasons advanced for the use of commercial fertilizers has been that it is necessary to replace the plant nutrients removed in the crop, otherwise ultimately the productive capacity of the soil will be so lowered that a maximum crop is no longer possible. If we were to return to the soil in fertilizers the equivalent of the nutrients removed in the crop we would add to the soil a very much larger quantity of fertilizers than we ordinarily now add. On the basis of the figures given in the New Jersey bulletin just referred to, for the nutrients removed in the various crops mentioned we may see that figuring a yield of 30 bushels of wheat per acre it would require upwards of 300 lbs. of nitrate of soda per acre to furnish the nitrogen required. Now to replace the phosphoric acid and potash would require 150 lbs. of acid phosphate and 60 lbs. of muriate of potash. On the basis of a yield of 50 bushels of corn they have computed that it would require 450 lbs. of nitrate of soda, 200 lbs. acid phosphate and 120 lbs. muriate of potash, and similarly regarding potatoes and the other crops mentioned. On corn and cereal crops it is customary to add from 150 to 500 lbs. of fertilizers per acre and it may be easily seen that with such a small addition of commercial fertilizers of the ordinary brand not anywhere near the amount of nitrogen, phosphoric acid and potash removed by the crop would be put back onto the soil in the form of fertilizers.

This condition does not hold, of course, with all crops but generally speaking we may safely estimate that to return to the soil the equivalent of the crop removed in the fertilizing ingredients will demand a much heavier use of commercial fertilizers than is now resorted to.

Barnyard Manure Deficient Also.

Nor is it possible, ordinarily, to return in stable or barnyard manure the equivalent of the plant nutrients removed in the crop. In fact, the low concentration of barnyard manures in these various plant nutrients, especially phosphoric acid and potash, has caused many writers, particularly the fertilizer manufacturers, to argue that this fact made imperative the use of commercial fertilizers even at the expense of barnyard manures. We have emphasized heretofore the very great desirability of carrying out a systematic cultivation of the soil with the conservation of all of the natural manures, the purpose of this being to keep the concentration of plant nutrients in the soil solution in a more or less uniform ratio toward each other. In this manner, with the addition of a comparatively small amount of commercial fertilizers the soil may be kept practically at its maximum immediate productive capacity.

Commercial Sources of Nitrogen.

Nitrogen has been spoken of in fertilizing circles more under the name of ammonia than under the name of nitrogen. This is, no doubt, due to the fact that quite generally in fertilizers it does take the form of ammonia and very frequently in stable and barnyard manures the nitrogen also is present in the form of ammonia. By the term ammonia is simply meant a union of one part nitrogen with three parts hydrogen gas. Symbol (NH₃). The principal sources of nitrogen are the organic matter of the soil, commonly called humus, ordinary manures, organic fertilizers such as cottonseed meal, Peruvian guano, Chili saltpeter (sodium nitrate), dried blood, meat scraps, tankage and ammonia salts, such as ammonium sulphate.

Sodium Nitrate.

Probably the most common commercial source of nitrogen as used in commercial fertilizers is Chili saltpeter, or nitrate of soda. This product is a salt deposit found in the South American state, Chili, and has been used in very large quantities in this country in commercial fertilizers. Ordinary commercial nitrate of soda contains about 15.8 per cent nitrogen, that is, 15.8 units of nitrogen per

100 lbs. It is quite like common salt in appearance and is easily soluble in water, hence this point would teach us caution regarding the application of this nitrate of soda to the soil. One of the particular effects of nitrate of soda is the color change which takes place in the vegetation almost immediately upon the application of this fertilizer. If applied to wheat in the spring the color of the wheat blade becomes a very dark green color. Its ready solubility insures that it is one of the most quickly available fertilizing products on the market.

Sulphate of Ammonia.

Sulphate of ammonia is another nitrogen salt very similar in its appearance to common salt. Pure sulphate of ammonia contains about 21 per cent nitrogen which would mean in the neighborhood of 25 per cent ammonia. Sulphate of ammonia and nitrate of soda aid very materially in their effect upon plants and the nitrogen from the two sources is about equally valuable. They are considered to be about the most readily available of all the sources of nitrogen. Because of their great solubility they must be applied with caution.

Over-balancing the Soil with Nitrogen.

It is not difficult to over-balance some soils with nitrogen fertilizers and organic matter, in so far as certain crops are concerned. Some soils can scarcely be reclaimed to certain crops, not because they are exhausted soils but because they are unbalanced in so far as the nitrogen factor is concerned. In the vicinity of Kalamazoo, some of the soils cannot be used in general application,

not because they are run down, for they are in fact, very fertile. They are, however, over-balanced. The soil solution of the plant nutrients lacks uniformity, and so these soils are adapted to but a certain line of farming. Soils of this character produce an abundance of leaf and are valuable in the growing of such crops as celery, for which this region is famous. To attempt to grow wheat or oats on such a soil would involve the use of large quantities of phosphoric acid, particularly to bring the soil solution into a favorable balance. Otherwise the crop would grow leaf and stem at the expense of seed.

SPECIFIC EFFECTS OF DIFFERENT RATIONS.

When it comes to feeding horses for maintenance or other stock for growth and development, the farmer is brought face to face with the specific effect of the different feeds for the purpose intended. Probably no two feeds have been so much compared in their individual specific effects as have corn and oats. Corn is supposed to possess certain specific properties by virtue of which it becomes an excellent feed for fattening stock. It is thought oats have certain specific properties by virtue of which it is considered an especially excellent feed for driving and working horses. Wheat and rye likewise have, with some farmers, a definite and specific field in certain phases of stock feeding.

These conditions, these opinions, are not mere hap-hazard ones. It is true they are held by feeders without any definite reason being forthcoming. It still remains true, nevertheless, that corn will not take the place of some of the other grains. And it does seem to be true that oats possess special energy that gives mettle to horses. Many common feeds are in this way abnormal in their behavior and consequently differ in their respective virtues in the hands of different feeders. These effects are quite largely being overcome in the feeding of animals by making use of the balanced ration. Certain grains, however, are still held and undoubtedly will be held for years to come, especially favorites in certain finishing operations.

Corn an Abnormal Feed.

Corn is not an easy grain to feed and feed with the best results all round. It is decidedly unbalanced, or perhaps we might say, abnormal, and so it is used principally at the finishing stage of animal development. Steers are fed corn in considerable quantities along at the last. Hogs are finished on corn but are not usually successfully carried through their major development on large quantities of corn.

The reason for these conditions is that feeders have not sufficiently understood that because of their difference in chemical composition these different grains may be of necessity far different in their specific effects upon different animals and chiefly because of the different purposes for which the animals are being fed. Considerable work has been done by the experiment stations to compound different rations and study their virtues. These specific factors, however, have not largely been inquired into. Henry, and others, have shown the specific effects of a ration high in protein and this showing was followed by a period of high protein feeding.

Effect of the Mineral Matter.

In the feeding of concentrates, however, not only in animals but in the diet of man, as well, the specific effect of the mineral matter in the food has been largely ignored. The writer pointed out some years ago (Michigan Academy of Science Report, Fibre and Iron in Food of Man), the danger of arising in the food of man from ignoring the specific effects of fibre and iron in the daily human dietary. We may remember that the tendency of the last several years has been to produce for human consumption natural food products of an exceptional degree of purity. This purity factor has extended in flour especially to the extent of removing well nigh all of the fibrous or cellulose materials and by far the major portion of the mineral matter. The specific effect on children particularly of feeding a food exceedingly low in mineral nutrients, is now quite commonly known. Indeed, even milk, it has been found, needs to be supplemented at times as a food for children because of its exceedingly low content of mineral matter and because of its deficiency, particularly in those elements which go to make up the bony structure.

(Continued next week.)



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The upper view shows how groups of big stumps are blasted off clean at one time, with all dirt off the roots and stumps shattered into kindling wood. At the same time the subsoil is thoroughly broken up, creating a fine home for the new crop. Lower view shows a celery crop worth \$800 per acre ten months after stumps were blasted out.

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Built all of steel and metal—shaft drive like automobile—dust-proof bearings—engine and foot power—low price. Guaranteed 5 years—30 attachments to select from

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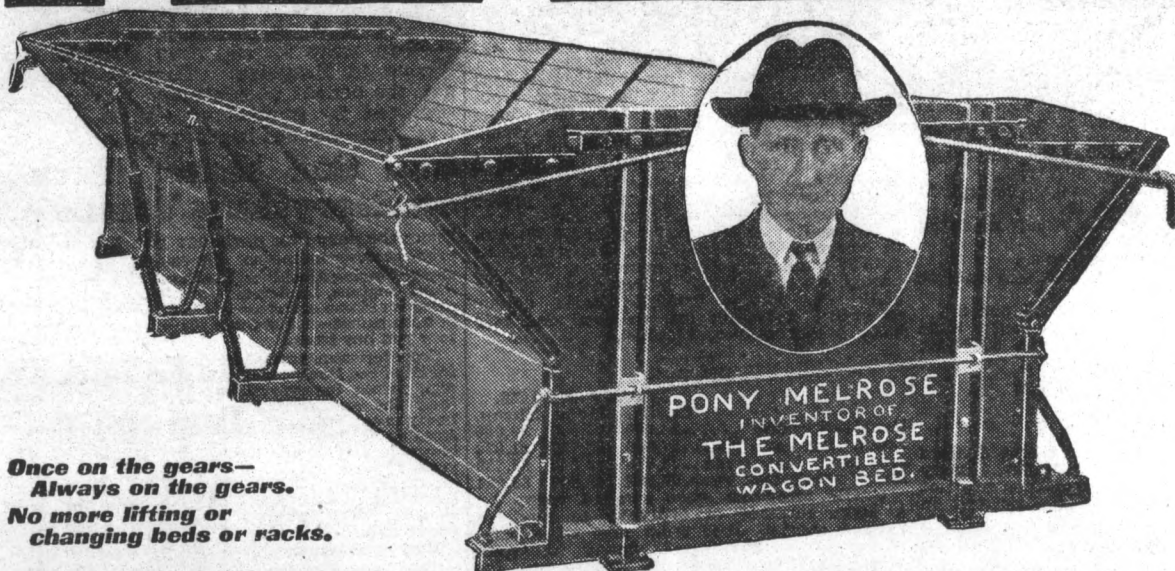
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Grind ear corn, shelled corn, oats, wheat, barley, rye, kafir corn, cotton seed, corn in shucks, alfalfa, sheaf oats or any kind of grain. Bagger has a double spout. Attach to either side of mill.

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Once on the gears—
Always on the gears.
No more lifting or
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Fifteen wagon beds in one. Nothing to be taken apart. No tools needed. No fussy fixings to get out of order. Takes but one minute to change from ordinary, grain-tight wagon box to stock bed, hayrack, poultry bed, or any other of 15 daily farm uses. Mere boy can make any change without assistance. Cannot bind, warp or spring. Guaranteed for five years. Costs little more than ordinary single-purpose bed. Sent freight prepaid to your farm on 30 days' absolutely free trial. Read this man-to-man, honest, straightforward, factory-to-farm offer, —and send the coupon today.

