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WHERE ONIONS PROVED A SUCCESS.

TO find a farm that will not advantageously lend itself to the profitable production of some special crop, is difficult. Of all the many lines of special agricultural work, some one of them is certain to be adapted to the soil, climatic, and marketing conditions of every farm in every community. Why these opportunities are not developed is due largely to our blindness; we either do not understand the conditions required by these agricultural specialties, or we fail to see in our soil the advantages we have. So, when we discover a man who has a clear vision to see the possibilities of his land and has become informed on all the phases of the production of crops suited to those conditions, we are attracted by his work and make a study of it. Such a man is George Cowdin, who lives in the northern part of Oakland county. That he has suited his crops to his soil and that he has worked out economical cultural methods are shown by the following review of his work:

Mr. Cowdin has made a success raising onions. For the past 15 years he has produced large yields of this crop on a certain portion of his farm specially adapted to onion production. The yields for the different years range from 300 bushels to over 1,000 bushels per acre. He estimates that his 1912 crop will run close to the thousand bushel mark. The acreage ranges from three to five acres per year. With continuous large yields ranging over so long a time, and the last crop being fully as large as any yet grown it is safe to state that he has prospered to an unusual degree in this line of production.

While good managing ability has played a large part in the success attained, it must be stated that the conditions of this land are unusually favorable for the enterprise. There is perhaps 20 acres in the plot which was formerly a tamarack swamp and is at the head of a chain of similar swamps. The wash from a number of large farms is carried down upon this land and the sediment is deposited over its surface. The muck is from one to five feet deep with gravel and sand below affording good natural drainage after the spring freshets are over. A large open ditch runs lengthwise of the area, dividing the plot in two parts of about equal size. These conditions supply to this soil an abundance of plant food and control the moisture to the advantage of the crops.

The cultural practices followed by Mr.

Cowdin differ in some regards to those of other growers. We shall follow them in sequence from feeding the soil to marketing the crop.

His method of feeding the soil is quite different from that of the average truck gardener. Liberal quantities of high-grade commercial fertilizers are commonly used by men following intensive cultural methods, but Mr. Cowdin has found that he gets very little good from fertilizers

mechanical condition of the soil and larger yields.

A single rotation of crops has not been persistently followed. The usual order is to follow onions (there generally being about five acres devoted to this crop) with cabbage and the cabbage with either potatoes, beets or carrots. But when sufficient manure is available he often follows onions with onions for three and even four years in succession. This

however, when manure is added and the effort is to do this in the fall to give the manure a longer time to unlock its plant food and to temper the mechanical qualities of the soil. Before the crop can be planted a very thorough course of preparatory culture must be followed to make the surface mulch as fine as possible, destroy weeds and rid the ground of foreign matter that would later interrupt the cultivators. If the ground requires loosening a spring-toothed harrow is employed and then the spiked-toothed harrow follows to pulverize and firm the land for seed. Should it be unnecessary to loosen up the ground, then only the spike-toothed harrow is used. Many harrowings are required and often it becomes necessary to go over the land with garden rakes to get it right. Mr. Cowdin has also made for himself a small hand drag that is efficient in the preparation of onion soil and its use supplements the other tools mentioned. After these methods, variously employed to suit the season, the soil bed is fitted to receive the little seeds.

The varieties of onions grown have been narrowed down to not more than two kinds. The variety planted in largest quantities is the Yellow Globe, while the Red Globe is the other one used occasionally to supplement. These varieties have proven themselves to be well adapted to commercial onion growing, being good keepers and excellent sellers.

Of all the little details that must be watched and kept right in a business of this kind, Mr. Cowdin believes that the selection of seed is of the highest importance. As grown on the farm in question no thinning is done; the seed is sown carefully and because of the richness of the soil there is plant food sufficient to develop all the seeds into onions. Should the seed be poor there is certain to be an inferior stand of onions, a fault that cannot be corrected by any amount of after care. Again, one would not care to grow a crop of onions and at harvest time have the variety prove of a different kind than was wanted. For these and other reasons it becomes of the utmost importance to look carefully after the seed question.

The drilling of the seed is now almost down to a science so far as the practice upon this farm is concerned. The rows have been tried all distances apart from 12 to 20 inches and it has been found that the tools work to best advantage when the distance between is 13 inches;

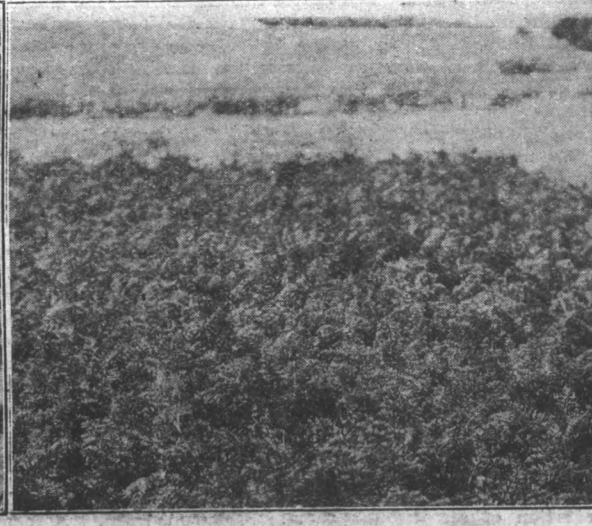
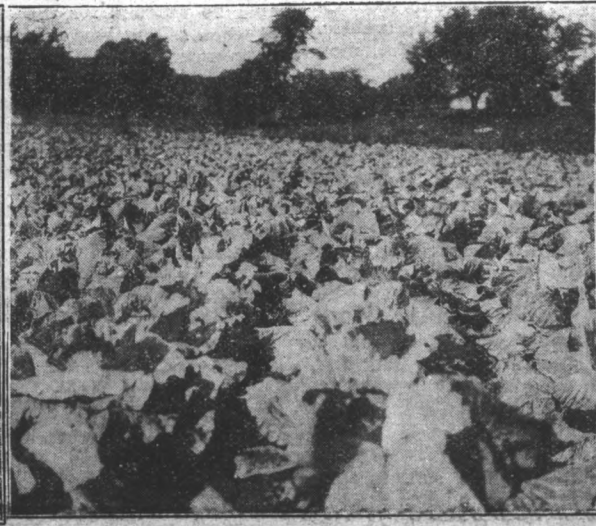
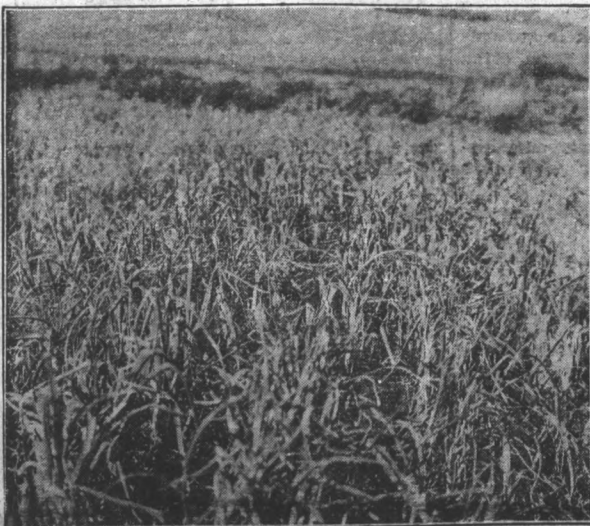


Mr. Cowdin illustrating the Method of Topping with Sheep Shears.

of this kind, due, he believes, to the fact that this soil is so well supplied with the elements of fertility that additional plant food is not required. That he believes in commercial fertilizers is testified to by the fact that on the day the writer called, his men were taking a liberal quantity to a field being sown to wheat. He does apply more or less irregularly, but usually about once in three years, a good application of barnyard manure. These applications result in an improved

practice is not in harmony with the precepts of horticultural gospel, but it has given Mr. Cowdin results, and results are what men farm for.

One of the exacting parts of the work is the preparation of the soil. Conditions each year form problems of culture that are settled upon their own merits rather than upon precedents. Some years the land is plowed in the fall and some years in the spring and still others it is not plowed at all. It is necessary to plow,



Crops Used in the Rotation on Mr. Cowdin's Muck Land are here illustrated in the Order in which they are Planted—Onions, Cabbage and Carrots.

so all onion crops are now drilled with a 13-inch space between the drills. A common garden hand-drill is used to put in the seeds. As to the season for planting, it is a rule to get the seed in as early as the ground can be gotten in shape. Some years the frost is out of the subsoil when the surface is ready. Drilling is not delayed because of this, for onion seed and the young plants will not suffer much should they be exposed to a few cool nights. These practices are closely followed.

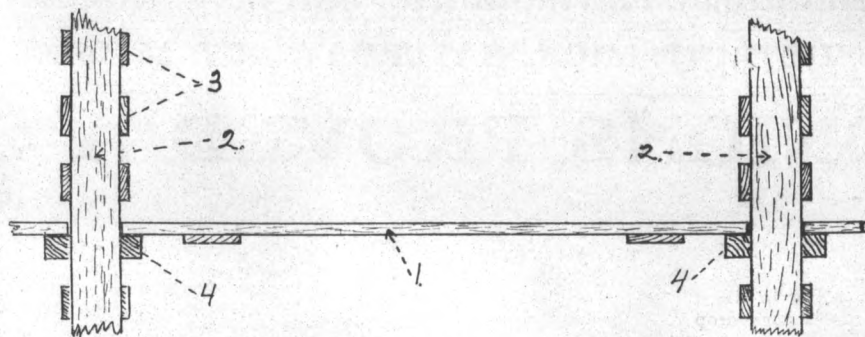
Thinning, the bugaboo of most onion growers, has been almost entirely eliminated as stated in a preceding paragraph. The seeds are all allowed to grow. In this soil plant food is so abundant that all the onions that can crowd into the row will mature and so by using seed that has practically a perfect germinating test, and drilling them so that they are regularly and evenly distributed in the rows, thinning becomes an unnecessary practice.

It requires from \$30 to \$50 dollars' worth of labor to weed and cultivate an acre of onions as grown by Mr. Cowdin. In planning for the labor side of the business one should count on about one employee for each acre grown; i. e., under ordinary conditions it will take one person for each acre to keep the work up during the rush days of the growing season. The work will be divided between weeding and cultivating. Where the first weeding is done thoroughly and the weather permits regular cultivation, the succeeding weedings will take comparatively little time. While rains interrupt one's plans during the average season the effort has been to give the whole onion patch a cultivation once every week. One man with a wheel hoe will cultivate about an acre a day. In following these plans as closely as one can the cost for labor will vary within the \$30 to \$50 limit.

The dirt is worked away from the onions throughout the season. The hoes or shovels are set at an angle for the first cultivation, which is given as soon as the little plants are large enough to mark the rows, and kept so through to the last stirring of the soil. The angle pulls the dirt to the center of the interval between the rows of onions, thus giving the bulbs freedom to expand.

Harvesting is done by hand. The onions are pulled and two rows thrown together with the tops all laying in the same direction at right angles to the

every foot, reaching from the alley to the wall at the back side of the bins. False bottoms, made of slats, are built in sections to fit on these sills. There are narrower sections for the sides adjoining the alley which can be dropped in behind some bumpers to keep the onions from falling out of place. Now the false bottoms are placed on the bottom sills and the narrow section adjacent to the alley dropped in when cured onions are poured out of the crates onto the floor thus made. The onions are piled from eight to ten inches deep; the depth depending upon the quantity to be stored, for if there is insufficient room for the crop then all this space is used. On the sills next above these onions are placed other sections and another layer of onions put on. Then a third section, and



Illustrates Method of Supporting False Bottoms. No. 1 is False Bottom Resting on Sills, 4; 2 are Partition Studding, and 3 Shows Ends of Slats of Partition.

so on until the bin is filled. The other bins are filled in the same manner. By this arrangement the air is permitted to circulate throughout the entire mass of onions, and the onions are separated from outside changes of temperature by the dead air space in the wall. Besides, should the mercury go down very low and the bulbs be in danger of freezing, the lighting of an oil stove or a big lamp and placing it in the alleyway will keep the temperature safe inside the storage room. The stove may also be used to reduce the moisture in the bulbs should it be necessary to put them in before they have been well cured outside. With this house it is easy to keep the onions in excellent shape, providing they are put in in proper condition. On one or two occasions, it may be inserted here, by way of parenthesis, the onions have frozen when not closely watched and it was found that if they were slowly thawed out little or no harm is done them.

The onions are sold to commission houses in Flint and Detroit. The nearer they can be delivered to the final consumer in the long list of middlemen the higher price one usually gets. For this reason Mr. Cowdin has acquainted himself with reliable commission men who sell to retailers and dispose of his onions to the one who offers the best price.

The marketing is customarily done in the spring. Better values are obtainable at that season, as a rule, and good interest is made by waiting. But this is not always the case, the price occasionally being higher in the fall than during the following spring. It requires that one be acquainted with the conditions of the crop each season. If plentiful and the price is fair in the fall, then it is a wise rule to sell, but if scarce receipts are quite certain to be increased by holding till spring. Mr. Cowdin paid a compliment to his farm papers as a medium of furnishing him knowledge of crop conditions.

Mr. Hilbert's Success with Onions.

In our opening paragraph we made the statement that there were undoubtedly special crops adapted to every farm in every community. Upon reading the account of Mr. Cowdin's work, the reader, unless he has had wide experience, may possibly have come to the conclusion that if he is going into the onion business and expects the greatest success he must buy a tamarack swamp. Now, just to show that this particular special crop, which is almost always associated with low ground, has a wide range of possibilities and that it is not necessary to have a tamarack swamp or any other muck land upon which to grow the onion plants, we are reproducing on page 384 an illustration of the onion field of Mr. Hilbert, of Leelanau county. Mr. Hilbert's farm overlooks Grand Traverse Bay and Carp Lake, his land being a portion of a high plateau. His onions are planted in two fields of two acres each. These fields are located in or near the highest point of the plateau. The soil, instead of being muck, is a good quality of clay loam. A conservative estimate of the yield for this season puts the average

per acre at 500 bushels. Thus we see that conditions here are almost opposite from those of Mr. Cowdin's and yet we must agree that Mr. Hilbert is making a success when he can grow this number of bushels per acre on such land as he has.

In a column of the horticultural department of this issue of The Farmer is an article on harvesting the onion crop, by Mr. Randall, who informs us that he has grown a most successful crop of onions on sandy loam. This is another testimonial showing that the possibilities of producing such special crops are very wide, in fact, the proposition appears to limit itself to the individual himself. If the proprietor will sacrifice the time and attention, and possibly expense, to make a careful analysis of his conditions and

then to make search for crops that will fit into those condition he is quite certain to be successful. The accomplishments referred to are a few of hundreds of examples that might be given of what can be done by an insistent application of one's mind to these problems.

WEIGHING AND GUESSING.

The farmer of today who tries to get along without a good, reliable scale, by depending on his ability as a guesser, is usually the one who wonders why farming doesn't pay better. He never knows just how much he is feeding his stock, how much his cows are producing, when his hogs are in the right condition to sell, or whether or not he is getting honest treatment from buyers.

The farmer should always bear in mind that he is not running a free soup house for hungry and unemployed animals. He is in business for profit. His business is to produce or secure foodstuffs as cheaply as possible and furnish it to his boarders in such a way as to insure the greatest profit on his investment. This cannot be done by guesswork.

To make stock pay well for their board their feed must be weighed so that the cost of their keep may be known and also that the quantity may be fed which will produce the maximum return. What the stock produces must be weighed so that the ones not showing a profit may be weeded out.

When stock is being fed for market, the scale will tell when they have been fed long enough. Then when a market has been found, the scale will insure the farmer correct weights from the buyer. The first scale the writer saw installed was bought by an Iowa farmer who thought he was not being given a square deal by stock buyers. His neighbors laughed at him when he hauled the scale home, but the laugh was turned when he showed them in less than a year how the scale had almost paid for itself. Buyers are seldom dishonest; but they are less liable to make errors when they know the farmer has a check on them.

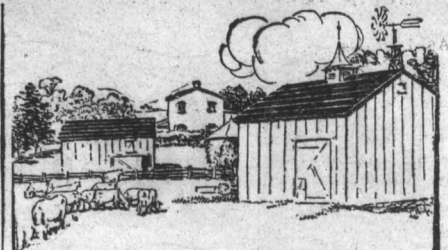
Produce sold to commission merchants should be weighed for the same reasons. And when selling hay or grain to individuals in town, a scale on the farm often saves the time, labor, and expense necessary in hauling to and weighing on the public scale.

No modern farm is fully equipped without a scale; for the farmer who does not weigh will sooner or later find that he himself, has been "weighed in the balance and found wanting."

California. L. L. DEBRA.

INTERNATIONAL ENTRIES CLOSE NOVEMBER 1.

All who contemplate exhibiting live stock at the International, at Chicago, this year should make their entries at once if they have not already done so. as the time limit for making entries closes November 1. Michigan has been creditably represented at the International in past years but there is room for much more Michigan stock and it is to be hoped that there will be a larger number of entries this year than ever before.



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LILLIE FARMSTEAD NOTES.

As I stated before, it was coming just right for me to put in about 100 acres of wheat this fall, but the season has been so late that it was impossible to get it in on time. To begin with, we didn't get through harvesting and hauling the oats until nearly the first of September. Then the ground had to be plowed, and there has been so much rain that it hasn't been possible to work nearly all of the time, and we have been delayed. We have only got in 80 acres. We finished sowing this on the eighth day of October. This is really too late to sow wheat, yet I have sown wheat before the first week in October and had a splendid crop. Very much depends upon the season. It is usually better to sow the winter wheat along the first of September, or any way, it should all be sown in September. But in a season like this we simply have to do what we can. The balance of the ground was all plowed and practically all fitted. If it hadn't rained on the night of the 8th we would have finished the balance, nearly 15 acres, but it rained, and the next night it rained again, and it kept raining so that nothing could be done on the land the balance of the week. Then, Saturday night, October 12, there came a downpour which simply put us out of business. It is absolutely impossible at this writing, October 14, to do anything on the land. It will be several days before we could get onto the land and finish fitting it and sowing it, and consequently I have abandoned the rest. Of course, it isn't so serious a proposition to abandon a portion of this wheat now as it would be in ordinary years. We have got so used to doing this sort of thing this summer that one can give up more easily. I will have to leave this land now and put it into spring crops, probably into oats. Well, it will be plowed for spring anyway, and all we will have to do is to give it a good thorough disking and sow the crop. I think, on the whole, it is better. If we could have only finished sowing it last week I would have put it all in and run the risk. Now just as soon as the land dries we have got some lima beans to get off to the factory and we have got our third growth of alfalfa to haul, and we must fill our silos yet. The land is too wet at the present time to run a corn binder, and we probably will come out all right. We have got in a good bunch of wheat anyway, and also a few acres of winter emmer to try again.

We are just hauling the third crop of alfalfa. This was well protected by hay caps and the heavy downpour of Saturday night didn't wet into only a few cocks where the caps were blown off, and by turning them out this morning to the sun and wind they are going to be in very fair shape indeed to haul.

The alfalfa has started up again and the field looks green all over. If we have a few weeks of good weather there will be a good growth to protect the plants through the winter. This has certainly been a wonderful growing season for grass crops. I don't expect that alfalfa will grow every year the way it has grown this year, it would seem to be impossible. There has been so much rain that grass could not stop growing.

Rape Pasture for Hogs.

I raised some early peas for the canning factory this year on trial. They were not a success, but after I got the peas off I disked the ground up and sowed it to dwarf essex rape. The rape came on nicely. This has been a splendid season for this sort of thing, and we have a splendid growth of rape. There is about five acres of this, and now we have something like 70 shoats on pasture there. In addition to this rape pasture they get all of the ground barley and wheat they can eat, and they are doing well. I am positive that they are doing much better than they would without the rape, because before the rape was big enough there was a time when they were not doing well. Now they are growing splendidly, and I believe it would be a good plan to figure on raising a small acreage of early peas every year, getting them off in time to sow to rape for fall pasture. By taking good care of the peas and giving them good cultivation I believe enough moisture could be held so that one would be practically assured of the growth of rape after these early peas.

Potatoes.

I have the nicest stand and the best growth of potatoes this year I ever had in my life. A man competent to judge, said the other day that it was the best field of potatoes that he ever saw in his life. I think probably he exaggerated

just a little bit, but certainly it is a magnificent growth of vines. You can't see a particle of ground. It is just one solid mass of vines. Most of the field was planted to green mountain potatoes. I got the seed of the Maine Experiment Station a year ago. On another side of the field where we planted our old stock potatoes for seed they are blighted some and are not so green.

COLON C. LILLIE.

WHY YOUNG MEN LEAVE THE FARM.

I have read in the past year several reasons why young men leave the farm and go to the cities to work. I will try and give some actual facts on farming and will let some older ones try and answer them. Take our oat crop this year, 40 bushels is a good average yield, at 27c per bushel at threshing time. That is the magnificent sum of \$10.80 and that, too, on \$100 per acre land. The seed was worth \$1.50 per acre.

Take our bean crop. There are hundreds of acres that hardly pay expenses. It is certainly encouraging to be carrying beans out of the water to find a place to dry them and at the same time whistling, "Wait till the clouds go drifting by." At the present time there are acres and acres of corn to be cut with the largest part of it standing in water. And, too, it takes a bumper corn crop to be worth \$25 per acre in the shock; \$15 to \$20 will catch the most of it. If some of these would-be farmers had actually fitted a piece of wheat ground and spent something like \$13 or \$14 per acre for labor, seed and fertilizer and at threshing time received 10 bushels of marketable wheat for their pains there would be a different song and dance.

No. 1 timothy hay is quoted at Detroit at \$16.50 to \$17 per ton. Local prices are \$13 and the actual cost to deliver the same, baled, to the hay dealer here is \$2.50 per ton. With 1½ tons per acre where is the profit on \$100 per acre land? If some of these newspaper farmers actually had to put on a pair of rubber boots and harvest their crops after putting a whole summer's labor on them and at the same time had taxes, insurance, interest on the mortgage, labor bills, fertilizer bills, coal, groceries and a thousand other things to pay it would turn their hair gray in a single night.

These are just a few reasons why farmer boys go to the cities to work where the visions of \$2 to \$3 per day are dancing before their eyes.

Isabella Co.

YOUNG FARMER.

Undoubtedly this has been a discouraging year for "Young Farmer," and many more like him, yet we venture to say that he has not and will not suffer for food or clothing or fuel with which to keep comfortable during the coming winter, experiences which many a man who has become discouraged upon the farm and gone to the city to seek other employment has unexpectedly encountered.

Now, with regard to the profits in farming. "Young Farmer" is right in his idea that they are not excessively large, yet observation cannot but prove that conditions are not so bad as he paints them. Hundreds and thousands of farmers are not only making a living but a competence on the fertile lands of Michigan that sell for \$100 per acre. In the prairie states of the corn belt, they grow these same crops which he mentions, on lands which sell for more than twice that amount and yet the land keeps getting higher in price because there is a demand for it from those who believe that it is a good investment at the price for which it sells.

But the most successful farmers do not sell their oats when threshed, or their corn in the shock. They feed them to live stock and produce live stock or dairy products for the market, retaining a large percentage of the plant food which these crops contain to maintain and improve the fertility of the soil. When live stock farming is judiciously combined with general farming together with the production of some special crop to provide a cash revenue and when scientific methods are applied to the problems with persistence year after year, the young farmer, even though he may not have sufficient capital to make his task an easy one, is more certain to succeed than the young man who enters any other line of business today.

True, there will be discouraging seasons, as the present season has been discouraging for "Young Farmer," but instead of becoming discouraged and

leaving the farm for a life which seems to offer better advantages, but about which you really know little, it is a far better plan to devote some thought and intelligence to the solution of the problems in such a manner as will make these discouraging seasons less frequent and ultimate success more certain.—Eds.

AN OUT-DOOR CELLAR FOR A DOLLAR.

Not everyone could make, even with the available materials at hand, a desirable frost-proof cellar at an actual cash outlay of a dollar, but that is what we did on our new farm. Here it is in a nutshell for the benefit of many whom I know have similar opportunities and material at hand and are wondering where the cellar for this winter is coming from.

On many farms are log buildings, sheds etc., whose mission has been outlived and which are not used for any particular purpose at present. Such a building on our place had formerly been made for a hog-house. This was 18x20 ft. 6 ft. high at the eaves, a shed or shanty roof and 12 ft. at its highest rise. Built of logs and chinked well, a floor had been made of hemlock plank 2-in. thick. On taking these up we found that by turning them the under sides were yet bright and the most of them still good. The pole rafters running lengthwise of the building had rotted badly and their place was supplied by new ones from the woods. The plank were spiked to 7-ft. fence posts at each corner and one post between on each side, or six posts in all, being in size 10x12 ft. inside dimensions.

This planked box or room was built, of course, inside the log building and the space between its walls and those of the log shed was nearly 4 ft. A sawmill had left a large pile of sawdust handy on our place and from this we drew and filled all round in this space, taking 20 loads in all. The sawdust was packed well and, over the inner roof, boards were laid loosely and over these hay to the depth of six inches was spread, and then sawdust 2 ft. deep on this. A boxed recess or door opening at one corner was left for a door 2x5½ ft., which was built to fit snugly. The outer door was also made as snug a fit as possible, all being built of rough lumber, old boards, etc., found on the farm.

If frost gets into this cellar it will have to come in at two open doors or travel through heavy sheathing paper, (with which we have it lined inside on the plank walls), 2-in. plank, 4-ft. of sawdust and logs, averaging one foot in thickness. I believe a five-foot wall, all built of non-conductors of heat and cold, proof against even Iceland weather. The dollar was expended for one roll of heavy roofing felt at 79c and the balance for spikes and nails.

How much will this cellar hold? Well! we have bins clear to the ceiling, on one side ample shelves for 200 quarts of canned fruit, a hanging bin for 40 bushels of onions, other lower shelves for winter squash, pumpkins for pies, etc., and bin room for 100 bushels of potatoes, a root bin, space for barreled pork, and yet room to get around inside conveniently. Two days' time was occupied in all, making and repairing the buildings and drawing sawdust for filling. This will make a convenient cellar in many ways, although with some disadvantages, and fill the purpose until more time is at hand to make a permanent one. Stovepipe forms a ventilator from the center of the ceiling up through all to the outside and closed in very cold spells with a cover from the inside.

Gratiot Co.

G. A. RANDALL.

PASTURING NEW SEEDINGS.

There are two mistakes in regard to pasturing stock common with many farmers, viz: Turning stock out to pasture too early in the spring, and pasturing new seedlings after the nurse crop has been removed. Turned out onto the short tender grass of spring, stock will, of course, begin to "pick up" and the flow of milk will be increased, but this benefit is secured not so much because of the food value of the grass but because of its succulent nature. But the farmer pays dearly for this young and tender grass, especially if the pasture lot is overstocked. Under such conditions the grasses are prevented from attaining a growth of any consequence, hence the stock have short picking the entire season.

When the grain crops are removed from the fields new grass seedings oftentimes attain quite a growth, and in a scarcity of



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feed the temptation to feed this off with stock is strong. This is a great mistake however, and for several reasons. First, while the top of the plant is thus being prevented from growing the root system of the plant is likewise being restricted, and it is not reasonable to suppose that a clover plant with its root system restricted in this manner is capable of growing as large a top the following season as a plant with a root system much larger. Second, the young grass plants of this new seeding are injured and sometimes destroyed by the sharp hoofs of the animals. Third, this growth being cropped close, and the stubble broken over, there is nothing to catch and hold the snow in winter. Hence it is blown away into some fence corner or public highway where it is not needed, and the first bright days of spring leave the young grass plants exposed to the injurious effects of "sugar weather." Not only so but the excessive freezing of the ground during the winter that must necessarily take place in the absence of a snow covering, works more or less injury as well.

I prefer to leave the entire growth, together with the stubble, standing, so as to catch and hold as much of the snow as possible. However, if this growth gets too large, and likely to reach the seed stage it will be advisable to clip it. Weed growth might make it advisable to follow the same course, but in either case, these clippings, together with the after growth, will provide considerable winter protection.

I am well aware that these new seedings will afford considerable fall pasture, but feed thus secured must necessarily prove expensive, being secured as it is, at the expense of next year's hay crop.

Emmett Co. M. N. EDGERTON.

FERTILITY OF DIFFERENT KINDS OF SOIL.

Is not beech, maple, basswood and elm timbered land the best quality of land in the central and northern sections of Michigan? When there is a sprinkling of pine and hemlock with beech, maple and elm would you not consider the land less valuable than where the pine and hemlock is entirely absent? Where most of the timber is pine and hemlock is not the soil, as a rule, thin? Is not a clay land better, as a usual thing, than a sandy clay soil? While a sandy soil has less merit than either a stiff clay or a sandy clay soil? What can you say as to the desirability of black muck land? Which is preferable, practically level land or rolling land? Is a gravelly loam equal to a clay loam without gravel? I am thinking of purchasing some unimproved land in central or northern Michigan and if you will answer the foregoing questions I will consider myself better qualified to judge land.

Berrien Co. W. W. H. Generally, without question, land which was heavily timbered with hardwood timber is more fertile than land covered with soft or pine timber, but there is such a variation in the fertility of the soil in either case that one can hardly express an intelligent opinion regarding the fertility of any section of heavily timbered land, as it isn't all alike. Hardwood timberland in one particular locality is better land than in another, and it is exactly the same with pine timbered land, or land formerly covered by hemlock. There are portions of this that seem to be extremely valuable agricultural land, while other sections of it are too light. It won't hold moisture. The particles of soil are too coarse, and yet the crop of timber seems to have sometime gotten a start so that it developed and grew in a good growth, but this land will not stand the wear and tear of growing good crops, so well as many other soils. Some of the cut-over pine forest lands in the state, when stumped, make the very best of our farming lands. I didn't use to think this was so, but I have learned from observation and experience that it is so. It costs considerable to get them stumped, of course, and get them improved, but when it is done you not only have a nice easy soil to work, but one that contains far more fertility than we used to think it did. This is proved beyond a question of doubt by the crops which are grown upon it. For some crops this is the very best kind of land, but, of course, we know more about how to handle this kind of land than our fathers did. We know that it is necessary to grow legumes in the rotation and take considerable pains in keeping vegetable matter in the soil, and when we do this, this land is among the very best, all things considered.

Of course, beech and maple, or hardwood timbered lands, contain usually very much more clay in their composition than the lands on which the pine forests grew,

and yet this is not always so. I know of some lands where a fair growth of hardwood timber grew that are pretty light and coarse for agricultural purposes. And so one can hardly tell by the growth of timber; it is simply a general indication. The general indication is that the hardwood timbered lands are the most fertile.

To the question, "Is not any clay land better than sandy land?" I would answer, not always. It depends something on the kind of crops you want to grow. Clay land is good for wheat and oats and grass, but it is not the best land for potatoes and corn and any kind of vegetables. But here one must know what is meant by heavy clay land. There is a very great difference in heavy clay lands. What I call heavy clay land is the real genuine article. I have heard people say that their land was heavy, and when I came to examine it it contained quite a percentage of sand and was a pretty decent sort of land to work. In our section where the clay subsoil crops out to the surface it is genuine clay. There seems to be very little sand in it. Now that kind of soil is extremely difficult to work. It can't be worked at all in wet weather. It is almost impossible to get a good stand of corn upon this kind of soil. Even if you plow under good crops of legumes and use stable manure, unless the season is exceedingly favorable, especially at the beginning of the season, you can't get a good stand of corn. On the other hand, this land raises splendid crops of wheat, and usually of oats, and splendid crops of grass.

On the other hand, a wholly sandy soil, if it is coarse grained, is extremely poor for agricultural purposes. In fact, we have in Michigan considerable areas of coarse sandy soil that does not hold moisture, does not contain practically any vegetable matter, and it is extremely difficult to grow profitable crops. Of course, by applying a commercial fertilizer and getting a growth of clover and plowing it down, filling up the soil with vegetable matter, this soil can be improved, and after a time if handled properly you can grow crops, but as an investment it is worth very little. Coarse, sandy soil at this day and age of the world, ought not to be used for agricultural purposes. It isn't worth the effort. The time may come when it will pay to prepare all of these poor sand lands so that they will grow good crops, but at the present time they are not worth the effort.

Now with regard to muck. In a general way we can say the same thing about muck that we can about other soils. There are no two beds of muck that are alike. As a usual thing, muck is deficient in phosphoric acid and potash, and is usually sour. If muck, when first plowed doesn't grow crops the probability is that it is sour and needs lime to sweeten it. Then the probability is that it needs potash and phosphoric acid. Where muck contains a large amount of organic nitrogen this usually is in such condition that it cannot be used by plants until after it is weathered or frozen and thawed and becomes available by the slow process of nature. Most muck soils respond to stable manure quite as readily as any kind of soil, because the stable manure furnishes available plant food and it is alkaline in reaction and assists in sweetening the muck. One must know from actual experience before he can tell anything about the quality of any given muck land.

I should prefer practically level land to rolling land for agricultural purposes. Of course, it is a nice thing to have a little rolling land on the farm for the location of buildings so as to give good drainage and probably better sanitary conditions, but where you want to plow and work the fields the level land is much more convenient, and it doesn't gully in excessive rains, when you have the land in crops. It is much better in a great many ways. If it is too wet it can be thoroughly tile drained, and then it is the best land that one can get.

I couldn't tell you very much about the land in the sections which you mention. I can tell you that I know that there is some of the best land in the state in western and northern Michigan, and I can also tell you that I know that there is also some of the poorest land in the state in the same sections, and one would have to know just the locality you would get this land in in order to give any intelligent opinion, and even then I would not trust anybody, I would go and examine it myself. It is the only safe way.

COLON C. LILLIE.

GROWING COWPEAS AND SOY BEANS.

I want to tell briefly of an experiment with cowpeas and soy beans this fall, grown on the light sandy lands near Grand Rapids. This soil lacks humus, has no clay sub-soil and must be fertilized every year to get any results. It is so light as to come almost within the description of "blow-sand," as the wind-storms last summer amply showed. Strips of this land were plowed late in April and were dragged a number of times during May. On May 29 I sowed 16 rows, or a peck of cowpeas, the Whippoorwill variety, the seed being shrunken and not looking first-class. Rows were two feet apart and in passing I might say that next year I shall make the rows at least four inches wider than this, using less seed in the row—one every three inches is about right. On June 5 I put in a similar plot of soy beans, 16 rows. The beans were treated with nodule-forming culture obtained at the Michigan Agricultural College, following directions, with one row of untreated seed left as a check. Beans and peas were cultivated several times and kept reasonably clean but from the start the cowpeas took the lead, being green and thriving, covering the rows for many weeks before harvest time September 23, while the beans looked yellow and spindling, having dropped their lower leaves. The bean stems were woody and leaves tough, making this crop of little value for hay. A scythe was used in cutting the crops and cowpea harvest was much like shearing a thick fleece of wool, the long tendrils forming a thick mat of greenery over the land. Only a few pods were in sight on either the peas or beans. On September 25 I forked over the cowpeas, the beans being thin and not requiring this labor for curing, and the following day the hay was put in the barn. My horse and cow have eaten the cowpea hay with great relish, cleaning up big stalks and everything. The nodules on the cowpea roots are large and numerous and this nitrogen, in connection with the shaded and moist condition of the ground during a large part of the summer-will, I am certain, insure a good crop of almost anything to follow the coming year. As to the soy beans, the roots have small nodules, with no difference between treated and untreated seedlings so far as I can see.

Now here are some conclusions I have reached as a result of the experiment: I shall not try soy beans here again as a soil renovating crop. I shall get in the cowpeas earlier, say from May 10 to 15, planting in rows 28 to 30 inches apart, and dropping about four peas to the foot. Cowpeas are a tender southern crop and frost's must be watched out for at both ends of the season, but the fact that they will make such remarkable growth on soil that will scarcely produce anything else, not even the proverbial "white beans," giving a big yield of nutritious hay and storing up nitrogen in the soil for future crops, makes it seem as though here is a legume well worth cultivating on the lighter soils of Michigan. The New Era is recommended as an earlier variety than the Whippoorwill and is probably better suited to this latitude. I am satisfied that there are wonderful possibilities locked up in the humble cowpea as a soil renovator on the light sand lands of Michigan.

Kent Co. A. GRIFFEN.

REDUCING COST OF PRODUCTION.

"An important means of reducing the cost of production," said Prof. W. J. Spillman, of the Department of Agriculture recently, "is the full utilization of equipment, since it reduces the amount of equipment necessary. The average farm horse in the northern states works only three hours a day. This is because the system of management on the average farm is so poorly planned that at certain times the work is very heavy, while at other times there is nothing to do. It is necessary to keep horses enough to meet the needs of the farm when the work is heaviest, but at other times these horses are idle. The average cost of horse labor on the farm under these conditions is about ten cents an hour. With a well-planned cropping system that distributes the farm labor equally throughout the season it is possible to get six hours' labor per day out of the horses. When this is done the cost of horse labor per hour is reduced to five cents.

"Many a \$12 plow is used to plow not more than 10 acres a year. At this rate

the cost per acre for the use of the plow is about 19 cents. When the same plow is used to plow 40 acres a year, the plow cost per acre is reduced to about five cents, or less than one-third what it is when the plow is used on only ten acres. Approximately the same thing is true of all other items of equipment. For the reason that the equipment must be sufficient to do a great deal of work in rush periods the amount of equipment on poorly managed farms must be much larger than on well-managed farms where there are no rush seasons. On the latter type of farms the work is well distributed, so that no great amount of it must be done at the same time, thus making possible a minimum of equipment.

"These examples are given merely as arguments for well-planned systems of farming. One of the great strictly farm-management problems that we now have before us is that of working out such systems for sections of the country, for farms of all sizes and types."

Washington, D. C. G. E. M.

FARM NOTES.

Clipping New Seedlings of Alfalfa.

I have an acre of alfalfa sown the first of August on an old pasture sod that was plowed early and kept dragged down well. I now have a fine stand about eight inches high and very thick and dark green in color, and with a very few pig weeds in the low corner. What had I better do, clip about four inches high and leave on the ground; clip close and rake off, or not touch at all? How would it do if I clipped and raked off to take the spreader and give a light coat of light manure after the ground froze so that the spring thaws would not injure it? The ground this was sowed on was very rich, having been pastured for six years and manured every winter. Have 10 acres more in same field in same condition that I want to pasture until July and if wet enough plow and seed to alfalfa next year, if this acre does well.

Clinton Co. J. R. H.

A new seeding of alfalfa should not be clipped, no matter if the growth is rank, until the buds have developed and the new growth started from the crown of the plant. To clip before this period of growth has an exhausting effect upon the plant as it robs it of leaf surface until such time as the buds can develop and the new growth start, thus weakening its vitality and in some cases injuring or destroying the stand. It would, of course, not injure it as badly to clip high, as suggested, and still if the plants are clipped even four inches from the ground most of the leaf surface will be eliminated.

The plan of giving new seedlings of alfalfa a light coat of manure distributed with the spreader after the ground is frozen is an excellent one as it is less liable to be injured by the freezing and thawing weather of spring. Undoubtedly this plan of seeding is an excellent one, providing the weather conditions are favorable as they have been this year to work down the sod ground and prepare a good seed bed. In a dry season, however, this method would not be as successful, if indeed, it were practicable at all.