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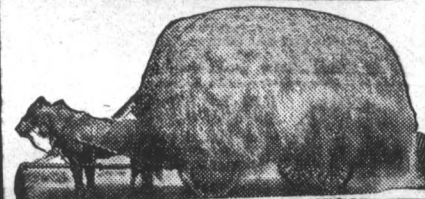
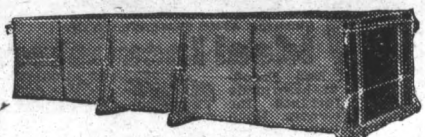
Not One Penny Down—Freight Prepaid—Send Coupon Today

I am willing to prove in actual, daily service right on your wagon gears—for one whole month—the strength, utility, convenience and saving of time and money this new invention will bring to you before one penny need be paid to my company. I do not ask you to deposit money at your bank, or anything of that kind. There are no "ifs" nor "ands" about this proposition—no red tape—no lawyer-drawn, long-winded contract—absolutely nothing to sign but the little coupon below. I want you to understand that to an honest farmer I will come all the way, and pay the expense of giving you absolute, daily-use proof. Take the *Melrose Convertible Wagon Bed* out on your farm for 30 days. Use it just as hard as you like. Test it—try it—prove it. When the

month is up, and you like it, just write and tell us that you would like to keep it at our special direct-from-factory-to-farm price. If it does not come clear up to your expectations, send it back, freight collect. On this proposition you positively cannot lose a single penny. And I am safe in making such a sound, liberal offer—because *I Know the Melrose Bed*, and I feel sure what your decision will be. You have been wanting a *practical, reliable* convertible wagon bed for years. The *Melrose* price is but very little more than for a good single-purpose bed—it has solved the problem. Use the coupon below. Sign and mail it right now. Don't think of turning this page until you tear out coupon, take a pencil, sign your name and mail it.

15 Wagon Beds in One=Guaranteed for 5 Years

First Illustration Shows Bed in Normal Position—Grain Tight



- Common Wagon Bed
- Hay Rack, with Standard
- Stock Bed
- Hog and Sheep Bed
- Poultry Bed
- Flared Sides Corn and Grain Bed
- Special Straw or Fodder Bed
- Cord Wood Bed
- Dump Endgate Bed
- Coal Bed
- Marketing Bed
- Corn Gathering Bed
- Vegetable Bed
- Fertilizer Bed
- Party Bed

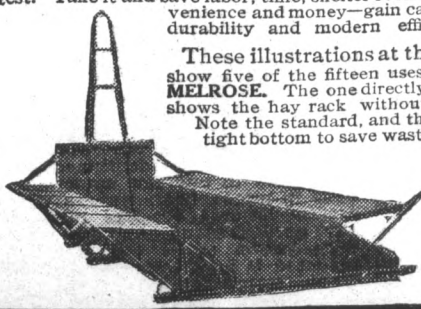
Figure out in dollars and cents just what these beds would cost you if made separately for each use. Then compare the total with the cost of the *MELROSE*, which is but very little more than that of any first-class single-purpose bed. Add to this saving the fact that the *MELROSE* is the strongest, most durable bed ever made, and that it

Takes But One Minute To Change For Any Use

There are no ratchets, springs, cogs or complications of any kind or character. You need no wrench, keys or tools—only your hands. It is simplicity itself, and can be operated by anyone, anywhere, any time.

One of my customers, hauled 7,260 pounds of coal in a *Melrose* bed. It broke the axle of his wagon, but positively did not twist, spring nor injure the bed in the slightest degree. It will hold and carry over 100 bushels of shelled corn—45 bales of hay—4,800 pounds of loose hay—two full-sized cows or bulls, etc., etc. I state these facts simply to prove the strength and capacity of the *Melrose Bed*. Take it on your farm and make the test. Take it and save labor, time, shelter room, inconvenience and money—gain capacity, durability and modern efficiency.

These illustrations at the side show five of the fifteen uses of the *MELROSE*. The one directly below shows the hay rack without load. Note the standard, and the seed-tight bottom to save waste.



Do not confuse the *Melrose Convertible Bed* with the heavy, bunglesome, crude and awkward contrivances made simply to sell. The *MELROSE* is absolutely unlike in every respect any and all other convertible beds or racks—As different as black is from white. It is guaranteed for five years—a straightforward, above-board, honest-purpose guarantee that means just what you want a guarantee to mean.

The bed is built of selected long leaf hard pine, double kiln dried. Not a nail in it. Bolts are used instead. All metal is cold rolled steel—the strongest metal known—absolutely unbreakable. Not one ounce of cast iron used. Braces on sides and ends full galvanized to prevent rusting. Steel sills, steel bracket and telescope braces throughout. It positively cannot bulge, warp or spring. It will carry any load any team can pull. And a boy can convert it from a grain-tight box bed to a hay rack, stock rack, coal bed, etc., in one minute, without assistance. He can go to town with a load of straw, cord-wood or pigs, and return with screenings, fertilizer or sawdust.

The *MELROSE* is endorsed by United States Government Agricultural Experimental Stations from 27 states, as one of the greatest cost-saving, labor-saving, result increasing inventions ever produced. I will send copies of these letters upon request. I will also send collection of farmers' endorsements, complete detailed description of all parts and uses, together with large illustrations drawn from life and actual service upon the farm.

As the greatest exclusive wagon bed manufacturer in the world, I am making you a square, sound, man-to-man business proposition that will permit me to prove the *MELROSE* to you. Please fill out this coupon and mail it today. Address me personally and I will see that immediate shipment is made. Make the test.

PONY MELROSE

Inventor of the Melrose Convertible Wagon Bed.

Dept. 1215

The American Wagon Co., 112 W. Adams Street Chicago

Freight Paid—Month's Trial Coupon

The American Wagon Co., Dept. 1215, 112 W. Adams St., Chicago, Ill.

Gentlemen: Ship me, freight charges paid, one of your Melrose Wagon Beds (size indicated below). I will use it for a month on my farm. If I like it I will pay you as per below. If not I will ship it back to you freight charges collect. (Note—This special offer of Prepaid Freight applies to all points East of Missouri River.)

Indicate by an "X" in the square opposite size desired.

☐	Length 9½ feet, width 38 inches	\$31.00
☐	Length 12 feet, width 38 inches	\$33.00
☐	Length 14 feet, width 38 inches	\$35.00

Name _____

Town _____

County _____ State _____

Hannaford, N. D.
American Wagon Co., Chicago, Ill.
Gentlemen:—I received the Wagon Bed all right, and am very well pleased with it. It is everything you recommend it to be. There can be a lot of them sold up here as everybody that sees it thinks it is fine.
WALLACE J. SINCLAIR.

Lincoln, Neb.
American Wagon Co., Chicago, Ill.
Gentlemen:—Answering yours of the 13th inst., will say we have the wagon box put together properly and have used it for the past week, hauling cows, pigs and baled hay, and so far it has been equal to all that is claimed for it. It

certainly is a practical, useful, convenient labor-saving wagon box.
J. K. HONEYWELL.
Colfax, Iowa.
American Wagon Co., Chicago, Ill.
Gentlemen:—I have received the Melrose Wagon Bed all right and am well pleased with it.
H. L. JARNAGIN.

Morehead, Iowa.
American Wagon Co., Chicago, Ill.
Dear Sirs:—I want to express my pleasure in using the Melrose Wagon Bed. It is certainly ideal. I have shown it to several around town and all say they would like to have one.
THOMAS OLSEN.

MARKETS

DETROIT WHOLESALE MARKETS.

January 31, 1912.
Grains and Seeds.

Wheat.—Wheat has taken a stronger position this last week, and the average price rules one cent higher than for the previous period. Foreign countries were largely responsible for the bullish tone. France reports an inferior crop and the offerings arriving at Liverpool from Canada and Argentine grade very poorly, so that dealers are anxious to secure grain of superior quality. At home receipts have been heavy; however, selling and exports cared for the accumulations and reduced the visible supply over a million bushels. There is a slight improvement in the flour market and millers are beginning to buy. They believe that the stock of flour of the country is low, and ere long a healthy demand will be made upon the flour mills. On Tuesday there was a slight reaction which reduced the price a quarter of a cent. One year ago the price for No. 2 red wheat was 94¢ per bu. Quotations for the week are:

	No. 2	No. 1	May	July
Thursday	99	97	1.03	.96½
Friday	99	97	1.03	.96½
Saturday	99½	97½	1.03½	.97½
Monday	1.00½	.98½	1.04½	.97½
Tuesday	1.00	.98	1.04	.97½
Wednesday	99½	.97½	1.03½	.97

Corn.—Farmers have been marketing this grain liberally, late receipts at Chicago being among the largest in the history of the market. However, the demand has absorbed the offerings, allowing an increase in the visible supply of only about three-quarters of a million bushels. As a result of this healthy demand, prices have steadily advanced so that the figures average better than a cent above those of a week ago. One year ago No. 3 corn was selling at 47¢ per bu. Quotations for the week are:

	No. 3	No. 3
	White	Yellow
Thursday	65½	66½
Friday	66	67
Saturday	66	67
Monday	66½	67½
Tuesday	66½	67½
Wednesday	67	68

Oats.—Oat values have gone up a fraction of a cent, in harmony with corn and wheat, but the grain itself occupies a very firm position. With the price nearly 20c above that of a year ago, buyers did not hesitate to accept offerings and purchased wherever they could. The visible supply decreased over a million bushels. Quotations are as follows:

	Standard	No. 3
		White
Thursday	53	52½
Friday	53	52½
Saturday	53	52½
Monday	53	52½
Tuesday	53	52½
Wednesday	53	52½

Beans.—The last figures quoted a week ago have ruled since then until Tuesday, when an advance of 1c was made. The market is very firm and farmers are not disposing of their small holdings hastily. Quotations are as follows:

	Cash	Feb.
Thursday	\$2.42	\$2.44
Friday	2.42	2.44
Saturday	2.42	2.44
Monday	2.42	2.44
Tuesday	2.43	2.45
Wednesday	2.40	2.42

Clover Seed.—Common seed has advanced in both cash and March offerings. Alsike has gone up \$1 since a week ago. The whole market is firm and promises to be higher as the demand for spring seed develops. Quotations are as follows:

	Prime Spot	March
Thursday	\$13.50	\$13.50
Friday	13.50	13.50
Saturday	13.75	13.75
Monday	13.75	13.75
Tuesday	13.75	13.75
Wednesday	13.60	13.60

Timothy Seed.—Prime spot timothy seed sold on the local market Tuesday at \$7.25 per bushel, which was the price of the week before.

Rye.—This market is quiet and firm with the price 2c above that of last week. No. 2 cash now selling at 97c per bushel.

Flour, Feed, Potatoes, Etc.

Flour.—Prices are unchanged. Market steady.

Straight	\$4.25
Patent Michigan	4.85
Ordinary Patent	4.60
Rye	5.20

Feed.—All grades are unchanged and steady. Carlot prices on track are: Bran, \$28 per ton; coarse middlings, \$28; fine middlings, \$32; cracked corn, \$30; coarse corn meal, \$30; corn and oat chop, \$27 per ton.

Hay and Straw.—Market is steady at former prices. Supply small. Quotations: No. 1 timothy, \$21.50@22; No. 2 timothy, \$20@20.50; clover, mixed, \$19.50@21; rye straw, \$10.50@11; wheat and oat straw, \$10@10.50 per ton.

Potatoes.—The demand is taking the offerings as fast as they arrive. Market continues firm and steady. Car lots on track are quoted at 95¢@1 per bu.

Provisions.—Family pork, \$17.50@20; mess pork, \$16.50; medium clear, \$16@17.50; picnic hams, 9¢; bacon, 12¢@13¢; pure lard in tierces, 9¢; kettle rendered lard, 10¢ per lb.

Dairy and Poultry Products.

Butter.—Butter has declined 1c, putting the price back to where it was before the 4c advance of two weeks ago. The market has been dull since the large advance was made. It is believed, however, that it will recover some of its activity now that prices have gone back to the former

level. Quotations are: Extra creamery, 36¢; first creamery, 34¢; dairy, 24¢; packing stock, 22¢ per lb.

Eggs.—Continued cold weather has been a bullish factor in the egg market and values have advanced 3c the past week, making the ruling price for the day 32c per dozen for current receipts, cases included.

Poultry.—Quotations for chickens, both live and dressed have advanced. Dressed hens are also up 1c, while dressed ducks show a decline. Other grades remain steady. Quotations are as follows: Live—Turkeys, 16¢@17¢; geese, 11¢@12¢; ducks, 14¢; young ducks, 15¢; spring chickens, 11¢@11½¢; No. 2 chickens, 9c per lb; hens, 10c. Dressed—Chickens, 12¢@13½¢; hens, 11¢@12¢; ducks, 16¢@17¢; geese, 14¢@15¢; turkeys, 18¢@19¢.

Veal.—Market rules steady. Fancy, 11¢@12¢; choice, 9¢@10¢ per lb.

Dressed Hogs.—Light, \$7.50; medium, \$6.75; heavy, \$6.50 per cwt.

Fruits and Vegetables.

Cabbage.—Higher, now selling at 3c per pound.

Onions.—Steady at \$1.25@1.35 per bu.

Apples.—Baldwins and Greenings, \$2.75@3.25; Spy, \$3@3.50; Ben Davis, \$2@2.50; Snows, \$3.50@4 per bbl.

OTHER MARKETS.

Grand Rapids.

Fresh eggs continue scarce and dealers are offering the country trade 30c. Dairy butter is worth 28¢@29c. Potatoes are not moving freely as yet, and the market in northern part of the state is around 80c, with Greenville prices 5¢@7c higher as usual. Dressed hogs are selling around 8c. Live poultry is quoted as follows: Fowls and chickens, 10¢; geese, 10c; ducks, 12c; turkeys, 15¢@17c. The mills are quoting No. 2 red wheat at 93c; rye, 86c; oats, 53c; corn, 65c. White pea beans are selling at \$2.25, and red kidneys at same price.

New York.

Butter.—The market has fluctuated but prices are back to where they were one week ago. Creamery specials are quoted at 38c per lb; extras, 37c; firsts, 34½¢@36½¢; seconds, 29¢@32c.

Eggs.—Firm and 3c higher. Fresh gathered extras, 40c; extra firsts, 37½¢@38c; seconds, 36½¢@37c; western gathered whites, 39¢@42c per dozen.

Poultry.—Live—Chickens are higher. Western chickens, 13¢@13½¢; fowls, 12¢@13½¢; turkeys, 15¢@16c. Dressed—Easy. Western chickens, 12½¢@15c; fowls, 12½¢@16½¢; turkeys, 12¢@21c.

Chicago.

Wheat.—No. 2 red, \$1@1.01½; May, \$1.03½; July, 96½¢.

Corn.—No. 3, 63½¢@64½¢; May, 65½¢; July, 67½¢ per bu.

Oats.—No. 2 white, 52¢@52½¢; May, 51½¢; July, 46½¢ per bu.

Barley.—Malting grades, \$1.10@1.32 per bu; feeding, 80¢@95c.

Butter.—Market steadier than last week; prices unchanged; receipts liberal. Quotations are: Creameries, 29¢@36c; dairies, 25¢@33c.

Eggs.—Miscellaneous offerings show no change from last week, but speculation and meager receipts are held responsible for a 5c advance in high-grade stock. Quotations are: Firsts, grading 45 per cent fresh, 36¢@37c; ordinary firsts, 31¢@33c; at mark, cases included, 19½¢@28½¢ per dozen.

Potatoes.—Market sufficiently strong to take the rather liberal receipts at a slight advance over last week. Michigan stock is now quoted at \$1@1.05 per bu. Wisconsin, 95¢@1.02; Minnesota, \$1@1.05.

Beans.—Top-grade pea beans, also red kidneys, are lower. Current quotations are: Pea beans—Choice hand-picked, \$2.53 per bu; prime, \$2.40@2.43; Red Kidneys, \$2.90.

Elgin.

Butter.—Market firm at 36c, which is a decline of 1c since a week ago. Output for the past week amounted to 617,000 pounds, as compared with 617,500 pounds for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

January 29, 1912.
(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York.)

Receipts of stock here today as follows: Cattle, 208 cars; hogs, 100 double decks; sheep and lambs, 90 double decks; calves, 1,400 head.

With 208 loads of cattle on our market here today, and a steady downpour of rain from before daylight until dark tonight, we have to report the worst market seen here for months. Cattle generally sold from 25¢@50c per cwt. lower than last week; the market very dull and draggy from start to finish, and, in fact, tonight there must be at least 40 loads of cattle left over unsold. We sold three head of the finest cattle seen here in a long, long time, averaging 1,700 lbs. and strictly prime in every respect, at 8¼¢ per pound. Outside of that, all other cattle sold fully 50c per cwt. below last week's prices.

We quote: Best 1,400 to 1,600-lb. steers, \$7.25@7.50; good prime 1,300 to 1,400-lb. steers, \$6.50@7; do, 1,200 to 1,300-lb. do., \$6.25@6.75; best 1,100 to 1,200-lb. shipping steers, \$6@6.50; medium butcher steers, 1,000 to 1,100, \$5.25@5.75; light butcher steers, \$4.25@4.75; best fat cows, \$4.50@5; fair to good do., \$3.75@4.25; common to medium do., \$3@3.50; trimmers, \$2.25@2.75; best fat heifers, \$5.25@6; good do., \$4.75@5.15; fair to good do., \$4@4.50; stock heifers, \$3@3.25; best feeding steers, \$4.50@4.75; common feeding steers, \$3.50@4; stockers, all grades, \$3.50@4; prime export bulls, \$5.50@6; best butcher bulls, \$5@5.50; bologna bulls, \$4.25@4.75; stock bulls, \$3.25@4.25; best milkers and springers, \$4.50@5; common to good do., \$2.50@3.

With western points showing liberal receipts of hogs, and reporting lower prices

this morning, it was impossible to hold the hog market up to the close of last week; prices generally showing a decline of 10c per cwt. Trading ruled fairly active at the prices, the bulk of the choice quality yorkers, mixed and medium weights selling at \$6.50. Pigs sold generally at \$5.75, with some of the stronger weight pigs and light yorkers selling up around 6c per lb. Rough sows sold mostly at \$5.75@5.80; stags at \$4.50@5.25. Hogs are fairly well cleaned up; closing steady at opening prices.

The lamb market was active today; most of the choice lambs selling from \$7.25@7.30; few at \$7.35. Look for about steady prices the balance of the week. With light receipts may sell shade higher, but if the receipts continue heavy, will sell lower. The sheep market was very dull today. Look for about steady prices the balance of the week on sheep.

We quote: Best lambs, \$7.25@7.30; cull to common do., \$5.25@5.75; wethers, \$4.25@4.50; bucks, \$2.25@3; yearlings, \$5@5.75; handy ewes, \$3.75@4; heavy ewes, \$3.50@3.75; cull sheep, \$2@2.75; veals, choice to extra, \$9.75@10; fair to good do., \$8@9.50; heavy calves, \$4@5.50.

Chicago.

January 29, 1912.

Cattle. Hogs. Sheep.
Received today 24,000 69,000 36,000
Same day last year .. 27,090 30,527 21,870
Received last week .. 65,970 212,905 85,223
Same week last year .. 63,882 149,159 83,221

Cattle offerings were swelled today by a large number of ordinary to medium grades carried over from last week, and such kinds moved off slowly at weak prices, some sales being lower, but fat beefs were active at full prices, some choice lots selling about a dime higher, as they were not plentiful. Fat butcher stock also sold a little better, with moderate offerings. Hogs were in overwhelmingly heavy supply, late reports indicating a run of around 70,000 head. Early trade was active, with part of the sales not more than a nickel lower, but later the market was about a dime lower than on Saturday, sales being made of light hogs at \$5.45@6.20 and mixed and heavy weights at \$5.80@6.35, while pigs brought \$4.25@5.40 and stags \$6.40@6.60. Another big run and a slump in prices for Tuesday are expected. Hogs received last week averaged in weight 213 lbs., compared with 228 lbs. a year ago and 211 lbs. two years ago. Sheep and lambs started off slow, with a reported overstocked and lower Buffalo market, but later buyers took hold better. To a large extent prices ruled somewhat lower, lambs selling at \$4.25@6.75, while yearlings were salable at \$5@5.75, some 121-lb. yearlings bringing \$5. Wethers were salable at \$4.25@4.75; ewes at \$2.25@4.35 and bucks at \$2.50@3.25. Iowa furnished a great many lambs.

Cattle were marketed much more freely than usual last week, starting off with a Monday run of 29,567 head, by far the largest number offered on any day. Of course, such a liberal supply made a poor showing for sellers, and a sharp decline in prices occurred. A partial recovery took place on Wednesday on receipts of only 13,127 head, but the week proved a very unsatisfactory one on the whole, with a drop on Thursday of 15¢@25c for the greater part of the offerings. The packers have been carrying large stocks of dressed beef in their coolers, and this made them quite independent, while unsatisfactory eastern conditions prevented shippers from purchasing their usual quota of cattle. The bulk of the steers have been selling around \$5.65@7.65, being a decidedly lower range than that of a few weeks ago, with the choicer lots taken at \$7.60@8.60 and the poorer lightweights salable at \$4.75@5.75. A medium class of steers sold at \$6@6.75, with a good lot going at \$6.80@7.50, while desirable yearlings sold at \$6.75@8.40, with very few bringing anywhere near the top figures. The choicer cattle are still bringing \$1@1.50 per 100 lbs. more than a year ago, but the commoner steers are bringing much the same prices as then, and many cattle are hurried to market prematurely in order to save feeding corn worth 60c or more on the farm. Butchering cows and heifers have had an outlet at \$3.50@6.75, cutters selling at \$2.95@3.45, canners at \$1.75@2.90 and bulls at \$3@5.75. The market for stockers and feeders had a fair outlet, stockers bringing \$3.50@5.25 and feeders \$4.75@6, while one lot of 52 fancy feeders that tipped the scales at 1,025 lbs. brought \$6.35. Good stockers and feeders look dear to country buyers, yet they are not much higher than a year ago, and the high price of corn is the only thing that prevents larger purchases. Calves have been going lower, with a lessened demand at \$3@8 per 100 lbs., while milkers and springers sold moderately at \$30@65 each.

Hogs have been received in greatly increased numbers for a week past, starting off with a Monday run of 51,193 head, much the largest supply seen on any day in a long period. The shipping demand was very variable, although much better than during the previous week, with 11,460 hogs taken on Monday, much the largest number for any day. Prices moved up and down in accordance with the supplies and the vigor of outside competition, yet on the whole the undertone was usually strong rather than otherwise.

Sheep and lambs continued during the past week to undergo numerous fluctuations in prices, but advances were due to greatly lowered receipts rather than to any good demand, for eastern markets were known to be well supplied. This rendered it hard for sellers to make favorable terms for themselves, and after prime lambs had boomed to \$7, they sold off sharply. Buyers were extremely particular in making their selections, and lots of lambs, yearlings or sheep that lacked fat sold at a large discount, with lambs bringing their usual big premium over everything else.

Horses were active early last week and decidedly higher, some sales showing advances of \$10@20 per head

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In the first edition the Detroit Live stock markets are reports of last week; all other markets are right up to date. Thursday's Detroit Live Stock markets are given in the last edition. The first edition is mailed Thursday, the last edition Friday morning. The first edition is mailed to those who care more to get the paper early than they do for Thursday's Detroit Live Stock market report. You may have any edition desired. Subscribers may change from one edition to another by dropping us a card to that effect.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

February 1, 1912.

Cattle.

Receipts, 905. Market steady at last week's prices.

We quote: Best steers and heifers, \$6.25@6.75; steers and heifers, 1,000 to 1,200, \$5.75@6; do. 800 to 1,000, \$4.75@5.50; do. that are fat, 500 to 700, \$4@4.50; choice fat cows, \$4.75@5; good fat cows, \$3.50@4.50; common cows, \$3@3.25; canners, \$1.50@2.75; choice heavy bulls, \$4.75@5.25; fair to good bolognas, bulls, \$3.75@4.25; stock bulls, \$3.50@4; milkers, large young, medium age, \$4@50; common milkers, \$25@35.