The dark, green appearance of this alfalfa would indicate that it is inoculated with the bacteria peculiar to the plant and a good stand of dark green plants of the height mentioned should insure a successful, permanent and productive stand.

Harvesting Ruta-bagas.

I would like to ask you the best method of harvesting ruta-bagas. We have a half acre, the first we have raised. I have heard some place that one could use a small-sized common walking plow with some roots. Is that practical with ruta-bagas and how would you hold it in using it?

Allegan Co. J. E. B.

For a small area of ruta-bagas such as is mentioned in this inquiry it is the writer's opinion that the old-fashioned method of harvesting by topping with the hoe and then pulling with a strong two-tined hook made for the purpose, is about the most satisfactory way of accomplishing the work. A common plow could possibly be used to advantage when soil conditions are right, or a beet lifter or even a potato digger could be used under some conditions, but for a small area little time would be saved over the hand method.

Everyone that is not now a subscriber will take The Michigan Farmer to Jan. 1 for only five cents. You can get a valuable premium for a club of 10. See page 378.

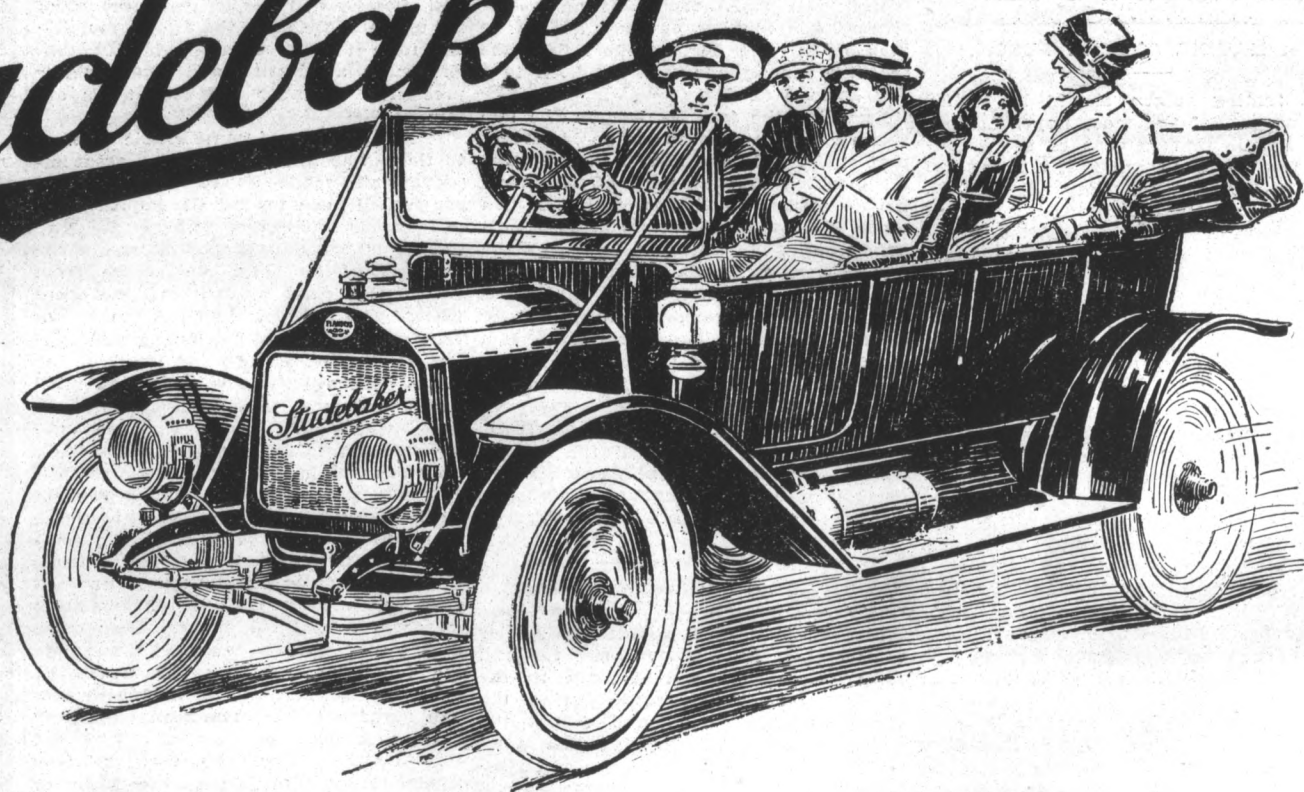
Sold His Cows.

Ed. S. Lewis, Marshall, Mich., who has been advertising Holstein cattle, writes that his cows are all sold and to change his advertisement to bulls.

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LIVE STOCK

THE MATING OF THE FLOCK.

The mating season should be looked upon as one of the most important periods in the management of the breeding flock. So important is it that success or partial failure may depend upon it. As the time for mating draws near it may not be out of place to notice briefly some of the essentials that contribute very considerably to the final results of our breeding efforts.

The time beginning immediately after the weaning of the lambs is one of great opportunity for the building up and reinvigorating of the ewes after the somewhat long and severe physical strain to which they have been subjected during the lamb-dropping and nursing period. The necessity for improving this opportunity is emphasized if, for any reason, the flock has not had liberal feed and good care. The ewes that have not sufficiently recuperated and become strong and hearty by mating time had better be left out of the breeding calculations for this season, for they are pretty sure to drop late lambs that will be uneven and thriftless and a continual disappointment.

Few things contribute more to the value of a flock of ewes or lambs than does uniformity. In order that lambs may be uniform in size and shape it is necessary that they be strong and thrifty at birth and in a condition to grow rapidly and steadily. This end is largely influenced by the degree of strength, vigor, and fleshiness possessed by the ewes at mating time. In fact, very much of the difficulty of weakness, unevenness, and unthriftiness in the lamb crop may be traced, with a great degree of certainty, to a lack of proper condition of the parents at mating time.

All animals are somewhat irregular at mating time and any influence that tends to overcome or adjust this irregularity is desirable. It should be the aim in handling the flock to secure as uniform a condition of flesh as is possible.

In all flocks there are found some individuals that are more lacking in flesh and strength than others. Among these will be some of the best mothers and producers in the flock. It may be necessary to separate, even at a little trouble, these from the flock for the purpose of giving them better care and feed, that they may gain more rapidly, thus enabling the thinner ones to catch up with the more fleshy and stronger ones.

Thin and poorly conditioned ewes tend very decidedly to later mating than do the fleshy, vigorous members of the flock. Not only is the time of lamb dropping affected, in the way noticed, but the strength, vigor, and thrift of the offspring is also very considerably influenced thereby.

With the individuals of the flock all hearty, strong, and vigorous one may reasonably expect a fairly uniform mating, if the male is what he should be as a result of good breeding, proper care, handling, etc. The lambs dropped by such a flock of ewes will be very likely to be uniform in size, flesh, and vigor from the start, and also, with proper care and feed, grow and mature with a reasonable degree of uniformity, thus enabling the grower to time the marketing of the crop to the best advantage with regard to price and season.

There is a marked tendency among flock owners, especially the smaller and younger farmers, to use ram lambs for breeding purposes. While extended experience, and even careful observation, will satisfy nearly anyone that a tried aged ram is by far more to be preferred for breeding purposes, many breeders are able to obtain very satisfactory results by the use of young and untried sires. A very considerable degree of uncertainty is avoided by breeding to a sire that has reached full maturity and development, and has proved his value as a stock getter.

Much more care should be exercised when using a young ram. There is more danger of overworking him, and always the possible result of weak fertilization. Good judgment must be used in developing and fitting a lamb that is to be used the first year. Especially is this true if the flock is at all large.

Most flock owners follow the practice of allowing the ram continual freedom in the flock, while some few only turn in for a few hours each day. Both methods have their advantages and should be used under different conditions. If both ewes

and ram are in good condition and the flock is not unreasonably large there is little question but what the former method is most satisfactory. If an excessively large number of ewes are to be bred it may be best to limit the time that the ram spends with the flock to a few hours each day.

Providing the feed for use for the late summer and fall months is an important part of the work and should receive careful planning and thought. Good nutritious pasture is always desirable. In some seasons, and under certain conditions, this is not always possible. When this happens an ample amount of supplemental feed will be necessary, either from some especially provided forage crop or by the feeding of hay, bean pods, etc., from the winter feed supply. Sometimes one plan may be the most economical; sometimes the other.

The best of care and feed only, will bring the best results and the highest degree of satisfaction, while each year's experience and observations will prove the best guide for future efforts.

Ingham Co. H. M. YOUNG.

THE IMPROVING OF SWINE.

Only those who have given the matter considerable observation and thought, fully realize the progress made in the improvement of live stock during the last half century. It was during the years immediately following the Civil war that a revival in our live stock interest began, and, with an exception of a few periods of depression, the efforts toward improvement have been persistent and constant, and progress has been steadily made.

In all classes of live stock the improvement has been marvelous. New breeds have been formed and great progress made in different directions, and whether it be the horses, cattle, sheep or hogs, the improvement has been so marked that a specimen of the old variety would be looked upon at the present time as a novelty. Yet with all that has been done, there are a few specimens of horses that seem to be a reversion back to the former type, and a few specimens of the old style which existed. The same is true with cattle, and yet with the exception of a few remote districts, a genuine native cow is a rare find, and the old style, long legged, short fleeced and slow maturing sheep is not found even in the remote districts.

But with the improvement of swine, the progress made has been more marvelous and complete than with any other class of live stock. Many new breeds have been formed, named, improved, and at present occupy an honorable and prominent position among the breeds. The improvement has been so universal that it is necessary to go into some of the remote districts of the southern states to find the genuine old style "razor back" hog, that is a fair specimen of the original type of the domestic hog. Whether the breed has been improved by the Europeans across the ocean or developed in our own country, the improvement is so marked that it requires a stretch of memory to realize the vast difference between what the original type of the hog was back in the "sixties" in comparison with the improved type of today.

Let us consider some of the important points that have been improved that we may have fixed in our mind the great progress made. With the exception of the English Tamworth and the American Hampshire breeds, the heads and faces of the hogs have been shortened, widened and improved very much in general appearance. Instead of the old style of what we call the snout hog that was built with a single purpose in view of gathering the food from beneath the surface of the ground, we have the short, broad face that represents the modern type and is adapted to modern conditions where the food is furnished to the animal instead of being compelled to hunt for it. In the place of the large slouchy ears, we have the medium-sized that are well balanced and proportioned to the modern head, which adds very much to the beauty and general appearance. Instead of the long, narrow neck, we have the short neck that is thick and molds well into the shoulders, which are broad at the top, supported by short legs, that are wide apart, giving ample room for a large heart, which insures good circulation of blood and economical assimilation of food. Instead of the narrow chine, we have the well arched ribs that make up a well-rounded body, the broad back, the long hips, the deep hams and the well let-down flank, which constitute an animal that is both a good feed-

er and good assimilator, that insures large returns for the food consumed. Instead of the ungainly brute that was both homely and despised on account of its ugliness, we have the fine, symmetrical form that produces a beauty that challenges admiration and awakens appreciation wherever the best types are found.

It is a matter of considerable interest to those who have in mind the great improvements made as to who has accomplished most toward the improving of our breeds of swine. There are two classes of individuals who handle swine for the profits they can secure from them. One class we will call the speculator, who only has in mind the dollars that can be secured by buying and selling, or buying, raising and selling. The other class are those who have in mind the improvement of the individuals of the breed which they handle, who are looking forward to an enhanced price for a desirable specimen. These are the ones who have in mind the real improvement of the breed. It is this class of men who spend their time looking after the comfort and advancement of the animals they have under their charge that not only watch them by day, but meditate on them during the night. Very often during the waking hours at night, the individual is studying out means by which he can make an improvement that will surpass the improvements made by his competitors.

At the shows or fairs, the specimens produced by these good breeders, or molders of breed, are brought together and comparisons made. Here is a place where many important lessons are learned. It may be by chance that one has gained an advantage which he cannot explain, but the individual who has been outstripped returns to his task with renewed energy, desiring if possible, to not only match the best he has seen at the last shows, but to surpass anything that has been produced before. Very often these men who are eager to make such progress succeed, and the various observers at the annual fairs can testify to the fact that steady progress has been made all along the line in the conformation of their animals and general make-up, until today we have breeds that are so nearly perfect that the question arises among the thrifty ones whether much improvement can be made, and the task in the future seems to be to maintain the advancement achieved in the desirable characteristics of the animals now possessed.

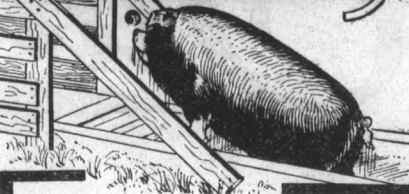
Credit to Whom Credit is Due.

The individual members of the live stock fraternity who have achieved such marvelous results are deserving of much credit for their painstaking, and for the possibilities that have been brought to the individuals who have the privilege of handling the improved live stock, that is universally bred, fed and marketed at the present time. These painstaking fellows, who have joined their energies in the discussion of improvement and handed to us at the present time in the place of the old ugly looking animals, a thing of beauty that is an ornament to the fields in which they are kept. Instead of the slow maturing animal of fifty years ago, that required two years of time for growth, maturity and fattening for market, we have an animal that matures and is fed for market at six or eight months of age and at the same time produces a better quality of meat than was ever produced in the old style, slow growing hogs of the sixties. Instead of the animals that produced small litters, and often only one litter per year, we have those that produce not only two litters, but large ones twice a year, which makes it by far cheaper and less expensive to maintain a herd of animals sufficient to produce the supply of hogs that consume the coarse feeds on the farm than was the case before the improvements were begun. The possibilities for making money from the swine at the present time are greater than at any time since the revival of the interest in live stock was begun. The benefactors may have lived, done their work and died, without having been accorded many honors or having acquired any great sums of money for their efforts, yet as benefactors of the race they are deserving of our expressions of gratitude for their services, and our consistent emulation of their example.

Wayne Co. N. A. CLAPP.

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from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone or similar trouble and gets horse going sound. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. \$2.00 a bottle delivered. Horse Book 9 K free.

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HEAVE, COUGH, DISTRESS AND INDIGESTION Cured Heavily by correcting Indigestion. The original, scientific remedy. 22 years sale, 30 years in Veterinary practice. One to three \$1.00 cans cures heaves. Money refunded if results are not satisfactory after using two cans. A grand conditioner. Expels worms. \$1.00 per can at dealers or express prepaid.

THE NEWTON REMEDY CO., Toledo, Ohio

FORAGE POISONING OR SO-CALLED CEREBRO-SPINAL MENINGITIS OF HORSES.

The Cause of the Disease.

During the last five months numerous reports have been received by the Bureau of Animal Industry relative to the existence of forage poisoning in various sections of the United States, particularly in Louisiana, West Virginia, Kansas, and Nebraska. It has usually occurred when a hot, dry period has been followed by rains, or during wet seasons, especially those which are characterized by frequent rains alternating with hot sunshine, producing a damp sultry atmosphere. Such conditions are most favorable to the production of molds, and all outbreaks that have been investigated by the Bureau have been traced to the eating of unsound or moldy forage or feed, or to the drinking of water from wells or pools containing surface water drained through decomposed and moldy vegetation. The disease has been shown to be also due to eating damaged ensilage, hay, corn, brewers' grains, oats, etc. Horses and mules at pasture may contract the disease when the growth of grass is so profuse that it mats together and the lower part dies and ferments or becomes moldy. No specific organism or virus has yet been found which can be considered as the cause of this disease.

How the Disease May be Recognized.

The so-called cerebro-spinal meningitis of horses being an entirely different disease from that which occurs in man, the symptoms as well as the cause are distinctly different. In the most rapidly fatal attacks death takes place in from five to 48 hours. Such cases begin with violent trembling or stupor and extreme weakness, or with staggering gait, partial or total inability to swallow, impairment of eyesight, followed by partial or complete paralysis, inability to stand, with marked delirium, during which the animal lying flat on its side becomes violent and knocks and bruises its head. In the second form of the disease the same line of symptoms may be noticed in a milder degree. Difficulty in swallowing, slowness in chewing the food and inability to switch the tail are observed. Breathing becomes heavy and noisy, and delirium may develop with stiffness of the spinal muscles or partial cramp of the neck and jaws. Death occurs in from six to 10 days. In the last or mildest form, the lack of voluntary control of the limbs becomes slightly marked, the power of swallowing never entirely lost, and the animal has no fever, pain, or unconscious movements. In those cases which get well the animal generally begins to improve about the fourth day and goes on to recovery. One attack does not protect against a second attack, as horses and mules have been known to have the disease two or three times.

How the Disease May be Prevented and Treated.

The first principle in the treatment of this disease consists in a total change of feed and forage. Horses kept in the stable should be fed with sound forage and grain from an uncontaminated source, even if such feed has to be brought from a distance. Horses that have become affected while at pasture should be removed from the field in which they have been running. The animals should be brought to the barn or corral and fed on wholesome and clean feed and forage. The water, unless from an unpolluted source, should likewise be changed.

At present this preventive treatment is the only satisfactory method known for checking the disease, as all medicinal remedies used have been unsatisfactory in the vast majority of cases. The first step is to empty the bowels and remove the poisonous products, but on account of the difficulty in swallowing, an aloes ball or Glauber's salt is hard to give. In fact, no remedy should be given by the mouth if the throat is paralyzed, as pneumonia is liable to result. Fifteen grains of barium chlorid injected into the jugular vein, or two grains of eserine under the skin, if the animal is not too greatly depressed, will usually act promptly. Intestinal disinfectants such as calomel, salicylic acid, and creolin are also used. If much weakness is shown and the temperature is below normal give aromatic spirits of ammonia, digitalis, alcohol, ether, or camphor. Rectal injections of warm water are good, and warm blankets wrung out of hot water may also be applied to the body. Subsequent treatment should consist of two-grain doses of strichnin twice daily, or a mixture of two drams tincture nux vomica and one-half ounce of Fowler's solution

Do I Waste \$200?

By R. E. Olds, Designer

Here are some things which mark me an extremist, some motor-car makers say.

Reo the Fifth, without them, could be built, I judge, for \$200 less.

I employ them because, after 25 years—after building and watching 60,000 cars—I regard them all essential.

I could not build a car without them to justify men's faith in me.

Judge if you want them. Or would you rather have a cheaper car without them?

Big Tires

My cars have always been over-tired. But on Oct. 1, for the new series of Reo the Fifth, I adopted tires 34 x 4.

That means 22 per cent larger tires than last season. Tire makers say that 22 per cent will add 65 per cent to the tire mileage. Does that seem like a waste?

Costly Features

I am using this year 190 drop forgings. They are costly, but they give me lightness combined with strength. That means tire saving, and it means a racy car.

I am using 15 roller bearings—11 of them Timken, 4 Hyatt High

Duty. Ball bearings are immensely cheaper, but I find they don't stand strains.

I use seven-leaf springs, two inches wide, rear springs 46 inches long. That means comfort, and the springs don't break.

I use 14-inch brake drums for safety.

My carburetor is double heated for low-grade gasoline.

I use a \$75 magneto to save ignition troubles.

For big margin of safety, every driving part is built sufficient for 45 horsepower.

costly body. I finish it with 17 coats.

I use the best of leather and the best curled hair to give luxurious upholstery. Note that even my engine is nickel-trimmed, to give the final touch in finish.

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I use in this car my own center control. All the gear shifting is done by moving a handle only three inches in each of four directions.

Both brakes are operated by foot pedals, so no levers clog the front.

The driver sits on the left-hand side, close to the cars he passes.

An Underprice

To give these things at a modest price my profit is cut to the minimum. I share the cost with you.

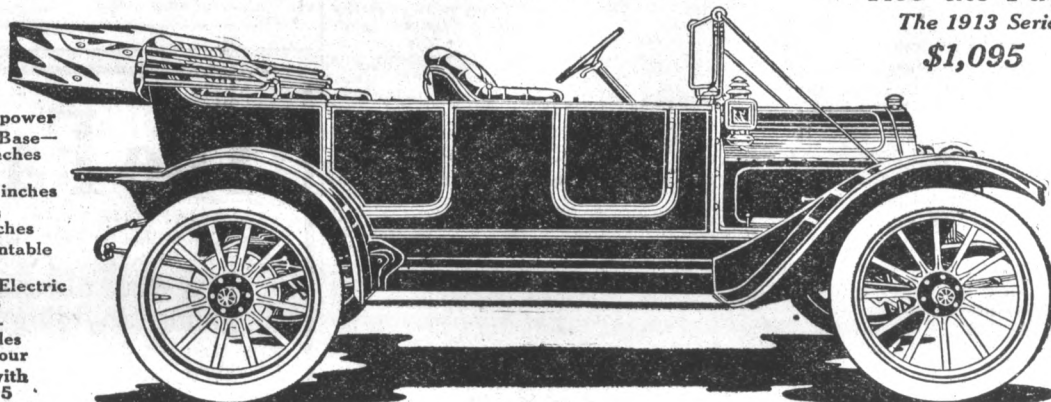
Yet all these things are for your economy, your safety and your comfort. I would not buy a car without them, so I shall never sell one.

Write now for our new catalog showing the new Fall series. We'll then direct you to the nearest Reo dealer.

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The 1913 Series
\$1,095

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Horsepower
Wheel Base—
112 inches
Tires—
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Wheels
34 inches
Demountable
Rims
Three Electric
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Speed—
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per Hour
Made with
2 and 5
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Top and windshield not included in price. We equip this car with mohair top, side curtains and slip cover, windshield, gas tank for headlights, speedometer and self-starter—all for \$100 extra.

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The Melrose costs you but little more than a standard make of old-fashioned, single-purpose wagon box. It weighs less than an ordinary, cumbersome, single-purpose hay rack, regardless of the fact that it is steel bound, steel silled, braced and bolted throughout—absolutely indestructible. It is already in use on thousands of farms, and is endorsed by Government Agricultural Experiment Stations.

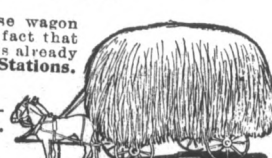
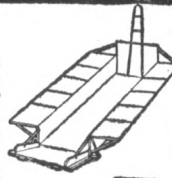
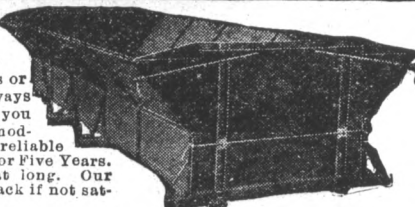
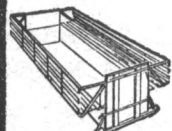
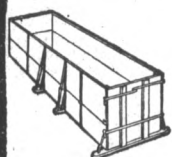
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given at one dose, and repeated three times daily, to combat the effect of the poison upon the nervous system.

FEEDERS' PROBLEMS.

Will It Pay to Feed Cattle?

With a silo full of ensilage and a quantity of dry fodder, wheat straw, oat and pea hay and bean pods, would it pay me to buy good yearlings at four cents a pound and feed them until spring and then sell? What grain would you buy with the above feed and how much would you feed?

Osceola, Co.

A. W.

Given the conditions mentioned in this inquiry with good facilities for feeding cattle and a good feeder to care for them they should return an excellent profit this year. Of course, no one can predict with certainty the future of the cattle market, but if good, well-bred yearlings can be purchased at four cents a pound it is considerably under the present market values at the big market centers. By good yearlings we mean those of fairly uniform type, carrying a fair proportion of blood of some one of the beef breeds which will insure the necessary quality when finished to bring a fair price upon the market.

Yearlings carrying a considerable percentage of dairy blood so that they are of the dairy type rather than of the beef type would not be nearly as good a proposition as would those better bred for the purpose of beef production at a somewhat higher price. But if fairly good uniform yearlings of the above described type can be purchased in the community for four cents per pound they would be well bought and should return a good profit in feeding.

The feeds mentioned form an excellent basis for the ration for fattening steers. Corn silage has come to be recognized as one of the most economic feeds and the roughage mentioned is well suited to be used with it. Ensilage, however, will not replace any large amount of grain in the ration and if a good profit is expected from these cattle they should be fed liberally with grain throughout the winter, beginning with a light feed and increasing to full feed as the feeding period advances.

As to the amount and kinds of grain which should be fed with ensilage, clover hay, or oats and peas, bean pods and oat straw, last winter the experiment station of Indiana furnished some valuable information. In these experiments the steers weighed approximately 1,000 lbs. each. In the lot showing the second best profit in which oat straw was a factor in the ration, the average grain ration consisted of 13.88 lbs. of shelled corn, 2.79 lbs. of cottonseed meal, 2.31 lbs. of oat straw and 25.26 lbs. of corn silage. Of course, with the substitution of other roughage in the ration for oat straw still better results might be secured and with younger and lighter cattle a little less grain per head might be sufficient, but this is a factor which can best be determined by the appetite of the animals when they are once gotten on full feed and it is right here that the skill of the feeder becomes the greatest factor in the profitable fattening of the cattle.

Cattle of good feeding quality will pay better for a high finish than cattle of poor conformation and here again the skill of the feeder must be exercised in determining what degree of finish to feed for. Whatever the finish desired, however, liberal feeding will be found more profitable, short feeds in which rapid gains are made being more economic than the long feeding period in which small gains are made, since the cost of bodily maintenance is much lower.

Corn Silage for Horses, Colts and Calves.

I would like to ask through the Michigan Farmer whether corn ensilage is a good feed for growing colts and for brood mares? Also, is cottonseed meal a good grain ration with corn ensilage for milch cows? Is corn ensilage a good feed for calves?

Kalamazoo Co.

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Corn silage may be successfully fed to horses under some conditions. If the ensilage is made from matured corn and not too acid it can be successfully fed to brood mares and idle horses, but great care should be taken not to feed any molded ensilage or corn silage made from too immature corn which develops too much acid in fermentation. Corn silage is, however, a feed too bulky for horses, except in limited quantities and should not be made a large factor in the ration at any time, although it can be used as a succulent factor in the ration under proper conditions, where care is used in feeding it, without deleterious results. The same will be true with ensilage for growing colts, but its value for this purpose is questionable, especially where

succulency could be furnished by a small feed of roots, as the latter would be preferable. Very young calves should not be fed corn silage, but when they get a little age it will make an excellent feed for them in connection with clover hay and a suitable grain ration.

The use of cottonseed meal with corn silage for milch cows was discussed at length in the dairy department of the last issue.

LIVE STOCK NOTES.

Of late the big Chicago packers have acquired complete control of the provision market on the Board of Trade of that city. They have been for a long time carrying enormous amounts of lard and cured hog meats, and for several months they have seen the accumulations of these products in Chicago and other western packing points decreasing rapidly, while the demand on both domestic and export account has increased to much extended proportions. Thus the situation has changed greatly in their favor, with the marketing of hogs reduced materially and hog prices so much higher that it was an easy matter to advance quotations for lard and meats. Fresh pork is having an enormous consumption nearly everywhere, and lard stocks are especially small. It is now expected that marketings of hogs will still become further reduced, and now that the public in provisions is ranged on the bull side, there is no telling where the advance in prices will stop.

Illinois has been seriously crippled in its hog industry by disease. Up to two years ago Illinois, with the single exception of Iowa, took the leadership in the production of hogs in the United States, but during the past 12 months that state has been swept from one end to the other by swine plague, and stations that formerly loaded a train of hogs weekly have done no shipping for several months past. The northwestern portion of Illinois has been cleaned up, with thousands of pigs shipped from there to Chicago, and there is going to be a shortage of matured hogs from there the coming winter. St. Louis is suffering from the same cause, and hog receipts at that point for the year have fallen materially behind those for last year. It is estimated that even with perfect health conditions, it is going to take at least two years to bring Illinois back into a normal hog industry.

Ruling prices for light yearling steers have risen to such high figures this year as to tempt many owners of cattle on the western ranges to cut out their fat yearling steers and ship them to market without delay. This has been carried on to a greater extent than ever before, it having been unusual in former years. In past seasons owners have marketed thin light two-year-olds for the feeder trade, but this year the luxuriant grass throughout the western range country has made all the cattle fat regardless of age, and the feeder supply is the smallest seen for years. While rangemen are reaping a harvest by marketing their yearling beef steers and heifers this year, this points to a serious shortage of matured beef cattle next year, and farmers and ranchers of the west, northwest and southwest who are favorably situated for breeding and raising young cattle will be able to make good profits by doing so.

The prospects for high prices for well finished droves of hogs are uncommonly bright at the present time. Recent marketings have been hardly more than enough of late to provide for the fresh meat trade, while stocks of provisions stored in packers' cellars have been heavily drawn upon. With the period of accumulation believed to be several months away and stock hogs reported to be anywhere from 15 to 25 per cent less than a year ago, while sickness has destroyed many herds and compelled premature marketing, there does not seem to be much likelihood that hogs will fail to sell extremely high the coming winter season. Sows have been marketed freely, the pigs were born later than usual, and they were not forced during the summer because of the high price of corn. Now that the corn crop of 1912 is a big one and the price decidedly lower than last year, farmers may be expected to hold their hogs to maturity.

The sheep and lamb markets of the west have been surfeited with range stock in recent weeks, as is apt to be the case every year in the autumn, and average sales have been at comparatively low prices. After the last range shipments of the year are made there will be a much better chance for owners of fed muttons on the hoof, and prices may be expected to rule much higher for fat flocks. With live mutton selling at less than half the price of live beef, mutton has become extremely popular, and the decline in prices has been in a measure lessened. The best feature is found in the fact that increased runs of range stock on the feeder order have enabled sheepmen to stock up at last on more favorable terms than hitherto. It would seem that this is a highly favorable time for taking up the sheep feeding business, to say nothing of buying a small flock of breeders.

Secretary Charles W. Baker, of the Chicago Live Stock Exchange has mailed to the insurance underwriters a check for \$1,333, the amount of dimes collected for the insurance of live stock in the Chicago stock yards, covering possible James Wilson, secretary of agriculture, who visited Chicago recently after a trip through the western country, expressed himself as opposed strongly to slaughtering calves of good beef grades. The killing of calves must be stopped, according to Mr. Wilson, if the rise in the cost of living is to be checked. "Beef is more healthful than veal, and there is every reason in favor of raising beef," he said.



Which Is the Safest Way to Buy a Stove?

No sensible man or woman would even *think* of buying a *farm* or a *horse* without first *seeing* it. Is it not equally risky to buy a stove "sight-unseen"—to send money many miles away, to *somebody* whom you don't know, to buy an *article* you have never seen?

Isn't it safest to go to a man in your home town and *see* the stove—*before you part with your money*?

The merchant in your town who sells Garland Stoves and Ranges will make you as low a price on a *good* stove as anybody *anywhere*.

He has an excellent line to choose from—heaters, base burners, ranges, cookstoves, etc. Go *look* at his stoves. And *price* them. Compare them with the best "bargains" that any mail-order house offers. If you don't find the home merchant's prices are *right*, *DON'T BUY*. If you *do* buy, remember this, *there's no freight to pay, no waiting to get your stove, no risk of damage in shipment*. And if your stove ever needs repairing, the home merchant is best able to do it for you.

Garland Stoves and Ranges have been on the market over 40 years. More than four million families own Garlands. If the *quality* and *price* weren't *both* right, how could this stove business have become the largest in the world?

Free Stove Books

We now publish eight handsome Stove Booklets. Send us *today* your name on a postal, stating whether it's a heater, base burner, range or furnace that you want and by *next mail* you will receive the proper book, and the name of your home merchant who sells "Garlands."



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The Fat of The Land

Are you dealing fairly by your fields?

Are you always taking from them and seldom giving anything valuable back to them?

Are you feeding out your crops upon the land that produced them, or are you hauling your harvests direct to market?

Are you interested in knowing how to restore exhausted fertility?

Do you know that the best way back to big yields is via the live-stock route?

Have you heard that good farmers everywhere are tremendously stirred up over this big national question of soil-building?

Has anyone shown you a recent copy of the one great farm weekly newspaper that is recognized as carrying the cream of all that is being written by the scientific and practical men who are dealing with this subject?

If not, let us send you one. It will cost you nothing and you may be surprised at the size, quality and character of it.

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"The Farmer's Greatest Paper"

A recent issue will be sent you without charge if you will mention this paper.

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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.

Partial Dislocation of Stifle Bone.—I have a three-year-old colt that I commenced working this spring. Since last May, when backing or stepping over from one side of stall to other, he is inclined to jerk up leg and is affected about the same in both. The cords on leg up near the body are somewhat swollen. I have been applying to these cords a good liniment, but without much success. J. W. M., Colon, Mich.—Apply once part tincture of iodine and five parts camphorated oil to stifle joints once a day. Also give 1 dr. ground nux vomica at a dose in feed three times a day.

Lump Jaw.—(Actinimycosis).—One of my cows has a hard bony bunch, size of goose egg, on face below eye and as I have never seen a case of lump jaw, I wish you would tell me whether this is a case of it or not. This enlargement opened sometime ago, but is healed now. A. J. DeL., Temperance, Mich.—Your cow suffers from lump jaw (actinimycosis) and will be benefited by giving her 2 drs. potassium iodide at a dose in feed twice a day for 30 days; also apply to bunch one part red iodide mercury and four parts fresh lard every five or six days. It is not always a good plan to keep an animal of this kind in a herd of well cattle, especially if the bunch is suppurating.

Distemper.—I recently purchased a young sow and nine pigs that were then only a day old and in moving sow in wagon she became much heated and excited, but for four days her pigs thrived splendidly, then I noticed them acting dull, dumpy and breathing quick, acting very much as if they had taken cold. Their bowels were too loose and nearly all of their tails were sore. Have kept these young pigs alive by feeding them cows' milk. Now I have a horse sick with distemper and it occurred to me that perhaps he had infected these pigs. H. T., Dearborn, Mich.—I am not sure but you are right in your supposition of the young pigs suffering from distemper infection. Distemper is quite fatal to very young animals of any breed and especially so if they do not eat enough to support their strength. If they are not all dead, they will be benefited by giving each one one-eighth of a grain of quinine at a dose three times a day. Also be painstaking in cleaning their feeding utensils.

Food Infection.—Would like to know what ails my hogs. Farmers around here are losing large numbers. The principal symptoms are dullness, disinclination to move and exercise and their bowels are much constipated. One man told me his hogs bled at mouth before they died and others showed great weakness in hind quarters. W. C., South Rockwood, Mich.—You fail to give me enough clinical symptoms for me to make a correct diagnosis. However, I am inclined to believe that their food supply has a whole lot to do with causing their death. The first step to be taken in the treatment of this ailment is to give 2 or 3 ozs. of castor oil and the same quantity of olive oil every six or eight hours until the bowels move fairly free. Also give one-twentieth of a grain of strychnine and 30 grains of bicarbonate soda at a dose three times a day. You should have one of them examined after death; this will lead either your Vet. or yourself to know positively what ails them.

Light Milker.—Cow has had second calf, but only gives one gallon of milk daily; when sold to me was represented to give 2½ gals. of milk a day; will come fresh next March. H. W., St. Clair, Mich.—If your cow is perfectly healthy,

Make Your Hogs Cholera Proof NOW

Immunize your hogs now—make them cholera proof. The cholera season is here and if it is in your section, there are many ways for it to infect your herd. It is the most contagious and the most deadly of all hog diseases. Don't run the chances of losing your entire herd when less than the price of one animal will pay your veterinarian for immunizing fifty with

Consult Your Veterinarian

MULFORD HOG CHOLERA SERUM

"The reliable immunizing and curative agent"

Reliable because its production is under the supervision of biological experts from beginning to end. Reliable because every lot is thoroughly tested before sending to

your veterinarian. In fact, it's the reliability of our products that has made the Mulford Laboratories known among physicians and veterinarians over the entire world.

How We Test Hog Cholera Serum

Suppose the test is made with 12 hogs. We first inject into each one several strains of virulent hog-cholera-producing blood. This gives them all cholera. Then we inject into 8 of them a dose of our hog cholera serum. If the serum is up to our standard it will save the lives of the 8 treated hogs, while the other 4 will die of cholera. If the serum does not save the lives of the 8 treated hogs, we do not place it on the market. Every dose of Mulford Hog Cholera Serum sold must be from serum that has been tested and saved the lives of cholera stricken hogs.

Other Mulford Products

Tested Tuberculin, Black Leg and Anthrax Vaccines. Mallein, Antitoxin for Lock Jaw, Abortus Bacterin.

Send for Valuable Free Booklet

Gives methods for preventing and controlling hog cholera. Send now before the disease attacks your herd.

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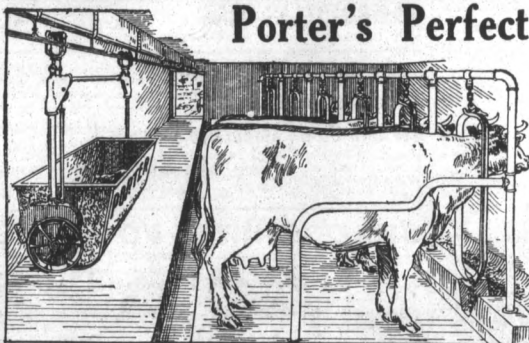
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Champion butter cow of the world.
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Lbs. of butter fat 1,058.34
Lbs. of butter, 80 percent fat 1,322.925
Average percent fat for year 3.86



HIGH-LAWN HARTOG DeKOL
Stable mate of Banostine Belle DeKOL.
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DAISY GRACE DEKOL
World's Champion Junior 4-year-old.
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Lbs. of butter, 80 percent fat 1,203.493
Average percent fat for year 4.43

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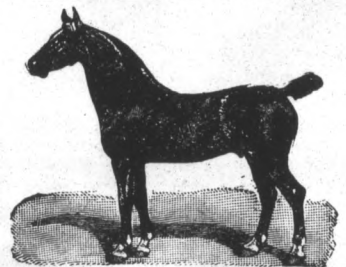
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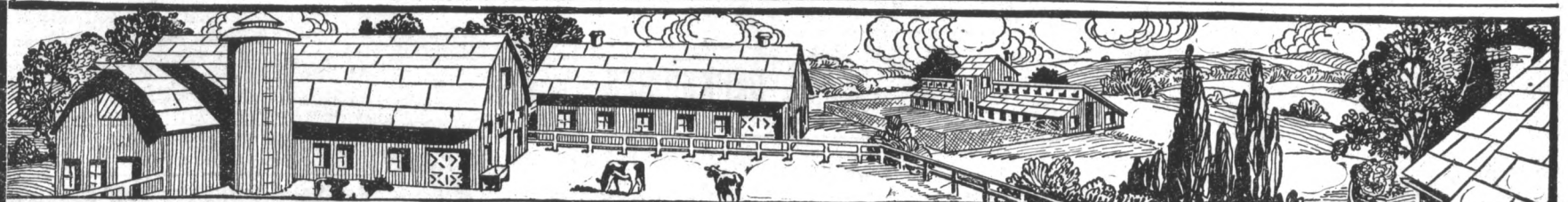
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which I imagine she is, little can be done to improve her milk yield other than feeding her a milk producing ration.