Bishop, B. & H. sold Hammond, S. & Co. 2 cows av 1,215 at \$3.60, 1 do weighing 720 at \$2.75, 1 do weighing 950 at \$3.10, 2 do av 1,015 at \$3.10, 3 do av 890 at \$3.10, 1 heifer weighing 850 at \$4; to Parker, W. & Co. 23 butchers av 859 at \$4.65, 6 do av 760 at \$4.85, 2 cows av 840 at \$4, 1 bull weighing 1,470 at \$4.75, 2 canners av 810 at \$2.75, 9 butchers av 717 at \$5; to Goose 2 cows av 895 at \$4.15; to Nagle P. Co. 4 steers av 1,255 at \$6.75, 2 cows av 980 at \$4.25, 3 bulls av 863 at \$4.25; to Kamman 17 butchers av 858 at \$5.25, 2 bulls av 1,210 at \$4.50, 1 do weighing 1,130 at \$4.50, 2 cows av 920 at \$3, 11 butchers av 784 at \$4.15; to Sullivan P. Co. 5 do av 880 at \$5.50, 1 cow weighing 1,030 at \$4.50, 3 do av 957 at \$4.25, 1 do weighing 750 at \$2.50; to Goose 1 bull weighing 1,270 at \$4.75, 3 cows av 1,000 at \$3.75, 8 butchers av 756 at \$4.25; to Parker, W. & Co. 2 bulls av 1,450 at \$4.50, 4 cows av 782 at \$2.75; to Bresnahan 4 canners av 887 at \$3.10, 3 do av 907 at \$3.10, 2 do av 900 at \$3, 1 do weighing 830 at \$2.50.

Spicer & R. sold Hammond, S. & Co. 1 cow weighing 1,000 at \$2.50; to Bresnahan 3 butchers av 666 at \$3.60, 31 do av 720 at \$4.10, 1 cow weighing 600 at \$2.50, 1 bull weighing 820 at \$4, 2 steers av 1,010 at \$6, 1 do weighing 850 at \$5, 2 bulls av 1,215 at \$4.35, 3 do av 693 at \$3.60, 7 cows av 721 at \$3; to Fry 14 butchers av 606 at \$3.75; to Thompson Bros. 1 bull weighing 1,600 at \$4.60; to Sullivan P. Co. 3 cows av 818 at \$2.60; to Breitenbeck 27 butchers av 785 at \$4.40; to Regan 12 do av 566 at \$4.

Haley sold Nagle P. Co. 7 cows av 1,053 at \$4.50.

Lowenstein sold same 7 do av 1,134 at \$4.25.

Roe Com. Co. sold Nagle P. Co. 25 steers av 1,019 at \$6.25, 6 cows av 1,028 at \$3.90; to Kamman B. Co. 1 steer weighing 820 at \$6, 8 butchers av 608 at \$4; to Mich. B. Co. 1 bull weighing 1,240 at \$4.50, 1 cow weighing 950 at \$4; to Goose 4 cows av 867 at \$3, 4 bulls av 457 at \$3; to Mich. B. Co. 1 bull weighing 1,250 at \$4.75, 10 butchers av 648 at \$4.25, 3 cows av 1,150 at \$4.50; to Marx 1 bull weighing 1,180 at \$4.90; to Bresnahan 1 canner weighing 790 at \$2.50; to Fry 2 heifers av 665 at \$4.25; to Newton B. Co. 11 steers av 946 at \$5.50.

Sheep and Lambs.

Receipts, 4,206. Market steady at Wednesday's prices; good lambs 25@30c higher than last Thursday; sheep steady.

Best lambs, \$6.50@6.75; fair to good lambs, \$5@6; light to common lambs, \$3.50@4.75; fair to good sheep, \$3@3.50; culls and common, \$2@2.75.

Bishop, B. & H. sold Parker, W. & Co. 7 sheep av 160 at \$3.50, 48 lambs av 95 at \$6.50, 22 do av 78 at \$6.25, 38 do av 63 at \$5, 2 sheep av 115 at \$3; to Mich. B. Co. 9 do av 150 at \$4, 19 do av 115 at \$3.75; to Thompson Bros. 35 do av 90 at \$2.75, 35 lambs av 55 at \$4.25; to Barlage 27 sheep av 85 at \$2.75, 3 do av 140 at \$3.50, 67 lambs av 56 at \$4.75; to Nagle P. Co. 152 do av 89 at \$6.60, 170 do av 80 at \$6.50, 61 do av 75 at \$6.50, 62 do av 95 at \$6.05; to Sullivan P. Co. 44 do av 58 at \$4.25; to Parker, W. & Co. 31 do av 55 at \$4.50, 13 sheep av 85 at \$3.50, 4 do av 83 at \$3, 111 lambs av 70 at \$6.25; to Fitzpatrick Bros. 70 do av 78 at \$6.75, 40 sheep av 105 at \$3.25, 68 do av 85 at \$3.25.

Roe Com. Co. sold Mich. B. Co. 13 sheep av 110 at \$3.50, 76 lambs av 73 at \$6.50.

Spicer & R. sold Parker, W. & Co. 43 lambs av 80 at \$6.75, 4 sheep av 145 at \$3; to Nagle P. Co. 28 lambs av 110 at \$6.50.

Sheep and lamb market closed dull.

Veal Calves.

Receipts, 476. Market 50c lower than last week. Best, \$8.75@9; others, \$4@8; milch cows and springers dull.

Bishop, B. & H. sold Parker, W. & Co. 9 av 115 at \$8.50, 16 av 150 at \$9, 2 av 100 at \$5, 13 av 130 at \$8.50; to McGuire 13 av 150 at \$9, 5 av 155 at \$9.

Hogs.

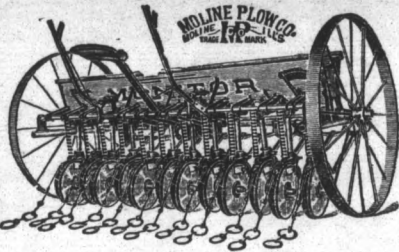
Receipts, 2,772. Nothing sold up to noon; looks like 5@10c lower than Wednesday or same as last Thursday.

Range of prices: Light to good butchers, \$6.15@6.20; pigs, \$5.25@5.50; light yorkers, \$5.85@6.15; stags one-third off.

Bishop, B. & H. sold Hammond, S. & Co. 825 av 200 at \$6.20, 530 av 180 at \$6.15, 515 av 160 at \$6.10, 246 av 130 at \$6. Spicer & R. sold Parker, W. & Co. 210 av 200 at \$6.20, 137 av 180 at \$6.15, 35 av 115 at \$5.65, 197 av 200 at \$6.20.

Haley & M. sold same 170 av 180 at \$6.15, 42 av 150 at \$6, 30 av 110 at \$5.65.

Roe Com. Co. sold Sullivan P. Co. 355 av 200 at \$6.20, 125 av 150 at \$5.65, 125 av 100 at \$5.50.



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Successful incubation calls for good eggs, and the process of securing them begins long before the eggs are laid. Breeding stock of high vitality, that have never been forced for egg production, and that are free from disease should constitute the foundation. Then the stock must have been properly cared for. Hens will lay a goodly number of eggs upon a grain ration without green and animal food, but they will be low in vitality. Breeding stock must have a wide range of food elements and especially so if confined to limited quarters.

Fertility and hatching power in eggs are largely dependent upon the manner in which the breeding stock is cared for, the method of keeping the eggs, and the system of incubation employed. A potent cause of poor results in hatching is improper handling of the eggs. Infection may take place in the nests soon after the eggs are laid, as there are various forms of bacteria or mold which may attack and impair or totally destroy the hatching power of eggs. To avoid infection the nests should be clean and the eggs incubated as soon as possible.

Eggs held for incubation should be stored in a clean place having a temperature between 40 and 60 degrees. Extreme variations of temperature should be avoided, as too low temperature chills, and too high causes deterioration which rapidly impairs fertility. Any condition surrounding eggs kept for incubation which saps their vitality tends to lower their hatching power.

Eggs for incubation should be gathered frequently and regularly. Where a large number of hens are kept together and allowed to lay in a limited number of nests the temperature of the eggs is subjected to variation from the hens getting on and off the nests. This variation, if continued for two or three days, decidedly impairs the vitality of the eggs and not uncommonly leads to poor results. Additional labor is involved in frequent gathering of eggs for hatching purposes, but the results will more than pay for it.

It is a well established fact that frequent and regular turning of eggs kept for incubation is vitally essential to obtaining good hatches. Eggs that are not properly turned hatch a low percentage of chicks, many of which are weak and puny. A prudent and advisable practice is to turn the eggs every twelve hours while being held for incubation. If they are placed upon shallow trays as soon as gathered they can be turned very rapidly and easily. Eggs should not be kept longer than ten days before incubating. It is advisable to keep eggs of the same age together, so that in case they become aged they can be sold.

Eggs of uniform size, shape and form should be selected for hatching. Extra large or small eggs should never be used, as their vitality is low and a good percentage of them infertile. A medium-sized egg, conforming to the breed, should be selected. Thin-shelled and off-colored eggs should not be used.

It is imprudent and inadvisable to attempt to place more eggs under a hen, or in an incubator, than their capacity will allow. Very few hens will cover fifteen eggs, and no incubator will properly incubate more eggs than its directions call for. Some poultrymen put a few more eggs into the incubator than it should hold so that the machine will be full after the sterile eggs are taken out. Fairly good results can be obtained in this manner, but if the eggs are well handled and cared for in the first place this is unnecessary.

Turning and cooling eggs is conceded by most experienced poultrymen to be advantageous in securing good hatches. I have found that moderate cooling and turning of the eggs twice daily is very beneficial, but it should not be carried to extremes. The length of time to cool will largely depend upon the temperature of the atmosphere outside the machine. Generally, however, from five to ten minutes is sufficient. In handling eggs care should be exercised, as the germs are sensitive.

Farmers and poultrymen generally can be none too careful in the handling of eggs for hatching. Experiments obviously prove that high mortality and low vitality in growing stock are directly traceable to improper methods of handling

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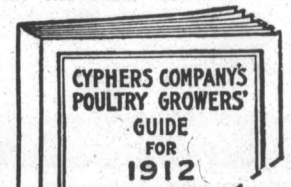
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both stock and eggs, no matter whether the natural or artificial method of incubation is employed.

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HANDLING THE NEW COCKEREL.

The care of the new male member of the flock is an important matter at this time, and where but one is bought it is all the more important that he receive proper care and attention. Paying a good price for a male and turning him loose to make his way in a flock containing old cocks that have held sway for years is not uncommon but nevertheless inadvisable and oftentimes foolhardy. A strange member of the flock is always made the butt of abuse and many a good cockerel has lost his life in trying to maintain his rights under such conditions. Where the outcome is not so serious as this, the usefulness of the cockerel is destroyed through fear of older and stronger males robbing him of his courage. Like an Indian chief who has failed to make good, many a promising young cockerel, crushed in spirit, has been known to slink away and, many times, die. Again and again have I sold choice young males to farmers, always cautioning them to give proper protection from older males, but reports of disastrous results, due to carelessness in this direction, have come to me quite frequently. I have always maintained that if a fine male is half the flock he certainly is entitled to proper care as an individual fowl.

This is the way I manage a new cockerel: When he comes from the express office I remove him to a warm coop where he can be by himself for a day or two. I give him extra feed and care, look him over carefully for any signs of roup, such as wheezing or a discharge from nostrils. I cannot afford to fool with a diseased male, no matter what he has cost me in money. If he seems well and vigorous I put him, at night, with a dozen hens in a pen separate from the general flock, giving him undisputed possession of the pen to make the acquaintance of his mates under favorable auspices. I like to have two cockerels and exchange them once in ten days, giving each bird a rest in a pen by himself, with extra feed and care. It pays in vigorous chicks, the one thing all poultrymen are trying to obtain—chicks that will not be overcome by every extreme of cold or heat or dampness; chicks that will not stick in the shell, or die of bowel trouble. Strong young hens, not less than a year old, mated with healthy, vigorous cockerels, well developed, not akin and given proper feed and plenty of exercise, should produce such chicks.

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EFFECT OF CORN ON COLOR OF EGG YOLKS.

The Maryland station recently concluded experiments to determine the effect of corn on the color of the yolk of eggs. A flock of 120 single comb White Leghorns were divided into three lots of 40 each and were housed and cared for alike except that one pen received its whole grain in the form of corn; another in the form of wheat, and the third received a mixture of corn and wheat. All pens were allowed free access to narrow yards which furnished a very limited amount of green stuff. All the eggs laid by these pens were saved and, after boiling, were cut in half and placed in parallel rows for comparison. In every instance the eggs from the corn-fed lot showed yolks with a deep yellow color. Every egg from the corn-and-wheat-fed lot had a yolk of a good yellow color, while, with but three exceptions, the eggs from those fed wheat had yolks of a very pale yellow color. The three exceptions can probably be accounted for by some of the hens getting green food from the yards. Another test was made subsequently with white corn and the yolks were a very pale yellow.

As a result of the tests it was concluded that yellow corn, when fed to hens in the proportion of 9 parts corn to 12 parts mash, gives a very deep yellow color to the yolk. Yellow corn, when fed to hens in the proportion of 4½ parts corn to 16½ parts of other foods, gives a noticeable yellow tint. Wheat, when fed in the same proportions, does not give any yellow color to the eggs, and white corn is no better than wheat, so far as furnishing a tint to the yolk is concerned.

Practical Course in Botany. By E. F. Andrews, formerly Instructor in Botany, High School, Washington, Ga., and Wesleyan College, Macon, Ga. This textbook for secondary schools brings the study of botany into close touch with the practical business of life by emphasizing its relations with agriculture, economics and sanitation. Cloth, 12mo, 384 pages, with illustrations. Price, \$1.25. American Book Company, Chicago.



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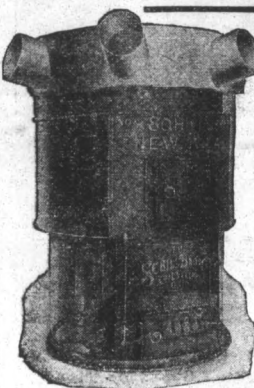
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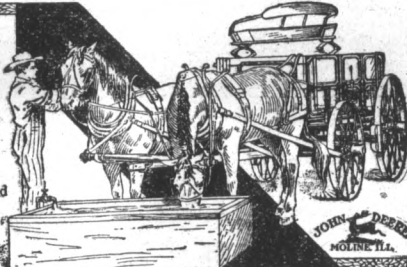


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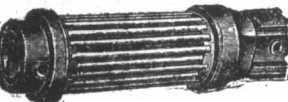
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HORTICULTURE

HANDLING THE SOIL TO SAVE MOISTURE.

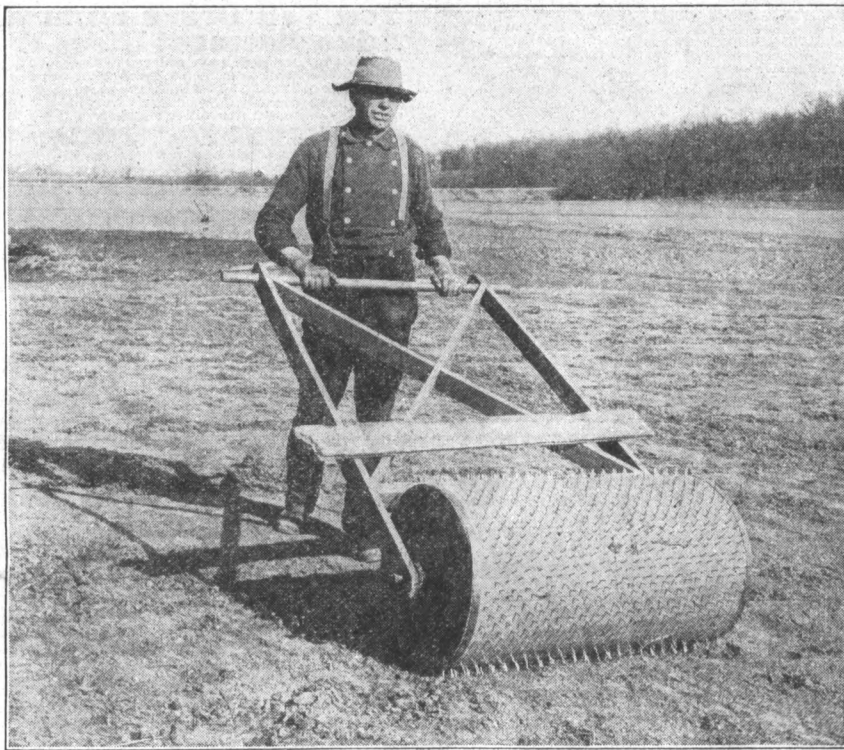
THE question of supplying plants with sufficient moisture to keep them growing at their maximum rate through to the end of the season is one of importance to every person dealing with the culture of plants. Because he endeavors to get large crops from a small area, the gardener finds this problem a more real one than the general farmer and, while the latter can well afford to give time and bear expense to be instructed in ways of conserving moisture, the former is absolutely handicapped in his work unless he knows the conditions that enable him to provide water for his plants throughout the season.

It is important to first note that different kinds of soils are capable of holding different volumes of water. For example, 100 lbs. of peat soil will absorb and retain 175 lbs. of water, while a sandy soil will absorb and retain 25 lbs. of water. A good clay loam will hold

son, about 375 tons of water, an acre of potatoes about 450 tons, an acre of grapes about 375 tons and an acre of clover about 400 tons. Put in another way, it requires from 300 to 500 pounds of water to produce a single pound of dry vegetable matter. Where plants use water so rapidly as these figures indicate it certainly becomes a handicap to them if the supply is for a moment wholly or partially cut off.

Conserving Water by Fall Plowing.

One of the methods of holding this water for use when it is most needed is to fall plow the land. By breaking up the surface of the soil, as is done in fall plowing, one helps the earth to absorb more of the water that falls upon it during the colder portion of the year because there are larger spaces in this surface soil to take up the water, and it also prevents rapid evaporation because of a greater looseness of the land. These two problems are always in the mind of the wide-awake gardener. He fits his soil so that it will absorb the moisture in the first place, and second, he works to keep the moisture until the plants are able to use it. The amount of water that falls upon our land during the growing season is usually insufficient to provide for the wants of the plants. Water falling



Conserving Soil Moisture on Land where Small Seeds are Sown. Nails Driven Into the Wooden Roller Break the Crust but do not Disturb Seeds or Plants.

on the particles of earth of which it is composed about 50 lbs. of water. A good rich garden soil containing a liberal amount of humus can hold about 85 lbs. of water for each 100 lbs. of soil. These figures impress us with the necessity of having the right kind of soil for our garden, providing we desire to produce the largest crops possible. It also suggests another matter and that is that by the addition of humus and clay to a sandy soil, we will be enabled to improve its water holding capacity. On the other hand, some of our peat soils, which, because of their soggy condition will not grow crops, may be made productive through the addition of sand which will bring about a mechanical condition that is congenial to garden plants. There are often chemical combinations in these peat soils that discourage the growth of many kinds of garden plants. The application of sand and limestone usually corrects in part, or wholly, these undesirable conditions.

Speaking generally, the soil receives water during the cold months of the year when evaporation is least, and gives off this soil moisture during the warm months when evaporation from the soil is greatest. This, of course, is only a general rule, for we often have dry springs and falls and summers with extreme precipitation of moisture. Nevertheless, the rule holds true and necessitates the practice, by the man who would succeed best, of handling his land that moisture which falls upon it during fall, winter and spring be retained and held that it may be used by the plants grown thereon during the summer months, in order that they may not be checked at any time during the period of their growth for want of water.

To understand the necessity of this foresight it might be stated that an acre of peas requires, during the growing sea-

outside of the plant growing season must be used to supply the deficit. In some of our western states where dry farming is practiced, it is found necessary to grow crops on land but once every two years. During the off season the land is carefully cultivated that the moisture falling upon it may be kept from evaporating. By this means it is possible to get in this soil sufficient moisture to grow a successful crop every second year. While it is not necessary here in Michigan and surrounding states, to go into the extremes required in dry territory, yet their practice could be used to a certain extent here to prevent damage from drouth, and fall plowing will greatly aid in this regard. It was found at the North Carolina station, that ground which had been fall plowed contained 142 tons more water per acre than did land that had not been so plowed. The upper foot of surface soil, in a test at New Hampshire, showed that land which had been left undisturbed contained 72 tons of water, while that which had been fall plowed held 264 tons. Of course, the character of the soil would have something to do with results obtained from the practice of fall plowing.

Increasing the Soil's Capacity to Hold Water.

Another practice that aids in certain classes of soil is the disturbing of the sub-soil. This may be done by using a sub-soil plow, or it may be accomplished by growing deep-rooted plants upon the land, such as clover, alfalfa, turnips and the like. The plants extend their tap root down into the sub-soil and loosens it up. After these roots die they form humus and the chemical action of the acids resulting from decomposition brings about a condition of the soil favorable to the growth of garden crops and provides available plant food. Of course, for a small patch of ground it would be more

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it up. After these roots die they form humus and the chemical action of the acids resulting from decomposition brings about a condition of the soil favorable to the growth of garden crops and provides available plant food. Of course, for a small patch of ground it would be more feasible to use some sort of a sub-soiler to create a reservoir for the holding of larger quantities of water. This practice is especially to be commended in soils that have a hardpan. Some of our best Michigan lands are underlaid with an almost impervious layer of soil that is generally termed hardpan. If one can break this up, he will increase the water holding capacity of the soil as well as widen the range for the roots of the plant to feed upon.

Under-drainage is Essential.

A third practice for the improvement of the soil to hold a greater quantity of water, paradoxical as it may seem, is under-drainage. Some soils are naturally under-drained and these do not require artificial drainage, but most soils require the use of tile, or other systems of releasing surplus water from the land. It is not the water that occupies the space between the particles of soil that does the plants good, but it is that thin film of water that surrounds each particle and clings to it that is used by the plant. Most plant roots will not grow where the air cannot get to them. Of course, they use this air, or need it, in very small quantities, but when absolutely deprived of it the roots will stop growing and often begin to decay. By removing this surplus water one enables the roots of the plant to go much deeper into the soil, thus enlarging their feeding surfaces and also bringing them down to where the water supply is more permanent. Under-drainage does not remove the little film of water about the particles, but only the surplus. It leaves what the plant wants and takes away what tends to destroy the plant. It gives the plant a larger area in which to feed and secure moisture from. This explains, in part at least, the splendid results secured from under-drained land. Hence, under-draining is a practice which every gardener should follow, except, of course, in some soils that are naturally under-drained. However, it is being appreciated more and more by farmers and gardeners that many soils, that were heretofore believed to not require under-drains, are greatly benefited by their installation.

Keep Soil Well Mulched.