Nervousness.—I have a four-year-old mare weighing 950 lbs., that seems to have either kidney or bladder trouble. Whenever she comes near another horse or is approached suddenly by a person, she strains as if in heat and usually passes urine, which is of a dark yellow color and thicker than normal. S. P., Brooklyn, Mich.—Your mare should be bred, treated kindly and handled by one and the same person as much as possible. She is naturally nervous when irritated, the muscle at neck of bladder relaxes, allowing urine to escape. Drugs cut very little figure in the treatment of this kind of case.

Acute Lymphangitis.—Have a six-year-old horse that appeared to be well on Saturday, worked all day; Sunday morning right hind leg was swollen from hoof to body and 24 hours later sheath was also swollen. I gave him sweet spirits of nitre and buchu leaves, but this treatment could not have done him much good, for the swelling and tenderness remains in limb. S. C., Dimondale, Mich.—If your horse is costive, give him 7 drs. aloes, 30 grs. calomel and 2 drs. ginger made into a bolus and given at one dose—one dose only. If this cathartic medicine fails to act in 20 hours, give 1 qt. raw linseed oil. Discontinue feeding grain, but give a dessertspoonful powdered nitrate of potash at a dose in feed or water three times a day. Foment leg with hot water one hour at a time and three times a day. Moderate exercise will greatly assist in reducing leg. It is always a mistake to feed a horse much grain when idle and not exercised.

Chronic Indigestion.—Ever since last spring one of my horses has been troubled with indigestion and I would like to know what to give him that will assist in building him up. I also bought another horse last spring and last week he was taken sick and treated by our local Vet. for indigestion and recovered. What I would like to know is what to give him to prevent another attack. J. C., Ann Arbor, Mich.—First of all, you had better examine their teeth; they may need floating. Mix together equal parts of ground gentian, ginger, charcoal, bicarbonate soda and salt and give each horse two tablespoonfuls at a dose in feed three times a day. Careful feeding and not over-feeding when the animal is exhausted and hungry or when idle, will perhaps prevent another attack of acute indigestion.

Injured Back.—Partial Paralysis.—I found one of my yearling colts down some six weeks ago and since then he has been unable to get up without assistance. When found in pasture I hauled him home on stoneboat, called Vet., who gave medicine and applied liniment to back and was doubtful of a recovery. Sometime later I called another Vet. who gave medicine for kidneys and blistered back from coupling to kidneys. He is some better, but has rather poor use of hind legs, but gaining in flesh, and I would like to know what can be done for him. J. L. R., Reed City, Mich.—Give colt 40 grs. ground nux vomica and 60 grs. powdered nitrate of potash at a dose in feed two or three times a day. Also apply one part turpentine, one part aqua ammonia and four parts olive oil to back once a day. On account of your colt being young, he may make a fairly good recovery; however, it will be slow. It is needless for me to say that he should be kept warm and not exposed to cold rain storms and later, wet snow, for this falling on his back would have a bad effect. His bowels should be kept open and he should be exercised some every day.

Bunches on Leg.—My pigs, while feeding on rape, began to have bunches on their legs and now I have taken them out of the lot and am feeding principally corn, but they are lame and one of the sows has limped since wet weather set in. Pigs are between three and four months old and are not growing as they should. P. L. G., Dalton, Mich.—Your pigs will be benefited by a change of feed. Feed them some middlings, oats, and oil meal with their corn; also give them each 5 grs. sodium salicylate at a dose in feed two or three times a day. Apply tincture iodine to bunches three times a week. They should be kept in a dry, comfortable lot or pen.

Cow Holds up Milk.—My six-year-old cow seems to be in good health, but refuses to give down her milk. We took calf from her a short time ago and since then she has not caked udder to indicate sickness, but we have thought that she was giving much more milk to calf than we are now getting. F. J., Port Huron, Mich.—The quieter you are and the less your cow is excited at milking time, the more successful you will be in taking the milk from her. Her milk yield will not be improved much by giving her drugs; therefore I advise you to increase her food supply and milk her while she is eating.

Indigestion—Vertigo.—I have some hogs that have been in a good clean pasture all summer, with a good clay wallow; they thrived well until about two weeks ago, when I began to feed soaked rye and mangles and since that time they have been sick, appear weak, and stagger when walking; their ears lop and their appetite is not good. Can you tell me what ails these hogs and what to do for them? A. B., Gaylord, Mich.—A thorough change of feed will go a great ways towards making your hogs well. Feed them some corn, oats and middlings. Feeding rye and mangles no doubt produced indigestion and fermentation which was followed by weakness and the absorption of gas, doubtless poisoned their system. Give each full-grown hog one-half teaspoonful cooking soda and the same quantity of salt and a tablespoonful of powdered charcoal at a dose in feed two or three times a day.

Bigelow's Holstein Farms, BREEDSVILLE, MICHIGAN,

Have for sale several fine young bulls out of cows with high official butter and milk records. Send for circular.



SICK HOGS

Cured and disease prevented with Snoddy's Powder. Clears hogs of worms. Makes hogs thrifty. Will send man and treat sick hog on insurance. Treatment is simple. Any one can use it. \$5 cures 40 hogs. Book and test reports free. Agents wanted. DR. D. C. SNODDY CO., Dept. D., Nashville, Tenn.

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Bred for utility as well as show quality. Stable includes several international winners. Three 2-year-old stallions of quality for sale. Come, or write B. F. ANDERSON, R. No. 3, Adrian, Mich.

For Sale—Horses, cattle, sheep, swine, poultry and dogs, nearly all breeds. Sires exchanged. South West Michigan Pedigreed Stock Ass'n., David Woodman, Sec'y.-Treas., Paw Paw, Mich.

BREEDERS' DIRECTORY.

CATTLE.

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Herd, consisting of Trojan Erics, Blackbirds and Prides, only, is headed by Eberton W. a Trojan Eric, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910. A few choice bred young bulls for sale. WOODCOTE STOCK FARM, Ionia, Mich.

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

GUERNSEY BULL CALVES, YORKSHIRE PIGS. Good Stock. HICKS GUERNSEY FARM, Saginaw, W. S., Mich.

GUERNSEYS—Bull calves from high producing ancestors. Herd tuberculosis tested. No females for sale. ALLAN KELSEY, Lakeview, Mich.

For Sale—Registered GUERNSEY BULLS, Large Yorkshire hogs, either sex, best breeding. JOHN EBELS, R. 10, Holland, Mich.

HATCH HERD HOLSTEINS—Choice young sires from ARO dams. HATCH HERD, Ypsilanti, Michigan.

DAIRYMEN TAKE NOTICE! 22 head of grade Holstein cows and heifers. Is giving milk, 3 coming in soon, 4 heifers coming in later on. No exceptions this is the finest bunch of cows in the country. JAMES KNOWLES, Azalia, Michigan.

HOLSTEIN FEMALES—all ages. HOBART W. FAY, Mason, Michigan. Farm right in the City, only a few minutes from Jackson and Lansing. Interurban cars every hour.

Holstein-Friesian Cattle—The kind that make good. GREGORY & BORDEN, Howell, Michigan.

"Top-Notch" Holsteins.

Choice bull calves from 7 to 10 mos. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices. Also a few choice females. McPHERSON FARMS CO., Howell, Michigan.

HOLSTEIN BULLS

From 3 to 12 months old, \$60 to \$250 each. You can't buy better. LONG BEACH FARM, Augusta, Mich.

5--Yearling Holstein Bulls--5

And 4 Bulls from 4 to 8 months old.

All from A. R. O. dams and sired by Johanna Concordia Champion, the greatest bred bull of the breed. Send for his breeding and be convinced that this is not bluff. If you want this kind, worth the money, write or come quick. L. E. CONNELL, - Fayette, Ohio.



FOR SALE—6 yearling Holstein Friesian Bulls, 2 A. R. O. bred. Some cows. Also bull calves. 34 years a breeder. Photos and pedigrees on application. W. O. JACKSON, South Bend, Ind., 719 Rex St.

Holstein Bull Calf—dropped Feb. 17, 1912, nearly white, 37 1/2 lb. blood Hengerveld De Kol dam, record Senior 2-year-old 35.37 lbs. butter. GEORGE E. LAPHAM, R. 8, St. Johns, Mich.

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Born June 5, 1912, sire a son of the King of the Pontiacs from a daughter of Hengerveld De Kol. Dam of calf, an A. R. O. daughter of Sadie Vale Concordia's Paul DeKol, her dam a 30 lb. imported cow. ED. S. LEWIS, Marshall, Mich.



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REGISTERED Holstein Cattle—Two good bull calves R. Herd headed by Hengerveld Oola Pieterdie. FLOYD F. JONES, R. F. D. 3, Oak Grove, Mich.

Lillie Farmstead Jerseys (Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

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

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Large Cattle—Heavy Milkers. Milk Records Furnished. Bulls all sold. Prices right. A square deal to all. W. W. KNAPP, R. No. 4, Watervliet, Mich.

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Leicesters—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berkshire swine. Elmhurst Stock Farm, Almont, Mich.

For Sale, Oxford Down rams, yearlings, different ages. S. E. GILLET, Ravenna, Ohio.

Reg. Rambouillets—12 ewes, 35 rams all in perfect health. Come and see me or write for circular of breeding—none better. 2 1/2 miles E. Morrice, on G. T. R. R. and M. U. R. J. Q. A. COOK.

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OXFORD RAMS—sired by and ewes sired by and bred to imported Rams for sale. B. F. MILLER or GEORGE L. SPILLAM, Flint, Mich.

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OXFORDS for sale, at reasonable prices; twenty-five two-year-old OXFORD rams; four two-year-old BERKSHIRE rams; and five yearling Shropshire rams. PARKHURST BROS., Reed City, Michigan.

Superb Von Homeyer Rambouillets for sale. Rams ewes and lambs absolutely the best. Dr. L. Breisacher, Detroit, Mich.

RAMBOUILLET RAMS Heavy fleeced ones and upward. A. E. GREEN, Orchard Lake, Mich.

Choice Registered RAMBOUILLETS—Both sexes and all ages, bred and sold right. Ira B. Baldwin, Hastings, Mich.

Northern Grown Shropshire Sheep and Berkshire Swine. Yearling and two-year-old rams, two years old enough for service, one of the best Jersey bulls in Mich. 3 yr. old. Blue Bells Golden Lad 8851. Will be sold cheap if taken at once. D. C. Magahay, R. 1, Harrisville, Mich.

SHROPSHIRE RAMS FOR SALE 50 Choice two-year, yearling and ram lambs; 20 yearling ewes from imported sires. F. R. OTTAWAY, Flushing, Mich.

SHROPSHIRE YEARLING—2-year old rams of the best wool and mutton type. Geo. P. Andrews, Danville, Ingham Co., Mich.

FQR SALE—Choice Shropshire Yearling Rams in lots of one to twenty. Prices right. JONES & MORRIS, Flushing, Mich.

Shropshires—Ten good ewes. Yearling rams and ram lambs. One sired by Minot ram. WILLIS S. MEADE, R. No. 3, Lapeer, Mich.

INGLESIDE SHROPSHIRE.—One and two-yr. old ewes; also yearling and lamb rams for sale at reasonable prices. HERBERT E. POWELL, Ionia, Mich.

Shropshire Rams and Ewes for Sale DAN BOOHER, R. No. 1, Marion, Mich.

WOOL-MUTTON SHROP RAMS—Big robust 1 and 2 shear. Write today for price list. Maplewood Stock Farm, Allegan, Mich.

Shropshire Rams and Ewes at farmers prices. HARRY POTTER, Davison, Mich.

Shropshires—Yearling rams at \$12 and \$15. Two extra fine rams at \$25 each. C. J. THOMPSON, Rockford, Mich.

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Durocs and Victorias—Young sows due Mar. & April. Bred to list prize and champion boar. Priced to move them. M. T. Story, Lowell, Mich.

Quick Maturing Berkshires—Best breeding; best type. Satisfaction guaranteed or money refunded. O. S. BARTLETT, Pontiac, Mich.

THREE choice Berkshire Boars ready for service, to close out. Write me your wants, we will please you with our stock. A. A. PATTULLO, Decker, Mich.

BERKSHIRES Weaned pigs either sex \$15 two for \$25; bred gilts \$35; bred sows \$50, registered and transferred. Excellent breeding. Choice individuals. C. C. COREY, New Haven, Michigan.

SMITH & WARNER'S "ELMHURST FARM" offers for sale Masterpiece Berkshire Hogs of all ages of No. 1 breeding, and Holstein Bulls of all ages. Also 20 or 30 head of high grade heifers, 1 year old, sired by a grandson of Pontiac Korndyke No. 2592, he a sire of Pontiac Pet O. R. C. of 37.80 butter and 48 other A. R. O. daughters and his dam Pontiac Cloth No. 4772, with a O. R. C. 27.14 butter; milk 55.6 average fat 3.92. This record was made after she was 11 years old. B. C. BANFIELD, Supt., Owendale, Mich.

Improved Chesters—Spring pigs, either sex. Also have a choice young boar and a few sows bred for early fall farrow. W. O. WILSON, Okemos, Mich. Both phones.

Reg. Chester Whites—Both sexes and bred gilts, also serviceable registered Holstein bulls. Bargains. RAY FARHAM, Bronson, Mich.

O. I. C. Extra choice bred gilts, service boars and spring pigs, not akin from State Fair winners. Avondale Stock Farm, Wayne, Mich.

O. I. C's—All ages, growthy and large, sows bred. Males ready, 100 to select from. Attractive prices on young stock. H. H. Jump, Munith, Mich.

O. I. C's of superior quality. 17 choice young gilts and 11 topy young boars. Pairs no akin. FRED NICKEL, Monroe, Michigan.

O. I. C's with size & quality, the kind I can positively guarantee to give satisfaction or will refund money. Newman's Stock Farm, R. No. 1, Mariette, Mich.

OUR Imp. Chester Whites and Tamworth swine won 255 1st at Fairs in 1911. Service boars, also sows bred for spring farrow of either breed that will please you in quality and price. Adams Bros., Litchfield, Mich.

O. I. C. SWINE Write me for price on Spring Pigs, pairs and trios, not akin. Have a number of service males of good type. Write me describing of your wants. A. J. GORDEN, R. No. 2 Dorr, Mich.

O. I. C. Hogs of all ages, bred sows and gilts, service males and May and June farrowed pigs. Rolling View Stock Farm, Cass City, Mich.

O. I. C's—A fine lot of last spring stock for sale, big growthy type, either sex, pairs not akin. Sired by Grand Champion boar, Scott No. 1. Half mile west of depot. OTTO B. SCHULZE, Nashville, Mich.

HAVING moved my herd of O. I. C. swine from Southern Indiana to Pompeii, Gratiot Co., Michigan, I am now prepared to offer some choice breeding stock for sale. J. R. WAY, R. F. D. 2, Pompeii, Mich.

DUROC-JERSEYS—Fall and Spring boars from prize-winning strains. Sows all ages. SPECIAL BARGAIN in summer pigs. Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

LARGE TYPE DUROCS—Spring pigs that are large boned and lengthy. Some open fall gilts of the right sort. Let me tell you about anything you may be in need of or call at MAPLE GROVE FARM, Stockbridge, Michigan.

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DUROC JERSEY SWINE—THE BIG KIND. Write for details. F. A. LAMB & SON, Cassopolis, Mich.

Registered Duroc Jersey Pigs 8 to 10 weeks old, both sexes, for sale at \$8 each while they last. C. A. Taggett, R. No. 1, Caro, Mich.

I HAVE some extra good DUROC males for sale. Prices right, last fall and spring farrow. Breeding and quality my standard. Bred sow sale this winter. H. G. KESSLER, Cassopolis, Michigan.

Duroc Jerseys—for sale: 20 fine service boars of fancy breeding and individual quality. Prices reasonable. John McNeill, North Star, Mich.

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DUROC JERSEYS—A few heavy boned boars and gilts for sale. Also fall pigs of either sex. Pairs not akin. M. A. BRAY, Okemos, Mich.

Duroc Jersey SWINE. Spring and summer pigs for sale, both sexes. I pay express, 25 years experience. J. H. BANGHART, Lansing, Mich.

DUROC JERSEYS—10 Fall and 10 Spring pigs, ready for service. Prices right for 10 days. Write or come and see J. C. BARNEY, Coldwater, Mich.

Big Smooth Poland China Hogs from large sires, either sex, at reasonable prices. ALLEN BROS. Paw Paw, Mich.

POLAND CHINAS—Gilts and yearling sows bred for first of Sept. farrow, a few big types. E. D. BISHOP, Route 38, Lake Odessa, Mich.

POLAND CHINAS—Either sex, all ages. Something good at a low price. P. D. LONG, R. No. 8, Grand Rapids, Mich.

POLAND CHINAS—Both Western and Home Bred. Either sex, all ages. Prices right. W. J. HAGELSHAW, Augusta, Mich.

POLAND CHINAS—Young sows bred for April farrow. Extra good fall pigs, either sex. L. W. BARNES & SON, Byron, Shiawassee Co., Mich.

POLAND CHINAS—Big type spring pigs, either sex, also Shorthorn Bull calves and Oxford bucks. Prices right. ROBERT NEVE, Pierson, Mich.

POLAND CHINAS—Home of Michigan's Grand Champion Boar, Sows, Gilts, and Boars. Priced to sell. E. J. MATHEWSON, Nottawa, Mich.

P. C. BOARS AND SOWS—large type, sired by Express. A. A. WOOD & SON, Saline, Michigan.

P. C. BOARS—large type—sired by Express 90489 and E. M. F. 83987. Satisfaction guaranteed. R. W. MILLS, Saline, Mich.

Butler's Big Type Poland Chinas. We have a few big-boned, long-bodied P. C. boars yet in herd. Two big yearlings at \$30. Early farrow \$20 to \$25. Summer pigs \$10 to \$15. Fall pigs \$5 each. Pedigree with every pig. J. C. BUTLER, Portland, Michigan.

MICHIGAN'S Great Big Type P. C. Herd—Boars weigh 225 lbs. at 5 1/2 mo. old, net fat. Sold on head Agricultural College herd. Seeing is believing. Come and be convinced. Expenses paid if not as represented. Free livery. W. E. Livingston, Parma, Mich.

TWO YOUNG TAMWORTH BOARS FOR SALE T. F. MARSTON, Bay City, Michigan.

For Sale, Yorkshire Gilts—Bred to farrow the latter part of August. Also pigs, both sexes. WATERMAN & WATERMAN, Meadow Land Farm, Ann Arbor, Mich.

CHOLERA PROOF HOGS. I have more than 5700 swine on my farm and am selling grade Yorkshire, Tamworth, Poland China and Duroc brood sows, boars and shoats in any quantity at best Buffalo market price for fat yorkers on day of sale. Sows to farrow soon included. These hogs are not fat, are cholera proof and prolific breeders. Pigs that are 6 to 10 weeks old at \$5 to \$4.

ALVAN BROWN'S PIG FARM, Grand Rapids, Mich.

Large Yorkshires—Gilts bred for September farrow; boars for service; pigs either sex, not akin. W. C. COOK, R. 48, Box 22, Ada, Mich.

LARGE YORKSHIRE SWINE—Pairs not akin. Sired by Canadian bred stock. Geo. S. McMullen, Oltz, Phone, Grand Ledge, Mich.

Lillie Farmstead YORKSHIRES. A few choice Gilts bred for September farrow, good ones. Spring pigs, either sex, pairs and trios not akin. Satisfaction guaranteed. COLON C. LILLIE, Coopersville Mich.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

BUSINESS DAIRYING.

Leaving out the question of profit, more than one-half of the dairymen are failing to make expenses from their business. It is very doubtful if a profit can be made from the average dairy even under good management. The character of the herds must be changed, but the majority of dairymen are not in a financial condition to make radical changes at once. It must be a gradual evolution which may be made economically. When we buy improved stock we are exchanging our money for what others have accomplished by thought and systematic methods of breeding.

How to maintain types and desirable characteristics in the great dairy breeds is the foremost question. After years of careful and intelligent breeding, aided and supported by liberal systems of feeding and management, we have dairy animals possessing energy and ability to consume and economically digest large quantities of food. Every observing dairyman has noticed the beneficial effects of a number of generations of attentive care and feeding upon certain dairy herds. The same herds, if given ordinary food and care, would cause the average dairyman to lose money and condemn pure-bred stock. Hence, in some cases, we may safely say that feed is more important than breed. It takes time to develop 6,000 and 10,000-pound cows from an average herd of mixed breeding. The increase in rations must be slow and the animals gradually bred and developed until they have the ability to digest and assimilate large quantities of food and withstand the drains upon their organs of digestion and production.

There seems to be a general tendency among dairymen to ignore the teachings of science. This is wrong. Science means nothing but organized common sense applied to the management of the cows, so that they will be maintained in a healthy and vigorous condition. Cows that produce milk only during the summer are compelled to endure many hardships, but the counteracting influences of plenty of fresh air and sunshine offset the evil effects of improperly proportioned feeds and lax treatment. This is nature's remedy, but where our livelihood depends upon the income from the dairy we must improve upon nature.

Improved methods of breeding and feeding have completely changed the form and function of dairy cattle until the modern dairy cow stands before us a highly developed artificial animal and if we successfully meet these changed conditions we must give her such artificial care and environment as is consistent with the increased drains on her system.

Expensive barns are not necessary, but warm, light, properly ventilated stables, may be made cheap and attractive. Such buildings add to the permanent value of the farm. Sunlight and fresh air are cheaper than dairy foods and drugs. They not only purify the air and destroy disease germs that are detrimental to animal health, but they turn a dark, foul stable into a room where it is a pleasure, rather than a burden, to properly look after the little details that add to the comfort of the cows. Good help are not attracted to a farm where they are compelled to wade in filth and care for a lot of dirty, lazy cows. On such farms neither owners nor hired help take any pride in their work and the cows return no profit. Is this picture overdrawn? By no means.

One of the most difficult things for a man to do is to part with an old practice and establish himself in a new line of work. The tension of the years holds firmly and when the thought of change comes there is danger of drifting and this is liable to carry in the opposite extreme. Farmers are prone to go to extremes. Many who found an added flow of milk and consequently more profit when they began to keep their cows in warm stables gradually shortened the period of outdoor life until their cows are kept inside from the time they are put up in the fall until spring. Many dairy farmers who advocate this close stabling will accuse the writer of heresy, yet I am convinced by years of experience and observation among the better class of dairymen that the greatest need of the dairy business, both from a produc-

tive and a reproductive standpoint, is more common sense methods of herd handling. "One swallow does not make a summer." Neither does one year's results establish a fact. If we are working for one season's results alone the more quiet we keep the cows the greater will be the profits. I do not claim that cows giving milk need much exercise. The cow in her wild state, if she has plenty of food, eat, drinks and lies down in order that she may complete the further work of digestion. Every thoughtful student of physiology and hygiene understands the beneficial effects of pure air and a bath in health-giving sunshine. How much better we feel and how invigorating it is to our several senses to step out into the fresh air after being confined in the house all day. Fresh air helps to purify the blood and the more thorough the pure air is taken into the lungs the more thorough and complete will be the purification. Cows are not so much unlike human beings after all. Give them plenty of light, warmth and pure air and outdoor exercise and supply them with proper food and the cows will be strong, healthy and immune from the diseases so common among dairy herds.

Good feeding is an integral part of success in the dairy business. Taking into account the average product of the dairy and our actual experience and close observation in doubling milk yields, we are safe in saying that the average cow does not receive two-thirds of the food nutrients she is capable of digesting and turning to profit. This does not mean that we should give them all the concentrated feed they will eat. Such spasmodic feeding results in loss by garget, inflammation and indigestion, but that we continue to feed and add to the rations gradually as the cows become able to digest and assimilate more food. It requires a long time to put an average dairy herd on a money-making basis. We must study our cows individually as well as collectively. By weeding out the inferior cows and feeding the good ones until nature is satisfied of its permanency we may gradually develop a herd of high-producing cows from our common stock.

Close competition and the increased price of all dairy foods of recognized merit are fast eliminating the go-as-you-please style of dairying, which always results in loss. The successful dairyman of today is forced to adopt a uniform system of feeding. By balancing rations of cheap farm-grown feeds with limited quantities of the various feeds of commerce, giving the animals all they can digest and assimilate we may look our cows square in the face and say, "If you do not pay your board go to the shambles."

Summer is a critical time in the life of the dairy cow. Pastures are not universally good caretakers of stock. Many of the best dairy farmers have become discouraged through depending upon pastures for summer feed. In fact, there seems to be a tendency to rely more upon ensilage and soiling crops than pasture grass for summer feed. It is unwise, indeed, not to carry over the contents of one silo for summer feed and grow soiling crops to help out the pastures. Few pastures furnish sufficient food for more than six or eight weeks during the spring and summer, after which they begin to deteriorate in quality and lose their succulence. It belongs to the penny-wise and pound-foolish policy to compel cows to stamp dust and fight flies in a dry pasture when the condition could be easily remedied. It is not my purpose to advocate a complicated system of soiling and catch crops to supply green feed for the cows during the summer; however, every dairy farmer who allows his cows to fall away in milk yields and flesh condition through want of sufficient food and withholds his best feed for winter use is allowing dollars of possible profits slip through his hands. This fact has been a stumbling block to many dairymen and it seems almost impossible to convince them that the best soiling crops and the best feeding crops are the same. Corn, clover, alfalfa and oats and peas are the best crops for feeding and soiling.

Many dairymen complain that their cows do not give enough milk to pay the increased cost of feeding during the fall months. To such men I would say that it is not so much a question of gaining in milk yields as it is not to allow them to shrink.

Another question of great importance to the farmer who keeps cows to maintain the productivity of his soil, is the manurial value of his food, not alone in the food he buys, but such as he raises

on his own farm. It is possible to feed the soil through his cows. The legume crops, (clover, alfalfa and cowpeas), have the power of getting their supply of nitrogen from the atmosphere, and they not only leave their decaying roots and stubble to furnish the soil with nitrogen, but they supply an abundance of palatable and nutritious forage and fodder which adds to the fertilizing value of the manure. Cows that are fed straw, timothy hay and cornstalks cannot produce manure of much fertilizing value. Both directly and indirectly the results of a proper system of feeding and crop growing will be the rapid gain in the fertility of our farms as well as the increase in the production of our cows. To keep the soil fat as well as his cows, should be every dairy farmer's foremost professional object. More profits will be made each year and the farm will gradually increase in value as the system is continued.

New York. W. MILTON KELLY.

LATE AUTUMN CARE OF COWS.

The recurrence of frosty nights and cold, chilling winds should remind the dairyman that it is now time to get the cows accustomed to their winter quarters by stabling them at night. Scant pastures, eaten down to the crown by shivering animals, are seen year after year. Apparently it is assumed that every bite secured now is so much saved; a false economy that the thoughtful farmer is careful to avoid. But the agriculturally wilful or ignorant we have always with us; hence the necessity of perennial reference to the subject.

The evil resulting from such a practice is two-fold. Not only are the cows forced to subsist thus bound to prove unprofitable, but it is one of the surest ways of running down a farm. If the real effect of late fall and early spring pasturing on subsequent crop production could be estimated, I am firmly convinced that such a ration, judged by the results, would be found much more expensive than a full feed of hay and grain. A comparison in absolute terms of the relative yield of grass from a field that has been closely fall-pastured, with another which has had a fair aftermath left to protect the roots during winter and add to the store of humus, might be a useful work for some of our experiment stations. Moreover, the exceeding high prices realized for dairy products during the past season should act as an incentive to greater effort in raising the standard of our herds and to improve the methods of caring for them.

The farmer who conducts his operations on business-like principles is bound to admit that humaneness is necessary to the economical management of a herd. There are others, however, who seem to think that a certain amount of exposure to weather inclemencies is equally important to induce a hardness of constitution; and still others who go to the other extreme, coddling their cows until the effect is decidedly enervating. That the bovine race is possessed of a wonderful inherent vigor is evidenced by the remarkable manner with which they have withstood this more or less excessive pampering on the one hand and inhuman neglect and exposure on the other. If it were only necessary that the cows be able to exist, they would undoubtedly get along fairly well with very little, if any, attention. But we must not lose sight of the fact that in the dairy cow, capable of large production, we have an extremely delicately organized machine. She does not carry on her back a thick coat of flesh to protect her from the cold, and having highly-developed mammary organs that are very sensitive to climatic conditions, she will, if forced to lie on the cold ground during the night be very susceptible to inflammation and other disorders. Under such conditions the owner should not be surprised at a marked falling off in the milk flow of possibly 40 per cent, and in some cases even more.

It is also necessary at this season to provide some supplementary feeds. The frosted grass contains considerably less nourishment than summer pasturage, lacking particularly the heat-producing elements required to reinforce the animal's body against the change of temperature. In my own experience I have never found anything better than sweet corn for the purpose. Cows have a decided preference for it over the ordinary field varieties, and will clean it up completely, leaves, stalks, butts and all. While this crop lasts it will alone maintain the milkflow and sometimes even



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increase it. As the season advances there is usually a supply of fodder corn planted closely in June, which is cut and shocked, forming a source of supply during the fall. Being well-eared this grain comes in at a time when it is needed, and may be fairly well-balanced by feeding in conjunction with clover hay. A little ensilage or roots will give succulence to the ration and thus avoid a sudden change to dry feed when the grass has become dried up.

Shelter and feed, however, are not all the requisites. The stable conditions should be made as near as possible like those out-of-doors in summer. Ventilation, light, uniform temperature and dryness should be provided if the cows are to be kept in the best of health and vigor. The returns of the little extra care and feed at this season will be immediate and continuous. On this, as well as that which they receive during the coming months, will depend the measure of success that will be ours next summer, and the year after.

Canada. J. HUGH MCKENNEY.

THE RELIABILITY OF DAIRYING.

I have talked so much through the columns of the Michigan Farmer about this question of the reliability of the dairy business that it seems almost as if no one would be glad to hear about the subject again, and yet in a way it is always new and always proper to present this phase of the business because it is of great importance. Many people do not realize the value of having a business, of being engaged in a phase of farming which is reliable and is not affected by bad seasons. I had this illustrated to me in a graphic way just the other day.

A farmer of my acquaintance living some distance, made a trip to Lillie Farmstead to look over the arrangements of the dairy barn, and especially to get measurements of the model cow stall. I knew that this farmer, who used to be quite a large dairyman, had forsaken the dairy business a few years ago for the fruit business. I had been told that he had disposed almost entirely of his large herd of cows and had set out extensive orchards. Consequently, I was much interested to know why he was again becoming interested in the subject of dairying. He told me frankly that the fruit business was too uncertain. Last winter the extreme cold weather absolutely ruined one large orchard and nearly destroyed another and he is going back again to dairying simply because of its stability as a business proposition.

A cold winter or a bad summer does not materially affect this business. The cows go on producing, if they are properly cared for, without any intermission. If adverse weather conditions shorten the crops on the dairy farm the dairyman is not put out of business, he simply temporarily purchases some feed from the outside and bridges over a poor year on his own farm while his business of dairying runs along just as smoothly as ever. It is this feature of dairying which has so much to do with the material prosperity of the dairyman and the material prosperity of every dairying community in this or any other country.

BEAN STRAW FOR DAIRY COWS.

I should like to ask if bean straw is of any use to dairy cows, or will cattle eat it? I should like to have Colon C. Lillie answer this as I read many of his valuable letters.

Iosco Co.

G. B.

Good bean straw is a splendid food for dairy cows, but poor bean straw, like poor clover hay or any other poor feed, is practically worthless. By good bean straw I mean, where you pull the beans just as soon as they will do to pull, don't wait until they get dead ripe. If you do they are injured very much the same as clover hay is injured by leaving the plant until it gets dead ripe. Then if you pull these beans when in this condition and stack them up in small piles in the field until they cure out, much the same way as you would clover hay, then put them under shelter and take care of them properly, you will have an excellent feed. After the beans are threshed this bean straw is a pretty good substitute for clover hay. On the other hand, beans that are left out until they are ripe, very little pains taken in the curing of them, are kept in the windrow too long, and perhaps a large amount of them put into the bay to heat and some of them mold, this kind of straw is not very valuable. And again, you take a fall like this where there is so much rain, it is practically impossible to cure bean straw so that it has very much food value. You can readily understand this if you have had any

experience in curing clover hay. I am of the opinion that the bean growers would make money if they would attempt to cook up all their beans or put them in piles and put hay caps over them and cure them in that way. The straw would be worth enough more to pay for the labor and they would reduce the risk on colored or spoiled beans to the minimum. Stacked up in this way and pains taken it would take a little labor to do it, but it is labor that would be well invested. Stack them up in good tall sacks and put a good hay cap over them and leave them there until they cure out, just as you would clover hay or alfalfa hay. Then you have got a feed which, when put into the bay, won't heat. It will keep just as well as clover hay will keep in the bay. When the beans are threshed you have got a quality of bean straw that approaches very nearly to the value of good clover hay, if not quite.

PUMPKINS FOR DAIRY COWS.

Will you tell me the feeding value of pumpkins to milch cows and also for fattening purposes, as compared with bran at \$1.50 per cwt., or corn meal at \$1.75? I am feeding corn fodder and corn without husking and need more protein to balance. Will pumpkins do it?

Charlevoix Co. B. P. W.
Pumpkins are a very good food for dairy cows, used as a supplementary food with other foods, but they are not rich in protein and will not be a good food to balance up the ration with your unhusked corn. Wheat bran is a good deal better for this purpose than either corn meal or pumpkins, and a little oil meal in connection with the bran would probably make a cheaper ration than the bran alone. The pumpkins, however, are an excellent food to feed, by feeding a small amount every day. It furnishes a succulent food, is very appetizing, and it has a good effect upon the cow. Pumpkins would take the place of turnips or beets or any root crop of that sort, and would take the place quite satisfactorily, but cannot be depended upon to balance up a ration of corn, because they are deficient in protein.

THE COST OF DAIRY PRODUCTS.

Figuring how much a quart of milk or a pound of butter-fat will cost to produce brings to the dairyman questions of the most fundamental character. There are a number of factors that contribute to that cost, and all, or nearly all, of them being variable, the determination of what that cost will be is practically an impossibility. Cows differ in their ability to change feed into milk. Some cows can produce milk worth twice the value of feed and more; others are able to return scarcely enough milk or butter-fat to pay for the feed they consume. Second, feeds vary in their milk producing qualities. Clover and alfalfa hays are more valuable, pound for pound, than timothy hay and will make milk cheaper. Third, the combination of feeds has a bearing upon the cost of production. If the several feeds are put together in such proportions that none of the food nutrients are wasted then a more economical product can be secured than where one or more of these constituents are in excess of the needs of the animal. Other factors entering into the proposition are the efficiency of the help employed; the conveniences provided for the care of the cows and the handling of the product, and the cost of equipment, animals, feed and labor.

These variable factors should not, in the least, discourage a person from continuing in or starting a dairying business. One should, because of them, be encouraged, for their very existence offers an opportunity to the careful man. These very conditions make dairying attractive since there is something to strive for, a goal to reach. Studies by the United States Department of Agriculture show that on the dairy farms supplying milk to Boston at 3½ cents per quart, the more successful half of the farmers paid expenses, five per cent on their investment and gave themselves a salary of \$974 per year; while the poorer half paid expenses, five per cent on investment but provided themselves a salary of only \$245. This would indicate a wide range of income and it is reasonable to suppose that the thoughtful, painstaking man is found in the first half while the careless, indolent fellow makes up the greater portion of the last half.

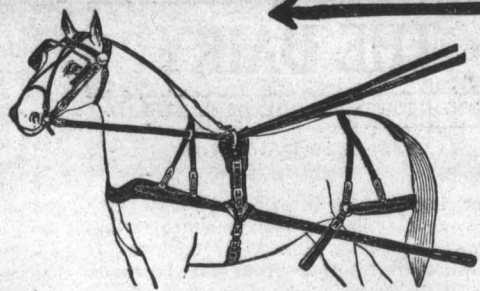
The more thoroughly the dairyman is informed on the nature and control of micro-organisms the better fitted he is to carry on his work intelligently, leaving less to blind chance.

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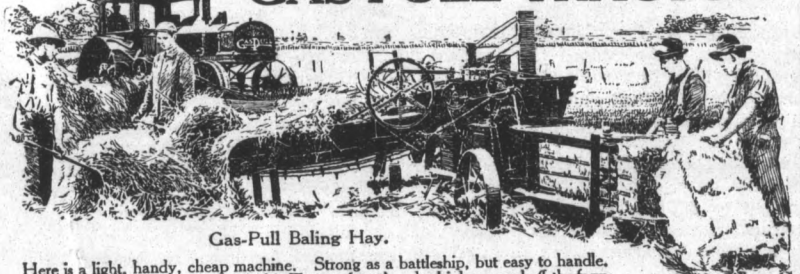
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What a Wool Man Knows About the Wool Tariff.

As I am one of the largest dealers in Fleece Wools in Michigan, I have been asked as candidate for Congressman at Large to set forth my position as to the legislation I would favor concerning Wool, should I be chosen to represent all the people in our State. I will try to make the article as brief as possible, cutting out all technical terms.

I will start by saying that there has been no bill introduced, or considered during the past two years of Democratic control of Congress, for free Wool, or anything like it. Chairman Underwood of the Ways and Means Committee did introduce a bill bearing his name, and it is considered by the best Wool experts in the United States as being the nearest to perfection of any legislation in that line ever proposed, and which would have reduced the tariff from 11 cents per pound, on such Wools as are grown in our State, to 7½ cents per pound. This bill eliminated the crooked and deceptive features of the Payne-Aldrich bill. You will recall President Taft as having said, "Schedule K of the Payne-Aldrich bill is so crooked as to be indefensible." But when the members of Congress, irrespective of party, by more than a two-third vote wished to relieve our people from this obnoxious bill, and notwithstanding that he had most heartily condemned it, he could not see the credit of correcting this measure go to a Democratic house, hence, vetoed the bill, not once, but twice.

Free Wool Not Contemplated.

Mr. Taft's pet Tariff Board, now in operation for more than two years, has not been able to present as comprehensive or acceptable a measure to Congress as has Mr. Underwood and his colleagues. However, Mr. Taft's Tariff Board did recommend a reduction in Schedule "K," which on the whole was nearly as great as the Underwood Bill; but it retained many of the old-time jokers, for which this Wool Tariff legislation has become famous. I have said that you can fumigate the house without burning it to the ground; we can correct and perfect this Wool Bill, eliminating clauses that are ambiguous and to which a double construction can be put, in fact, cutting out what our legislators please to call "jokers," and substituting honest, plain language, without approaching anything like free wool.

However, it seems to me that altogether too much prominence has been given this question of Wool Tariff, when we consider that it is one of the smallest industries of the farm, and notwithstanding the fact that it has been given artificial support and an attempt made to sustain sheep husbandry by the use of all kinds of stimulants, gradually, but surely, natural conditions must prevail. And as the country has become cleared up and more settled and the land becomes more valuable for other purposes, sheep have become fewer and fewer, which is demonstrated by the following Government figures. The states east of the Mississippi river in 1893 had 19,632,000 sheep. Seventeen years later, in 1910, these same states had 11,844,000 sheep, a loss of over 39 per cent. In our own state we had 2,519,000 sheep in 1893, and in 1910 we had 1,500,000; a loss of just 40 per cent. Mind you, this covers a period of the highest protective tariff this country has ever had. I have not the official figures for 1912, but it is estimated by those best able to judge that we have not in excess of 1,350,000 sheep in our state, producing about 8,000,000 pounds of Wool, for which the farmer receives about \$1,750,000.00.