The fourth practice which we wish to mention is the retention of soil moisture through the provision of a dust mulch during that period of the year when evaporation is most pronounced. This requires that the soil be stirred as soon as possible in the spring to retain the moisture that has settled in the ground, and the constant cultivation thereafter, before and following the planting of the crops, if possible, and until the time comes for ripening the plants. At the New Hampshire station careful work showed that in the first foot of soil, on land that had been thoroughly cultivated, there was 3.24 per cent more moisture than on land not cultivated. In the second foot there was 5.51 per cent more; in the third foot there was 3.89 per cent more, and in the fourth foot there was 4.41 per cent more in the cultivated soil; or in other words, an acre of cultivated land contained 352.64 tons more water per acre in the upper four feet of soil than was found in an uncultivated area. Referring again to the figures giving the number of tons of water required for the growth of certain crops mentioned above, we find that this additional quantity of water conserved by careful cultivation would almost mature some of these crops, and would at least provide all the water necessary for carrying plants over an extended drouth. Thus we see that in connection with fall plowing, sub-soiling, under-drainage, that thorough cultivation or working of the soil will aid in conserving soil moisture for our crops.

Have Soil Supplied with Humus.

A fifth practice, and one that has already been hinted at, is the incorporation in the soil of a considerable amount of humus. Humus has the capacity of retaining moisture; this is indicated above by the amount of moisture held by peat soil which contains a considerable quantity of vegetable matter and mould. Gardeners can make use of this knowledge by supplying their gardens with manure, leaves, etc. However, because of the careful cultivation that is necessary, it is usually best to have this vegetable matter thoroughly composted before adding it to the garden plot.



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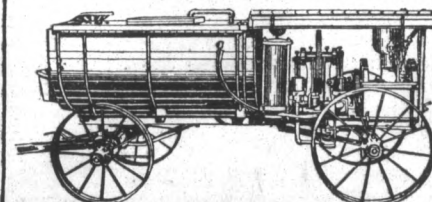
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GARDEN NOVELTIES.

As usual, the seed catalogues have an array of novelties; some of which are in reality what they claim to be, while others are no longer new, though they may not yet have become well known.

It is advisable to try a few new things every year, but it should be done with the understanding that such trial is an experiment. A novelty is really a plant which is being given an opportunity to prove its worth. The seedsman, supposing he is conscientious, which he ought to be, will make claims which are somewhere nearly correct to the best of his knowledge and belief. But he should not be held responsible for individual tastes nor for the variations in soil or climate. As a result, what may be a success with one person may be a failure with another. Nevertheless, this should not deter anybody from trying. If something of merit is obtained it is of itself a reward sufficient for many failures.

Among the plants recently added to the garden list is pe-tsai, or Chinese cabbage. It is a kind of cabbage, so the botanists have decided, though its loose head is more like lettuce. Pe-tsai is in reality rather old for a novelty, having been cultivated in France since early in the last century. The Chinese have also grown it for many years in their American gardens. Many who have tried it speak highly of it, but that it is adapted to general culture is yet for the public to find out. The leaves are used for salads or cooked like cabbage or boiled for greens. One of the merits of pe-tsai is its rapid growth; another is its mild flavor. The plants may be started in a hotbed or planted in the open ground. It is at least worth trying.

Swiss Chard is not a novelty. It has had a place on the seed list for many years, but it is not nearly so well known as it deserves to be. It is a beet which has a large top, but little root. It is also known as spinach beet, which is an improvement over the old name, since it suggests the nature and uses of the plant. The leaves are cut off and used for greens as soon as they are large enough. Others grow out and the supply is kept up till cold weather. The light-green, crinkly leaves are quite an ornament to a garden.

Another plant which is not classed among the novelties, though it is not yet commonly known, is Hamburg or turnip-rooted parsley. The name describes it. Those who like parsley for flavoring soups and stews should by all means try this variety. The leaves are not as pretty as those of some other varieties, but there is no lack of flavor in the root. It is as easily grown as carrots and in a similar manner.

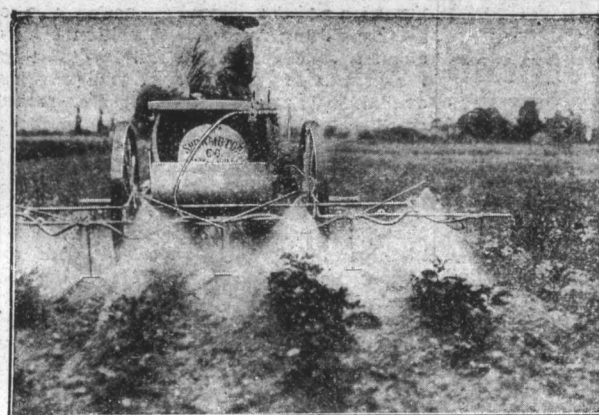
Pok-choi is hardly known to Americans. It is from China and is a cabbage, but departs from the accepted ideas regarding that vegetable. Now a cabbage is not noted for modesty. It is mostly head, and that well up in the air. But this immigrant from across the Pacific is rather bashful and hides as much of itself as it can in the ground. It is a turnip-rooted cabbage. Those who are curious to know what an underground cabbage is like should write to their seed company for seed.

Few vegetables of recent introduction have received more attention than Sakurajima and rarely has one caused more disappointment. The trouble seems to have originated from a misunderstanding of its nature. If sown early it runs to seed. It is really a winter radish and when treated as such has given a more satisfactory account of itself. Winter radishes are sown the last of July or during August. They then grow in the cool autumn days and are ready for use then or during the winter.

Udo may prove a valuable addition to the American garden plants, but it is slow in gaining recognition. The seed companies are apparently not in a hurry to give it prominence. Like many another, it might be given a place in the garden, just to see what it will do. This is but a meagre list.

Oakland Co. FRANK D. WELLS.

The value of bees in cross-fertilizing the blossoms of different varieties of fruit cannot be easily estimated. Some seasons the time in which pollination may be done is short because of unfavorable weather, and if the number of insects that can do this work are too few, it must be left partially undone. In such instances, bees add greatly to the forces of nature in working out her mysterious methods.



The **SPRAMOTOR** is made for 1 or 2 horses or to be operated by hand. Equally efficient for field or orchard. Saves time and labor. **Saves crops, too!**

Send for free treatise on crop diseases. **AGENTS WANTED.**
HEARD SPRAMOTOR CO., 1305 Erie Street, BUFFALO, N. Y.

POTATO PROTECTION

is best given by the Horse Power **SPRAMOTOR**, as the illustration shows. The work is thoroughly done at 15 minutes to an acre. Four rows, three nozzles to a row, adjustable in height, width and direction. Nozzles will not clog. Air-tank, 12 gals. gives guaranteed 125 pounds pressure with all 12 nozzles working. Automatic and hand-controlled. Agitator clean-out; pressure relief into tank; and nozzle protector under driver's seat.

HARDY ALFALFA CLOVER AND EARLIEST POTATOES



Salzer's Hardy Northern-Grown Alfalfa grows wherever Red Clover flourishes, but produces per acre three times the food value of Red Clover and ten times that of Timothy. This keen statement is on the authority of the Agricultural Department. Salzer's Alfalfa is as hardy as oak. It's the biggest, quickest continuous money-maker for the farmer known.

Ex-Gov. W. D. Hoard of Wisconsin writes: "On 30 acres I raised over \$2500 worth of Alfalfa hay. There is no better money-maker that I know of."

Salzer's Earliest Potato Collection composed of four rare earliest sorts and one later, all separately packed, full weight, per bbl., \$4.00. The crop from this collection should easily be sold off for Earliest Potatoes, netting you \$125.00.

Onions, 8 Big Pkgs., 12c.
Largest growers of Onion and Vegetable Seeds. For trial a big package each of White Portugal, Yellow Globe Danvers and Red Wethers-head Onion Seed for 12c.

For 10c in stamps we mail a package of our Hardy Alfalfa Clover, also our Famous Regenerated White Bonanza Oats, together with a lot of other rare farm seed samples, as also our Mammoth Catalogue, if you ask for same.

JOHN A. SALZER SEED CO.
135 South 8th Street
La Crosse, Wisconsin



Alfalfa, Salzer Hardy, Tall Leafy Variety

Burpee's Seeds Grow!

THE truth of this famous "slogan" is attested by thousands of the most progressive planters throughout the world, who rely year after year upon Burpee's Seeds as The Best Seeds That Can Be Grown! If you are willing to pay a fair price for **Quality-Seeds**, we shall be pleased to mail, without cost, a copy of **Burpee's Annual for 1912**. Long known as "The Leading American Seed Catalog," this Bright New Book of 178 pages tells the plain truth and is a safe guide to success in the garden. Do you want it? If so, write to-day! Address

W. ATLEE BURPEE & CO., Philadelphia.



GIANT TREE TOMATO

This remarkable variety grows from 10 to 15 ft. high, and if planted early will begin to ripen by July 4th. The flesh is firm and solid, almost seedless, fine grained clear through, and of the most delicious flavor ever found in a tomato. The fruit weighs from 16 to 24 ounces and specimens have been grown weighing 3 pounds.

Packet 10c. 3 Packets 25c.

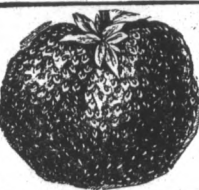
This is not an untried novelty. We introduced it 14 years ago and our sales of it have increased each season; this fact alone should recommend it to every one wanting a choice tomato.

Catalogue Free describing many new and valuable varieties of seeds, plants, fruits, etc., including the new **GUARANTEED Minnetonka APPLE**.

Please mention this paper when writing and receive a packet of Vegetable seeds free.

L. L. MAY & CO.

Seedsmen, Nurserymen and Florists, ST. PAUL, MINN.



Fall Bearing Strawberries

These Berries are truly wonderful. They bear fruit every fall as well as spring, three crops in two years. They have yielded as high as 10,000 qts. to acre in Aug., Sept. and Oct. of first year, with us. We cannot get enough fruit to supply the demand at 25c per qt. wholesale. I know of nothing in the fruit line quite so profitable. We are also headquarters for Plum Farmer, Idaho and Royal Purple Raspberries, Early Ozark Strawberry, Watt Blackberry, Hastings Potato. Catalogue of all kinds of Berry Plants free. Address **L. J. FARMER, Box 260, Pulaski, N. Y.**

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SHRUBS PLANTS
We sell best quality trees, shrubs and plants at lowest prices and PAY FREIGHT. Rochester is the tree center of the world, and plants from this locality are always healthy and hardy. Write to-day for our wonderful new catalogue containing a big list of unequalled nursery offers. A copy of this book should be in every planter's hands. Our low prices will save you money. All orders guaranteed. Don't buy till you've read this catalogue. **WRITE TO-DAY.**
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grown by one of my customers the GILBERTSON WAY! If I can't prove this to you, I will pay all your expenses to Mason City and return, no matter where you live! Write for my FREE Book TODAY. I will tell you how you can average \$400 to \$600 per acre net profit, every year, on ordinary farm land! I won't charge you one cent for this information! Raise **GRANDPA'S PRIDE GLOBE ONIONS** the Gilbertson way, and make a fortune from a few acres, in two or three years! Write me TODAY!

A. O. GILBERTSON, Krop Krank, Box 759, Mason City, Iowa

FARMERS' CLUBS

Address all communications relative to the organization of new Clubs to Mrs. C. P. Johnson, Metamora, Mich.

EXECUTIVE COMMITTEE MEETING.

On Tuesday, February 6, a meeting of the executive board of the State Association of Farmers' Clubs will be held at the Richelieu Hotel, at Durand, Mich., for the purpose of acting upon the report of the committee appointed at the state association to consider a revision of the constitution and by-laws of that body, and to make recommendations regarding same. The particular feature under consideration is the relation of the local Clubs to the state body, the aim being to place this relation upon a more solid and permanent foundation, thus greatly enlarging the scope and influence of the state organization in promoting the interests not only of agriculture, but all other matters affecting the honor, intelligence and educational interests of the citizens of our great state.

The executive board of the State Association of Farmers' Clubs is composed of officers and directors of the association, but President Leland desires to have a representative present from as many local Clubs as possible. Any interested Club member will be accepted as a representative without credentials and it is hoped that at least one member from every local Club in the state may be present. This is an important meeting and it is hoped that the local Clubs throughout the state may send delegates to Durand, or be represented by one or more of their officers.

CLUB DISCUSSIONS.

Start Third Successful Year.—The January meeting of the Hartland Farmers' Club was held at the pleasant home of Mr. and Mrs. Herman Clark. After a bountiful repast, the meeting was called to order by President Clark and the members all joined in singing America. Mr. Jerry Fahay, delegate to the State Association, then gave a very interesting report of the meeting of the Association. Our Club holds 11 meetings annually with a picnic in July. The Club has 50 members, but an average attendance of from 35 to 100. The Club has been in existence three years. A Club fair was held in October. This special feature of Club work was very successful. No premiums were awarded. Dinner is served at each meeting and a very interesting program is given. The Club adjourned to meet the first Saturday in February at the home of Mr. and Mrs. Lindsley.—Miss Mary Openo, Cor. Sec.

New Highway Law Not Favored.—It takes something more than ten degrees below zero to keep Washington Center Farmers' Club people at home on Club day, for on January 11 70 members and visitors met with Mr. and Mrs. S. N. French, at Elmwood, for the first meeting of the new year. The secretary's and treasurer's annual reports showed this Club to be in good working order and on a sound financial basis. Also that the printed programs are remarkably well carried out. These reports, with the usual order of business, and the president's annual address, concluded the morning session. "Resolved, that in no occupation are we so dependent as in farming," was the subject of a debate. Those who spoke on the negative side of the question had no trouble in convincing the judges that the pessimistic views of the affirmative side were entirely wrong and won an easy victory. Resolutions to the effect that the "Highway Law" does not give satisfaction were passed, all present expressing themselves as being convinced it was not a success in this township. At 3:30 a delegation of Club children arrived from school, and entertained the audience with songs and instrumental music. This Club believes in giving the children a place on the program and one meeting is entirely in the hands of the little people. The next meeting will be at "Old Homestead," with Mr. and Mrs. James DeMott, the second Thursday in February. A good program has been arranged.—Mrs. O. J. Carpenter, Cor. Sec.

A Town Club Meeting.—The Lenawee-Hillsdale Club met at the home of Mr. and Mrs. O. J. McBride, in Dundee, Jan. 13. Theo. Josenhans was elected president pro tem. The meeting was opened with music, after which a very interesting report of the State Farmers' Club was given by E. H. Cook. A lively discussion followed the report. The morning session closed with a reading entitled, "The Perfect Tribute," by Mrs. McBride. After this the guests were taken to the National Hotel for dinner, where they were sumptuously entertained by the host and hostess. Dinner over, the guests were taken to various places of interest in the city. After returning, a pleasant social hour was spent, at which time each guest was presented with a handsome souvenir by the hostess. The meeting adjourned to meet with Mr. and Mrs. J. F. Koebbe near Macon, in February.

GRANGE

Our Motto—"The farmer is of more consequence than the farm, and should be first improved."

THE FEBRUARY PROGRAMS.

Suggestions for Second Meeting.
Roll call, responded to by each giving a quotation from Longfellow.
What are healthful foods for breakfast?
Book review.
Taking boys into partnership on the farm—1. From a father's standpoint.
2. From a boy's standpoint.
The most important question before the public today, discussion.
"The farmer feeds them all," illustrated song, page 175, Grange Melodies.

OTTAWA POMONA'S CORN SHOW MEETING.

Western Pomona met with Coopersville Grange, at Coopersville, Jan. 19 and 20. This meeting was one of the most successful and best attended that the organization has ever held; about 175 patrons sat down to a splendid dinner Friday, and during the afternoon a few belated ones increased the throng.

Programs full of interesting discussions and entertaining recitations and music were rendered Friday afternoon and evening. Roll call at the afternoon session was responded to by many members naming evidences that the world is growing wiser, brighter and better. A brief report of the National Grange meeting was given by Melvin Smith, of Talmadge Grange, which was supplemented by a few details from C. S. Bartlett of Pontiac, who was present in the capacity of state speaker. Reports from Granges using the state traveling libraries were called for and these libraries have given quite general satisfaction. The principal topic discussed at this session was, "Does it require more brains to earn a dollar than to save it?"

At the evening session the Grange discussed the proposition to bond the county for the purpose of building roads which will be voted on at the spring election. The other leading feature of this session was an address on corn growing by Mr. Bartlett which was well delivered and contained many points of value, all of which served to interest and encourage the enthusiastic corn growers who did so much to make this meeting a success. Bro. Bartlett has a very entertaining way of mixing facts with pleasant, side-splitting stories with a class-room lecture.

Saturday's business session brought out the fact that there are 10 Granges in Ottawa county, with a total membership of about 600. Nunica Grange is the largest subordinate, having a membership of 166. The Pomona has gained 37 members within the past year, giving it a total of 110, and its finances are in good shape.

The first annual corn contest conducted by the Pomona, which was held in connection with this meeting, was a splendid success both in the number of entries and the quality of the exhibits. C. S. Bartlett, of Pontiac, acted as judge, using the score card system adopted by the state corn growers' organization.

In the yellow dent class D. M. Brown, of Talmadge Grange, took first premium, his exhibit scoring 73.8 points out of a possible 80. B. R. Brown, of Talmadge Grange, took second with a score of 72.7. In the white dent class Ray Craven, of Nunica Grange, was awarded first premium, score 71.7. Wm. Silvers, of Herrington Grange, won second, score 65.6.

B. R. Brown won first premium for the most perfect single ear. I. M. Brown won second.

F. C. Hambleton, of Coopersville, exhibited the largest single ear, Wm. Silvers getting second premium.

There were a number of entries, scoring from 66 to 71, which had looked like winners. The competition was especially keen in the yellow dent division.

Pomona Grange showed its approval of the work of its corn club by re-electing the officers of the club for the coming year and making a \$10 donation. Members of the different Granges also expressed the opinion that the local organizations would more actively support this work the coming year.—Lecturer.

Baraga Patrons Start Investigation of Road Commissioners.

The Pomona Grange of Baraga county, which is known as Seward Pomona, held its third meeting since organization, at Covington, on Saturday, Jan. 13. The Grange was hospitably entertained at the home of August Hutula, one of the prominent citizens of Covington. The afternoon session was an open one with large delegations present from Sidnaw and nearby towns.

Covington has several miles of good roads and the question of road improvement seemed uppermost in the minds of members at this meeting. Some favored the abolishment of the county road system for the reason that there is dissatisfaction with the progress being made in some parts of the county. After a spirited discussion the Grange adopted resolutions in which the county road commissioners are charged with neglect, wastefulness of public monies, and incompetency to build and repair public roads. The board of supervisors is petitioned to immediately bring about a careful investigation of the manner in which the duties of the county road commissioners have been performed and is requested to remove from office any or all of the commissioners in case the charges against them are sustained by the investigation. The spring meeting of this Pomona will be held with Baraga Grange.



FOR MEN WOMEN AND CHILDREN

HONORBIT SHOES

Built on Honor

Mayer Honorbilt Shoes are leaders. They lead in style and are unexcelled in wearing qualities. The styles are the very latest. These splendid shoes are not equalled by other shoes selling at the same price. The choicest leather, tough soles and the best of everything goes into them. Made with double leather toes. They are "built on honor."

Look for the Trade Mark on the sole

Buy Mayer Honorbilt Shoes and get the greatest shoe values obtainable.

WARNING—Look for the Mayer name and Trade Mark on the sole—if your dealer cannot supply you, write to us.

We make Mayer Honorbilt Shoes for men, women and children, including "Leading Lady" and "Special Merit" brands; also Mayer "Terma Cushion" and Mayer "Martha Washington Comfort Shoes."

FREE OFFER—Send the name of a dealer who does not handle Mayer Honorbilt Shoes—we will send free a handsome picture of George Washington—size 15x20.

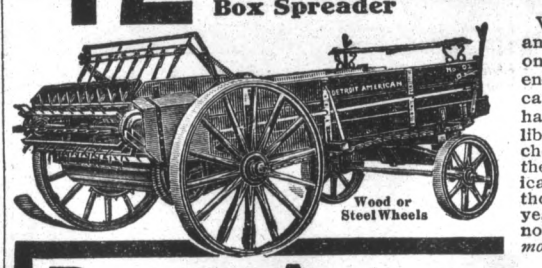
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FREIGHT Prepaid 30 Days' Free Trial No Deposit Cash or Credit

Write now for big free book and factory prices, direct to you on all spreader styles and sizes—endless or return apron—50 to 100 bu. capacity, wood or steel wheels or handy box spreader—all sold on most liberal terms ever made! Take your choice. Detroit-American quality sells these spreaders quick! Detroit-American prices will save thousands and thousands of dollars for farmers this year. Write for book and prices and note your saving. Then hold your money in your pocket while you try your

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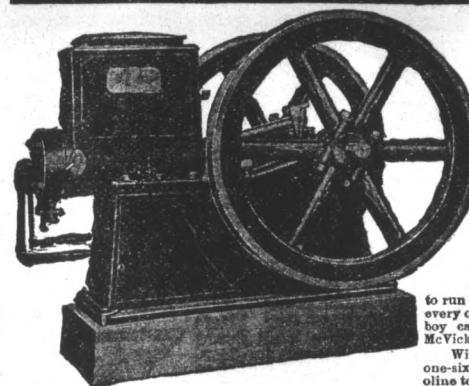
No risk on your part! Send name now. Book tells about practically all-steel strongest construction—lightest draft. Direct power—no lost motion. Box wider at rear than at front—no binding. Box at least 2 inches deeper than others. Simple for boy to run right! 6 changes of feed, from seat, without stopping team. Cylinder and rake all-steel—no wood bars. Front trucks help carry load, 5th wheel 15 inches—unbreakable steel. Rear axle, 2-inch cold rolled steel, strongly braced.

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AMERICAN HARROW COMPANY, 1023 Hastings St., Detroit, Mich.

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Simpler Than You Ever Thought a Gasoline Engine Could Be



churn, separator, saw, corn-press, thrasher, pump—do dozens of things about the farm. It is made in sizes to fit all power needs.

WRITE FOR INTERESTING FREE ENGINE BOOK

Don't think of buying an engine until you have investigated the Marvelous McVicker. Write for our free book on engines; full of valuable engine information, including description of a model farm power plant that will save money and that your boy can build. Write us today.

ALMA MANUFACTURING CO., Dept. -41, Alma, Mich.

THAT'S the Marvelous McVicker—smoother, more powerful than any other engine, yet with only one-third the number of parts. Think what that means! The more parts in an engine, the more things to get out of order. Every added part means an extra danger of a break-down just when you need the engine most. The McVicker can't break down—every unnecessary part has been sent to the junk-heap, where it belongs—there's nothing to the engine except what's necessary to do the work. And cutting out these unnecessary parts has made it possible for us to strengthen and improve the vitals of the engine until it's a hundred per cent perfect.

You never have to "coax" the Marvelous McVicker—it's always on the job. Set it going, then go away and attend to something else—you can bank on the McVicker running till the gasoline gives out. You don't have to be a mechanic to run the McVicker. It's not necessary to spend hours every once in a while tinkering with it. Your ten-year-old boy can get just as good results with the Marvelous McVicker as you can. It runs itself.

With only four moving parts, the McVicker delivers one-sixth more power on less fuel—the cheapest stove gasoline too. It will stand at least 50 per cent more sudden overload than any other engine—will run fanning mill, churning, separating, sawing, corn-pressing, threshing, pumping—do dozens of things about the farm. It is made in sizes to fit all power needs.

\$29.50 Buys This Elegant Top Buggy

Retail Price \$60.00. Buggies, Surreys, Spring Wagons, Farm Wagons. We have cut out our Jobbers, our Wholesalers and our Retailers and offer YOU their profit. Write today for our Free Catalog and Delivered Prices. Mutual Carriage & Harness Mfg. Co. Station 51-G, East St. Louis, Ill.