Just another illustration: We have approximately three million population in our state, and it is estimated that it costs 8-13 cents per day, or \$30.00 per year per capita for what



EDWARD FRENSDORF,
of Hudson, Mich.
Democrat Candidate for Congressman-at-Large.

we purchase at our dry goods and clothing stores in the way of wearing apparel. If this estimate is correct, and I have every reason to believe it is, the three millions of people in our state spend \$90,000,000 yearly for their requirements, without considering horse blankets, robes or felt boots, and this represents a SUM FIFTY TIMES GREATER than our whole Wool production brings the farmer.

If because of a tariff, the goods we buy are increased in cost two per cent it equals the full amount our farmers are receiving for the Wool they grow.

Dairy Products Far Greater than Wool.

It may be you will better comprehend how small our Wool interests are in Michigan, when I tell you that the value of the dairy products of the county in which I live, exceed in value all the Wool grown in Michigan. And I understand that there are several counties in Michigan that equal or exceed this (Lenawee) county in the product of milk. Has it been a Tariff that has made the dairy in Michigan multiply many fold during the same period that sheep have grown fewer and fewer? The kind of protection that has made the dairy profitable is the protection against fraud and deception, not a tariff. I have reference to the Pure Food Law, which was enacted largely through the aid and influence of the women of our land. Oleomargarine, butterine, cottoline and other substitutes for butter can be purchased in almost any hamlet in the state, but I defy you to buy these substitutes without knowing what you are getting. The manufacturer and dealer dare not practice deception, and they are compelled to manufacture these substitutes for butter under Government supervision, thus insuring the consumer a more wholesome product than he would otherwise get, as well as furnishing protection to the farmer's cows.

A Pure Goods Law.

For years I have been advocating, and did present before the Ways and Means Committee what I please to call the PURE GOODS LAW, and which, if enacted, would cause and make it compulsory to have every piece of cloth and every garment for man or woman bear a tag or label stating what ingredients and the proportion of each, this piece of cloth contains. This would not only give ample protection to the consumer of manufactured goods, protecting you from being imposed

upon and defrauded, but would, in my opinion, tend to increase the demand for all-wool goods to such an extent that the farmers of our country would receive at least fifty per cent more for their Wool than they do today.

You must know that you are not getting much Wool in the goods that you are now consuming, when I tell you that 234,000,000 pounds of foreign and domestic Wool is all that is consumed by our 90,000,000 of people, which gives to each inhabitant two and three-fifths pounds for every conceivable purpose. The covering of some of our furniture, blankets for your beds and horses, lined rubber goods for your feet, robes for your carriages or automobiles, knit goods, wraps, sweaters, or articles in which yarn is used, hats, caps, etc., are all supposed to contain Wool; in fact, it is used for the covering of the new-born babe and for the covering of the casket in which many of us will be buried. Some of us use underwear supposed to contain Wool and some of us boast of owning a cloak or an overcoat in which this precious fibre is a component part. Occasionally you buy a dress pattern for your wife or daughter, or a bolt of flannel to keep the school children warm, or for grandma who lives with us. However, if I tarry too long with the women in the dry goods stores, what will be left of these two pounds and nine ounces of Wool for us men in the clothing store? In fact, had we men done our shopping first, and provided ourselves with a real All-Wool suit and overcoat, the supply of Wool would have been exhausted and all of the articles enumerated above for the women would have to be made without the semblance of real wool in them. The truth is you are wearing most everything other than Wool in the goods you are buying, paying for wool and getting torn-up rags—known as shoddy, mixed with cotton, and the manufacture of shoddy is one of the most profitable in our country; everyone from the rag buyer to the seller of the goods in which they are used, make big profits, and you pay them.

No Scare in Business.

The business world is accepting it for granted that Gov. Wilson will be elected and that a big majority in Congress and the Senate will be Democrats, thus assuring tariff legislation along the lines set forth in the Underwood Bill. Despite this fact, and in face of this readjustment of Schedule K, eliminating its dishonest features, Wool has been steadily advancing during the past year, and today is selling freely at prices 33-1-3 to 35 per cent above those prevailing a year ago. The Woolen and Worsted Mills are contracted away ahead into April, 1913, to an extent never before known, which is conclusive evidence of their confidence in the Democratic party.

After serving an apprenticeship in Woolen and Worsted Mills learning the Wool business, I have applied myself the best I knew in the exercise of that education and I believe that because of that training and the knowledge I have of the needs of the people, that at this particular time I can be of special service in enacting laws that will be to your advantage. And I pledge you my earnest and honest endeavor to fight for such measures as the one set forth in this article and such other legislation as I deem for the best interests of the great masses whom I will strive to represent.

Sincerely yours,

Edward Frensdorf

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DETROIT, OCT. 26, 1912.

CURRENT COMMENT.

Our attention has been called to an editorial in a contemporary agricultural paper, in which they undertake to credit themselves with high moral sentiment by announcing that they have refused to accept any political advertising, and follow with a sermon of condemnation of all other papers that have accepted any. Now, while we have no evidence that any political advertising has been offered to said paper, yet granting that such is the case, the fact that they have not the courage to do business along proper and well recognized lines or have not the confidence in the intelligence and fairness of their readers to dare to publish a properly worded advertisement when paid for is, in our opinion, no good reason for blowing their own horn of virtue so hard, and the subscribers to this paper will easily discover and analyze the motives. No political party, business interest nor trust ever had money enough to buy a line of editorial influence in The Michigan Farmer, nor ever will have, but we have advertising space to sell as an important part of our business and submit that a railroad could just as consistently refuse to carry a political speaker who paid his fare, as we could decline a properly worded advertisement that is paid for at our regular rates. Any and all political parties can use our advertising columns on the same terms. In fact, all of the three leading parties have been represented in our advertising columns during the present campaign. We have too much confidence in the intelligence of The Michigan Farmer readers and their knowledge of our record to fear any criticism from them.

Statistics relative to Farm Mortgages. The mortgage indebtedness of farms in the United States are given in a report soon to be issued by Director Durand, of the Bureau of the Census, Department of Commerce and Labor. An abstract of this report which was prepared under the supervision of John Lee Coulter, expert special agent in agriculture, contains some interesting statistics relating to farm mortgages.

These statistics show that the total number of farms in the United States, operated by their owners, which were mortgaged in 1910 to be 1,327,439, while 2,621,283 farms in the same class were free from mortgage indebtedness. From these figures it appears that approximately one-third of the farms in the United States, operated by owners, are mortgaged. As compared with the figures in the census of 1900 there is an apparent increase of 17.7 per cent in the number of farms mortgaged. This apparent increase, however, is largely due

to the greater number of farms, there being also an increase of 4.4 per cent in the number of farms free from mortgages.

From the standpoint of total value, however, the mortgage indebtedness of the farms in the United States is much less than 20 years ago. The total value of lands and buildings of the 1,006,511 farms, in which both the fact of the mortgage indebtedness and its amount where reported was \$6,330,000,000 in 1910, and the amount of indebtedness was \$1,726,000,000, or 27.3 per cent of the value. The corresponding proportion in 1890 as shown by the census report was 35.5 per cent. Thus, while the average amount of mortgage indebtedness on farms increased from \$1,224 in 1890 to \$1,715 in 1910, the average value per farm increased from \$3,444 to \$6,289, more than doubling the farmer's equity, notwithstanding the increase in mortgage indebtedness.

One fact brought out by these figures is that the amount of the mortgage indebtedness is not an indication of a lack of prosperity. There is no question that American farmers were more prosperous in 1910 than in 1890 or 1900, yet the statistics show a larger proportion of farms to be mortgaged. This fact is rather an indication that in a period of prosperity money is more freely loaned by farmers for the purchase of more land or for the making of needed improvements, as well as the fact that a larger proportion of farm mortgages represent a portion of the purchase money of the farms bought during a period of prosperity.

In fact, it is noticeable that in sections of the country which have been most prosperous from an agricultural standpoint, the proportion of mortgaged farms is greater, the proportion being higher in Iowa and Wisconsin than in any other single states, and the proportion being relatively high in the group of states to which Michigan belongs, viz., the east north central states, in which 330,636 farms were reported as mortgaged, as against 478,408 free from mortgages.

But perhaps one of the most impressive lessons to be drawn from these figures is their illustration of the need of better credit facilities for farmers of the United States. If we may assume that the average rate of interest would be reduced in this country through the operation of co-operative credit societies to the figures which prevail in Europe there would be a saving of approximately two per cent to the class of farmers whose farms are mortgaged. Anyone who has investigated the proposition will readily admit that there would be a saving of at least one per cent, and if we take an average of these estimates and say that the ultimate annual saving would be one and one-half per cent or thereabouts, on the total mortgage indebtedness in the country, the aggregate annual saving in interest would approximate the very respectable sum of \$30,000,000—surely a benefit sufficient to interest every farmer in the country and enlist their aid in bringing about this most desirable innovation, upon which frequent comments have been made in these columns.

Foreign Potatoes Quarantined.

Attention has been called through these columns to the danger of introducing a new and destructive potato disease variously known as potato wart, potato canker, black scab, etc., through importations of potatoes into the United States during the past year. This danger was brought to the attention of Congress by the Department of Agriculture and resulted in the passage of what is known as "The Plant Quarantine Act," which was approved August 12, 1912. In pursuance of the authority granted by this act notice was given on September 20, 1912, by Willet M. Hayes, then acting secretary of agriculture, that it had been ascertained that this disease exists in the following countries, viz.: Newfoundland; the islands of St. Pierre and Miquelon; Great Britain, including England, Scotland, Wales and Ireland; Germany, and Austria-Hungary.

In view of this fact it is declared that it is necessary in order to prevent the introduction in the United States of this potato disease to forbid the importation into the United States from the countries above named of the common or Irish potato. For this reason the importation for all purposes of the species and its horticultural varieties is prohibited until after further notice.

It is indeed fortunate that there is a bountiful crop of potatoes in the United States this year, which fact will prevent the exclusion of foreign potatoes from

being a serious hardship to consumers and at the same time enable the exclusion of this comparatively new and destructive disease from the United States. If it should be found in any section that the disease has appeared from the use of foreign seed, prompt measures should be taken to suppress it, since we now have enough and to spare of these handicaps in the production of this crop which is an especially important one in Michigan.

Hasty vs. Conservative Marketing.

Every year at just this season we are accustomed to hearing of a shortage of railroad cars to move farmers' crops and at the same time afford adequate facilities for the ordinary shipments of merchandise, coal, etc. This brings to mind a pertinent question as to why it is that the farmers are the only class of producers who are prone to market all of their year's products within the space of a few weeks, or months at most.

Of course, at this season of the year the farmer has labor bills and taxes to meet and many men have not, or think they have not, sufficient capital so that they can afford to hold their crops after they are ready for market. Yet at present this class of farmers is a smaller percentage of the whole number than at any previous time in the history of American agriculture. There is no doubt that the percentage of American farmers, who could not make arrangements for needed credit at their local banks if they thought it desirable to market their crops more conservatively, is very small. There is also no doubt that it would be much better for every farmer if he would make some arrangement for needed credit to pay cash for everything he buys and use a greater degree of judgment in the time and manner of marketing his crops.

The fact that so many farmers market all their produce as soon as it is secured and in a marketable condition is, to no small degree, responsible for the fact that the farmer gets too small a proportion of the consumer's dollar. These products must be held by someone until there is a demand for them from the consumer and this demand is an all-year one, or one extending over a season of considerable length for the most perishable products, and there is no question but that a more general tendency toward conservative or gradual marketing of farm products would add to the prosperity of our farmers. This is a matter which is well worthy of the thoughtful consideration of a large element of Michigan farmers who are so situated that they can practice reasonably conservative marketing without any hardship to themselves. It is just as essential that we study market conditions as that we study economical methods of production if we are to make our farms return a maximum profit.

Bird Protection.

At the Fourth National Conservation Congress, the report of the committee on wild life protection brought forcibly to the attention of the public the need of better protection of birds of economic value to agriculture. In this report reference was made to the official estimate contained in the 1904 Yearbook of the Department of Agriculture relative to the annual crop losses in this country due to depredations of insect pests, the various items of which, as there estimated, amounted to \$420,100,000. It is undoubtedly true that the economic value of our migratory birds in keeping these insect pests in check is not so well recognized by the average citizen and particularly the average farmer, as should be the case.

Very many of the bird species most valuable to agriculture are rapidly being exterminated. Even the robin is being regularly and legally killed as game in seven states of the Union, while there are five states which permit the killing of blackbirds and in many other states the laws do not afford adequate protection for the migratory birds of economic value to agriculture.

Among this class are a number of species of shore birds, so-called, of the diet of which insects form the most important factor. It is thus obvious, as emphasized in the report above noted, that adequate protection must be given in the form of a national law if these birds of economic value are to be preserved.

While many of the northern states have an adequate law in this respect, the greatest abuses along this line are permitted in the southern states, to which many of our most appreciated birds mi-

grate during the winter season. There are a number of bills before the present Congress, any one of which would be adequate in protecting these migratory birds, but unless these are specifically called to the attention of the members of Congress none of them may be enacted into law.

Hence, a recent suggestion made by the New York Zoological Society, that every interested person write their congressman and senators as soon as practicable after the November election, urging them to work for the adoption of any one of these bills providing adequate protection to our migratory birds, is worthy of our special attention, and efforts to the end that our sweet singing friends may be preserved to us instead of being ruthlessly slaughtered in other sections of the country.

The Postal Savings Bank System.

The postal savings bank system, which has now been in existence little more than a year, promises to be a popular institution and holds out promises, according to a high official of the service recently interviewed by our Washington correspondent, of becoming self-supporting within three years. There are already about \$25,000,000 on deposit and deposits are growing rapidly. The system which has been evolved for handling the business of our postal savings banks is said to be more simple than that in force in Great Britain where a large corps of book-keepers numbering three thousand are employed. In the United States, because of the absence of pass-books, only ten book-keepers are at present required to handle the business and it is estimated that this force will hardly be more than doubled.

The margin of profit to the government on these deposits is one-half of one per cent. Interest is paid at the rate of two per cent per annum, while the government secures two and one-half per cent from the depositories, this margin being estimated to be sufficient to cover the cost of administration. It is probable that the popularity of the postal savings bank system has been more general because of the fact that it has been the aim of the government to make this investment local in character—that is, to deposit money in government depositories at the centers where it is deposited by the public.

Interesting Election Possibilities.

Probably in no previous presidential campaign, certainly in no campaign of recent years, has the outcome been a question of such interesting possibilities as is the case in the present campaign. The formation of a new political party with a popular leader as its candidate for the presidency, together with the existing uncertainty as to the alignment of the many former adherents to the old parties, has made the outcome of the impending election, so far as the presidency is concerned, the subject of an unusual amount of speculation by well-informed men in whom an unusual absence of a fixed and certain opinion is notable. To one who has not devoted much thought or study to these possibilities a study of the cause of this unusual degree of uncertainty will be a matter of interest.

This unusual degree of uncertainty regarding the present presidential campaign is due, primarily, to our method of electing a president and vice-president. This method is provided in Article XII, of the amendments to the Constitution of the United States, as follows:

Article XII.

The electors shall meet in their respective states, and vote by ballot for president and vice-president, one of whom, at least, shall not be an inhabitant of the same state with themselves. They shall name in their ballots the person voted for as president, and in distinct ballots the person voted for as vice-president, and they shall make distinct lists of all persons voted for as president, and of all persons voted for as vice-president, and of the number of votes for each, which lists they shall sign and certify, and transmit sealed to the seat of the government of the United States, directed to the president of the senate; the president of the senate shall, in presence of the senate and house of representatives, open all the certificates and the votes shall then be counted; the person having the greatest number of votes for president, shall be president, if such number be a majority of the whole number of electors appointed, and if no person have such majority, then from the persons having the highest numbers not exceeding three on the list of those voted for as president, the house of representatives shall choose immediately by ballot, the president. But in choosing the president, the votes shall be taken by states, the representation from each state having one vote; a quorum for this purpose shall consist of a member or members

(Continued on page 377).

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION



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

DOWN the choke-dusty river road from Bayview, past the old saw mill on the outskirts of Turtle Creek, came an automobile of common type. It was full July; grasshoppers, startled from the roadbed, spread their white-edged black wings fan-like and whirled dizzily along beside the machine. Gay darning needles balanced on roadside grasses, twirling their tails, thrusting out their wings, stiff and straight, composing with the flowers into fascinating Japanese effects.

Susan Dunlap, at the worn wheel of the machine, was blind to none of the beauties about her. She had just returned from a boarding school in a busy eastern city and it was good to be back where wild canaries scattered out from beneath the wheels and where early barley stood in African head-dress stacks in the contented little farm yards.

It was a gay, exciting ride, her first along that road for a year. An occasional collie rushed out from a farm house and raced along beside the machine, barking, snapping and eating dust. Familiar whitish-yellow butterflies flitted across the road, bluebirds balanced on telegraph wires and the country-side glowed with the purplish hue of cabbages.

There was color and excitement. Susan Dunlap enjoyed it all. The machine jounced over a culvert and she had a glimpse of reddish-yellow sand bank, with gray grass and roots hanging down from the turf above. A wisp of a woman in faded gray country-cut clothes had glanced back fearfully over her shoulder as she heard the clatter of Susan's clutch and leaped out of her buggy to jerk her half-broken horse into the ditch and hold its tossing head as the auto rolled by.

Susan loved it all; chickens racing headlong for grasshoppers at break-neck speed; the familiar old sign tacked to a four-corners tree, "Go to the Bayview Bazaar for Clothing," painted in yellow on a black ground, the color scheme being bizarre enough in itself; the fantastic patented mail boxes, the posted signs of a coming school election, corded wood and brush heaps; "No Camping" signs on marshes and "No Trespassing" on last winter's hay stacks; the little deserted graveyard with its yawning, toothless cavities; the "Pfu!" of slippery, thin mud as the machine lurched through roadbed hollows; the narrow porches of the white farm houses, each with its upholstered sofa.

Susan was charmed. She turned into a little jog road looping off the main one, the automobile surging along through the private cut to the village. It swaggered a little over the privilege of using that private road, momentarily forgetting the ugly black patch on its off hind tire, its twisted headlight and rubbed-off leather upholstery, revealing the hair stuffing beneath, for taking the private cut through Nathaniel Edgeworth's land was a privilege of which any automobile might well be proud. Edgeworth was Turtle Creek, and Turtle Creek was Edgeworth's, as far as property went.

It required a special permit to take advantage of the short cut to the depot through Edgeworth's property; it required more than that, for the permit could be forcibly seized and torn to bits before one's very eyes if the road were not used in the properest manner. Moreover, only six such passes had ever been issued in the town's history.

Automobile of privilege, it surged on, starting a chicken from the road at the edge of a thin grove; the bird squawked with terror, flapped its wings and made a dare-devil leap in front of the machine, doubtless with suicidal intent, its wings fanning distractedly. The chicken made a miraculous passage between the wheels somehow and bobbed back to its senses as it reached roadside cover. Susan slowed down and looked back at the bird, standing awed and palpitating, squinting one eye at the machine, endeavoring to metronome its own heart-beat by the

BRAMBLE HILL.

BY ROBERT CARLTON BROWN.

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chugging exhaust and emitting an alarmed, curious, burring cackle.

Before she turned again the machine had passed through the thicket which almost concealed the rambling old Edgeworth house as this year's sprouting twigs will nearly hide a last year's bird's nest.

At the lower end of the road, past the thicket, there was a stretch of close-clipped turf; and as the machine shot out of the grove a bent old fellow, hobbling with the aid of a croquet mallet, rushed across in front of it, eyes straight ahead, pursuing a truant ball.

Susan saw him just in time; she screamed, and the crunching of brakes was followed by a roar from a tall, hollow-looking figure back on the lawn. The automobile crashed to a shivering stop, not two feet from the cricket-like old fellow, who came to an abrupt halt and turned with surprised eyes on the bow-window automobile, which was now quite humbled.

"Did ye think I was a rooster?" he asked, his thin, stubble-covered lips twitching and his vague, faded gray eyes lighting up with a kindly smile, soft and expressive—an abstemious holy-man's look—as he mechanically groped in the grass at the roadside for the lost croquet ball.

"Oh, I didn't think there'd be anybody here! I'm so sorry, Mr. Wattles," Susan cried. "I looked around just in time. You aren't hurt?"

"No," the old man laughed heartily. "But ye was shootin' along as fast as a torpedy boat."

"I'm sorry. I should have been watching the road. You—" Susan broke off in her explanation to Zeb Wattles, turning to the tall man who had shouted from the lawn and whose rapid approach she had nervously noted out of the corner of her eye. He was followed by a fussy little fellow, championing his mustache and frowning like a Japanese war god.

The tall man leading looked like an old merchantman hull, his life had evidently been spent beating against the rocks; but it had not broken his spirit, diminished his size, or altered him much, though his frame appeared hollow, his high shoulders, flung back, seemed somehow thin, and the look in his hard face was haggard. He was a hull, an old merchantman hull, and they don't dash against the rocks forever.

With palpable haste, before he had swung across the roadside ditch, the girl called out in explanation: "Oh, oh, Mr. Edgeworth. I didn't think there'd be anybody here. It's supper time, I didn't think there'd be anybody here. I was going slow."

"So was the freight train goin' slow, the one that killed the old tin-peddler; he reckoned he could git across in time—goin' too slow, that was," came in a hard, unaccented voice, as Nathaniel Edgeworth, lord of the manor, crossed the ditch and clapped a sprawling, freckle-spotted brown hand on the leather arm of the driving seat.

The girl jumped. The worn leather split.

Wattles put in with an embarrassed laugh. "She wa'nt hardly goin' at all, Colonel. If there'd been a fly in the road three feet nearer the thing than me she wouldn't have touched it, not by a rod."

Frantic uneasiness was expressed in the girl's flushes and glances from one to the other of the old men; she thanked Wattles for his help with a glance.

"I wouldn't a cared to be the fly, would you, Miss?" Edgeworth had that startling way of thrusting out his neck, glaring, and asking his question in a rau-

cous tone, as an obdurate eagle questioning a chick, carried to its aerie, on the important matter of its preference, whether Chick would wish to be shredded, or just clawed and pecked apart.

Half hypnotized by the glare, the girl slid gradually toward the side of the seat away from him.

Old Wattles put in, stepping up unobtrusively and touching Nathaniel Edgeworth's sleeve. "Don't pester her, Colonel; ain't you showed you like the gal by sendin' her away to board school at enormous expense? Don't mind him, Miss Susie, he's got the rheumatis' bad today, can't even play croquet, and it always makes him seem like what he ain't at all," there was a sly twinkle in the old fellow's eyes, though his face was drawn down soberly enough.

Nathaniel Edgeworth turned with a harsh hiss, related to that of the irritable rattlesnake, and bulged out his eyes at Wattles, who was suddenly reminded of the ague he once had had and relapsed quickly into the forgotten quaking.

"Hah!"

Susan Dunlap clutched the steering wheel and wondered if by any chance she had touched her auto horn.

The appearance of Nathaniel Edgeworth's face was sufficient assurance that she had not and that her admirable old foster uncle had only emitted a laugh, his mouth remaining open in the surprise of it.

"Hah!" he repeated, like the explosion of something a trifle less than a fog horn, the repetition clearly being for the purpose of bringing his mouth nearer shut so he could follow up the remark by bellowing: "I was only joking. Your uncle was only joking, Miss Susan," this he always called her when he wished to be most intimate and friendly. He looked at her almost admiringly for a moment, then turned on Wattles and snapped: "I was only sorry for the minute you didn't run the old fool down. What good's he, anyways? Litterin' up the town, that's all. Can't even play a decent game at croquet. I say, what good's he, anyhow?"

This was so obviously addressed to old Wattles himself, who could never be called upon to answer such a question, and was so clearly a positive statement that no reply was forthcoming.

Then Nathaniel Edgeworth, raised to an amazing emotional pitch, did an astounding thing. He reached out and dragged one of Susan Dunlap's hands to him, as a lobster pulls in a succulent shrimp, and pressed his cracked dull lips to the fair skin on the back of her hand for an instant. Old Wattles and the girl both clutched at their faltering breath; it was an open question whether he would bite her or not.

Hornbill, the third of the trio of veterans, who had stopped on the lawn just short of the ditch (prompted by discretion), dropped his croquet mallet and started forward as Nathaniel Edgeworth committed the act which passed for a kiss and startled a town called Turtle Creek when the story came out that night (every story having a regular, formal coming-out in Turtle Creek).

Unconsciously, Hornbill rushed forward just in time to hear Nathaniel Edgeworth remark, having wiped his leathery lips on a shiny sleeve, "I'm sorry your uncle seemed cross to ye, Miss Susan. Now don't worry, Miss Susan; you're free to come an' go, as usual, through the road. You just hurry on home to your supper now, and if any other old worthless fool gets in your way, I say, run him over, run him over."

Old Wattles, humbled, but with the

same kindly smile, stepped to the front of the machine and took hold of the crank bar to start the motor for Miss Dunlap, it having cooled in spite of Nathaniel Edgeworth's radiating heat. His efforts at cranking were slow and labored; he did everything that way, and somehow could never get results. A moment later his puny body was pushed aside and the hulking, hollow form of Nathaniel Edgeworth threw the crank bar twice in a rapid circle. A click came as the spark caught. The machine hiccupped, spluttered and rolled on, a bit too showy, almost out of taste, it hardly seemed possible that the fresh, lithe girl's wishes were exactly embodied in that coup de theatre car.

Nathaniel Edgeworth stood in the middle part of his private road and actually waved his hand after the girl, though it looked more as though he were shaking his fist. She turned once, with fearful, flushed face, but did not dare wave back.

Hornbill, across the ditch, looked until his eyes were in danger of popping out. He had known Nathaniel Edgeworth for thirty years and had never but once seen such open expression of tenderness, almost love—that was when Nathaniel Edgeworth's son was sick. Just before he died Nathaniel, Senior, had thawed.

Before old Wattles' awe from the same source had abated, Nathaniel Edgeworth had turned on him and remarked through thin lips savagely: "Good-night. And I'll jest remind you that I did beat the last game of croquet. Good-night."

Grown-up boys quarrel much the same as youngsters, and some men are bullies all their lives; others, fags. Old Wattles was glad enough to get off so easily. He didn't know exactly how he had offended, but he understood Nathaniel Edgeworth; not as those of the town, but as an intimate; and though he feared him, it was in a different degree.

Wattles took his dismissal with the same gentle smile and moved off wearily toward his own little house, built on a corner of Nathaniel Edgeworth's land, given rent free to him on Edgeworth's explanation that he wanted a house near by in case of fire or sickness. Old Wattles went wearily toward home, after having carried his croquet mallet back to the grounds and placed it precisely in its box, together with his ball. Usually Nathaniel Edgeworth asked him to stay and eat supper with him and Brigadier General Hornbill, his companion, who was all but a servant, Wattles not possessing sufficient of the menial in his nature to qualify for the position and therefore being relegated to his own perilous independence in the little house.

But no invitation had been extended tonight. Wattles' mouth unconsciously watered when he heard the Edgeworth supper bell clang just as he pushed open the rusty screen door on his own back stoop and entered the kitchen.

A small, bright-faced girl sprang up at his entrance, skillfully tucking away a little turban she had been all afternoon fashioning out of a begged bit of tea-matting.

"Hello, Watts!" she cried, turning up her vivid lips to be saluted by the tremblingly tender old mouth.

"Hello, Jerry. Got anything to eat?"

The girl (she must have been seventeen, though her lightness of manner made her seem much younger), glanced toward a cupboard in the corner confusedly, then clapped her hands and cried: "Oh, yes. I've something you like. But it will take a little time. I didn't expect you. Why didn't you stay at Edgeworth's; weren't you playing croquet?"

"Yes, but I didn't stay to supper; thought I'd come home tonight," he answered, shuffling to a corner and hanging up his hole-ventilated and age-yellowed straw hat.

"I'm so glad you did. I like to have you home to supper. It makes things taste better when you eat with some-

body." She had deftly jerked a heavy red cover over the rickety deal table and, having skipped to a cool little stone shed, just off the back stoop, came back with a bowl of lobbared milk which she sugared and placed before him, Wattles having drawn up a chair and seated himself. Jerry quickly put into his age-trembling hands the weekly Bayview Bugle, a left-over copy which Bud, the delivery boy, had given her that afternoon.

"Now, you eat that and read your paper while you're waiting and I'll have the rest ready in a jiffy." She hurried out to the roadside with a knife, leaving her father mumbling over the news and the sour milk most contentedly—though they always had meat at Edgeworth's.

Jerry slipped into the kitchen unnoticed a few minutes later, bearing an apronful of greens she had snipped off along the road. Giving the "Lambs-quarter" a perfunctory sousing, she threw the mess into a wide-mouthed kettle, took out a crumbling chunk of good corn bread, her own make, sliced it, and then sat down opposite her father, exclaiming: "The rest'll be ready in a minute, Watts. It's something you like. Can you guess what it is?"

His eyes peered over the top of the paper and he pushed up his spectacles.

"Let's see," he mused, "peas and carrots—like your mother used to cook together?"

"Nooo—" her answer was unconsciously prolonged.

He sniffed expectantly and guessed again: "Oatmeal!"

"Don't be silly! That's for breakfast."

"Give it up, Jerry." Watts smiled gently, his lips pursed in preoccupation; slowly an elated expression warmed his cheeks and lighted his eyes. He was looking past Jerusha to the piano in the next room and humming a snatch of song.

He rose suddenly, the humming became more definite and a light shone in his eyes as he shuffled quickly to the piano stool, covered with a tooled piece of leather, Jerusha's work. His fingers threaded through the keys, and a haunting, wistful little air crept forth, quaint and old-fashioned.

Jerusha sat listening till the kettle bubbled over. Then she jumped up and dished out a large helping of the succulent greens on a plate for Watts.

He had finished the air.

Jerusha stepped to the door and announced in a little flutter of happiness: "There! Come to dinner, Watts! It's your very favorite dish. But you haven't guessed yet!" She motioned toward the plate and took hold of his arm. He looked straight past her with unseeing eyes and answered, "Yes, Jerry," caressingly.

"It's something you love! Come, Watts. It's a mess of greens!" she climaxed proudly, trying to fix his vague gaze on herself.

"Yes, Jerry," he said very tenderly, "it was an old air. One of the first things I learned as a boy. I haven't played it for, well, bless me, I don't believe I've recalled that tune since your mother died, Jerry."

Over at Edgeworth's Brigadier General Hornbill was spluttering over his coffee, as he always did. It was something about the sinful prodigality of modern times, as usual. Nathaniel Edgeworth had been most taciturn after his curt dismissal of Wattles. He looked several times toward the vacant third chair at dinner, and when Mother Hubbard, the garrulous old soul who worked by the day in Edgeworth's stifling kitchen, asked what had become of Wattles he only answered, "Hope he fell down the old well on his way home."

Mother Hubbard discreetly smelled something burning in the kitchen and went to see what it was, remaining until she was required by a requestful roar from the lord of the manor to bring in her luscious strawberry shortcake. Unlike the few serving women in Turtle Creek (excepting the Dunlap's hired girl) Mother Hubbard was not required to eat at the common table. Nathaniel Edgeworth didn't like women. Nathaniel Edgeworth never liked anybody—but his son, who was dead—anybody at the corner store could tell you that.

Brigadier General (by courtesy) Hornbill, in a bungling effort at mollification, had swung through the orbit of his conversational repertoire and finally reached the stumbling block. Hornbill's habit was invariable. He always ran against a snag.

"An' there's airships an' everything. What's the world comin' to, Colonel? What's the world comin' to, I say? Why, in your an' my day we'd a thought a

nautomobill was a chariot from heaven—a miracle! Now it's an everyday fact, just like the gattlin'-guns an' torpedy boats. But, be that as it may, Colonel, it's a chariot of hades! I say if people want to get killed why don't they go to war, why do they buy a nautomobill instead?" He mangled the word almost beyond recognition, doubtless due to the bullet he had received in his jaw at Gettysburg, which remained to thrust itself between Hornbill and any attempt at a peaceful flow of language. "It's as ruinous to the country as appendysight-us," (another word the indefatigable bullet would never admit in its true character), "Colonel. Why, look at the howl they raise over the Fourth of July list of dead—though it ain't one-thousandth of the men that died for the sake of their country at Bull Run. A man might jes' as well go to war as to stay to home an' be killed by a nautomobill. I say he might better. Why, Colonel, they talk about fifty or sixty people bein' killed in the country's cause on Fourth of July, an' here's a hundred or two bein' killed every day by nautomobills, an' they ain't dyin' in no cause at all."

Nathaniel Edgeworth bruised his fist on the table, knocking over a plate of fried chicken (Wattles' special delight, a delicacy even at Edgeworth's.)

"Stuff and nonsense!" he bawled, his eyes spitting fire through narrowed lids. "There ain't nobody that kin talk as entertainin' as you, General, because most people is limited in their conversation by common sense and a due respect for facts."

"Well, be that as it may, Colonel, I don't say as that's the actual existin' fact, but it's the tendency." Brigadier General only backed water to escape collision with that particular old merchant-man hull.

"There you go now, pervertin' facts. I tell you, General, the automobile is the fore-runner of peace and plenty. It proves prosperity, an' there ain't no danger at all except when old fools like Watts gets in the road of 'em. I tell you that gal wouldn't hurt a fly."

Irrelevant as the last sentence was, Hornbill continued desperately: "Be that as it may, Colonel, you got to admit the smell of them nautomobills is vicious."

"So's the smell of perfume," exploded Nathaniel Edgeworth. "Stick to yer argument, General, or don't say nothin'! I ain't goin' to have no beatin' around the bush in my house." A more discreet man would have banged his unbruised fist on the table the second time, but Nathaniel Edgeworth was too much in earnest just then to consider any such niceties about his hands. "If you're goin' to say anythin' against that gal's drivin' an automobile, out with it."

Brigadier General Hornbill dropped his knife and fork with a clatter and leaned forward in his chair. There was a tense moment that even Mother Hubbard felt in the kitchen. Then Brigadier General Hornbill, ruffled, began: "I suppose if that car was a sixteen-wheeled Juggernaut you'd let that gal drive through your private road with it, Colonel, endangerin' life an'—"

He got no further. Nathaniel Edgeworth, at white heat, pushed back his chair and rose with an ominous clatter, swelled up till his hollow form seemed hulking and beat his bruised fist on the table.

"There ain't nobody goin' to tell me what I kin or kin't do; what I will or won't do. That gal can do what she likes, an' I ain't playin' no favorites either. I ain't goin' to stand here an' take orders from nobody—it tain't my way!" A surge of blood rushed to his temples; he tottered. "I don't take orders from nobody—leastwise a dependent."

Brigadier General Hornbill, instantly humbled, pushed back his chair and began apologetically, "Be that as it—"

He got no further. Nathaniel Edgeworth took a groping step forward, eyes lit strangely, his face blue, grasped a chair and stood swaying. He clutched madly at his chest, toppled and fell—flat.

"My God!" cried Hornbill, starting to his feet and standing transfixed, eyes staring glassily. His form suddenly slumped and he slid to the floor beside the motionless body, staring into the horror-stretched face of the veteran, muttering: "I saw a man struck—struck like that once at—Fort Anderson—but he—was facin' fear."

Mother Hubbard rushed in and found Hornbill, on his knees beside the prostrate form, still mumbling.

(Continued on page 367).

ON BLISSFUL HALLOWEEN.

BY RUTH RAYMOND.

Above the rich brown stubble field
The autumn breezes blow,
And fleecy clouds across the moon
Like white-robed phantoms go.
Deep in the wood a lone owl calls,
From out the pine-tree's green;
The hour so late holds mystic fate,
For this is Halloween.

Now from a farm-house lightly trips
A maiden fair to see,
And love has kissed her pouting lips
And pledged all constancy;
Though frightened at the shadows near
That veil the midnight scene
With magic art, to prove his heart
She comes this Halloween.

Around the pine with circles three
Her footsteps, light and slow,
Then in her mirror looks to see
A face she hopes to know.
With winsome smile and tender eyes
She scans the silver sheen;
He greets the lass from cut the glass,
This mystic Halloween.

A stalwart figure stands beside
The graceful country maid,
Who doubts no more his loyal heart
Or fears her love betrayed.
The lone owl flaps his wings in glee
And leaves the happy scene,
Where lovers prove the powers that move
On blissful Halloween.

THE HOUSE THAT VANISHED IN THE NIGHT.

BY ELRENE NISEWANGER.

"Hu—sh, boys!" whispered the leader of a ghostly-looking gang, warningly. "We'll have to wait a little; I hear someone coming."

A dozen cautious, skulking figures stopped in their tracks and, after listening an instant to the unmistakable sound of an approaching team and rig, hastily hid among the orchard shadows a little to one side of a small weather-beaten house that gleamed dully in the moonlight of a perfect October night.

"It's Kurl's and Water's young folks coming back from the Halloween party at Mowen's," murmured one hiding figure to his neighbor.

"Hope they don't make any noise when they go by here that will disturb friend Mack," was the low reply as a thumb jerked over his shoulder in the general direction of the big house a little to the rear of its small, brown neighbor. "I'm anxious to begin operations here; this ain't no fifteen-minute job we've laid out to do."

The young people passed with only the sound of low conversation and laughter, and when that died away in the distance twelve figures slipped stealthily out from their hiding places and gathered around one of their number, a tall man who was evidently their leader.

"It's eleven o'clock," he announced, snapping his watch shut and pushing back a drooping felt hat, "and I think we can begin."

"Everything all ready?" a companion whispered cautiously.

"As near ready as I could get it. I didn't dare drive the wagon any closer; we'll have to bring the jacks and rollers the rest of the way ourselves."

"Come on, then, lead the way and we'll have everything on the spot in a jiffy and without any noise," and twelve dusky forms slipped through the orchard and to the rear of the big barn where a team and wagon, with extra horses tied to a hind wheel, stood waiting at the end of a lane.

With keen enjoyment the men unloaded jack-screws and house-moving rollers; then, some of them carrying the former and the remainder dragging the latter, they began a round-a-bout, cautious approach that would bring them in front of the little dark house that stood near the road, backed by the modern home of generous dimensions.

For thirty years the little, unpainted, one-story house had stood there alone in the big yard, the home of one of the early settlers of the country. For two more years it stood there, the inexcusable eyesore of a pleasure-seeking, beauty loving public that liked to motor along the pretty road to the lake, and the constant annoyance of its old-time mistress, now occupying the large, handsome house just behind this weather-beaten relic of a past century.

It was in the middle eighties that big, bluff Mack Stevens went east for his bride and brought her, a shrinking, girlish little creature, to this home of his on the west bank of the Platte. They hadn't needed much room at first and the

community was not strong on style so, while the house was new, it looked as well as the average; but, as the years went by, the neighbors built new houses and made various improvements till, for appearance, the Stevens place stood as much alone as though stranded on the Island of Desolation. To the wife, son and daughter this became a real burden because it was so plainly unnecessary.

Mack Stevens had prospered; his farm was one of the best, his stock was numerous and well cared for. Barns, cribs, and granaries were built as needed, but the original small, one-story farm-house stood for years, shouting of Stevens' selfishness toward his family to all passers-by; then, finally, the new house was built.

When Mack did let himself go in this matter of building he did it "right and proper" he would have told you. His ideal then seemed to be to surpass his neighbors in commodiousness and convenience, more for the sake of leading than to secure her comfort and pleasure, his patient, over-worked wife suspected, but even in anticipation she enjoyed to the full the furnace, bath-room, running water, roomy closets and wide porches.

To more than one Mack had casually mentioned that the old house would be moved down over the bench into the pasture and made over into a hog-house, but he was extremely slow in getting started at this and a progressive neighborhood finally jeered unwisely.

After everything was complete about the new home and the family had moved into it, the little dark house still held its ground a couple of rods in advance, looking like a scarred, abnormal growth on the face of a good work, and then the fatal questions began to come—at first good-naturedly, but later caustically like:

"When are you going to move the 'has been,' Mack?"

"Want some help with the jacks? The county'll be glad to turn out."

"Since when did you get so sentimental over parting with old friends?" and so on till the climax was reached when fatherly old Jack Brown, driving by from town, pulled up a trifle to inquire, mock-interestingly, of Mack at the mail-box: "Decided that the front yard is the best place for a hog-house, Stevens?"

Then Mack flew off the handle. "I'd have you dummed meddlers understand that I can tend to my own business if you can't tend to yours!" he roared. "And, by whillikins, the old house'll rot to the ground before I'll move it to please any bunch of old meddlers! I've changed my idea about hog pasturing, though," he added, "the hogs—and the fools, too, is all running in the road."

"Right sure they're all in the road, son?" asked Brown mildly, starting on, but Mack stamped up the drive unheeding, past the old house, past the wide front porch of the new one, from which there should be a beautiful view, but was not, and into the wood-house as far from the road as possible.

Then, unconsciously, the very next day, tired little Mrs. Stevens played the trump card.

Andy Freeman came to return a saw he had borrowed a couple of weeks before; not seeing Mack about, he called at the kitchen door to leave word concerning it. From where he stood on the back porch he had a slanting picture of scattered trees, gay in their autumn colors and half veiled by a soft October haze. Filled with the glory of the season he called out cheerily: "Isn't this the dandiest weather, Mrs. Stevens? You've a view here to cure sore eyes—" and then he stopped suddenly.

Mrs. Stevens had started to respond smilingly, then her face flushed and her eyes filled. Her mind could see only the ugly obstruction in her front yard that repelled neighbors and friendly strangers.

"View!" she exclaimed unexpectedly; "I've been shut off here from everybody and everything till I'm getting that desperate I'm afraid I'll set fire to the old house some day and burn up the new one, too."

The flush faded quickly and her eyes dropped shamedly as she murmured, "Don't mind what I say, Mr. Freeman; I guess I ain't well this fall."

Before night Andy Freeman had interviewed his neighbors and a Halloween party was planned with the secrecy of a lynching, and even more carefully as to certain details, for the undertaking proposed was of a decidedly delicate nature and any slip would be painfully embarrassing.

All that was five days ago, and now the hours are creeping along toward midnight of Halloween and a dozen skulking figures are advancing cautiously

among the apple trees, skirting the house that shelters four sleepers and drawing steadily nearer to the open space in front of the little old house and farthest from the new. There they gather in a tense group.

"I know they all sleep in the back bedrooms upstairs," one whispered.

"The lights have been out for two hours," another volunteered, and if there were ever twelve minds with but a single thought, twelve hearts that beat as one, those twelve united in the hope that the sleep would continue unbroken and the lamps unlighted.

A quiet signal in the moonlight and the men took their pre-arranged posts about the house—some at the jack-screws, some ready to adjust the rollers, two as scouts to watch the road and the slumbering house, and Andy Freeman, instigator, as general manager with the weight of the whole on his determined shoulders.

After painfully slow and careful minutes the old house sent out a low, protesting creak and Andy became a creature of omnipresent watchfulness; one second at one jack, cautioning the man at the bar to go slow, then on to the next, and the next, and the next. A few quick steps back to get a perspective view in the moonlight to see if all seem-

ed level and square, then back again directing the men.

Fraction by fraction, the little building rose under the slow, steady lifting of the jacks till Andy called a halt. It was high enough and each man knew his next work. Almost magically, by a few cautious moves, the rollers were in place the horses hitched on, a couple of rods of wire fencing laid flat, and then a moment's pause till the scouts reported, "All quiet and a clear road."

A low word and light touch for the horses and the house began to move. Still cautiously, but with firm determination, the men moved with it, watchful ever that nothing might go wrong. As the space widened between the houses their spirits rose until finally, when the road was reached, Jack Brown "cut a pidgeon wing" in approved nineteenth century style and shook his fist gaily with a satisfied, "We don't want you to wake up yet, Mack Stevens, but you'd have a hard time stopping us even if you did," and Andy, glancing at the moon to see if its light would last long enough, swore that the old man there winked and smiled in friendliness at them.

The moon dropped lower and at last men and horses came back alone. The hog-house was finally where it belonged.

"Don't suppose Mack'd be ornery enough to bring it back, do you?" Lem. Johnson asked.

"I might be a little leery about Mack," Andy answered grimly, "but I think he'd hunt a long while to find men and tools to help him."

"Best night's work I've done in a good many years," a voice at the rear commented.

"The corpse is disposed of," another added. "All we've got to do now is to light the candles and hike out."

Another trip to the wagon and each man came back with a grinning jack-o-lantern which he disposed of as pre-arranged.

"These ought to show up pretty well yet when Mack turns out at four o'clock to get at his corn shucking early," Andy murmured with satisfaction as the men again stood grouped in the orchard shadows looking at the trail of grinning jack-o-lanterns, with their candles guaranteed to burn at least five hours, that started at the back door and led around in front where the final four stood leering where the four corners of the old house had been.

"But there's always a fly in the ointment," Bud. Williams grumbled softly. "I want to be here at four o'clock but I've

got to go home with the rest of you and get a little sleep myself."

"Yes, I guess we'll make ourselves scarce now, and imagine the rest," and the others agreed, with a farewell waving of caps and hands as they backed away.

"You owe us ten dollars for this job, Mack," was the final comment, "but we'll call it square if you'll do the right thing now."

Mack Stevens must have imagined a good many Halloween ghosts in the election crowd that he met a few days later, but ghosts tell no tales and a dozen men are hard to locate in several scores.

If suspicious and conscious looks were abroad, more than one had a share and these quickly vanished when Mack found that no one was going to mention the Halloween performance and when his neighbors found that Mack had returned to his senses, was ashamed of his former attitude and, in his heart, grateful for their handling of the situation. The first conspirator to pass the Stevens home read his reformation in the fact that all litter had been cleared away and the vacant place filled and graded ready for a spring seeding to lawn grass. The whole world could read it in the faces of his family.

The Big House On The Gila.

BY LELA ANGIER LENFEST.

Did you know there were ruins in this country when the white people came here?

"Yes," I hear you answer, "there was the old mill at Newport, and there are the mounds through the Ohio Valley." True enough; but did you know there were remains of large villages and that these remains are still standing?

Along the Gila river, in southern Arizona, are many of these villages, but there is one famous ruin which remains in about the same condition that it was in nearly three hundred years ago. That is Casa Grande, about five miles from the town of Florence. The name Casa Grande, as those who study Spanish know, means Big House. There are many remains of "Big Houses" scattered over this country, but none so well preserved as this one near Florence.

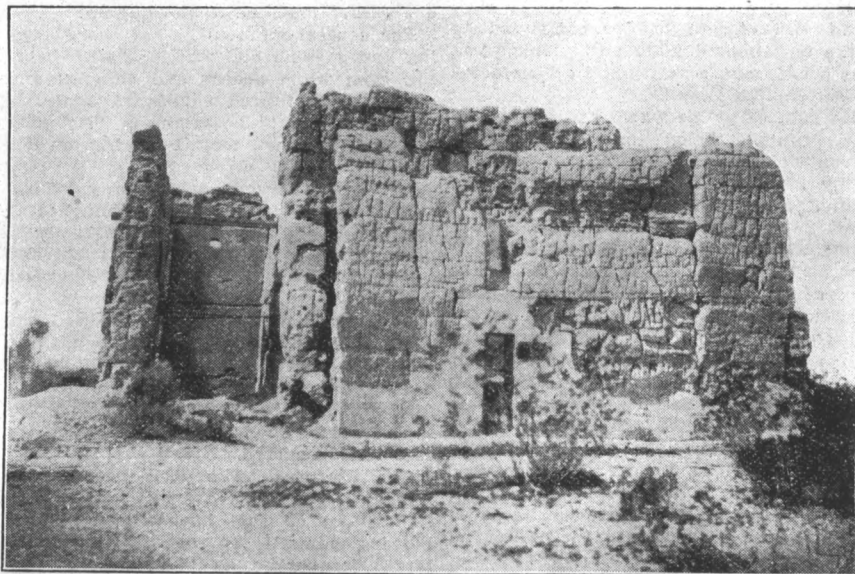
Over two hundred years ago a Jesuit priest, Father Kino, with about sixty followers, marched north from Mexico, through cactus and greasewood, surrounded by hostile tribes of Indians, seeking to establish mission posts on the Gila river. In this he was not successful, however, for the men whom he left there were afterward murdered. In his march he came upon the Big House and held mass within its walls. We can imagine the brave Franciscan father standing there surrounded by the gaily accoutered Spanish soldiers and the gaping, half-naked natives, who, for the first time, saw the sign of the cross. In his diary he describes the Big House, so that we know it was in almost the same condition then that we find it today. He tells us about the Indians, too. The Pimas, who at the present time live near the ruin, he says, were a peaceful people in round bee-hive-like huts, and cultivating the soil. They raised corn, melons, gourds, and much wheat which they sold to the missionaries. Today we find them the same quiet, industrious agricultural people. They live in square shacks made of cactus wood and brush. Their clothes and other belongings are not kept in the house but are hung on a pergola-like affair in front. This is very sanitary but rather hard on the clothes. Most of their cooking and household work is performed outside. You will see the little girls sitting on the ground before a large pan of dishes, contentedly washing and wiping them.

The Pimas are all good workers, from the little children, who may be seen carrying their little water jars, up to the old squaws who manufacture the jars and also make baskets. Their baskets are not so beautiful as those of the Apaches. The very mention of that name makes the cold shivers go down your spine. They lived in this region and were very troublesome to the Pimas. As far back as we have any account of them they were a lazy, roving, blood-thirsty people. In the sixties and seventies they became so troublesome to the white people that finally their chief, Geronimo, and the worst of his followers were deported to Florida; that put an end to Indian warfare in this region. But the memory of their blood-thirsty massacres still lingers in the minds of the people living there, and as you travel

through the country you almost expect to find some Apache warriors ready to spring upon you. But really you cannot imagine a more peaceful country than it is at present.

But to return to our Big House, for I

feet thick and are made of blocks of what some people call adobe, but adobe, as you know, is sun-dried brick. But these blocks, four by five feet, were not dried in the sun. They were made on the walls in boxes of wood or brush,



West Front of Casa Grande. Note Smooth Finish of Plaster on Inside Wall.

am sure you all want to hear more of this prehistoric ruin. It is built on slightly elevated ground and overlooks the Gila valley, enclosed by distant Buttes and mountains. Surrounding it for about sixty-five acres are mounds

which were filled with wet earth. When this hardened the box was removed. You see this is very similar to our way of making concrete and cement buildings nowadays. This is one of the very interesting things about this old building,



Style of Mexican Shacks in Country Around the Gila Valley Ruins. The Pima Indians also live in similar Shacks.

and irrigating ditches. Recent diggings for it is the only one in the United States built in this manner. There are a great many in Mexico, which have led people to think that the Aztecs built this.

The walls of this house are about five

But the Pima Indians say, and the scien-

tists think they are right in this, that their ancestors built it. One of their legends relates that Civano, a great chief, built it for his twenty wives. Upon their heads these wives wore large half baskets, half hood like bonnets, similar, we may imagine, to our "peach-basket" hats. How modern it must have looked to see those dusky maidens tripping in and out of those tall doorways, arrayed in "peach-basket" bonnets. But how they lived in this 43x59 house the legend does not tell us.

On the ground floor of Casa Grande are five rooms, four on the outside and one in the center, the latter extending through to the third story. To get into this central room one is obliged to crawl through a low opening about three feet high. What the purpose of this room could have been is a matter of speculation. It may have been a store room, or if, as some think, the building was a temple, it may have been the holy place. You see the riddles are not all connected with the Sphinx. We have some in our own southern desert. The inner surface of the walls is covered with a beautiful smooth plaster, shining, as one writer says, "like Puebla pottery." How this was made we do not know. But it is wonderful to think that, though it has been exposed to the storms for nearly three centuries, it still remains smoother and finer than that on your hard plastered living room. One thing that is spoiling it, however, is that every traveler thinks he must immortalize himself by putting his name on the wall. Let us hope that none of the readers of this paper are seeking such cheap fame.

The earth all about these ruins is filled with bits of broken pottery, bone ornaments, shells and pieces of stone axes and hammers. Some of the beams found in Casa Grande show the marks of stone axes. The bits of pottery show red and black patterns similar to the Zuni pottery. From some of the mounds have been dug vases and necklaces of bone, bracelets and anklets, and a toy mountain goat. While following the fashions in bonnets, these dusky women did not fail to provide their children with playthings.

Scattered through the ruins and running along parallel with the Gila river are irrigating ditches. It is said to be the most extensive irrigating system known among the native races of our country. Is it not remarkable that three centuries ago these people had a more scientific way of storing and distributing water than that practiced by many white communities today?

These interesting people have left other records on the rocks throughout the Gila valley. These are the celebrated Pictographs or Pictured Rocks. One pile of these rocks is said by the Indians to be a guidepost giving directions for going to Casa Grande.

Are these not a remarkable people? I am sure you will be interested to read and study more about these ancient tribes of the great southwest. And, perhaps, in time you may be led to attempt the solution of some of the riddles which puzzle the scientists.

THE CUB AND THE FORMULA.

BY H. D. SMILEY.

"Und all day long from der time you get up mit der sun until it is away past bed time already, you fool around in this ol' shop und get nowhere! For why don't you 'tend by your business und not be like a crazy man all der time?"

Mrs. Hornberger, standing in the doorway of the little shop back of the house, thus addressed her husband, who, with a small glass graduate in one hand and a bottle in the other, listened with resigned patience to the tirade.

"But, Katie, dear," he mildly expostulated, "don't you see dot I got her now almost where I want her, pretty near? I think today dot I hav hit on der principal of what I should mix to make der gas, und if dot is so, then we was rich und go on a visit by der Ol' Country."

"Yah!" snorted his indignant spouse. "You say dot effery day for one year already, while you fool away your time when you should be by der store 'tending your business! You was an ol' fool!"

She flounced indignantly into the house, while Tink gazed after her over his spectacles with that helpless expression of the inventive genius who has long since given up all hope of being understood.

"Well," he consoled himself as he again turned to his work, "You can't expect a woman to understand anythings vot a man does, anyway. Yoost der same I get even mit dot gas company!" he added with an indignant scowl.

A year before Tink had had a gas range installed in his house. Both he and Mrs. Hornberger had been delighted with the new convenience, which did away with the kindling of fires and splitting and carrying in of wood. When the first gas bill came, however, they underwent a shock of surprise and dismay.

"My gootness!" gasped the horrified German. "Dot leedle stoffe burn up more gas than what two cord of wood would cost already! We can't afford, it, Katie."

So, reluctantly, they returned to the old method of cooking, and the gas range became merely an ornament to their kitchen. At the end of the month another bill came along that was seventy-five cents higher than the first.

Tink put on his hat and went down to see about it, and anyone who has disputed a bill with a gas company knows the result.

"But I told you we don't use any gas iast month!" cried the exasperated German. "What is it you charge me three dollar und twenty-five cents for already when we cook mit wood?"

But argument was futile. He was assured that the meter kept accurate account of the amount of gas used and that it was always right, and, anyhow, if it was a little bit off this month it would correct itself of its own accord next month. The fact was also impressed upon him that he would have to pay the bill.

"You get a man up dere and take dot meterer und stoffe oud of mine house quick before I smash 'em up mit der ax! You was swindlers und robbers und, by golly, I thinks I put you oud of business for this before I gets through," was his parting shot as he slammed the gas office door behind him and stamped angrily back to his store.

His Teutonic ire was thoroughly aroused and he could not, nor would not, forget the injustice that had been perpetrated upon him. A few days later he cleaned out the little shop that stood back of his home, fitted it up as a sort of laboratory and set about it with the avowed intention of inventing a fuel gas that would be so much cheaper than that produced by the gas company that he could undersell the "swindlers," as he termed them, "und put der robbers oud of business."

His knowledge of chemistry was limited, but he was obstinate in his purpose, notwithstanding that he had so far managed to blow himself up on three different occasions with more or less disastrous results.

On each of these occasions Mrs. Hornberger had viewed the wreckage with a complacent gaze and remarked:

"Well, if you'd stay by der store where you belong it wouldn't have happened."

This never failed to elicit a snort of indignation from the inventor, but nothing further, for he well knew that during the time of his experimenting he had made but little pretense of keeping up his store where he dispensed cigars, tobacco and soft drinks. The place was

open as usual during the evening, but the proprietor was seldom seen about the premises during the day.

Tink carefully poured exactly two ounces of a yellow fluid into the graduate and as carefully emptied it into a rusty old carbonic-acid gas drum, such as are used in soda water fountains. He had picked this up the day before from a junk dealer, believing that it would answer his purpose fully as well as a new one.

He continued to carefully measure and weigh out different ingredients and empty them into the receptacle, carefully noting down each item in a little note book as he proceeded. He finally finished by pouring in a quantity of water and, quickly screwing the cap onto the drum and adjusting the gas-pressure gauge that was attached to the cap, he sat down to await developments.

At the end of ten minutes the gauge registered a pressure of twenty pounds and the old German's eyes shone with gratification. The mixture that he had compounded was not only forming gas, but was making it even faster than he had hoped.

"By chiminy, I got her this time!" he exclaimed exultantly. "Now I show dot robber gas company what was what! For ten cents a month I supply all der gas dot was necessary for der cooking in der house, und when I rent mine machines oud for a dollar a month to efferybody, where those swindler gas company be then?"

At the end of an hour the gauge registered a pressure of fifteen hundred pounds and was still climbing, as were Tink's spirits as well.

"In another hour she be up to three thousand," he told himself in great glee, "und still enough of der compound to make ten times dot amount. Tinker you was a rich man already und a benefactor to der human races!"

He glanced at his watch and noted with some consternation that it was after eleven o'clock.

"By chiminy, it was nearly noon und I ain't been by der store this morning yet," he told himself accusingly. "Poor leedle Teddy ain't even have his breakfast yet! I go right down now and take care of him und get back in plenty time to look after der gasser machine," he decided, and with a hasty glance at the gauge he seized his hat and hurried out the door.

Ten minutes later he arrived at his store and let himself in, picking up a quart bottle of milk that set on the doorstep as he did so.

Hastening to a little cupboard he took therefrom half a loaf of bread and a bowl; breaking the former into the latter, he poured the milk over it, and then picking up the bowl he hurried to the back door and let himself out into the little court yard in the rear of his establishment.

"By golly!" he exclaimed as he hastily set the bowl on the ground and looked about him in dismay. "Now where dot leedle Teddy bear gone to already?"

He gazed with consternation at an empty leather collar attached to a dog chain, which was in turn fastened to a medium-sized tree that grew in the court yard.

That collar should have encircled the neck of a small cub bear that had been presented to Tink by a friend from Northern Michigan about a month before. The old German was devoted to his little pet, but was obliged to keep him at the store because his good spouse absolutely refused to have the animal around or near the house.

"Hi there, Teddy, where you gone to?" he called anxiously as he peered about the little yard.

An answering grunt from above caused him to look upward, and there on a limb of the tree sat the youngster, looking down at its master with a mischievous twinkle in its beady black eyes.

"What you doing up there, you leedle rascal!" cried the relieved German. "Come along down here und put on your collar und eat your breakfast," he ordered, good-naturedly.

The cub made no move to obey and after much coaxing Tink gave up this method of capturing his pet, and bringing a ladder from the rear of the yard he placed it against the tree.

"I bet I get you now, by chiminy," he chuckled as he started up the ladder.

The cub, however, had no intention of being taken so easily, and as his master approached he scrambled out on the end

of the limb and leaped nimbly to the roof of the store.

"So!" exclaimed Tink as he wiped the perspiration from his forehead. "You think a young scamper like you can fool an ol' feller like me, eh? Well, wait, I show you!"

He descended to the ground again, placed the ladder against the side of the store, and two minutes later was on the roof with the cub.

The building was two stories high with a flat roof about twenty by fifty feet in area and covered with a coating of tar, topped with gravel. The place was sweltering hot under the direct rays of the mid-August sun, but in spite of his corpulency and years Tink started after his pet with all the enthusiasm of a young farm hand chasing a greased pig at the county fair.

The cub displayed astonishing agility for a youngster and scampered up and down the roof, dodging and twisting and eluding its more awkward pursuer at every turn, although more than once it was pushed into a corner where escape seemed impossible.

So intent was Tink on the chase that he did not realize to what exertion he was putting himself until finally he was compelled to stop on tottering legs, panting for breath and with the perspiration rolling off his face in rivulets.

"Donner vetter!" he gasped as he staggered to the side of the roof and sank down with his back against the coping. "What you think I am? If I run any more something will blow up sure!"

Something did blow up. To his ears came the sound of a loud dull boom, and from where he sat he could look across the house-tops to where his home stood and see boards and divers other objects flying high in the air.

"By chiminy!" he panted as he tried to struggle to his feet, only to drop back again from utter exhaustion. "Dere goes dot gasser machine a blowing up!"

For several minutes he sat there blowing and gasping and watching with bulging eyes while boards and shingles and other things floated earthward again.

"Der formula!" he groaned. "By golly it was blowed up, too! I left him on der bench!"

He eyed the cub belligerently. That youngster was seated on his haunches at the other end of the roof, reflectively scratching his ear with one hind foot and apparently waiting and ready for further frolic.

"Und mebbe Katie is all blowed up, too!" Tink added as an afterthought.

Mrs. Hornberger had slipped out to call on her neighbor, Mrs. Kast, who lived a few doors up the street, and was preparing to return to her own home when the explosion occurred.

"My gootness, vot's dot!" gasped Mrs. Kast.

"It's dot ol' fool husband of mine a blowing himself up again!" exclaimed Mrs. Hornberger as she gathered her skirts about her preparatory to running. "Mebbe he have killed himself this time already!"

Other neighbors, many of whom were at dinner, came rushing from their homes at the sound of the explosion, which not only shook the ground but shattered windows in many of the houses. These joined the frantic spouse in her wild bolt for the scene.

Arriving there she felt that her worst fears were justified. Where the little shop had stood was a bare hollow hole, and scattered around for yards in every direction was the debris of the laboratory.

It was evident that Tink's compound had made gas much faster than he had anticipated it would, and had finally reached a pressure that was greater than the rusty old drum could stand, whereat it had exploded with terrific force.

Not being aware that her husband had gone to his store, Mrs. Hornberger was certain that he had been in the shop at the time and was now "all blowed up into leedle bits."

There was much wailing and gnashing of teeth while sympathetic friends and neighbors searched far and near for the remains, or fragments of the remains of the unfortunate inventor.

More and more people arrived until nearly the entire town was assembled about the premises, and far into the afternoon the search continued, but without the finding of so much as a little finger. It was not until nearly supper time that the crowd began to break up and go home; much mystified over the strange disappearance of the inventor.

It so happened that about this time several of the townspeople passing Tink's cigar store heard a hoarse cry, coming

(Continued on page 371).

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BRAMBLE HILL.

(Continued from page 364).

"He was took again?" she cried; echoing, "took again?"

Hornbill did not look up; his hand was faltering for the heart-beat. His face had broken up into sharp, hard lines—the look of a soldier.

Mother Hubbard, horrified, screamed: "Why don't you do something? Do something, General! Don't sit there like you was bereft of reason!"

"Go for a doctor," said Hornbill in a hushed tone, turning slowly.

When the woman was gone the old fellow remained motionless for many minutes. Then he sought, through blurred eyes, to remove with fumbling fingers, a bit of flag he had worn in his buttonhole since Gettysburg. Snatching it off at last with violence, he placed it in Nathaniel Edgeworth's lapel, touching it tenderly, thoughtfully, and muttered through pulsing lips, "Comrade."

"Comrade," he faltered on, "don't mind what they say. Your heart was big, too big, they couldn't understand—" a tear dropped on the back of his hand and startled him. He clutched at the form with frenzied fingers. His eyes glistened, he held hard, crying out, "Comrade! You aren't—"

The doctor shoved open the door a moment later. Hornbill had collapsed; he had to be pushed aside for the examination of the body.

"Yes, at last," said the doctor, standing up and shaking his head slowly. "Burst a blood vessel. I always told him that violence—"

"Shut up!" screamed Hornbill, his dumb eyes suddenly ablaze; a quiver tore through his tense old frame, he sprang for the doctor—and fell, senseless, his strength utterly spent.

Chapter II.—A Vest-Pocket Farm.

The Johnstone apartment hotel on Forty-fourth street has a reputation. No young fellow (or old one, for that matter), ever secured a suite of three rooms for less than a hundred a month within its calm and respectable limits. Economists figure that a family man cannot safely spend more than one-sixth of his income on rent; but Sidney Edgeworth was no economist; though he had studied both the political and social ends of economy at Harvard, he had passed gaily through the subject, delightfully ignorant of the means. That's why, with an income of only five hundred dollars a month, Sidney dared try living at the Johnstone; but then, he was not a family man. Through college he had received the same allowance and sometimes had managed a yearly saving of three hundred dollars, which went for a horse or a week's fun in New York, it being his principle never to have anything left over to remind him of the old year.

Now, fresh from college, with the future all ahead of him and most of this world's knowledge behind him, Sidney Edgeworth was spending his first summer in New York. Of course, it was hardly the proper thing to do; nobody stays in New York City summers, except street car conductors, bakers, bartenders, gas inspectors, street cleaners, business men with families at the beach, and that sort of people—four million of them. Most of the fellows were at Newport, abroad, or pleasure-resorting somewhere. Sid Edgeworth (no one ever thought of calling him Sidney) stayed in town because he was looking for a job. Few of his friends ever called it that; he was seeking a business connection, looking for an opening.

It's very difficult work to search for employment in the summer when one has already five hundred dollars a month and finds a roof garden on every corner within a half-mile radius of home. But Sid did his best; once he found himself within three miles of the sacred precinct of Wall Street, the most suitable spot for job-hunting among the fellows of his set, but he met an old chum on the Subway and had to be dragged back up-town to a cool grotto where men founder and gorge. On the face of it the thing seemed simple. All the time in the world and five hundred dollars a month with which to look for work. Strange he did not find it—and almost two months gone by—he mustn't idle through life, it wasn't the proper thing to do; he must at least have his name down somewhere as fourth or fifth vice-president in something. If he had capital, how easy it would be; but there was not a cent behind Sidney Edgeworth beside his allow-

ance; and that was a thing problematical, though he had come to think it sure as the sun.

Tired and disgusted, after a hard day, (in which he had risen at ten o'clock, breakfasted at eleven, lunched at three with a friend who also thought of going into business, and found no opportunity awaiting him when he went home at seven to eat alone in his rooms), Sid sat rolling his after-dinner cigar reflectively between smooth, unsullied fingers and making faces at Fate.

There came a ring at the bell. Soft-footed Roberts answered and Sidney did not even look up expectantly when his man (allow a chap at least one luxury!) returned and held back the curtains to the dining-room, a tramp of heavy feet following.

A big, bluff fellow, broad-faced and flushed, pushed past Roberts and rushed up to Sid with eagerly extended hand. He was followed by a bilious-looking little chap in his early twenties, though he had bored himself long and consistently into looking fully thirty.

"Hello old Sideral," exclaimed the open-handed one, bearing down on Sidney Edgeworth, who had pushed his chair back and was getting to his feet, a welcome ready, "still star-gazing?"

"It was never the stars," corrected young Edgeworth, "my tastes are plebeian; any little girl in the back row of the chorus would do for me, if I were interested in them at all."

"But they tell me you're looking for a job—"

"Looking, yes! But still through the wrong end of the opera glass, I fear."

"The original pessimistic pup," grinned the other, beaming down on Sid with a mixture of the fraternal and paternal in his wide, tooth-gleaming smile.

The little fellow followed in, pulled his baby-mouse mustache reflectively and said, with weighty lightness, "Ah, hello, Sideral." He slumped, backboneless, into a chair, dangling his leg over one arm and his stick over the other.

Sid acknowledged the greeting perfunctorily and turned again to the beamy-faced one. "You just came back?"

"Yes, back to work, too."

"Some chaps are unlucky," put in the dawdling gentleman, clothes-pinned on the chair.

"I'd almost call it luck if I had something to do," said Sid, still addressing the bigger fellow; "what's your work, Jim?"

"Going to run a construction gang for the governor—out in Yonkers. Begin tomorrow."

"Oh, lovely!" echoed the languid one.

"I always did say it shows much finer character for a fellow to be constructive than destructive. But I hardly know what one should be—in Yonkers, you know."

"He shouldn't be—in Yonkers," put in Sid. "But tell me, Jim, is there a future in that sort of thing? I suppose it's nice to be mechanical and have a mission in life and all that—I shall never forget the time you tinkered with my motor and got her to going. I wonder—my watch's stopped, could you fix it?"

Jim laughed. "That kind of knowledge won't help me in putting up big apartment houses. I've got to know how to handle men."

"Oh, man-handling?" said Sid idly, raising his big brown eyes thoughtfully. "I've read of it in Jack London's stuff. How's it really done? Is it like being the coxswain of the crew? I've often thought I could be that; you know all one has to do is to sit in the boat and yell, though I suppose it's a bit hard on one's throat."

"No, Sideral," laughed Jim, looking into the earnest big eyes, "it's like being stroke of the crew; you've got to set the pace in actual labor."

"Oh, I shouldn't care for that at all," said Sid, "that's too much like—"

"Work?" supplied the languid one, nipping at his mustache as though he liked it.

"Yes. Exactly," agreed Sid falteringly, pulling his brows together into a frown and asking, "But, Jimmie, tell me, isn't there something I could do in that business of yours? You know, over-seeing, offering suggestions, or something like that? I couldn't mix in with your dagoes—I never could stand the smell of garlic."

"You might be time-keeper."

"Time! Oh, I could never keep that; I'm always wasting it and losing it. Besides, there's no advancement; time just rolls along, much the same every day."

(Continued on page 372).



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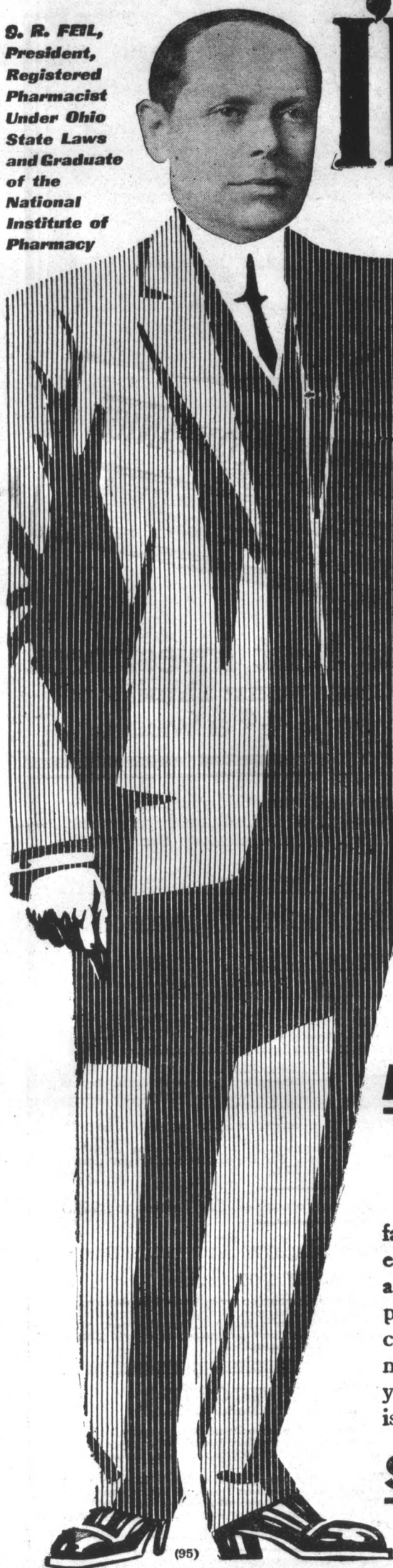
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Dr. C. D. Smead,
The Eminent Authority on Live
Stock Diseases, says:

"As a stock tonic and worm remedy I do not hesitate to say that Sal-Vet is unsurpassed by any compound I have ever given a trial; and as you well know, my business as veterinary editor of the National Stockman and Farmer and the Tribune-Farmer of New York requires me to test many tonics and remedies for animal ailments."

L. H. Cooch
Editor Practical Farmer, Philadelphia, says:

"In order to have reliable data before expressing my opinion about Sal-Vet, I gave it to twenty-one cows in their feed for a month. Eight others were given no Sal-Vet at this time. At the end of thirty days' test, the 21 cows that had been given Sal-Vet showed a tone and condition of health that was really remarkable. In my experience feeding this tonic to horses also, I can only speak of it in the words of highest praise. I am satisfied that Sal-Vet is a wonderful vermifuge and tonic for horses."

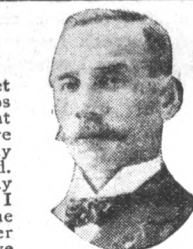


Roscoe M. Wood,
Secretary of The Standard Delaware Merino Record, Saline, Mich., says:

"We have found a worm preventive in Sal-Vet when proper conditions of pasture are maintained and it is kept constantly before the flock so they can eat all they want and have no other salt. We have found this preparation economical to use under all conditions."

J. C. Duncan,
President of the American
Shropshire Registry
Association, says:

"Last summer I used Sal-Vet exclusively on a bunch of lambs which had no other treatment for worms. I am positively sure that these lambs are entirely free from worms of any kind. They look much better today than another bunch which I have been giving the gasoline treatment, as well as other remedies. I sincerely believe that 'Sal-Vet' is a vermifuge that should be used by all good stockmen."



Robert J. Evans,
Secretary American Duroc
Jersey Swine Breeders' Association and Editor of the Duroc Bulletin says:

"In my travels I find hundreds of our people using 'Sal-Vet' and have yet to hear the first complaint from any user. On the other hand, I have heard many most complimentary remarks concerning its efficacy as a worm destroyer, digestive and conditioner. One prominent Ohio sheep man told me that he had tried many such remedies, but that 'Sal-Vet' had never failed him. Our Duroc men are using it with excellent results."

Sal-Vet Is Endorsed by Leading State Experiment Stations

"We have been using Sal-Vet for the past two years; to tell the truth, we are somewhat surprised at the good results we have secured with it. Our lambs have been quite free from serious parasitic trouble, and as the Sal-Vet has been fed faithfully during the period mentioned, we consider it a vermifuge of considerable merit."—John M. Evvard, Experimentalist, Iowa State College.

Sal-Vet is also used and endorsed by the experimental stations in the following states:
OHIO, TENNESSEE, NORTH CAROLINA, TEXAS, IDAHO, CALIFORNIA, OKLAHOMA, CONNECTICUT AND ALABAMA.

PRICES

40 lbs., \$2.25; 100 lbs., \$5.00; 200 lbs., \$9.00; 300 lbs., \$13.00; 500 lbs., \$21.12. Special discount for large quantities. No orders filled for less than 40 lbs. Never sold in bulk; only in Trade-Marked Sal-Vet Packages.

Chemists, Dept. MF. Cleveland, O.

THE BANK OF GOOD DEEDS.

BY ARTHUR W. PEACH.

Our little kindly deeds seem often vain
So swift the busy days go by,
And every hour brings opportunities
Another's need to satisfy.

But every kindly act and helpful word
Is like a coin, new-minted, bright,
Such as a child drops in its treasure bank
That hides it quickly from his sight.

Thus may we fancy life's small deeds
are coins
Dropped in the bank the Master keeps;
Not one is lost beneath His watchful
care
Though long within the dark it sleeps.

Sometime, His hand will take the bank
of deeds
And open it before our sight;
And there before us we, ourselves, shall
see
Our kindnesses shine in the light.

But little of earth's gold can many have,
And often with it comes great care;
But he who treasure has in kindly deeds
The wealth of Paradise may share!

LITTLE FARM FABLES.

BY AUNT QUILLIA.

Greed and Its Gruesome End.

A herd of swine, having devoured the last ear in a large crib of corn, set up such a squealing as to render life intolerable for a farmer and his family. Moreover their attitude was so belligerent that the farm hand refused to enter their pen, declaring that he would risk neither life nor overalls within reach of their ravenous mouths.

And so, for the safety and sanity of all concerned, as well as for hygienic reasons, they were transported to a distant field of clover.

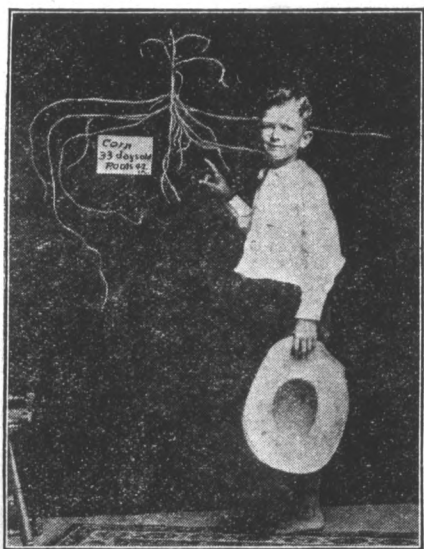
This was an ideal spot for either pig or poet, but in this case it appealed to nothing but the most depraved of appetites, hence no time was lost in congratulating themselves on the happy change nor in thanking their lucky stars for such delectable feeding grounds, but, instead, they fell at once to mangling and biting, pushing and crowding one another, each in mad greed fighting to secure for himself the largest share of pasture.

Not content with the stems, leaves and blossoms of their flowery feast, they soon set about uprooting the rich earth with their wretched snouts and, with reckless hoofs, began trampling the blooming meadow until it was no longer a thing of beauty but a desolate expanse of unsightly acres.

Long before the time for a new crop of corn had arrived the last vesture of verdure had disappeared. Meantime the summer sun had dried up the little brook that purled through the meadow, until shoat after shoat, and adult porker after porker, had succumbed to hunger and thirst and had lain down to die.

In the midst of this appalling situation a bouncing old Berkshire managed, with her last breath to gasp, "Reminds me of an old saying I often heard in youth. My owner, an English dairyman, used to go among his maids exclaiming, 'Milk the cow, lassie, but don't pull off the udder.' 'We poor fools have done both.'"

A YOUTHFUL INSTITUTE LECTURER.



This enthusiastic farm boy, a member of a boys' corn club, sewed a young corn plant to a piece of black cloth, later taking it ten miles to a farmers' institute to demonstrate the necessity of shallow cultivation. The longest root was 42 inches in length.