WARRANTED FOR Five Years.

BUILDING MATERIAL PRICES ABSOLUTELY SMASHED!!

SEND US YOUR LUMBER BILL FOR OUR ESTIMATE

\$493 Our price for the material to build this house.



HOUSE DESIGN No. 111

Here is a neat, cozy, little cottage that can be built at the minimum of cost under our guaranteed building proposition. Size, 23 ft. 6 in. wide by 33 ft. Five rooms and bath. All the comforts desired by home-loving people. Extra large porch. Convenient interior. For the price it is impossible elsewhere to secure a home with so many excellent features.

\$635 Our price for the material to build this house.



HOUSE DESIGN No. 149

The Mansard roof construction of this design enables the owner to utilize all space to the best advantage and get the very most to be had for the money. Size, 21 ft. wide and 28 ft. deep; six rooms, bath and basement. This design offers more convenience than many larger and higher priced houses. Is constructed of the very best materials at a magnificent saving.

\$698 Our price for the material to build this house.



HOUSE DESIGN No. 6

This is our leader. Size, 23 ft. by 33 ft. 6 in.; 7 rooms and bath. There has never been a design offered that can be built in so economical a manner with less material to produce satisfactory results and a general effect of elegance than this house. Has satisfactorily been built more than 400 times during the last two years. A beautiful home at a splendid money-saving price.

\$835 Our price for the material to build this house.



HOUSE DESIGN No. 130

Size, 25 ft. 10 in. x 29 ft. 6 in.; eight rooms and bath, pantry, vestibule and large hall. A square, solid, substantial construction. All space is advantageously utilized. The Colonial windows and porch columns are distinctive features. For convenience and artistic arrangement, general elegance of appearance, and low price, this house is unequalled.

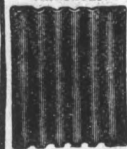
CHICAGO HOUSE WRECKING COMPANY THE GREAT PRICE WRECKER.

We buy supplies at Sheriffs', Receivers', and Factory Sales, besides owning outright saw mills and lumber yards. Usually when you buy your building material elsewhere for the complete buildings shown in this advertisement, it costs you from 50 to 60% more. By our "direct to you" methods we eliminate several middlemen's profits. Every stick of lumber and every bit of building material offered in this advertisement is guaranteed brand new and first class; as good as you can purchase from anyone anywhere. You run no risk in dealing with us. Our capital stock and surplus is over \$1,500,000.00. Our 19

years of honest dealing guarantees absolute satisfaction. Any material not up to our representation may be returned at our freight expense both ways and money refunded in full. Our wonderful spring building offer sets a new pace in the building world. Never before have such remarkably low prices been published. Our stock includes practically every manufactured article. Besides building material we have a complete stock of Dry Goods, Clothing, Boots and Shoes, Furniture, Household Goods, Groceries—in fact everything needed in the home, on the field or in the workshop.

CORRUGATED ROOFING Per Square \$1.25

Roofing Prices Smashed.



Metal roofing is superior to all other coverings. A fact proven absolutely and conclusively of 100 years of actual experience. We carry a complete stock of all styles. Here is a roofing offer that has never before been equalled. We have 5,000 squares of Corrugated Iron Roofing sheets all 22x24x1 1/4 in. corrugation. Strictly new first-class that we offer at \$1.25 per square Free on Board Cars at Chicago. At this price we do not pay the freight, but if you will write us for our Great Roofing Offer, we will make you Freight Prepaid Prices lower than ever offered in the history of roofing material.

Our stock includes painted and galvanized. We can furnish it in flat, corrugated, standing seam, "V" crimped, brick siding, beaded ceiling and in ornamental fancy ceiling. In fact we can furnish your every want in the covering line.

A hammer is the only tool needed in putting on all grades but the standing seam. We give you free with every order for 3 squares or more a handsome serviceable crucible steel hammer that ordinarily retails from 75c to \$1.00. Write today for our Great Complete Roofing Catalog, and our latest Roofing quotations.

"PREMIER" HOUSE PAINT Per Gallon \$1.08

Mr. V. Michaelson, Supt. of our Great Paint Dept. is probably the best known paint man in the world. His picture has appeared on millions of gallons of cans. He is our guarantee of quality. Our Ready Mixed "Premier" Brand of Paints are made under a special formula and will give the best service and satisfaction. Our prices range from \$1.08 to \$1.21, depending upon quantity. Our "Premier" Barn Paint is an ideal protection for barns, roofs, fences, outhouses and all general purposes. This is a paint in which Mr. Michaelson has put all his personality. Comes in green, maroon, yellow, lead, red and slate.

In 1 gallon cans, per gallon.....82c
In 25 gallon cans, (1/2 barrel), per gallon....72c
Write to-day for our Great Color Card and prices.



\$37.50 BUYS COMPLETE BATHROOM OUTFIT



Here is an outfit that is good enough for any home. It is strictly a No. 1 and first-class in every particular. The bath tub and lavatory are white porcelain enameled over iron. The closet is a syphon acting low down outfit.

It is our lot No. 5-AD-33.

Our handsome Plumbing Catalog lists many other outfits ranging in prices from \$26.30 to \$92.50. We will furnish all the Plumbing material needed for any of the houses shown in this advertisement, including one of the bathroom outfits described above, besides a one piece roll rim white enameled kitchen sink, with white enameled drain board, a 30 gallon range boiler and all the necessary pipe and fittings, and all material of every kind to complete the entire plumbing system, including all fixtures, furnished with iron pipe connections for the sum of.....\$83.95

WALL BOARD Our Magic Wall Board is positively the best on the market. This is the Wall Board that has a backing of regular 4 ft. lath and Asphalt Mastic, the face side of which is heavy card board, properly sized, ready for calceining, paint or wall paper. It comes in sheets four feet square. Write us what space you wish to cover and we will send you descriptive circular and name you delivered prices. Be sure to mention Mastic Wall Board M-W-22. Price per square.....\$2.50

READY ROOFING, PER SQUARE 85c

Our Rawhide Roofing is the highest grade roofing at the lowest price ever offered. It has a foundation of tough fibre texture so substantially prepared that it is well-nigh indestructible. Every foot carries our iron-clad guarantee to be absolutely right.

In addition to our high grade Rawhide Roofing, we offer for a limited time 10,000 squares of our Ajax Brand of Ready Roofing at 85c per square. It is put up 108 square feet to a roll. Price includes large headed nails and cement sufficient to lay. While it is practically the same as our Rawhide Roofing, it does not come in continuous lengths; maybe two or three pieces to a roll; of course that does not affect the quality. Our price for this Ajax Brand, 1 ply, is.....85c
This price includes freight to Illinois, Indiana, Iowa, Wisconsin, Ohio and Michigan. Write today for free samples.



LUMBER PRICES SMASHED

Now is the time to get our prices on lumber or building material. Do not hesitate to send us a list of your wants, whether it is lumber or mill work, complete house, barn or corn crib, or a plan of your own that you wish developed. We have the best Lumber Yard in the United States, experienced Architects, and can give you unequalled service in shipment, quality, finish and design. We are the only concern in the United States that has all the building material right here at Chicago where you can come and see it loaded, and from which point IMMEDIATE SHIPMENT can be made. We can furnish everything from a common board to the finest Quarter-Sawn Interior Finish, including Mill Work, Doors, Mantels, Colonnades, Side Boards, etc.

Following are some of our bargain prices:
Extra Star A Star Washington Red Cedar
Shingles, Per M.....\$ 3.39
5-2 all Clear Washington Red Cedar
Shingles, Per M.....\$ 3.78
No. 1 Drop Siding, Yellow Pine, kiln dried \$23.50
No. 1 Flooring, 4 in. Yellow Pine, Per M. \$18.00
No. 1 Ceiling, 3/4 x 4 in. Yellow Pine, kiln dried, Per M.....\$16.50
No. 2 Ceiling, 3/4 x 4 in. Yellow Pine, kiln dried, Per M.....\$14.00

GALVANIZED WIRE Per 100 Pounds \$1.25

This is our price for Smooth Galvanized Fence Wire, known as Wire Short. It comes in various lengths, put up 100 lbs. to the coil. \$1.25 is our price for our 6-gauge; other gauges in proportion.

We offer brand new Galvanized 2 pt. Barbed Wire put up on reels, containing about 100 lbs. Price per 100 lbs. \$1.85

We can furnish this also in 4 point at the same price; also in painted at \$1.50 per 100 lbs. Better order now while this remarkably low price exists.

26 inch Square Mesh Hog Fencing, per Rod 15 Cts. Here is a bargain such as has never been offered. A heavy weight new Galvanized, well built hog fencing, suitable for general purposes at 15c a rod. Other sizes at equally low prices.

Crimped Wire for Re-inforcing. We can furnish No. 9 Galvanized Crimped Wire in lengths required for re-inforcing purposes. Price per 100 lbs.....\$2.25
Write for our Wire and Fencing Catalog. Tells all about our Samson's Woven Wire Fencing. Also quotes low prices on Barbed Wire, Smooth Wire, and tells about Lawn and Garden Fencing; describes gates and posts.

IRON PIPE AND FITTINGS

Rejuvenated Pipe, in random lengths, complete with couplings suitable for gas, oil, water and conveyance of all liquids. Sizes 1/2 inch to 12 inch. 1 inch, per foot, .3c 1 1/2 inch, per foot, .3 1/2c
Send us specifications and we will quote for your exact requirements. Also a complete stock of Valves and Fittings.

Our price for the material to build this barn. **\$580**



OUR JOIST FRAME BARN No. 221

Size, 36 ft. by 48 ft. Height to top of roof, 38 ft. 6 in. The most practical and serviceable barn ever designed. No heavy timber in the entire structure. Self-supporting roof. No joists in hay-loft. This design represents strength, rigidity, economy of construction, and is absolutely dependable and substantial. Write us for more complete information.

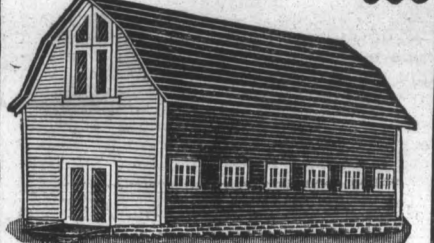
Our price for the material to build this barn. **\$620**



OUR "STAR" BARN DESIGN No. 270

Size, 53 ft. wide by 80 ft. long 24 ft. to comb. An ideal barn for farmers raising stock on a moderate scale; balloon type. The hay-mow extends to the ground floor and above the grain rooms on each end of the barn. Cattle stalls on one side of the hay-mow; horse stalls on the other. Excellently ventilated in every part. A practical barn well built of guaranteed first-class material, and will give excellent, all around satisfaction.

Our price for the material to build this barn. **\$639**



BARN DESIGN No. 250

Size, 30 ft. wide and 60 ft. long, 18 ft. to top of the plate. A barn arranged exclusively for horses. Has 12 single stalls, 5 ft. each, and 6 double stalls, 10 ft. each. Ten foot driveway. Can also be used as a horse and a cattle barn and will accommodate 12 horses and 18 head of cattle. A building of brand new high grade materials, dependable construction, sanitary and generally convenient throughout.

Our price for the material to build this barn. **\$955**



ROUND BARN DESIGN No. 206

Size, 60 ft. in diameter and 16 ft. high to plate. Has 14 sides, each side 14 ft. A 16 ft. Silo in the middle, same being 36 ft. high and will hold 160 tons of silage. Hay capacity, 65 tons. Will accommodate 100 head of cattle. The many and excellent features offered by this construction, the high grade materials furnished by us, and our extremely low price makes this a barn bargain worthy of thorough investigation.

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