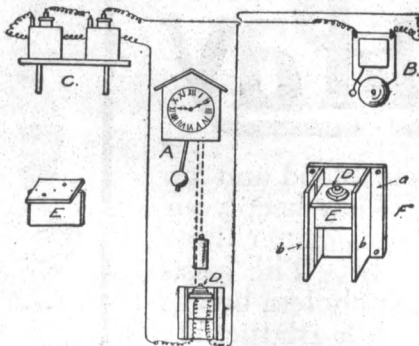
CONNECTING A WEIGHT CLOCK TO AN ELECTRIC ALARM BELL.

BY I. G. BAYLEY.

If the clock is wound regularly, it will be noticed that the weight reaches a definite point at certain hours each day. If an ordinary electric push button is placed upon a small shelf immediately under the weight at a distance from it to agree with the hour desired to awake, the weight will bear down the push button, closing the circuit and ringing the bell. Such an arrangement is shown in the cut, where A is the clock, B the bell, C the batteries, and D the push button.

To prevent the clock from stopping altogether, or to avoid any accident to the clock on account of the sleeper not getting up when the push button is reached by the weight, a sliding arrangement can very easily be made as detailed at E, and F. A shelf, shown in detail at E, made of two pieces of wood nailed together at right angles, the vertical piece being a little wider than the shelf or horizontal piece, and having V-shaped edges cut to fit grooves in the two cheeks or sides (b, b), as indicated at F. These side pieces are nailed to the wall-plate from the far side.

The shelf is to slide in the grooves in these side pieces, the latter being so adjusted that the weight will bear sufficiently upon the push button to ring the



bell, and at the same time slide the shelf downward in the grooves if necessary. This adjustment can be obtained by opening or closing the slides carefully until the proper distance apart, when they can be nailed tight.

It is of course important that the clock be wound at regular intervals, say in the morning, on rising.

The shelf should also be pushed back to its correct position at the same time. This position should be marked on the inside face of the two sides (b, b).

BOOK NOTICES.

"Audel's Answers on Automobiles," is the title of a 512-page illustrated manual on the care, running and repairing of automobiles, published by Theo. Audel & Co., 52 Fifth Avenue, New York City. The text of this book is largely composed of questions and answers of interest to owners and users of automobiles, while the cuts illustrate in detail the various working parts of an automobile. Price, \$1.50, postpaid.

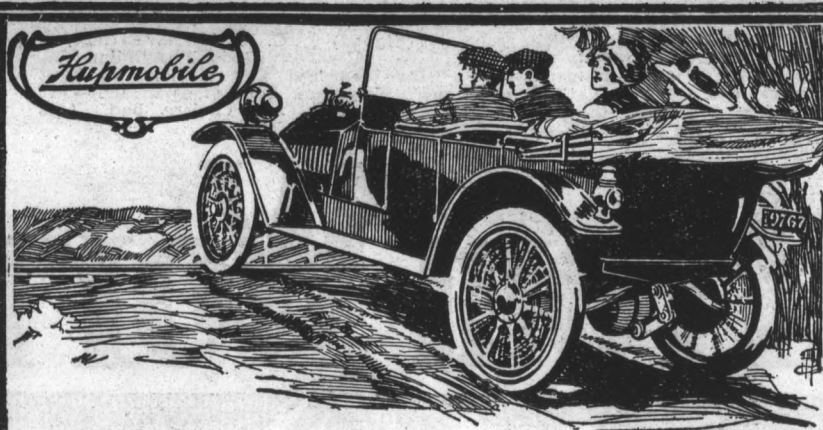
Choice Literature. Compiled and arranged by Sherman Williams, Chief of School Libraries Division, New York State Education Department. Book one, 144 pages, price, 22c; Book Two, 160 pages, price, 25c; Book Three, 192 pages, price, 28c; Book Four, 256 pages, price, 35c; Book Five, 320 pages, price, 40c; Book Six, 400 pages, price, 45c; Book Seven, 512 pages, price, 50c. This new series provides a complete course of supplementary reading for the first eight school years, Book Seven being intended for the seventh and eighth years. Cloth, 12mo, illustrated. American Book Co., Chicago.

Pupil's Notebook and Study Outline in English History. By Francis A. Smith, A. B., Master, Head of the History Department, Girls' High School, Boston. This notebook is so planned that it will give the pupil a better understanding of English history, a clearer idea of the relative importance of events, than will the use of a textbook alone. Paper, 7 1/4 x 8 1/4 inches, 142 pages. Price, 25 cents. American Book Co., Chicago.

CATALOG NOTICES.

The Crosby Frisian Fur Co., Rochester, N. Y., have just issued a finely illustrated, 50-page catalog. This art catalog describes in detail the work of this company in custom tanning, taxidermy and head mounting, as well as listing a variety of fur goods, including coats, robes, hoods, slippers, mittens, etc. An interesting feature of this catalog consists of illustrations of the Roosevelt African trophies which were tanned by this well-known firm.

If there are not enough people in your neighborhood to get up a club of 10 trial subscribers, why not write some of your friends elsewhere? Just read page 378 and see the liberal offers.



Hupmobile "32" Touring Car, fully equipped, \$975

F. O. B. Detroit, including equipment of windshield, mohair top with envelope, Jiffy curtains, quick detachable rims, gas headlights, Prest-O-Lite tank, oil lamps, tools and horn. Three speeds forward and reverse, sliding gears. Four-cylinder motor, 3 1/4-inch bore and 5 1/2-inch stroke, Bosch magneto, 106-inch wheel base, 32x3 1/4-inch tires. Standard color, black. Trimmings, black and nickel. "32" Roadster, fully equipped, \$975 f. o. b. Detroit. "20" H. P. Runabout, fully equipped, \$750 f. o. b. Detroit.

An Axle Built to Stand the Strains of Country Roads

The rear axle of an automobile carries most of the load and drives the car.

Its work is most severe; and it is also subjected to the strains of traveling over rough roads.

So it must be strong enough to carry the weight, drive the car and resist the shocks of rough going.

In this particular the Hupmobile again stands head and shoulders above the average car.

Its rear axle is of the full-floating type—a type you rarely find except on cars much higher in price.

In this type, the casing or housing of the axle carries the load; the axle shafts drive the car.

Each part has its own work to do. Neither is forced to carry the weight and drive the car as well.

And the axle is so strong and sturdy that it needs no support of truss rods, and reach rods, as most axles do.

Because of its exceptionally rugged axle construction, in conjunction with its other superiorities, the Hupmobile stands up notably well in country use.

Its owners know that they have nothing to fear from rough and rutty roads, because the Hupmobile axle will carry them through.

This axle is fully described in our latest book.

Please write for a copy.

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You lose half the good of the meal if you are shivering in discomfort while you eat it.

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A CHARACTER SKETCH.

BY E. S. CRAWFORD.

It was just before Decoration day. The wind had died down during the night until not even a leaf stirred. As the sun rose higher and higher it became brighter and brighter, and hotter and hotter, until the heat in the corn field became almost unendurable.

Slowly, very slowly, George follows the marks, back and forth across the field, stabbing each hill of corn with a slow but clock-like regularity. As he finishes the row he throws his planter carelessly against the fence, pulls his Ingersoll from his pocket and examines its face minutely. "Eleven o'clock," he mutters. "If I don't hurry I'll not have to make only two more rounds. Gee! But it is hot! Say, ain't I glad the old rushing boss went to the house. Guess 'twas too hot for the like of him."

With these spoken thoughts George shambles alongside of the fence to the shade of a nearby oak tree, takes from a more shady spot a large brown jug and, lifting it high above his head, proceeds to let the once cool water trickle down his parched throat. Having thus refreshed himself bodily and dampened the dust in his larynx, he returns the jug to a sun-freed spot and glances over the fence toward the house in a long-drawn-out gaze.

Finally, he allows his eyes to return to the jug, only to take a second pull at it. Thus doubly refreshed, he returns to his fallen planter, picks it up from the ground and examines its contents. "Guess I'd better have some more corn," he mutters. George, thereupon, leisurely saunters to the inviting shade of the oak, dragging both his feet and the planter after him.

Prior to filling the planter with the highly prized seed corn he takes a third helping at the jug and therewith washes another mud pie into his digestive machine, all unmindful that it had already commenced to call for better care.

With a continuance of the snail-like movements, he fishes from his pocket the cheap timepiece and looks long and lovingly at it. Whether it was the face in the case, or the speed of the second hand, or the nearness to the mid-day hour that absorbed his attention remained a quandary. Anyway, he mutters, "How slow the time goes. Well, I must have another drink."

As George replaces the jug in the most shady spot obtainable, the planter falls to the ground. For several minutes George looks at the fallen planter and the spilled corn. Finally, he looks all around and, seeing only neighbor Brown's hogs rooting under a large willow tree by the roadside, he pulls a small handful of grass over the corn-bedecked sod and picks up what appears to him an instrument of torture—the planter.

Just as he finishes filling it the second time, refreshing himself from the jug for the tenth time, and examining his face in the glass of the watch for the seventh time, the sound of the dinner bell comes ringing across the field. With a whoop, George's snail-like movements are no more as he picks up the now empty jug, bounds lightly over the high rail fence and starts for his mid-day meal. Little attention or thought is given to the fact that neighbor Brown's hogs are then passing through the open gate into the corn field for a mid-day lunch, and that before he returns a major portion of the coveted seed corn will have been spilled or eaten.

THE CUB AND THE FORMULA.

(Continued from page 366).

apparently from the clear sky, and repeated at frequent intervals.

After listening in astonishment to this strange sound for several minutes one of the men halloed and was promptly answered by a burst of muffled but unmistakable Teutonic expletives and appeals.

"That sounds like old man Hornberger himself!" exclaimed Frank Mitchell, the one who had halloed. "Hey, is that you, Tink?" he called.

"Yah! Yah!" came the answer in agonized tones. "I was up on der roof! Come up and get me quick! Der ladder is by der back door!"

Three minutes later half a dozen men, were on the roof, bending over Tink who still sat where he had first dropped, with his back against the coping.

"Tell me quick—Katie—was she all blown up?"

"No, she's all right," Frank Mitchell assured him. "She was over at Mrs.

Kast's house at the time of the explosion."

"Und der shop?"

"Vanished completely. But what are you doing up here on the roof? We thought you were dead and have been hunting for you all the afternoon. Why don't you get up?"

"Get up! I can't get up! What you think, dot I sit here all der afternoon if I could get up!"

It was only too true. As before stated, the store roof was covered with a coat of tar, topped with gravel. This was several years old and had hardened, but the spot where Tink had sat down had been repaired a short time before with fresh tar and this had softened under the hot August sun until it resembled—well, soft tar. Tink, alas, had remained in one position too long. The tar had had time to take hold and had held him fast all the afternoon in spite of his frantic efforts, to free himself.

It took the united efforts of six men to pry him loose from his position, and then with such disastrous results that a boy had to be dispatched to Tink's home for another pair of trousers before the old gentleman could again descend to the ground.

"Where was Teddy bear gone?" he cried as soon as his feet were firmly planted on terra firma once more. "He climb down der ladder, und I see dot he eat his bread und milk, but now where he gone?"

A hasty search of the little court brought no trace of the bear, but footprints in the dust of the alley showed that he had clambered over the rear wall and made his escape.

The arrival of Mrs. Hornberger at this juncture put a stop to further search for the time being; she reached the scene out of breath and full of apprehension. Having heard that her husband had been found on the roof of his store in a helpless condition, but living, and being under the firm impression that he had been in his shop at the time of the explosion, she could arrive at but one conclusion as to how he had reached the roof.

"There, you ol' fool," she panted after she had recovered sufficient breath for speech, "now mebbe you will be satisfied to come by your store like a gentlemen's und 'tend your business, instead of waiting to be all blown up there by der explosion! Was you hurted anywhere?"

"Nein," answered Tink mournfully, "but der shop und der formula und eberything was all blown up und gone und we was a poor man already."

"Well, if you'd stay by der store where you belong, it wouldn't—" began Mrs. Hornberger.

"Yah!" screamed Tink, shaking a triumphant finger under her nose. "Where was you? Where was you? If you'd stay by your house where you belong, it wouldn't have happened already!"

"Hi there, Mr. Hornberger," yelled a shrill voice as a young lad came squirming through the crowd that now filled the little court yard, "come quick! My dog's got your bear up a tree!"

"Oh, my gootness!" gasped Tink. "Don'd let noddings happen to Teddy! Where was he? Take me to him quick!"

Followed by the crowd the boy soon reached the tree where a dozen excited dogs were barking and leaping upward at a very much frightened little cub bear, who trembled in the crotch of a limb.

The dogs were quickly beaten off and, after a short debate as to the best method of capturing the cub, several boys

TOILER IN THE FIELDS SO BARE.

BY WILLIAM A. FREEHOFF.

Toiler in the fields so bare,
Causing fruit to blossom there,
With the plow thy fencing foil,
Thine's the conquest of the soil.

Never need'st thou be ashamed
Though thy urban cousins named
Rustic manners, rugged speech,
As the signs of narrow reach.

Living close to Nature's side
With Her book so open wide
Saved thy soul from evil strife,
Gave thee broader views of life.

If with longing thou should'st gaze
Towards the city's winding maze—
Deeply look into thy heart—
With thy freedom never part.

were sent up into the tree with a rope. After several attempts they succeeded in dropping a loop over the bear's head.

The little fellow made a desperate effort to escape and in the scramble that followed an object was dislodged from the crotch of the limb and fell at Tink's feet.

"Oh, by golly!" cried the excited German. "It was der leedle note book! It was der formula!"

The book had evidently been blown high into the air by the force of the explosion, and in coming down had lodged in the tree. While it was quite badly battered from its experience the writing was still legible.

"And yoost think," said Tink to his wife in the privacy of their home that evening, "if I'd caught leedle Teddy up der on der roof like I was trying, he would never have climbed dot tree, und you und me would be yoost poor folks und ruined, instead of being rich und wealthy and going by a visit to der Ol' Country, yoost as soon as I start my gas company und get even mit der swindlers."

SMILE PROVOKERS.

"What dirty hands you have Johnnie," said the teacher. "What would you say if I came to school like that?"

"I wouldn't say nothin'," replied Johnnie. "I'd be too polite."

"I say, old man, I need \$50 badly and haven't the least idea where I can get it."

"Glad to hear that. I thought perhaps you had an idea you could borrow it from me."

"How many ribs have you Johnnie?" asked the teacher of physiology.

"I don't know, ma'am," giggled Johnnie, squirming around on one foot; "I'm so awfully ticklish I never could count 'em."

Mother—"I really think you'd be happier if you married a man who had less money."

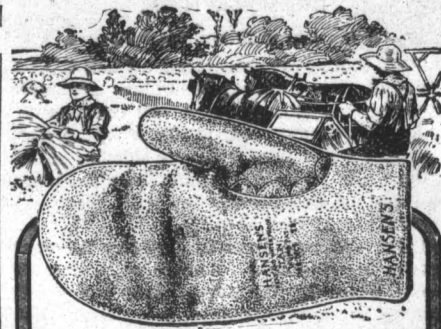
Daughter—"Don't worry, he will have less in a short time."

A country school teacher was cashing her monthly check at the bank. The teller apologized for the filthy condition of the bills, saying, "I hope you're not afraid of microbes."

"Not a bit of it," the schoolmarm replied. "I'm sure no microbe could live on my salary."



Will You Have a Drink, Mister Boss?

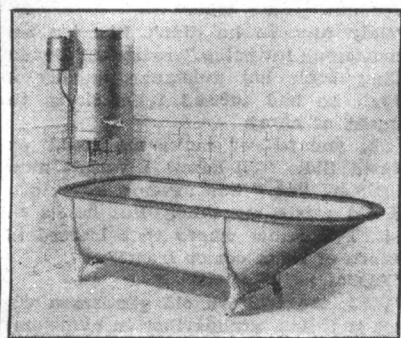


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YOUNG MEN learn a business that pays a good salary and at the same time is interesting. Write for particulars. The Michigan State Auto School, Dept. F. 11-17 Selden Ave., Detroit, Mich.

Wanted—by a young married man situation on farm, or would rent furnished farm. Experienced. Best references. Address Box 64, Chippewa Lake, O.

Please mention the Michigan Farmer when writing to advertisers.

BRAMBLE HILL.

(Continued from page 367).

"Oh, there's advancement all right. We could start you at eighty dollars a month and if you cut down expenses consistently, didn't keep men idling about when you could get along with a shorter shift, I dare say you'd be getting ninety before the end of the year."

"Oh," said Sid blankly.

"But are you honestly looking for real work, old Sideral? Somehow it doesn't seem natural; it's like a deep-sea diver asking for a steeple-jack job. Drop that seriousness, it isn't like you to be so concerned—about anybody—much less yourself."

"Well, it's like this," Sid motioned Jim to sit down, pushing toward him a long red box of cigarettes. "I think it's more or less the proper thing, to work, you know. Everybody does it, after a fashion, and those who don't, worry. Now if I had an income like Doodle there," he leveled his finger at the gentleman who insisted on treating his mustache as the maltese does her catnip, "if I could keep three polo ponies and go in for amateur aeronauting, keep a racing stable of airships, you know, I wouldn't be bored. But a man gets tired of this sitting around, you know."

"It never tired you much at college," put in Jim.

"Oh, I say," remonstrated Doodle with a drawl much more affected than his usual one, "a man can't get tired at Harvard, there's tea at four every day, you know—and tennis, for the athletic ones."

Jim laughed. "I'm glad you haven't lost that little cynicism of yours, Doodle; it's a good deal like a newspaper man's wit; but you know old Sideral here was never quite that kind."

"Only because he didn't like tea and found tennis fatiguing," remarked Doodle, pulling back his mustache quickly as though he had missed it much in the moment of effort.

"Oh, you fellows make me tired," exclaimed Sid. "I'll admit I wasn't much at college, but I was never a sissy, even if I did waste my time. But here's the rub! You know where that blessed allowance of mine comes from?"

"Yes."

"Well, the taciturn old gentleman who gives it to me, grandfather in name only, as Laura Jean Libbey must have it, is getting on in years. He doesn't like me. You remember the only message I had from him during my four years, outside of the allowance, which came regularly through his lawyer?"

"Yes, the lawyer's name was 'Newt Plum.' I remember that very well; think of it! Newt Plum!" When Doodle had managed to master his enjoyment he continued. "Yes, I remember something about that message; it was in answer to a wire asking grandfather if you were to spend your holidays with him; your freshman year, wasn't it? What did he say in reply? I always thought it was pretty good, Voltaire being dead."

"His answer read, 'Yes, Christmas is coming,'" said Sidney slowly, recalling the telegram, "but you aren't."

"Pretty good!" laughed Jim. "Sort of an old sour-ball, isn't he?"

"Yes, meaning no disrespect to the old devil, he is," answered Sidney fervently. "I haven't any kick coming, though. He's done more for me than anybody else, but I can't be altogether thankful and a grovelling worm, you know; he does it with such deuced poor grace. It isn't me he's doing it for, anyway. It's just that my father always wanted me to have a good education, which my grandfather denied him, thinking he ought to stay in Turtle Creek and grow cabbages. Last time I saw grandfather, six years ago, he said he hoped he'd never see my face again; didn't like boys in general—me, in particular. Told me to come and call on him if I ever got any sense and came to be a senator or anything."

"Pretty strong," whistled Jim.

"Well, he was a good sport when I was left alone a year later; communicated with me through his lawyer and said he'd see me through college. Blew himself. Conscience money, I guess. Suppose the allowance has got to be a habit with him now. But he may cut it off; that's why I'm looking for work. Besides, there's a girl in Turtle Creek; he's sort of lord of the manor there, you know. The girl's a kind of foster niece of his, adopted by his sister's husband. Rollins was telling me the other day that he met this girl, Susan Dunlap, at some dinky little boarding school up the Hudson. Says she's all right and seemed to be in the best set there; it's

a place where they teach archery and that sort of thing—one of those fad schools which, quite mercifully, never get talked about, you know. The old gentleman hasn't much feeling, but what little he has is for the ladies. He must have sent her through school; her foster father hasn't any too much money, I guess."

"So that's the rub. You're afraid you won't inherit the old gentleman's property?" said Jim.

"I haven't much idea that I will, but I'm the only immediate relative."

"That's not so bad," drawled Doodle, "providing he hasn't a hobby and doesn't endow a cat hospital, a dog orphan asylum, or something, you've got hope; and I say, while there's hope, why work?"

"Oh, well, cut out this seriousness," said Jim, snapping shut his watch, which he had been holding open for a reflective minute. "Life is short, and I have to begin work tomorrow morning. I've got tickets for the Broadway Roof; we just came in to get you, Sideral. Come along!"

Sid hesitated.

"I've such a lot of things to do," he pleaded.

"What?"

"Well, there's—let's see," his eyes cast vaguely about the room in search of an evident duty, "oh, yes, I haven't sent the receipt yet for my last month's allowance and Nathaniel Edgeworth is a stickler for such details."

"Don't make work of that, Sideral, it should be a pleasure," coughed Doodle, his larynx stumbling through an enveloping fog of cigarette smoke.

"Then there's that reception at Van Alstyne's to be accepted. I've got to get some roses for Miss Yerkees, she sails tomorrow; then there are all the keys to this apartment to sort, and oh, such a lot of things."

"You ought to have a secretary, such a mass of work!" said Jim.

"Oh, I say now, get Roberts to do those things. Come along with us. Make a last night of it. Jim begins dying on the installment plan tomorrow. I say, leave business to Jim and those fifteen-dollar-a-week chaps and drown dull care in the shallow depths of a Martini," remarked Doodle.

"Such a lot of things have accumulated while I've been looking for work, you know," exclaimed Sid. "But I'll go, just to show you I haven't become a hard-shelled, crabbed business man already. I'm glad you fellows aren't dressed. I could never get into even a dinner coat on a hot night like this."

The trio swung out of the Johnstone and crossed to a snug little cafe on Forty-second street, where they met several fellows and duly drowned dull care with each in many Martinis.

Then, with an addition of four to their original party, they went to the Broadway Roof Garden, arriving just in time to get a glimpse of the last vaudeville turn before the ten o'clock intermission.

During that aimless period they sauntered about at the rear of the roof, where a medley of rural attractions were housed for the divertimento of patrons. There was a miniature farm in the rear where a pig wallowed in the extreme realism of two-inch mud (strikingly clean mud, it was) and geese and ducks cackled and clattered on a very exactly reproduced farm pond, with crystal clear water running over a mirror bed, which showed the silly yellow feet a-splashing. Behind, was a decidedly Dutch wind-mill, and a picturesque French hayrack leaned against a log cabin.

Over in one corner was a very wonderful farmer in a Knox straw hat and six-dollar shoes, milking a real cow into a sure-enough pail.

"I thought they milked them nowadays direct into the sterilized bottles at ever-so-much a quart," remarked Sid, absorbed in the picture.

"Yes, they milk the cream off first into the little bottles," put in another Harvard gentleman, who had primed his conversational pump with seven cock-tails. "They put the cow out to pasture first, to be quite certain of getting pasteurized milk."

"Why, Sideral," put in Jim, amid the groans with which the facetious gentleman's remarks had been received, "I thought your grandfather ran a farm and you were there once?"

"Only once—yes, my luck was with me when I was young," answered Sid. "I didn't stay long enough to learn the difference between the cow-bell and the dinner-bell. I remember rushing in seventeen times in the afternoon we were

there, hoping it was dinner and finding it was only the cow."

"But doesn't this remind you of that richly rural spot you once graced? Don't the geese recall your childhood days—whoooping cough, goose grease, and pate-de-foi-gras?" put in Doodle.

"This, gentlemen," said Sideral, turning to the fellows behind him and waving a vaguely inclusive hand toward the vest-pocket farm, "this, gentlemen, is Turtle Creek to the life. List to the cow softly snipping her succulent cud. The geese; you will note their frightened foolish faces and goose flesh. At the right we have a capitalist in overalls, demonstrating with a lowly cow how to milk money from any properly pacified trust. The milkman is Brigadier General Hornbill to the life, he's my grandfather's companion, you know. I saw him milk a cow once; the method is quite correct, only when the cow swished her tail and shied away from him he so far forgot himself as to strike the lady and remark, 'Be that as it may, you'll give down your milk or I'll attach your good-for-nothin' hide an' git an injunction out ag'inst yer further proceedings.'"

"Amiable old person," remarked somebody. "But do they really have windmills like that one on your farm out west, Sideral?"

Sid still took pride in being the only westerner in his set; though his claim was flimsy, being based solely on his one brief visit to that famed farm in Turtle Creek, for he had been reared in Boston by a happy-go-lucky artist, his father.

"Why, certainly, they have to have some power to supply all that water to the creek that runs through the land," he replied grandly.

"Oh, I say, they supply water everywhere," remarked Doodle. "Here, let's drop this personally conducted tour to Turtle Creek and gather convivially about yon table, give the merry waiter with the weeping eye the recognized signal of distress and quaff right merrily mid song and jest till the—"

"Sit down!" Jim pushed him with a laugh into a chair at the nearest table and his Emersonic flow abruptly ceased as the grave question concerning his personal taste in drinkables was suddenly presented to him.

They did make a last night of it, seeing Jimmie off on his hazardous sojourn to the wilderness of Yonkers, giving him a charm against bear-bites, a bottle against snake-bites and a handful of collar buttons (bought from a persistent blind vender who had trailed their intricate winding way from one cafe to another, with much credit to his eyesight)—the collar buttons to trade off for a set of furs with the Indians.

At three o'clock the crowd broke up, leaving the original trio together over their fourth "last" glass.

That finished, Jim pushed back his chair with the remark, "Have to go now. Don't know what the governor'll say. Expects me on the job at eight tomorrow; in Yonkers, as I have said before."

"Oh, well," drawled Doodle, "it's just the pink of the evening, but if you've got to quit I suppose it's all right; Sid and I understand how it is with the laboring class. But there's one thing, Jimmie, we must do. I couldn't touch an ear to my downy pillow tonight if it were overlooked. My conscience would stick pins in my back and I could never face handsome old Sideral here again if this duty were not performed. We owe it to him, as a hopeful child of Fate, fathered, fostered and favored by a group of God-given sons at whose every beckon a star does fall from the heavens. On behalf of the Grand Old American Commonwealth, not to mention the irreproachable State of Massachusetts—"

"Cut the preamble and state your contention; I've got to go," broke in Jim.

"Well," said Doodle, "we have with us tonight a gentleman whom we have basely dragged from duty. He's a young man and we hope he does well, you know. With these facts in view, Jimmie, could you conscientiously close one of your eyes tonight without seeing Sid home and attending personally to the sorting of those many cabinet and closet keys of his, and would you miss the pleasure of assisting at the incubation of his acceptance to the Van Alstyne's, not to mention his acceptance to the check sent by his doting grandfather, not to mention—"

"Done!" cried Jim, jumping up with alacrity, possessed by Doodle's inoculating frivolity, always cropping out at an unseemly hour. "He'd get his acceptances mixed. We'll tend to that, eh, Doodle? Come on!"

"I say," cried Sid, getting to his feet

and struggling between a laugh and a frown, "I'd like to have you fellows come home with me and all that. But last time you took it upon your manly shoulders to straighten out my affairs I had a deuce of a time over it. Had to pay my laundry bill twice because I couldn't remember if you fellows had made me write a check for it that night or not, and I didn't want to do anything silly, you know."

Encouraged by this reminiscence, they bore him off to the Johnstone. It had been almost a monthly duty through college for Doodle and Jim to settle Sid's perplexities after a celebration and hatch a fresh batch of troubles for him. Sid took it so good-naturedly, though he did swear always, next day, to keep things straight and thus escape in the future their solicitous attentions.

They entered Sid's apartment quietly, to avoid awakening Roberts, who was old; though he had a fixed and subservient smile, it was certain he didn't wholly approve of such proceedings, he being the only one left to straighten things out next day.

They seized upon Sid's amazing bunch of keys and began fitting them haphazard to drawers and things, Sid following mechanically to remove the keys, dropping them wherever he took them out, and laughing much at the foolishness of Doodle, who had discovered a sardine-can key in the kitchen and wouldn't be happy till he found a lock to fit it.

"Come," cried Jim, "we'll write that letter of thanks to Grandpa Edgeworth for Old Sideral, and then we'll be going."

Pulling out a bunch of neat, crested paper Doodle seated himself on an up-turned chair before an antique escritoire, tilted his cigarette like a faro dealer, cocked his head far to one side, and inquired, as follows, Jim and Sid grinning suggestions over his shoulder:

"Dear Old Gramp:—"

Your loving and kind wishes for me, sent in your charming epistle, received. I appreciate them much more than the mere money you enclosed. In fact, I threw the money in the waste basket and put your kind words in the bank. It was so like you to send me a grandfatherly embrace in the letter. I return it by embracing your check, which I have decided to rescue from the waste basket and give to my landlord, just to show him how kind-hearted some people can be and how hard-hearted—"

The slight tightening of Sid's fingers on Doodle's shoulder caused him to stop abruptly and turn to follow Sid's and Jim's stare.

Roberts, in a chaste and demure dressing-robe, had slipped softly into the room and, standing at respectful distance, bowed gravely to his master, asking: "Did you see the telegram for you, sir?"

"No! Where is it?" said Sid carelessly.

"I left it on your bed, sir, thinking you might overlook it otherwise, sir."

"Well, get it, read it, and if it's anything important don't show it to me—till tomorrow."

"Very well, sir."

Jim and Doodle, feeling a chilling reserve in the old fellow's steady bearing, and finding his business of no immediate interest to themselves, had returned to the letter.

"Don't forget to put in that I'm looking for work," smiled Sid, Roberts having glided on into the bedroom and Sid's mind being once more care-free.

"I'll say." "I have just signed a contract with —" Doodle broke off abruptly and turned irritably as he became suddenly conscious of the restraining influence of old Roberts again. The cock-tails were on the verge of causing him to say something very rude when Roberts, his face quite pale, stammered out: "If you please, sir, your grandfather is dead."

His trembling hand came jerking out and he gave Sid the telegram.

Sid's eyes took in the message in a startled stare:

"Nathaniel Edgeworth dead. Come at once. NEWT PLUM."

Doodle's hand went slowly down; with a covert motion he slipped the half-written sheet into the waste basket, removed his hat and threw away his cigarette.

Sidney Edgeworth stood looking first at the yellow paper and then at his companions, who dropped their eyes consciously.

He dropped into a chair, inert, speechless. The surprise had shaken off all artificial stimulus.

Roberts withdrew quietly, and Jim's chums sat stupefied—ashamed.

(To be continued).

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Woman and Her Needs

At Home and Elsewhere

A Look Into a Mexican Home—How the Famous Tortilles and Frijoles are Prepared.

THE Mexican working classes were happy until Americans entered their country and stirred them to discontent. Now they will never be happy again," declares Mrs. Frank I. McAllister, a Michigan woman who has spent eight years in the Mexican capital. "The magazine articles and stories relative to their misery and abuse are misleading. They were not hard-worked, had enough to eat, and if they were ever in need of money could always borrow it from the 'Don' on whose hacienda they lived. And if they never paid it back it did not matter. But a few malcontents have gone about instilling the seeds of dissatisfaction and the happy, carefree life of the natives is a thing of the past."

There will be plenty, who, having drawn their view of the case from highly colored stories of oppressed peons, will doubt this view of a woman who spent eight years of her life among the Mexicans and who speaks Spanish like a native. But her story of the life of the women of the working classes is enough to make the hardworking northern woman turn green with envy. Imagine living in a land of sunshine and flowers, with no housework to speak of except preparing the meals, and the rest of the time to spend with your birds and flowers and fancywork! To be sure, there is little housework to do, because there isn't much of a house to keep. One or two rooms with dirt floors and no rugs to beat would decidedly simplify matters,

children slumber peacefully on straw mats on the dirt floor, and no elaborate dishes to prepare to suit the fancy of hungry men, you can readily see that the problem of woman's work is decidedly simplified.

The story of a Mexican woman's day, as told by Mrs. McAllister, is one of peace and poetry. Every home, however humble, has its birds and its flowers, and the housewife's first task in the morning is to see to her feathered pets and look after her flowers. Everything grows so luxuriantly there that the plants require little care, except watering, and with slight effort the homes are filled with roses, gorgeous geraniums, fuchsias and blossoms in colors and sizes unimaginable to the northerner. Plants and birds disposed of, the family is called to "coffee," this being the name of the early morning meal.

And here is where the northern farmer would feel himself aggrieved. Think of going out to your forenoon's work sustained only by a cup or two of coffee and pastales, or sweet bread, as the Americans put it! Pastales are nothing more than small cakes of piecrust with sugar sprinkled on top, and this, with coffee, constitutes the only breakfast of every Mexican family. The coffee is more nourishing than ours, however, as the cup is two tablespoonfuls of drip coffee added. The making of this coffee is an art. Each family has its drip coffee pot, and the coffee is made by pouring one tablespoon-

upon the table. It is two tablespoonfuls of this to a cup of hot milk which constitutes the Mexican's breakfast.

Breakfast, or rather, "coffee," finished, the men set forth to work in garden or field and the women go about the task of preparing the real breakfast, which is served at 11 a. m., and is the only mid-day meal. Frijoles, or Mexican beans, "dry soup," a salad, tortilles, the Mexican bread, eggs, a joint of meat and a sweet must be prepared, and as the Mexicans are famous cooks we can readily see they must take plenty of time in

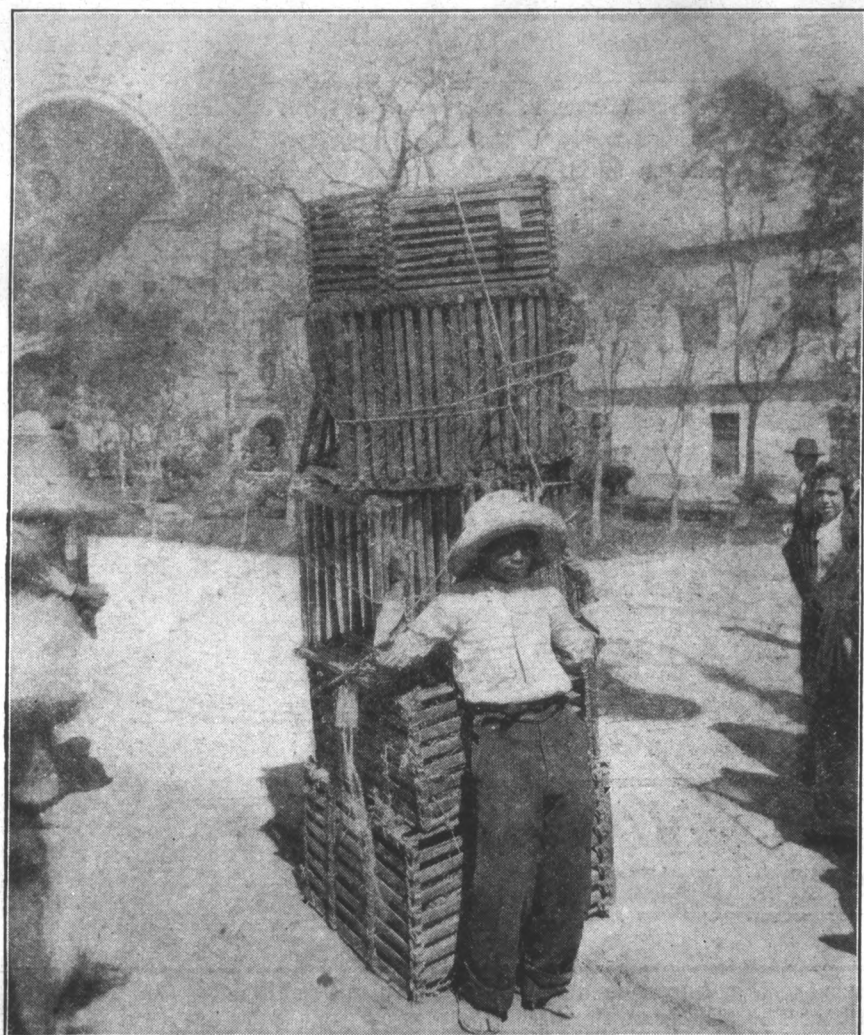
the rice is done, and then served as the first dish of the meal.

After the dry soup comes the meat course, which is usually in the form of a stew, or pucharo. For this a knuckle of meat is cooked with diced potatoes, cabbage, carrots, turnips, or any vegetables at hand, the whole flavored with the moisture which remains on a knife blade that has been used to cut a garlic. The knife is passed through the stew, leaving a suspicion of garlic flavor.

A salad follows the meat, either lettuce alone or with other salad vegeta-



Charcoal is Brought to the Door.



This Gardener Has Carried His Crates of Chickens, Eggs and Vegetables Twenty Miles Over the Mountains.

even if there were no other points of difference between their housekeeping and ours. But when with this you consider there are no styles to keep up with, no winter clothes to get ready in the fall and summer clothes to provide in the spring; few beds to make, because the

ful of boiling water over one teaspoonful of coffee and letting the water drip through the grounds. In this way all the strength and flavor of the berry is extracted. The liquor thus obtained, is often put into a perfumery bottle in the poor families, and in this receptacle set

the preparation of their food. The making of tortilles is an art in itself and one member of each family is trained for this task. But it is more sure than our complicated breadmaking, for there is no yeast to worry about and no fear of getting too hot or too cold during the raising process, because there is no process of raising. The tortilles are simply little flat corn cakes, fried a delicate brown on a small brazier, or stove. The corn is first leached, as we did for old-fashioned hominy. Then the soft pulp, thus obtained, is placed upon a stone table with legs so short that the tortilles' maker must kneel before it to work. Kneeling thus she rolls the mixture with a stone rolling-pin until it becomes a soft mass, when she takes a bit in her hand, spats it against the palm of the other, and then back and forth in the palms until a flat smooth cake is formed. The cakes are then dropped on a sheet of iron on top of the brazier, without the formality of greasing it first, and browned on each side as we do our pancakes. The sound of spating tortilles can be heard all over the streets at any hour of the day, as this corn cake forms the staple part of the nation's diet.

Rice soup, or dry soup, as it is called, forms the first dish of this 11 o'clock meal. This is made by putting a large lump of lard in the skillet, and when it has melted adding one fresh hot pepper cut in small pieces, a half a sweet pepper chopped, a half an onion chopped, one pint of stock or water boiling, and four tablespoonfuls of cleaned and washed rice. This mixture is cooked until

bles, as tomatoes or cucumbers. For this the housewife prepares a French dressing by carefully mixing a half teaspoonful of salt with three tablespoonfuls of olive oil and then adding a sprinkle of pepper and three tablespoonfuls of vinegar. To prevent curdling, the salt is always mixed with the oil before the vinegar is added.

Frijoles, or beans, always form an important part in the hearty meal of the day. These are red, and in appearance a great deal like our kidney beans. While they are dried beans, they are always new and do not take so long to cook as our dried beans. In fact, everything in that country in the line of food is new. Where a new garden can be made as soon as one has been used up, there is no need to keep food stored, so they have no winter vegetables in the sense we have. The frijoles are cooked much as we cook navy beans, boiled first in soda water, then washed, and boiled in salted water until nearly done, when a little chopped hot pepper is added and a generous lump of butter. Frijoles form an important part in the diet of the Mexican, in fact, they are to him what macaroni is to the Italian. And those who have eaten the beans as cooked in old Mexico are loud in their praises of this national dish. Eggs in some form, may or may not form a part of this noon meal, which is concluded with a tablespoonful of preserves and demi tasse.

The manner of serving the meal would appeal to most American women. When the food is prepared it is carefully packed in a receptacle having a compartment for each course and a tiny pan of live coals

in the bottom to keep everything hot, and then carried to the men in the field. If there is a baby the mother takes it on one arm, picks up her carefully-packed breakfast in the other, and followed by the older children sets forth for the spot where the men are employed. Here the entire family eat contentedly, and then lounge and visit for an hour or so during the hottest part of the day.

The women sometimes take along the fancywork at which they are adepts, and as they sit and gossip their fingers are busy at the miracles of drawnwork, embroidery and Irish crochet for which they are famous. These articles they sell for a song when completed, a great deal of the work finding a market in the cities of the American southwest. The afternoon for the women is devoted mostly to needlework, as the evening meal is simply chocolate and more pastales.

The women are very cleanly about their work and always keep a washbasin of water on the brazier, or stove, in which they frequently wash their hands while preparing the meals. The brazeros in the homes of the poor are of brick, while the wealthy boast stoves with tops of marble and sides of tile. Besides the large brick brazero there are small ones of pottery which can be carried about the house, and on which the tortillas are baked. Charcoal is the only fuel used. The cooking utensils are of pottery, too, and hang in orderly array above the brazero. Stove, dishes and house are kept immaculate.

As the Mexican woman is expert in lace making and in making drawnwork, she is also an adept in washing these delicate pieces of handwork. The drawnwork and large pieces of lace, are always washed on a frame. These pieces are always made on frames so there is no trouble in getting a frame to wash them on. They are carefully basted on the frame, wet well with water and rubbed with soap. Then they are set in the sun and left until dry. If the dirt has not come out they are taken in, wet and soaped and again set out and this process is repeated until they are clean. Then they are doused with water until wet all over and carefully pressed with a medium hot iron on the wrong side, over a Turkish towel doubled four or six times.

The Mexican is simple and kind hearted, always ready to divide his last tortilla with you. He is fond of his animals and so devoted to them that there are pools provided for the use of the animals as bathing places. Even the most humble peon is artistic, fond of rare paintings, which he has the chance to study in his cathedral, and appreciative of the best in music.

DIET.—No. 1.

Rapid Eating and Nerves.

A man was once asked why he worked. He replied:

"I work to earn money to buy food to get strength to earn more money to buy more food to get more strength to earn more money to buy—" but his questioner was out of sight.

So we all realize that we have to have food to get strength to work, or play as the case may be. Yet, with all the importance of food, which we recognize in a vague sort of way, how grossly careless most of us are about choosing the sort of foods which will give us most strength with the least wear and tear on the digestive organs. How few of us know, or care, just what food elements the body needs, or the proportion in which they are needed. Even physicians, who should be informed about food values and dieting are, for the most part, as ignorant as the laymen, or if not as ignorant, at least as careless. A few are waking up to the importance of right feeding, and are training their patients to see that if they eat right and keep the stomach right the body will be provided with good rich blood, that is, taking it for granted that the person breathes only pure air and exercises sanely, and the danger of disease will thus be averted.

Correct dieting in cases of illness, most of us know, vaguely, is of as much benefit as medicine. How many of us ever stop to think that if we had correct dieting in health, half the diseases would be done away with, because we would be physically strong enough to throw off the germs which thrive in impoverished blood?

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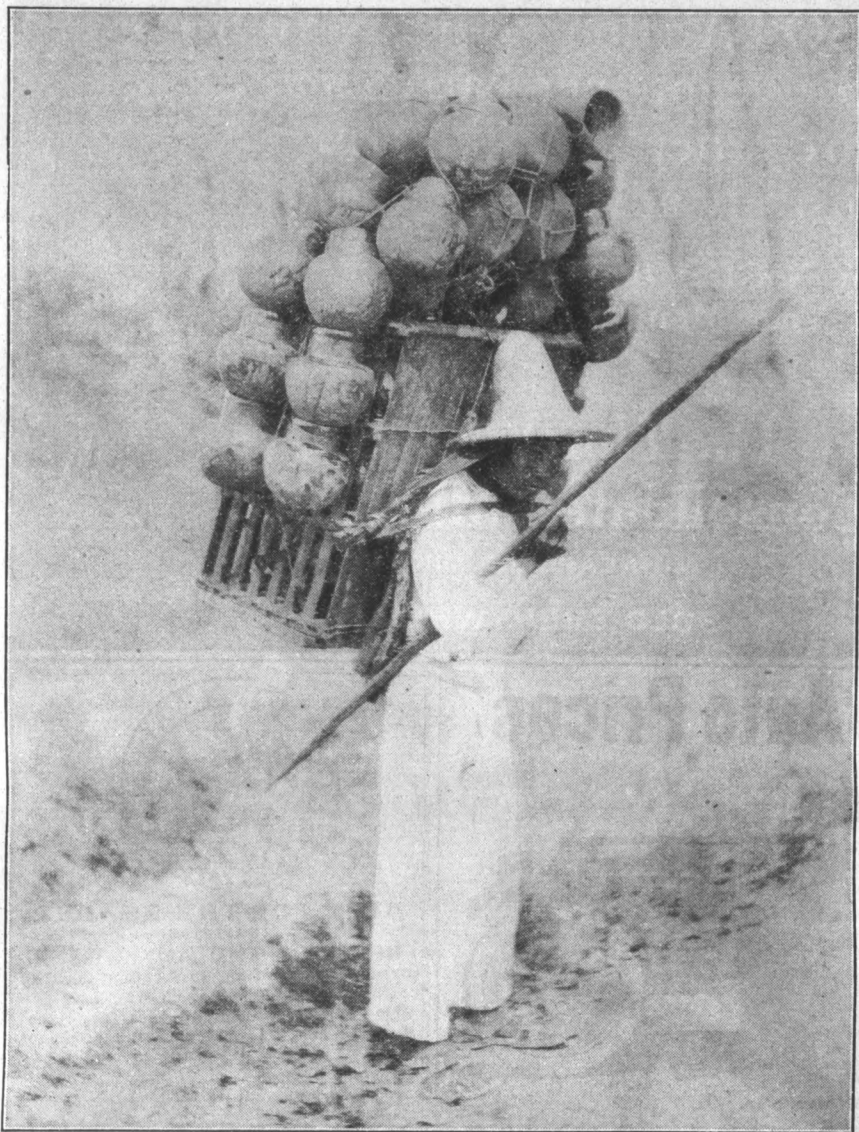
point to the sanity of his belief. Would it not be well for those of older growth to apply his doctrine to themselves and trust to curing many of their ailments by sane methods in eating?

Half of women's troubles come from bad tempers, caused by nerves, and a good half of the "nerves" are caused by wrong methods in eating. This may be stoutly contradicted by the women whose "good digestion waits on appetite, and health on both," and possibly by the women who are victims of their own dyspepsia. But it is nevertheless true.

To begin with, the nervous woman always eats too fast, one of the root sins where digestion is concerned. She is always in a mental hurry, ever in thought urging herself on. There is always looming just ahead of her the immense amount of work she must get through

had often spoken of as being made of iron, gave symptoms of being composed of cells, after all. She had always prided herself on her care in dieting, so she could not think what was the trouble. One day in a physiology recitation a great light broke. Here she had for three years been teaching children the evil effects of eating too rapidly, and now she could not imagine what ailed her stomach, though she had been bolting her dinner for days. That ended the "rush order dinners" for one girl, and in a few weeks' time the stomach was back at par again.

There are other hurried women who would not know themselves in six months' time if they would follow this girl's example. I know all about the temptation to hurry the meal. It seems a pity sometimes that we have to take time to eat when there is so much work



A Pottery Peddler with His Wares on His Back. See Page 374.

with, and everything she does is done in a hurry, the outward visible act being accentuated by the "hurry" thought behind it. She is in no frame of mind to digest her food properly, because through the wonderful network of nerves which controls her body, her stomach is affected by the upset condition of her mind. Added to this, she bolts her food without properly chewing it, swallows pieces which have never been properly broken up by the teeth and mixed with saliva. The food thus unprepared is taken into a stomach which, because of the nervous condition of the mind, does not freely give up its digestive juices, and the first steps of indigestion are taken. Instead of being turned into good healthy blood, the poorly digested food generates poisons which further derange the nerves.

Suppose this were the only harm done, that the woman never ate the wrong sort of food, this thing alone would upset her whole system. Just as an illustration, take the case of a school teacher who boarded just across the road from her schoolhouse. The children all took their dinners, and the teacher went home to get a "good, hot meal." But the thought of possible mischief always made her wish to hurry back. She rushed across the street and into the dining-room as soon as school was dismissed, and literally fell upon her dinner with such gusto that she usually performed the whole feat of going home, eating a dinner of soup, meat, potatoes, vegetables and dessert and getting back to school again in 17 minutes!

After a couple of weeks of this the young woman began to feel decidedly uncomfortable. Her stomach, which she

piled up ahead of us, but after all, Mother Nature knows the best way to get results, and it was a wise scheme of hers to ordain that the human machines should stop for rest and fuel three times a day. No one would think of using insensate machinery as we use our bodies. We carefully oil and clean and fire our engines of iron, but the human engine we begrudge the time it takes to fire up.

If we would but stop to think how much better we feel after a little rest and food, how much stronger and fresher we are for work, we would give a full hour to each meal, instead of the 20 minutes, or at best 30, that we grudgingly "waste" on meal time now.

Let every nervous woman resolve that she will from now on take time each day to eat slowly. Let her give at least 16 "chews" to each mouthful of food, if she will not give the 32 that Gladstone is said to have given. Even 16 is better than what most of us do. Let her resolve to banish all thoughts of work from her mind while she is at the table and give up that time to getting acquainted with her family, and her health and spirits will rapidly improve. She may not eat any different food than she now eats, perhaps she will not eat nearly as much. But what she does eat will be properly assimilated and go for strength of muscles and of nerves.

There are other things she may do to help her nervous condition, food to be cut from the dietary, and some she shuns now to be added. These will be discussed in other papers.

On page 378 you will find an interesting offer. Don't fail to read it.



Anty Drudge Advises Mrs. Oldstyle

Mrs. Oldstyle—"The country looks so fresh and pretty, it makes me feel like throwing all my old things away, they look so dingy. But I guess I'll have to try and be satisfied; my mother got along."

Anty Drudge—"Yes, indeed, your mother did get along; but that's no reason why you should! There was nothing better for her to have, but you can use Fels-Naptha Soap. It will save your clothes and make them look fresher. It cleans and brightens everything."

If you boil even a heavy piece of rope week after week and month after month, the rope may look clean; but it won't be of any practical use. Why? Because the strength of the fiber has been boiled away.

What woman wants to treat her delicate cotton, linen or woolen clothes this way?

With Fels-Naptha Soap you do not have to boil the strength of your clothes away; you don't have to rub them to pieces, either. Fels-Naptha Soap dissolves the dirt, and it does this in cool or lukewarm water.

Grocers and general stores sell Fels-Naptha. Made in Philadelphia

Cash
or
Credit

You'll Be Proud of Your Stove and Your Saving—If You Buy a Kalamazoo

Maybe you think it is easier to buy a stove at home than from the factory. So you are willing to pay a lot more or get a second or third rate stove. You are mistaken. Write a postal now for our catalog and you'll see it's easier to buy from our factory. Of course it's far more economical because of our factory prices, and much safer because of our free trial, year's approval test, and legal guarantee. And our prices have been reduced. We have saved 200,000 customers an average of \$18.00 each.

We Will Save You \$5 to \$40

According to Size and Style

Kalamazoo is acknowledged the best everywhere—but being the only quality stove sold exclusively direct by the makers, they are also the lowest in price.

Your Choice Free For One Month

And One Year's Approval Test

Write for Book Now—Free. It shows 400 styles—a heating stove and cooking stove and range for every home to suit every purse—every one a bargain. Orders shipped day received. Write for Catalog No. 113 mentioning name of this paper.

KALAMAZOO STOVE CO., Mfrs., Kalamazoo, Mich.

We also make Furnaces and Gas Stoves. Ask for Special Catalog if interested in these lines.

"A Kalamazoo Direct to You"

Trade Mark Registered

FREE

And Gas Stoves Too

DON'T PAY TWO PRICES
Save \$8.00 to \$22.00 on
Hoosier Heaters and Ranges

Why not buy the Best when you can buy them at such low unheard-of Factory Prices. Our new improvements absolutely surpass anything ever produced. Save enough on a single stove to buy your winter's fuel. Thirty Days Free Trial in your own home before you buy. Send postal today for large free catalog and prices.

Base Burner Hoosier Stove Co., 130 State St., Marion, Ind.

SAVE YOUR OLD CARPETS.

We make handsome fluff rugs from worn out carpets. Saves money and gives you a soft, warm handsome rug that wears like iron. Write us.

MICHIGAN RUG CO., Battle Creek, Michigan

WANTED A man or woman, all or spare time, to secure information for us. Experience not necessary. Nothing to sell. GOOD PAY. Send stamp for particulars. Address M. S. I. A., Indianapolis, Indiana

LET US TAN YOUR HIDE.

Cattle or Horse hide, Calf, Dog, Deer, or any kind of skin with hair or fur on. We tan and finish them right; make them into coats (for men and women), robes, rugs or gloves when ordered. Your fur goods will cost you less than to buy them, and be worth more. Our Illustrated catalog gives a lot of information which every stock raiser should have, but we never send out this valuable book except upon request.

It tells how to take off and care for hides; how and when we pay the freight both ways; about our safe dyeing process which is a tremendous advantage to the customer, especially on horse hides and calf skins; about the fur goods and game trophies we sell, taxidermy, etc. If you want a copy send us your correct address.

The Crosby Frisian Fur Company,
571 Lyell Ave., Rochester, N. Y.





Olds Stationary Engine running an Olds Cream Separator.

57 Varieties of Saving Work

We know of 57 ways a gas engine can be used on a farm. You'll find more ways.

You can use one for everything from splitting wood to separating cream. We'd like to show you how to save time and earn money with a gas engine.

We are now selling the

Rumely Olds Engine

This is our line of farm engines. We're proud of them. 35 years' experience in building farm engines goes into every one.

They are designed by Olds—built by Seager—sold by Rumely.

You'll want to know about these engines. They are money-makers.

Write today.

RUMELY PRODUCTS CO., Inc.
Battle Creek.
Home Office—La Porte, Ind.

FLORIDA Book Free

We want every General and Mixed Farmer, Dairyman, Stock Raiser, Trucker and Fruit Grower to know all about the excellent opportunities open at Santa Rosa, Florida. The soil is a deep, black, sandy loam—the best in the State. You can raise two and three crops on the same land in the same year. There is plenty of rainfall twelve months in the year. Irrigation or crop failure are unheard of. You can raise the finest and highest priced oranges in Florida. You can raise and fatten hogs at 1 cent per pound. You can pasture stock the year round. Dairying will pay bigger profits than in the North. One of the finest and healthiest climates in the United States. Sunstrokes and frostbites are unknown. Lumber at wholesale prices. All kinds of forage and hay crops. You can raise all semi-tropical crops and almost all Northern crops. It's the ideal place to live, and farm where you can make three dollars where you make one up North.

Send today for our large illustrated book, a free sample of soil, and make us prove these statements. This book is written after 3 years' actual experience on the ground and will prove a revelation to you.

It's all mailed Free, postage prepaid.

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Sharp SHOD in 20 Minutes

YOUR HORSE can be driven with safety and comfort on the icest street if fitted with **RED TIP CALKS**. No long waits at blacksmith's shop for sharpening, no postponed trips due to bad roads. Your Horse is ready when you are ready. Be sure you get Genuine Neverslip Calks. They are marked with a **RED TIP**. Without the **RED TIP** they are Not Neverslips. Send to-day for Booklet T.

NEVERSLIP MANUFACTURING COMPANY
NEW BRUNSWICK, N. J.

RAW FURS WANTED

Write in Now for our Market Quotations. We will send you our Trappers' Guide Free.

AMERICAN RAW FUR CO.
131 West 25th Street, New York City.

FARM HELP—Experienced man with wife wants position on farm. References. Address, Box 62, Mich. Farmer, Detroit.
Mention the Michigan Farmer when writing advertisers

(Continued from page 362).

from two-thirds of the states and a majority of all the states shall be necessary to a choice. And if the house of representatives shall not choose a president whenever the right of choice shall devolve upon them, before the fourth day of March next following, then the vice-president shall act as president, as in the case of death or other constitutional disability of the president. The person having the greatest number of votes as vice-president, shall be the vice-president, if such number be a majority of the whole number of electors appointed, and if no person have a majority, then from the two highest numbers on the list, the senate shall choose the vice-president; a quorum for the purpose shall consist of two-thirds of the whole number of senators, and a majority of the whole number shall be necessary to a choice. But no person constitutionally ineligible to the office of president shall be eligible to that of vice-president of the United States.

The fact that a majority of the presidential electors for whom we vote, instead of for a president direct, are required for the election of a candidate, makes it quite possible that in a three-cornered contest like that of the present year the canvassing of the returns of the electoral vote may not result in the election of any of the candidates. As provided by the article in the constitution above quote, it would then become the duty of the present House of Representatives to proceed to the choice of a president by ballot. But here again the method of procedure which is laid down in the Constitution is such as to make the result uncertain under existing conditions.

By the terms of the Constitution each state has one vote and the candidates voted for must be confined to the three persons receiving the highest number of votes from the electoral college, so-called. Now, it happens that while a majority of the present House of Representatives are democratic in politics the democrats have a majority of the delegations in Congress from only 21 states, while a majority of the delegates from 22 states are republican in party affiliations and the members from the remaining three states are equally divided between the two parties. Thus the outcome of an attempt to elect the president by the House of Representatives, should no candidate receive a majority of electoral votes, is problematical, since a majority of all states is necessary to a choice.

In the event that no choice is made by the House of Representatives before the fourth day of March next following, the Constitution provides that the vice-president shall act as president as in case of death or constitutional disability of the president. In the election of the vice-president the Senate acts in a similar capacity, as does the House of Representatives in the election of the president, in case there is no election by the electoral college. There is, however, this difference, that the Senate is limited in its choice of candidates to the two highest numbers on the list as shown by the electoral vote.

It so happens that it is difficult to foretell what might be the action of the Senate in this contingency since, while a majority of the members of the Senate are republican in their party affiliations, there is a division in their ranks due to the attitude of a number of so-called "insurgents," senators who have not acted in accord with their party colleagues in many cases in recent sessions of Congress. For illustration, when the reciprocity hearings were in progress in Washington, the Senate was vainly trying to choose a president pro tempore, which was not then accomplished, due to the tactics of the so-called "insurgent" contingency and, so far as we are advised, no agreement was reached upon this point.

Naturally, however, existing conditions would be likely to cause a different alignment of factional forces in the election of a vice-president, and yet there remains a degree of uncertainty which would make the outcome problematical in case this duty should devolve upon the present Senate. Of course, any analysis, such as the above, is only of speculative interest, since it is based upon contingencies which may not arise after the electorate have exercised their right of franchise in November, but a better understanding of the Constitutional provisions relating to the election of a president and vice-president would seem to make the above assumption of premises and discussion of possibilities worth while.

HAPPENINGS OF THE WEEK.

National.

The state of Minnesota is laying a plan embodying a survey on the part of teachers and pupils of the public schools

and of the pupils' parents, which is designed to be the basis for effective health work without the assistance of nurses and physicians.

Philander C. Knox, secretary of state, reports that he will retire from public life March 4 next, regardless of the result of the coming November elections.

It is unofficially reported that five United States senators will be called upon during the coming session of congress to defend their seats in that division of our federal legislative body. These senators are: Dupont, of Delaware; Watson and Clinton, of West Virginia; Penrose, of Pennsylvania, and Warren, of Wyoming. The charges were the result of investigations by the Clapp committee on campaign expenditures.

The ocean steamer, Berkshire, caught fire in her forward cargo hold while enroute along the coast of North Carolina. There were 21 passengers aboard the vessel. The ship finally succeeded in anchoring at Lookout Cove, near Cape Lookout. A strong gale prevented life savers from rescuing the crew and passengers. If those on board are able to hold the fire in check until the storm abates it will be possible to rescue them.

Colonel Roosevelt, who was shot a week ago while in Milwaukee, is greatly improved and his physicians believe that he has passed the danger point. On Tuesday of this week he left Chicago for Oyster Bay. He was accompanied only by members of his family and his physicians.

The United States Senate committee making an inquiry into the amounts and sources of political campaign expenditures, is still in session. Many large contributors have been called upon to testify before the committee as to contributions made to campaign managers for assisting the campaigns of different political parties. Thus far the leading parties appear to be suffering alike from the results of the investigation, if the fact of receiving liberal contributions from large concerns and influential men can be taken as a criterion.

Forty-nine passengers were injured when a railway train on the Illinois Central was derailed near Hopkinsville, Ky. None of the injured are believed to be seriously hurt.

One person was killed and four injured at a grade crossing near Hart, N. Y., when an automobile party was run down by a train.

Forty persons were burned severely in an automobile explosion at Petaluma, Cal. The accident may cost the life of Mayor Zartmann and three others.

"Mike" Murphy, the tramer of the athletes who crowned themselves with glory in the Olympian games last summer, and the head of the athletic training department of the University of Pennsylvania, is seriously ill at Philadelphia with the chances against his recovery.

The Livingstone Channel at the mouth of the Detroit river is completed. On Saturday last a flotilla of 20 boats passed through the new watercourse, headed by the steamer Livingstone, under the direct captainship of William Livingstone, president of the Lake Carriers' Association, whose efforts more than those of any other, made the channel possible. This channel is entirely in American waters and is from 390 to 400 feet wide and extends from the deep river water above the Lime Kiln Crossing out into Lake Erie.

A concrete dam which held the water in Hamlin Lake, located nine miles north of Ludington, gave way Sunday and allowed the water to run off completely, draining the lake except for a small stream that flows through the lower portion of the lake bed. It will probably cost \$50,000 to renew the dam.

Urgent inquiry is being made by the naval department of the federal government to locate the transport Prairie, which, with 750 marines, sailed to the coast of Santo Domingo, October 2, to investigate the uprisings in that island and interfere if American or foreign interests were in danger. Nothing has been heard from the vessel and crew since October 2.

The question of the removal of the D. U. R. tracks from certain portions of Fort street, in Detroit, will be considered before the state supreme court this week, the city asking that the court issue a writ of assistance compelling the company to remove the tracks within 30 days. The company declares that this would be an impossibility, that it would require at least 161 days to do the work.

The Michigan Grand Lodge of I. O. O. F. held their sixty-eighth annual encampment in Detroit last week.

Foreign.

The campaign in the Balkan war is active. The reports indicate that the combined forces of the Bulgarian, Serbia, Montenegro and Greeks have been successful so far in routing the Turks from a number of positions. The Bulgarians are said to have captured Kirk-Killesseh after days of severe fighting. The Serb-Bulgarian army claim to have taken 20,000 prisoners, three months' food supplies and considerable ammunition. The Turks are retreating towards Adrianople in confusion, burning the villages as they go. The Greek fleet is reported to have captured a Turkish transport full of troops and also blockaded the island of Lemnos.

A typhoon swept over several of the Philippine Islands on Oct. 16. While it is difficult to learn the exact loss, estimates place the number of people killed at 1,000. The towns of Bogo, Danao, Toledo, Maasin and Escalante are reported to be practically wiped out. Shipping interests suffered from the storm.

Fully 200 Bulgarians and Serbs will leave Detroit this week to answer the war call from their home country.

On page 378 you will find an interesting offer. Don't fail to read it.

What Low Price Means To YOU



Read what I have to offer you:

A New 1913 Model Farm Engine

—So simple a child can run it;
—So economical, it costs but a cent or two for gasoline on a big job;
—So reliable, it won't go wrong;
—So efficient, a touch starts it going;
—So durable, I give you a permanent guarantee of satisfaction;
—And so positive am I that you'll buy one if I make my price low enough, that I'm going to sell my 1913 Model.

Galloway Engines \$50 To \$300 Lower In Price

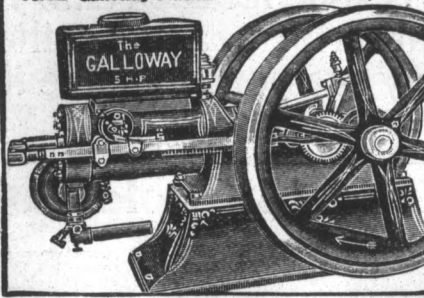
than asked for the next best engine on the market. You can't go wrong on a deal like this. My 30, 60, 90 days' FREE trial protects you. If you don't want the engine after the trial, send it back. I won't charge you a cent for the use you have had of it.

Free Book Reveals the Secret

of my exceptionally low prices and why I can undersell everybody on engine of equal quality. It also explains what a good engine should be and how much to pay for it. Write for book today, learn these things for yourself and get my special 1913 proposition and prices. Write NOW, before you forget it.

WM. GALLOWAY, Pres.

THE WILLIAM GALLOWAY COMPANY
645BZ Galloway Station Waterloo, Iowa



Champion Evaporator

For Maple, Sorghum and Cider

Made of Best IMPORTED CHARCOAL TIN Rapid boiler, saves labor and fuel. Send for descriptive catalogue. All sugar makers' supplies furnished.

Champion Evaporator Co.
Hudson, Ohio.



Give Number of trees you tap.

5% Your Money Will Earn 5% Net If Deposited with this Society

Interest paid semi-annually by check. You can draw out your money at any time. As safe as a real estate mortgage because this society is prohibited by law from investing its funds in anything but first real estate mortgages. Organized twenty years ago. Examined and supervised by the State of Michigan. Deposits by mail conveniently made. This society offers many other advantages which cannot be enumerated here. Full information gladly given if you will send us your address.

INDUSTRIAL SAVINGS SOCIETY

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Detroit, Michigan.
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Are You Interested In

pleasant, permanent and profitable agency work? We offer a position as exclusive distributing salesman either all or spare time for the Automatic Combination Tool, a Fence Builders Device, Post Puller, Lifting and Pulling Jack, Wire Stretcher, Wrench, etc. Used by Contractors, Teamsters, Farmers, Factories and others. Weighs 24 lbs., lifts or pulls 3 tons. Write for offer and county desired. AUTOMATIC JACK CO., Box 186, Bloomfield, Ind.

Galvanized or Painted Roofings At Mill Prices.

We manufacture the very best quality of Steel Roofing, in V Crimp, Corrugated, Pressed Standing Seam or Roll and Gap Roofing.

We can save you money. Write us for prices.

Agents Wanted.

The Sykes Metal Lath & Roofing Co., Niles, Ohio.

Just Right for One Man's Use

THIS combination enilage and dry feed cutter does work of big one—quicker—cheaper
SILBERZAHN No. 13
runs on 6 to 8 H. P. Fills highest silo. Cuts green or dry. Blower or elevator.
Write for Catalog and Prices
GEHL BROS. MFG. CO.
Dept. 123 WEST BEND, WIS.

WANTED TO PURCHASE A BARREL OF
Must be made from good apples and first-class in every particular. Also a barrel of rhubarb wine Address "X," 645 Railway Exchange Bldg., Chicago.

WANTED—Partner in Jersey & Dairy Business.

Address Partner, cr. Michigan Farmer, Detroit, Mich.

The Last Call to those Not Now Taking The Michigan Farmer

The Michigan Farmer Every Week Until January 1, 1913, **FOR ONLY 5¢**

This offer is made so extremely liberal, that every farmer in Michigan and adjacent territory not now a subscriber can with almost no cost give The Michigan Farmer a trial. Even the few trial copies will be of benefit and we feel that it will convince all that The Michigan Farmer is a necessity in the home of every farmer. As the paper starts from the time the order reaches us and no back numbers are sent, orders should be sent at once.

These Premiums Free for 10 Trial Orders.

Speak to your neighbors about the above offer and take their order. If you send us a club of 10 trial subscriptions with 50 cents to pay for them, we will send you free, postage paid, your choice of one of the premiums described below. You can secure as many clubs of 10 as you wish and for each club you can select one premium. This club offer is open also to our present subscribers and as the premiums are valuable and trial subscriptions easy to get, it will pay everyone to make the effort. Write for sample copies to distribute we will send them free.

Address **The Michigan Farmer, Detroit, Mich.**

Solid 14K Gold Point Fountain Pen. "PRESTO" The "ALL-IN-ONE" RAZOR STROP



This fountain pen is not one of the cheap, plated point pens usually given as premiums, that will corrode in a short time and then are worthless. This pen has a genuine 14k gold point. The barrel and cap are made of hard rubber. The manufacturer fully warrants it for one year and repairs during that time due to defect will be made without charge or pen exchanged. The guarantee slip is packed with each pen. Ask for Premium No. 221.



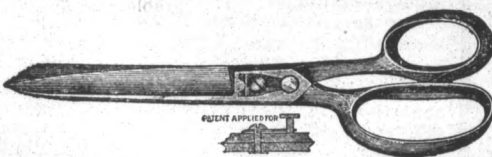
This strop is made from the finest horse-hide leather, tanned by special processes, then chemically treated with "all-in-one" solution. This preparation is so thoroughly incorporated in the leather that it is guaranteed not to peel, wear, scrape or wash off.

Any man can strop a razor with as keen an edge as can the most expert barber. A few strokes on the sharpening side, followed by a like number on the finishing side does the trick. The lot we have purchased are "Extra Strong" and it requires but little stropping to bring a deadly dull blade to a hair splitting edge. Ask for Premium No. 211.

A Beautiful Christmas Assortment.

It is not too early to get this beautiful 159-piece Christmas assortment, as you will then have it when you need it. It is the finest assortment of Christmas and New Year's Post Cards, Tags, Seals and Stickers ever collected. The decorative emblems will enhance the attractiveness of your gifts, while beautiful holiday post cards will make a pleasing remembrance to friends to whom you do not give presents. This assortment contains the following, all in gold and beautiful colors:

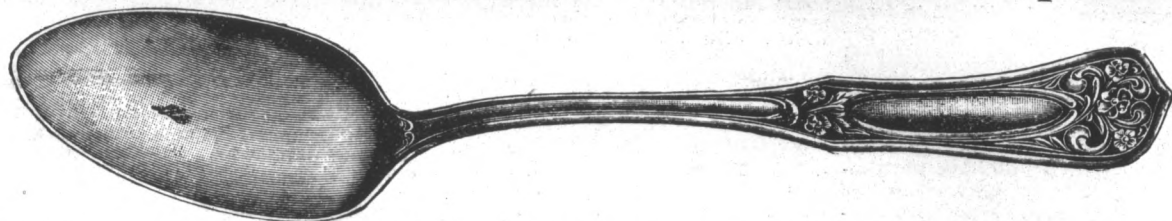
Fifty Maple Leaf Seals, 50 Santa Claus Seals, 12 Christmas Stamps, 12 Small Cards and Tags, 5 Medium Tags, 6 Imported Christmas Cards, 4 Imported Embossed Tags, 15 Christmas Post Cards, 5 New Year Post Cards, 159 pieces in all. Ask for Premium No. 220.



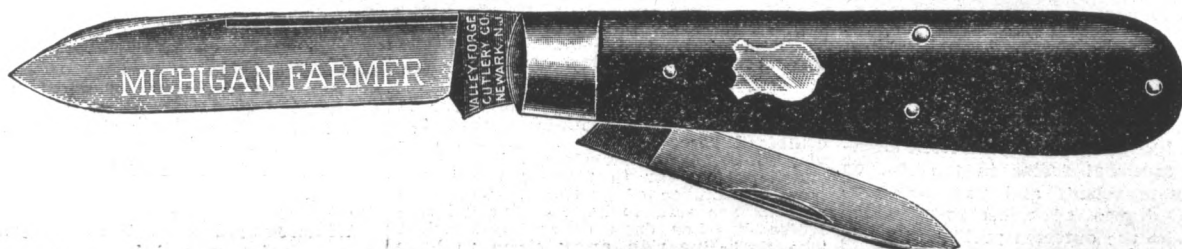
PATENT TENSION SHEARS

Good quality of material, 8 inches with patent adjustable spring tension bolt, preventing the blades from spreading and giving a clean cut the full length. We have sent out thousands of these with excellent reports from users, and they have been one of our most popular premiums. Ask for Premium No. 159.

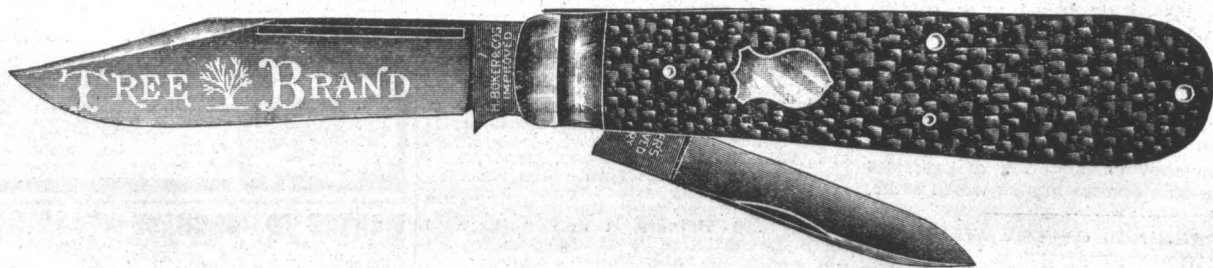
Six Rogers German Silver Tea Spoons.



These spoons are made of the same metal throughout and are guaranteed to last a life time. They can be kept looking bright by cleaning them with a good cleanser. The design is beautiful and the spoons are good enough to use on all occasions. Ask for Premium No. 216.

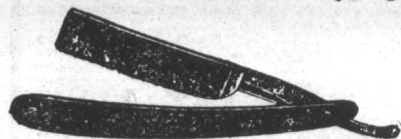


Ebony Handle Knife. Made by the Valley Forge Cutlery Company, of finest razor steel. Two blades, brass lined and well finished throughout. Fully guaranteed. Ask for Premium No. 217.



Stag Handle Knife of the famous Tree Brand cutlery made by the H. Boker Company. Best razor steel, brass lined, large and small blade. Fully guaranteed. Ask for Premium No. 167.

A Genuine German Razor



Not a cheap razor such as is generally used as a premium. It is made of best steel, black handle, hollow ground $\frac{3}{8}$ -in. concave blade; honed and stropped ready for use. Ask for Premium No. 210.



Lock Stitch Sewing Awl, with straight and curved needles. Makes a lock stitch with one thread and one operation. For harness, sacks, canvas or any heavy sewing. Regular price of this awl is \$1.00 in most stores. Ask for Premium No. 123.



Farmer's Calculator, Veterinary Adviser and Farm Record. Veterinary advice alone makes this book of incalculable value to every farmer. In addition there are hundreds of tables of weights, measures, interest, dimensions, etc., and a very complete farm record. Pocket size, $3\frac{1}{2} \times 6\frac{1}{2}$. Ask for Premium No. 127.



Bill Fold and Coin Purse. Cowhide leather, stitched throughout. One pocket for coins, and separate fold for bills. Size $2\frac{3}{4} \times 3\frac{1}{2}$. Button fasteners. A strong, substantial purse that will outwear a half dozen of the ordinary kind. Ask for Premium No. 102.

THE MICHIGAN FARMER,

Detroit, Mich.

PRACTICAL SCIENCE.

MILK PRODUCTS.

BY FLOYD W. ROBISON.

Cheese.

As we have mentioned heretofore, one of the chief products manufactured from milk is cheese. The cheese is so named because of its caseous or casein characteristics. Whereas, butter is produced from the butter-fat almost exclusively, cheese, on the other hand, has for its chief constituent the proteid or the casein of milk. Of course, it would be wrong to assume that cheese contains no butter-fat as it would be wrong to assume that butter contains no casein. At the same time cheese, however, does contain butter-fat as a normal constituent which lends value to it, whereas it is more nearly true in the case of butter that casein is an accidental ingredient present because of the peculiarity of the manufacturing process.

Without doubt cheese is one of the most valuable food products at the disposal of man. Its composition places it at once among the more expensive nitrogenous or protein foods and because of this it fills quite an important place in the dietary when it is desirable for economy and other reasons to exclude meat from the diet.

Casein and Milk Fat the Chief Constituents of Cheese.

The two principal constituents of cheese are casein (and its accompanying proteids of a similar nature), and butter-fat. In fact, cheese contains usually more butter-fat than it does casein, a fact not generally known among people who consider it simply a product manufactured from the casein of milk.

Composition of Whole Milk Cheese.

An average analysis of about 140 to 150 whole milk cheeses shows the following composition:

Water, per cent	38.60
Total solids, per cent.....	61.40
Casein, per cent	25.35
Milk fat, per cent.....	30.25
Milk sugar, per cent.....	2.03
Ash, or mineral matter, per cent....	4.08

Cheddar Cheese Best Known.

Cheese vary very materially in their composition. Some are firm and some are quite loose in texture. We presume to say that the variation alone, as far as the moisture content is concerned, might be all the way from 25 to 60 per cent. Among the well-known varieties of cheese known generally throughout the world is the Cheddar cheese, which is, perhaps, the most common of all cheeses in the United States. Leach states that it originated, however, probably over 250 years ago, in England. It belongs to a class of cheese known as "hard," and Cheddar cheese would therefore be known as a hard cheese. In Michigan there are three quite distinct types of cheese, distinguished from each other in the main by the degree of hardness. Cheddar is the very first; the Michigan type comes next and finally what has been termed "Soft Michigan cheese," which is quite loose in texture, but when made from choice milk is very delicious indeed.

Soft Michigan Cheese.

The soft Michigan cheese is easily, we think, the most popular cheese in the state and seems to win its way most easily. It lacks, as a rule, the strength of flavor in some other cheeses and which many Americans have not yet become accustomed to and because of its sweetness and freshness it is consumed in quite large quantities by many people in the state. We feel that soft Michigan cheese would have everything to recommend it were it not for one great drawback. This will be removed when better inspection methods are exercised by the food officials and a more complete sanitary control of the products of the dairy is had. Low grade milk or milk which is unclean, of course contains a multitude of contaminating bacteria which find in soft Michigan cheese conditions ideal for their further development, and consequently this development takes place to the great detriment of the finished product and in some instances with harmful results to the consumer. Too much care cannot be taken with the milk which is to be manufactured into cheese for surely, contrary to what may have been once the general belief, good cheese cannot be made from poor milk any more than can good butter.

Varieties of Cheese.

There are many varieties of cheese which find popularity in certain sections

of the country. For instance, the Roquefort is a cheese which has a definite flavor developed through careful control of bacterial cultures. Likewise the Brie and still more prominent, but less popular among our people, the Limburger and Sweitzer.

Cheese Standard According to the Food and Drugs Act.

According to the standards laid down by the food standards committee, a product to be called cheese must have the following characteristic: It must be sound, solid and well ripened, manufactured from milk or cream by coagulating the casein thereof with rennet or lactic acid, with or without the addition of ripening ferments, and shall contain in the water-free substance, that is in the total solids, not less than 50 per cent of milk fat. Under special act of congress approved June 6, 1896, cheese may also contain added coloring matter if not injurious to health.

Skimmed milk cheese conforms to the above standards for cheese except that there is no minimum percentage of butter-fat specified.

Adulterated Cheese.

One of the most common forms of adulteration of cheese is the substitution of a skim-milk cheese, or a partially skim-milk cheese for a whole milk cheese. Many instances likewise are known where a foreign fat has been added in the place of butter-fat. For example, oleomargarine mixed with the skim-milk would bring up the fat content but this would be an adulteration because it would be a substitution of an inferior product.

The term "full cream cheese" is a term which has sprung up commercially and has had some long standing in the country to designate a cheese made from whole milk. We presume the reason for its being called full cream cheese is because it is meant that all of the cream natural to the milk was in the milk when the cheese was made. Food officials have contended with a good deal of strength in their contention, we think, that the term full cream cheese is not properly descriptive of the whole milk cheese, but would mean to the consumer, cheese made from cream. We hesitate to endorse this view from all points. However, we do feel that there is no real excuse now for continuing the term, "full cream cheese," when whole milk cheese is meant.

Filled Cheese.

Another term, "filled cheese," has grown up commercially. Under this term is usually meant a skim-milk cheese to which a foreign fat, such as oleo oil, tallow, etc., have been added. We doubt very much the advisability of permitting this term in this way to stand, and think that a cheese which has a foreign fat added to it should be more clearly and thoroughly marked so that there can be no opportunity for misunderstanding on the part of the consumer.

Cheese the Cheapest Animal Food Product.

Cheese is one of the cheapest animal food products at the disposal of the consumer. At 20 cents per pound cheese is as cheap as eggs at 10 cents per dozen and is one-third cheaper than sirloin steak at 18 cents per pound. The point, then, is that in considering such questions as the high cost of living and cutting down the expenses of a high meat diet, the ingenuity of the housewife may very creditably be spent in devising an attractive way for placing this very valuable food product on the table.

BUTTER.

(Concluded from last week.)

Cleanliness the Key to the Production of Good Butter.

In the manufacture of creamery butter, because of the perishable nature of the cream, care should be taken at the very outset, for it is impossible after cream has been contaminated, to so remove the taint as to permit of the manufacture of a high-grade article of butter. When creamerymen realize that they must exert every effort at their command to have the milk and cream brought to them in as pure and wholesome condition as possible then the first permanent steps to the manufacture of a high-grade article have been taken.

The greatest factor in the creamery (Continued on page 387).



Your Telephone Horizon

The horizon of vision, the circle which bounds our sight, has not changed.

It is best observed at sea. Though the ships of today are larger than the ships of fifty years ago, you cannot see them until they come up over the edge of the world, fifteen or twenty miles away.

A generation ago the horizon of speech was very limited. When your grandfather was a young man, his voice could be heard on a still day for perhaps a mile. Even though he used a speaking trumpet, he could not be heard nearly so far as he could be seen.

Today all this has been changed. The telephone has vastly extended the horizon of speech.

Talking two thousand miles is an everyday occurrence, while in order to see this distance, you would need to mount your telescope on a platform approximately 560 miles high.

As a man is followed by his shadow, so is he followed by the horizon of telephone communication. When he travels across the continent his telephone horizon travels with him, and wherever he may be he is always at the center of a great circle of telephone neighbors.

What is true of one man is true of the whole public. In order to provide a telephone horizon for each member of the nation, the Bell System has been established.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
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Every Bell Telephone is the Center of the System.



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this remarkable
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and will carry a full load, too! This feature makes it easy for the Cartercar to travel any roadway over which you wish to travel. The Cartercar has no gears, no clutch, and no universal joints. It's the trouble-proof car. The car that will give you one hundred cents worth of motor car satisfaction for every dollar you invest. No other car is so efficient—no car with gears can be so reliable. Has an unlimited number of speeds—controlled with one lever. Three systems of brakes. The ideal car for young people, ladies and old people, too.

WRITE TODAY FOR INFORMATION

Of course, we did not make the Cartercar especially for farmers, but if we had done so, it could not be more ideal. All we ask is for you to get our catalog and compare it with the ordinary car—write now.

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Branches—New York, Chicago, Detroit, Kansas City

POULTRY AND BEES

HOUSING POULTRY FOR WINTER.

In manner of housing poultry, we have two systems, much different in their extremes. One extreme is the colony plan, consisting of placing small buildings for small flocks at a distance apart to obviate the use of fences, thus giving your flocks free range without intermingling of the different flocks.

The other extreme is the continuing apartment house, consisting of series of separate pens, covered by one roof, each pen opening one to the other, or having a hallway at front or rear and each pen opening into this hallway. There are several plans and arrangements between these two extremes which may be built to suit conditions.

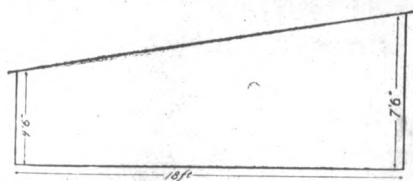
The colony plan has its advantages, viz.; small flocks on free range, no expense for fences, less need of attention to cleanliness and to providing supplies of animal and vegetable feed during the summer.

The colony plan also has its disadvantages, viz., cost of labor to care for fowls during all kinds of weather, for sometimes it is difficult to get around to care for same regularly; houses built on the colony plan, if built as they should be, are expensive, considering their capacity, for partitions, which can be constructed of netting, are much cheaper than end walls. The colony plan allows about 100 fowls per acre, while the larger housing system, with suitable conditions, allows from 400 to 500 fowls per acre.

Location and Construction of Buildings.

The first point to consider is a suitable and convenient location. Choose an elevation with natural drainage away from the building, for damp ground means trouble. If the house can be built in a sheltered place, or in front of farm buildings, so much in your favor. A dry, porous soil, such as gravelly or sandy loam, has preference over a clay soil, for the surroundings are more easily kept in a sanitary condition. If the soil is not naturally dry it should be made so by drainage. Do not select a pure sandy soil, or one too poor for the support of plant food, for ground that will not support plant growth is unfit for poultry.

Always face the buildings toward the south, as sunlight and warmth are es-



Sectional Diagram of Mr. Opydke's Style of Poultry House.

sential to success; without sunlight, warmth and dryness there is certainly trouble in store for you.

The building should be erected on a good, solid concrete wall extending down into the ground below frost, and about eight inches above outside surrounding ground; also the surface enclosed by the wall should be higher than that outside, to prevent dampness.

As to the size of building, I submit sketches showing the outline of a practical open-front poultry house. The form of the building influences the cost of construction; a square house, as outlined, costs less than any other shaped house and additions may be added on east side as the flock increases. A low house is easier to warm than a high one, which is in favor of this shaped house, but get it high enough to avoid danger of bumping the head. This will furnish ample air space for as many fowls as the floor will accommodate.

Roofs, Floors and Walls.

Each form of roof has its advantages and disadvantages. I prefer the shed roof, covered with some kind of patent roofing, with slant to the north, for several reasons; first, it gives the highest front exposed to the sun's rays, which are reflected back, drying and making a warm shelter; second, it throws all rain-water to the rear, lessening the length of eave trough one-half; third, it allows the windows to be placed high; fourth, a roof will last longer slanting to the north; fifth, the one-span roof is cooler in summer and warmer in winter, for it allows the vertical rays of the sun to enter every part of the house.

For floors, I have used cement, dirt, and boards, but the board floor, properly built of matched lumber, is the best I

have found. Place the floor high enough from the ground to admit circulation of air and prevent dampness, for dampness is fatal to all poultry.

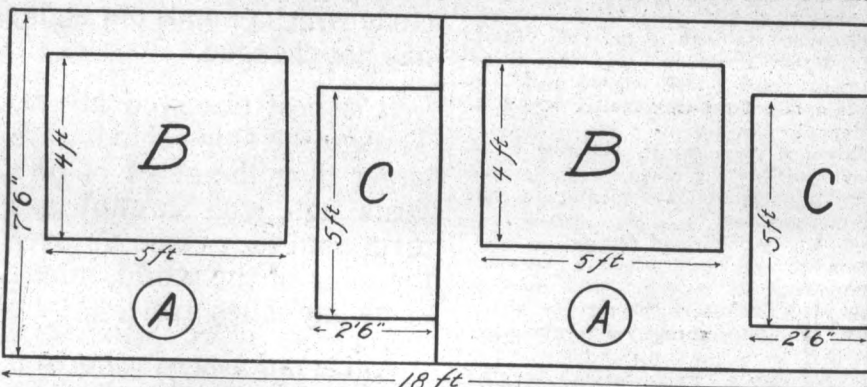
The walls must be built to conserve warmth and dryness and to give strength to the house. Ease of cleaning and disinfecting, also economy and durability are factors to be considered. Common drop siding is best, and the north and west walls should be the most firm and solid, the studding in these two walls being placed not more than 2 ft. 3 in. apart. Tarred paper should be placed between studding and siding on these two sides.

In dividing a long house into compartments I place a partition every nine feet, the supports for the partition being placed on a concrete wall running through the building from north to south. The posts for the partition help support the roof, lessening the danger of trouble

almost sure to induce crowding, while some of the perches will remain unoccupied. A good example of how this plan works out is seen in the accompanying illustration.

PREPARING BEES FOR WINTER.

Many are often puzzled to know how much honey a colony should have in the hive to insure safety as regards winter stores. After years of experience along this line, I now allow from 20 to 25 lbs. of honey to each colony to be wintered on the summer stands, and from 15 to 20 lbs. for those which are to be wintered in the cellar. The above estimate, I think, will hold good, for it is claimed that bees consume less stores wintered in the cellar than when wintered on the summer stands. This is, in a measure, true while they are in the cellar, but it is just as true that they consume some-



Front Wall of Two-apartment Poultry House. A, A, Fowl Entrances; B, B, Muslin-covered Windows; C, C, Doors.

in time of heavy snows. The lower 2½ ft. of the partition is made of boards and the remainder of poultry netting, this style of partition favoring a free circulation of air and the ready admission of light to all compartments.

The sketch showing arrangement of doors and windows represents the front wall of a two-compartment house. There are no doors or windows in the other walls. The doors should be at least two feet six inches by five feet high and placed one foot from bottom of house. Windows are four by five feet, covered with the cheapest unbleached muslin that can be obtained. Place same as high as possible, hinged at the top so they can be swung in from bottom and fastened to roof with hook. I would not place bottom of windows lower than 2½ feet from floor of house, as the wall prevents strong winds from striking the fowls. Cover windows with one-inch-mesh poultry netting.

Dropping boards are placed at north side of house, two feet from floor and horizontal with same. The roosting poles, above dropping boards, are hinged to back of building with common gate lugs, so that roosts can be removed at will or can be raised and lowered. All interior furnishings should be placed high enough from floor to permit the fowls to use every part of the floor space.

Last, but not least, whatever kind of house you construct, look out for draughts, for a house with draughts means a failure.

Livingston Co. W. B. OPDYCKE.

A POINTER ON BUILDING PERCHES FOR FOWLS.

Those who are furnishing new poultry houses this fall should not make the mistake of placing the perches on inclined supports rather than on the level. Placing some perches higher than others is

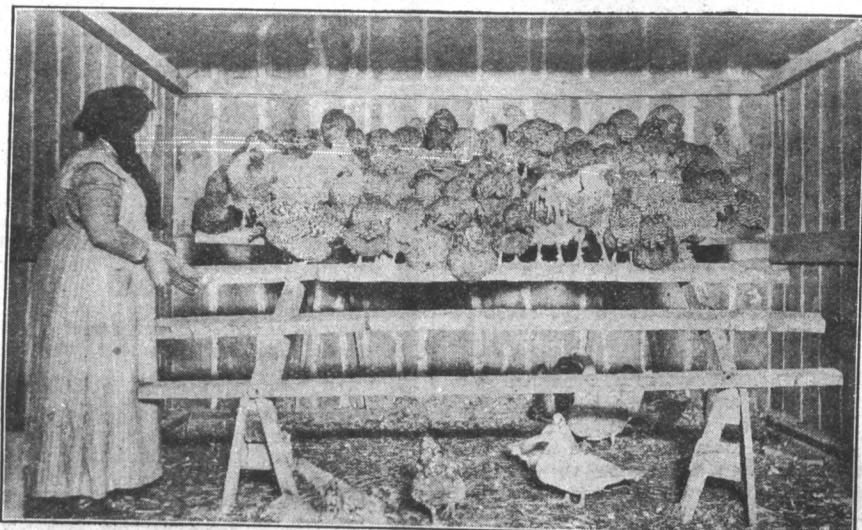
what more during the spring months and unchangeable weather than those protected in the double-walled hives.

In case I find myself compelled to feed, and I usually prepare for this emergency, I prefer to feed by removing combs that have little or no honey in them and replace them with combs well filled and capped over in the earlier part of the season.

Perhaps some of them need no attention at all. Some will be found with insufficient stores, while others may have more than they really need. In order to learn their condition we must examine each colony and make a note of its condition. The bee-keeper who leaves his colonies short of stores in the fall, expecting to feed them in winter or spring, makes a serious mistake, for even though they may never be actually short for present needs, the deficiency operates against them, especially in the spring when they like to see plenty, and need plenty for breeding. Where bees are wintered out of doors they generally "break cluster" with every warm spell that comes and go over to the outside combs of sealed honey, uncap the same, and carry quite a store of it over into the center combs, surrounding the cluster, so that they may have plenty of unsealed honey near at hand to carry them over to another warm spell. This, in a measure, insures their safety from starvation should the cold hold out longer than the sealed stores immediately above them last, as they have this much in addition. In thus carrying honey the whole colony is aroused, and a merry hum is given off, the same as with colonies being fed at any time, or when procuring nectar from the field.

Uniting Weak Colonies.

If there are weak lots, unite two or more after removing the least valuable queen. The stronger the colony in bees the less honey consumed. This appears



Illustrating the Almost Universal Tendency among Fowls to Seek Topmost Perch.

A DOCTOR'S TRIALS

He Sometimes Gets Sick Like Other People.

Even doing good to people is hard work if you have too much of it to do.

An overworked Ohio doctor tells his experience:

"About three years ago as the result of doing two men's work, attending a large practice and looking after the details of another business, my health broke down completely, and I was little better than a physical wreck.

"I suffered from indigestion and constipation, loss of weight and appetite, bloating and pain after meals, loss of memory and lack of nerve force for continued mental application.

"I became irritable, easily angered and despondent without cause. The heart's action became irregular and weak, with frequent attacks of palpitation during the first hour or two after retiring.

"Some Grape-Nuts and cut bananas came for my lunch one day and pleased me particularly with the result. I got more satisfaction from it than from anything I had eaten for months, and on further investigation and use, adopted Grape-Nuts for my morning and evening meals, served usually with cream and a sprinkle of salt or sugar.

"My improvement was rapid and permanent, in weight as well as in physical and mental endurance. In a word, I am filled with the joy of living again, and continue the daily use of Grape-Nuts for breakfast and often for the evening meal.

"The little pamphlet, 'The Road to Wellville,' found in pkgs., is invariably saved and handed to some needy patient along with the indicated remedy."

"There's a reason."

Name given by Postum Co., Battle Creek, Mich.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

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Add the Self-Raising feature and the Galvanized finish and you have extra value. A double latch no animal can work; a barb wire top no animal will ride.

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Wires	Inches high	Medium Weight	Extra heavy (all No. 9)
9	39	25¢ per rod	34¢ per rod
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Special rates beyond this territory.

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strange, but it is quite true; a small lot of bees in a hive containing several combs are restless, with the result that they consume honey to raise the temperature lowered by the cool air surrounding them. In uniting two weak colonies I recommend the following plan: Select the colonies (for the sake of convenience we will suppose you have in use the eight-frame hives), remove four frames of comb from each one, taking those, of course, that contain the least brood and honey; shake the bees down in front of their hives and contract each colony on to four frames of comb. Also at this time remove one of the queens; if there is any difference, take away the inferior one. This preparation should take place a day or two before uniting the colonies. Towards evening, after it is too late for bees to fly much, smoke each colony a little, then remove the four frames of queenless bees from their hive and put them into the one containing the queen. They will make up all right during the night, as queenless bees have nothing to fight for and are not apt to go back to their old stand. I would, however, remove the empty hive from the old location so as not to entice the bees. Then as the nights begin to get cold, and bad weather occasionally prevails, the bees become quiet, glide into inaction, and compose themselves for their long sleep, if sleep it be, or for that condition of wakeful lethargy which is favorable for wintering in the best possible manner. Bees will often winter-kill, with plenty of honey left in the hive, but this honey is away from the cluster, for be it known that during a continuous spell of cold weather they will starve rather than leave the cluster in search of food.

New Jersey. F. G. HERMAN.

HOW EARLY-LAYING PULLETS WERE PRODUCED.

A single comb White Leghorn pullet, that laid her first egg just four months and 14 days from the date of her hatching, is one of the results of breeding for early maturity obtained by the College of Agriculture, of Ohio State University. The usual age at which pullets begin laying is about six months. This extraordinary fowl was one of a lot of 720 that were hatched at the same time. Five or six others from this hatch began laying much earlier than ordinary fowls, showing that it pays to breed for early maturity.

It may be interesting to know just how this flock was fed. From the first day to the sixth week they received twice a day, a grain ration of 2 lbs. of fine cracked corn and 3 lbs. cracked wheat. Until the twenty-first day they also received, three times a day, a moist mash composed of 4 lbs. rolled oats, 3 lbs. corn meal, 3 lbs. wheat middlings, 6 lbs. wheat bran, 4 lbs. sifted meat scraps, 2 lbs. alfalfa meal, 1/4 lb. bone meal, and 1/4 lb. fine charcoal. This was mixed with skim-milk or buttermilk and fed in shallow trays. From the sixth week to maturity they received a grain ration of 2 lbs. of cracked corn and 2 lbs. whole wheat, fed in open hoppers. From the twenty-first day to maturity they received a mash composed of 1 lb. rolled oats, 1 lb. corn meal, 1 lb. wheat middlings, 2 lbs. wheat bran, 1 lb. sifted meat scraps, 1/2 lb. alfalfa meal, 2 ozs. fine charcoal. This was fed dry in open hoppers. In addition they were given green foods and grits.

POULTRY AT COPPER COUNTRY FAIR.

The poultry department at the fair recently held at Houghton was without doubt the best exhibit of its kind ever seen north of the straits. In speaking of its creditable features, Judge Harrison, who placed the ribbons, said: "You have here upwards of 400 birds, there being numbered among the fowls specimens that would win in any national show. I have worked at eleven shows this fall and this exhibit is by far the best I have handled. At other fairs, poultry hucksters make large exhibits of rare specimens of birds, so that they have no competition and thereby win large sums of money as the result of there being no competition. This fair is void of that unpleasant feature, as every fowl entered is confined to home territory. Fancy poultry has advanced more in Upper Michigan in the past five years than in any territory that I have covered. Many of the exhibitors intend sending their specimens to such national shows as Duluth, Detroit, and Chicago, and I predict that they will give a good account of themselves."

No-Rim-Cut Tires 10 Per Cent Oversize

Your Favorite Tires Made So They Cannot Skid

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Now the experts who make them have perfected an ideal Non-Skid tread.

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The tread is so thick, and the rubber so tough, that the Non-Skid feature is immensely enduring. And puncture is very uncommon.

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In every direction they grasp the road with fairly a bulldog grip.

No Extra Strain

These deep-cut blocks widen out at the base. So the strain is spread over wide surface, just as with smooth-tread tires.

That's immensely important. Separate projections would center the strains on a very small part of the fabric. Non-Skids of that kind have proved very short lived.

Safe, Economical Oversize Tires

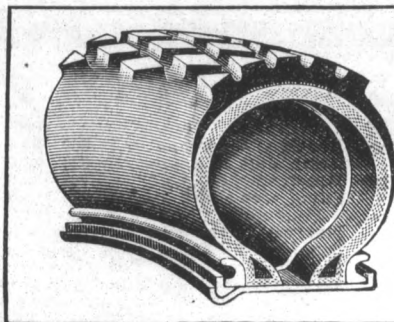
In No-Rim-Cut tires with winter treads you get these three advantages.

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And you get safety on slippery roads and hills. You get efficient, enduring protection.

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strengthens the digestive system, tones up and gently stimulates the egg-producing organs. The cost is low. 25c, 50c, \$1; 25-lb. pail, \$2.50.

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Orders Booked for Single Comb Buff Orpington Cockerels of May hatch. Otis Greenman, R. 4, Bellevue, Mich.

BOURBON RED TURKEYS—for sale Hens \$2.50, toms \$3. Address, Mrs. O. L. MAGEE, Boyne Falls, Mich.

Barred Rock Cockerels—Big, sturdy fellows, hatched from great layers. Prices reasonable. W. C. Coffman, R. 6, Benton Harbor, Mich.

Crystal White Orpingtons—the great winter layers. Yearling hens, early hatched cockerels and pullets. MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Mich.

Silver, Golden and white Wyandottes, a fine lot of young stock. New circular January 1st. Browning's Wyandotte Farm, R. 30, Portland, Mich.

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S. C. R. I. Reds, Indian Runner Ducks—High class ity or show. Hardy, heavy-laying strain at reasonable prices. Montrean Poultry Farm, Blissfield, Mich.

Prize Winning Barred Rocks, R. I. Reds, Mammoth Pekin and I. Runner ducks Stock for sale. Eggs \$1.25, \$3 per set. Utility \$5 per 100 EMWOOD FARM, R. R. No. 13, Grand Rapids, Mich.

LILLIE FARMSTEAD POULTRY
R. P. Rocks, R. I. Reds, and S. C. W. Leghorn eggs for sale, 15 for \$1; 26 for \$1.50; 50 for \$2.50. COLON C. LILLIE, Coopersville, Mich.

DOGS.

HOUNDS for Coon, Fox and Deer, sent on ten days' trial, pedigree and eligible to registry, trained and untrained. R. F. JOHNSON, Assumption, Ill.

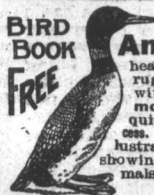
HOUNDS FOR HUNTING Fox, Coon, Skunk and Rabbits. Send 2c stamp. W. E. LECKY, Holmesville, Ohio

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MARKETS

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DETROIT WHOLESALE MARKETS.

October 23, 1912.

Grains and Seeds.

Wheat.—The general tone of the market of this country was steady the past week. There is more or less of a balance between the bearish condition of this country and the bullish situation in Europe. The Balkan war is still the important element considered by wheat dealers and the political disturbance there has kept prices up in spite of the heavy receipts coming into the grain centers of this country. Besides the demand due to the war, there appears to be many stores where stocks had been completed that need to be filled with the new crop. This demand, together with the cash wheat wanted by millers for immediate use, has made the wheat market a much better one than it otherwise would have been, especially since the bears are afraid to sell too short unless affairs in Europe should take a sudden turn and cause an advance in wheat values. One year ago the price for No. 2 red wheat on this market was \$1.00 per bu. Quotations for the past week are:

	No. 2	No. 1	Dec.	July.
Thursday	1.10	1.09	1.11	1.15
Friday	1.10	1.09	1.12	1.15
Saturday	1.10	1.09	1.12	1.15
Monday	1.10	1.09	1.12	1.15
Tuesday	1.10	1.09	1.12	1.15
Wednesday	1.11	1.10	1.13	1.17

Corn.—Sellers have a little better advantage in corn circles than they had a week ago. Wet weather has tended to harden the corn market, the moisture damaging considerable of the corn that had not well matured. The price is about 1c higher than a week ago. There is a fairly liberal offering at country elevators in the corn belt. One year ago No. 3 corn was quoted at 76c per bu. Quotations are as follows:

	No. 3	No. 8
Thursday	64	66
Friday	64	66
Saturday	64	67
Monday	64	67
Tuesday	65	67
Wednesday	65	67

Oats.—No material change took place in the oat deal the past week. Prices have fluctuated a little, but occupy substantially the same basis as then. Receipts at Chicago are large and the general local demand wide, although the call for this grain to ship is only ordinary. On the local market the offerings are small and the grain occupied a firm position on Tuesday. One year ago standard oats were quoted at 50c per bu. Quotations for the past week are:

	Standard.	Oct.
Thursday	36	35
Friday	36	35
Saturday	36	35
Monday	36	35
Tuesday	36	35
Wednesday	36	35

Beans.—Although little trading is going on, prices are a little unsettled for cash beans, showing an advance of 10c last Friday and a loss of one-half of that amount on Tuesday of this week. Farmers are slow about offering their beans, due to bad roads, to the large amount of farm work waiting to be done, and also to a confidence that values will not go much below the present basis. Quotations are as follows:

	Cash.	Nov.
Thursday	\$2.50	\$2.30
Friday	2.60	2.30
Saturday	2.60	2.30
Monday	2.60	2.30
Tuesday	2.55	2.30
Wednesday	2.55	2.30

Clover Seed.—Quotations remain steady with a week ago. Offerings are small, due to the light harvest. There is active bidding for the seed that is coming in. Quotations are as follows:

	Oct.	Alsike.
Thursday	\$11.25	\$12.75
Friday	11.25	12.75
Saturday	11.25	12.75
Monday	11.25	12.75
Tuesday	11.25	12.75
Wednesday	11.25	12.75

Rye.—Practically nothing is being done in this market. The price remains the same as a week ago, No. 2 rye being quoted at 74c per bu.

Flour, Feed, Potatoes, Etc.

Flour.—The market is active with all grades steady.

Straight	\$5.20
Patent Michigan	5.00
Clear	4.90
Rye	4.80

Feed.—No changes are made in any of the feeds. Carlot prices on the track are: Bran, \$25 per ton; coarse middlings, \$28; fine middlings, \$31; cracked corn and coarse corn meal, \$29; corn and oat chop, \$25 per ton.

Hay and Straw.—Market continues steady at last week's range of values. Quotations are: No. 1 timothy, \$16.50@17; No. 2 timothy, \$15@15.50; clover, mixed, \$13@15.50; rye straw, \$10@10.50; wheat and oat straw, \$8@9 per ton.

Potatoes.—Although offerings of potatoes are large there appears to be a scarcity of fancy grades. Many complaints of tubers rotting are reported. Values here are steady. Local prices are 45@50c for car lots on track.

Provisions.—Family pork, \$21; mess pork, \$28.50; clear, backs, \$24; hams, 16c; briskets, 14c; shoulders, 13c; picnic hams, 13c; bacon, 19c; pure lard in tierces, 13c; kettle rendered lard, 14c per lb.

Dairy and Poultry Products.

Butter.—With receipts liberal in the large cities, prices have held firm and in Detroit an advance of 1/4c is noted for creamery offerings. Dairy butter and packing stock remains steady. Quotations are: Extra creamery, 30c; first creamery, 29c; dairy, 22c; packing stock 19c per lb.

Eggs.—While the volume of egg offerings is fairly liberal, yet the quantity of fancy grades is small, due to a considerable percentage of inferior stock. Prices have moved up 1c on the local market. Current receipts, candled, cases included, being quoted at 28c per dozen.

Poultry.—Increased offerings have met with a broader demand, due to high prices of other meat products. Prices on the local market are steady with a week ago. They are as follows: Broilers 13@13 1/2c per lb; hens, 12@12 1/2c; No. 2 hens, 9@10c; old roosters, 9@10c; turkeys 15@16c; geese, 10@11c; ducks, 12@13c; young ducks, 14@15c per lb.

Veal.—All grades steady. Fancy, 13 1/2@14c per lb; choice, 9@10c.

Cheese.—Steady. In wholesale lots, Michigan flats, 15 1/2@16c; York state flats, 18 1/2@19c; limburger, 17 1/2@18 1/2c; brick cream, 18 1/2@19c; domestic Swiss, 21@23c per lb.

Fruits and Vegetables.

Peaches.—Market is small with prices higher. AA, \$1.25; A, \$1; B, 75c per bu.

Pears.—Duchess, \$1.25 per bu; Keiffer, 75@85c.

Apples.—There is a good movement of apples due to their cheapness. Local prices: \$1.75@2.25 for fancy, and \$1@1.50 for common; poor, 75c@1 per bbl. Good apples by the bushel are selling at 40@60c.

Grapes.—In 10-lb. baskets: Delaware, 30c; Niagaras, 25@30c; Concord, 30c.

Honey.—Choice to fancy comb, 15@16c per lb; amber, 12@13c.

Onions.—Crop is large. Per bu., 75c.

Cabbage.—\$1.15@1.25 per bbl.

OTHER MARKETS.

Grand Rapids.

Potatoes are being marketed freely here, offerings at the city market Tuesday morning reaching 3,000 bushels and selling at 40@50c. The hay market is steady at \$12@15. Eggs are bringing 29c; dairy butter, 24@25c. The last of the grapes are coming in and are selling at 30@50c per bu. Apples are worth 30@50c. Grain prices are as follows: Wheat, \$1.06; rye, 63c; oats, 34c; buckwheat, 65c; new corn, 50c. Hand-picked beans are selling on the basis of \$2.25.

Chicago.

Wheat.—No. 2 red, \$1.06@1.08; Dec., 92 1/2c; May, 97 1/2c.

Corn.—No. 3, 63@64c; Dec., 53 1/2c; May 52 1/2c.

Oats.—No. 2 white, 34 1/4@35c; Dec., 32 1/4c; May, 34 1/4c.

Butter.—Steady, with prices and conditions practically unchanged. Quotations: Creameries, 24 1/2@29c; dairies, 22 1/2@27c.

Eggs.—Demand continues to absorb the fairly liberal receipts at steady prices. Quotations: Firsts, 24c; ordinary firsts, 21c; at mark, cases included, 19@20c per pound.

Poultry.—Live, easy. Chickens, 11 1/2c per lb; springs, 13c; turkeys, 15c. Dressed steady. Fresh killed western chickens, 12@17c; fowls, 15@18c; turkeys, spring, 23c; old, 16@17c.

Beans.—All kinds lower, due to increasing receipts of new stock. Pea beans, choice, hand-picked, \$2@3.10 per bu; prime, \$2.90@3; red kidneys, \$2.35@2.45.

Potatoes.—Buying almost wholly confined to supplying immediate needs and values have declined somewhat in consequence. Now quoted as follows: Michigan, 40@42c per bu; Minnesota, 38@40c; Wisconsin, 35@40c.

Hay and Straw.—All grades steady at last week's revised figures. Quotations: Timothy, choice, \$20@21; No. 1, \$18.50@19.50; No. 2 and No. 1 mixed, \$15@16; clover, \$8@13; No. 2 and no grade, \$5@7; alfalfa, choice, \$16@17; No. 1, \$14@15; No. 2, \$10@13. Straw—Rye, \$9@10; wheat, \$6.50@7; oat, \$6.50@7.

New York.

Butter.—An active trade has cared for the increased butter receipts and prices have been maintained. Extra grades have found an especially good demand and in many instances premiums are paid for such kinds. Quotations are: Extra creamery, 31 1/2@32 1/2c; first creamery, 29@30 1/2c; seconds, 27@28 1/2c; process extra, 27 1/2c per lb.

Eggs.—The market is dull except in the high grades where there exists a strong demand. Fresh gathered extras are quoted at \$2@33c; extra firsts, 29@31c; firsts, 25@28c; western gathered whites, 30@37c per dozen.

Poultry.—Dressed.—The market shows a little weakness due to liberal offerings. Fresh killed western chickens are quoted at 13@17c; fowls, 13@17c; spring turkeys 15@21c; old turkeys, 16@17c per lb.

Boston.

Wool.—Liberal buying of domestic wool by manufacturers is reported. The trade extends to nearly all grades, in fact. Dealing in Ohio fleeces was a little less active than in former weeks, the bulk of the trading being in territory stocks. Values are holding firm and some of the brokers declare that further advances are likely to follow present conditions in the market. A good demand for woolen

goods gives the trade a strong foundation. Michigan fine, unwashed wools are quoted at 22 1/2@23c; delaine unwashed, 24@25c; 1/2-blood, 27@28c; 3/4-blood, unwashed, 29@29 1/2c per lb.

Elgin.

Butter.—Market firm at 29c per lb., which is last week's quotation.

THE LIVE STOCK MARKETS.

Buffalo.

October 21, 1912.

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

Receipts of stock here today as follows: Cattle, 315 cars; hogs, 100 double decks; sheep and lambs, 90 double decks; calves 1,200 head.

With 315 cars of cattle on our market here today, and 27,000 reported in Chicago, all grades of cattle sold lower, from 15@25c per cwt. There were very few loads of good cattle here and not a single load of prime. The best weight cattle sold only about 10c lower than last Monday, but all others from 15c to a full quarter lower, except bulls, which sold about steady.

We quote: Best 1,350 to 1,500-lb. steers \$9@9.50; good to prime 1,200 to 1,300-lb. do., \$8.25@8.75; good to prime 1,100 to 1,200-lb. do., \$7.50@8; medium butcher steers, 1,000 to 1,100, \$6.25@6.75; butcher steers, 950 to 1,000, \$5.50@6.25; light butcher steers, \$5@5.50; best fat cows, \$5.25@5.75; butcher cows, \$4@4.75; light butcher cows, \$3.50@3.75; trimmers, \$3.25@3.40; best fat heifers, \$6.50@7.25; medium butcher heifers, \$5.25@5.75; light butcher heifers, \$4.25@5; stock heifers, \$4@4.50; best feeding steers, dehorned, \$6@6.25; common feeding steers, \$5@5.25; light stockers, \$4@4.50; prime export bulls, \$6@6.25; best butcher bulls, \$5.50@5.75; bologna bulls, \$4.50@5; stock bulls \$4.50@5; best milkers and springers, \$60@70; common kind do., \$25@40.

Receipts of hogs today about 100 double decks. With just a limited demand prices were 10@15c lower on all but pigs and lights; this kind selling steady. One or two decks of fancy heavy hogs sold at \$9.35, and a few closely sorted at \$9.10 @9.15, but the bulk of the mixed went to our local packers at 9c a lb. Choice yorkers, \$8.75@8.90; light yorkers, \$8.25 @8.50; pigs, \$8@8.15; roughs, \$7.75@8.25; stags, \$7@7.50. Trade extremely dull on york weights; several loads of this kind going over unsold.

The sheep and lamb market was fairly active today, with prices steady with the close of last week; most of the choice lambs selling for \$7.65; yearlings, \$5@5.75; look for about steady prices the balance of the week.

Choice lambs, \$7.60@7.65; cull to fair do., \$5.50@7.25; yearlings, \$5@5.75; bucks \$2.50@3; wethers, \$4.75@5; handy ewes, \$4@4.25; heavy ewes, \$3.75@4; cull sheep \$2@3; veals, choice to extra, \$9.50@10; fair to good do., \$7.50@9.25; heavy calves \$4.50@6.

Chicago.

October 21, 1912.

Cattle. Hogs. Sheep. Received today 25,000 35,000 50,000 Same day last year 39,024 33,072 67,844 Received last week 65,949 116,637 147,392 Same week last year 72,306 151,800 220,585

Following the heavy receipts of cattle last week, the run today was almost too large, and buyers took their time in filling their orders. The choicer lots went at pretty well sustained prices, and canners and cutters were no lower as a rule, but otherwise sales dragged, and prices were largely 10c or more lower. The receipts included about 6,000 western range cattle. Hogs broke 5c on an average, with sales at \$8.25@9.20, a speculator paying the top figure, the one transaction above \$9.15. Hogs received last week averaged 226 lbs., compared with 222 lbs. a year ago and 249 lbs. two years ago. The sheep and lamb receipts show a much increased percentage of fed consignments, with more sheep than usual, and while fat muttons sold all right, the less attractive lots showed weakness at times. There was a big attendance of buyers of feeders, especially from Michigan and Indiana, and the feeder market was strong.

Cattle prices suffered some sharp breaks last week as a result of much larger receipts than usual, and even the choicer offerings had to sell off some. Beef steers sold chiefly between \$7 and \$10, with the choicer lots bringing \$9.50@10.95, and the commoner light-weight native grass-fed steers taken at \$5.60@7. The middling kinds sold away off, and as for the poorer cattle, it was tough work finding purchasers, the average quality of the daily runs being much inferior to former supplies. Prime little yearlings sold as high as the best heavy beefs of long feeding, the percentage of choice cattle being very small. Cows and heifers brought \$4.35@7.50 as a rule, with limited sales at \$7.75@8.75 for extra heifers. Cutters brought \$3.75@4.30, canners \$2.40@3.70 and bulls \$4@7. Western range cattle comprised a fair part of the receipts and averaged considerably lower, with steers selling at \$5@9.75 and cows and heifers at \$4@7.50. There was fair animation in the stocker and feeder trade, as larger offerings made lower prices, especially for all except the choicest offerings. Stock steers sold at \$4.25@6.65 and feeders at \$5.80@7.60, with not many sales of feeders near the top figures. Calves were much lower than a short time ago, selling at \$4@9.75 per 100 lbs., and milkers and springers sold as usual on a basis of \$35@45 per head for the commoner kinds, while the best cows were scarce and salable at \$80@100, sales being chiefly around \$50@75. Backward cows are only suitable for beef and should not be shipped to market. Southwestern pastures are marketing large supplies of grassers, and this is a depressing influence. Cattle averaged 15@40c lower than a week earlier, with everything included, and lots selling at \$9@10.25 declined most

of all. A Canadian ranch marketed two cars of prime grade Hereford and Short-horn steers averaging 1,560 lbs. at the record price of \$10.25, the owner having 43 cars on the market.

Hogs continued to be marketed sparingly for still another week, supplies being much smaller than for corresponding weeks in recent years, and there was a great deal of complaint regarding the poor average quality of the daily offerings. The undesirable quality of the offerings tended to depress prices, and buyers filled their requirements much of the time at considerably reduced quotations from the previous week, at which time hogs sold at the highest values recorded in more than two years. Drovers of hogs of choice quality and averaging around 235 to 315 lbs. were among the highest sellers, and buyers discriminated against light-weight hogs, these selling slowly at a much greater discount than heretofore. It is now plainly evident that the country has marketed the great bulk of the hog crop and that no large numbers of good hogs are left for future marketing. There is all the time a large consumption of fresh pork, as well as of cured hog meats and lard, and supplies of provisions are melting away very fast. At the same time the extremely light demand for hogs to ship to eastern packing points is taken advantage of by local packers to depress prices. Saturday's sales were at \$8.25@9.20, compared with \$8.65@9.42 1/2 a week earlier, the high day of the year. Stags went at \$9.25@9.65 and pigs at \$4.25@8.15.

Sheep and lambs underwent some lively advances in prices last week on account of the great falling off in receipts from the western ranges. The upward movement was particularly marked in choice flocks, with fat lambs leading off under the influence of a strong demand. There was an extremely large demand for feeders, and because of the great decline in the receipts, buyers were forced to pay materially advanced prices, especially for choice kinds. Sheepmen in feeding districts have suddenly become confident that better times are ahead and have ceased to ship in their holdings liberally, foreseeing that the approaching end of the range shipping season means much higher market prices. Killers have been taking the tops of feeder lamb consignments from the ranges. The close of the week saw sheep largely 40@50c higher than a week earlier, while lambs sold 65c@1 higher, feeder lambs at \$6@6.65 being 25 @50c higher. Lambs sold at \$5@7.50, yearlings at \$4.75@6, wethers at \$4.25@4.75, ewes at \$2.50@4.60 and bucks at \$2.75@3.75. Breeding ewes sold at \$4@5, and feeders paid \$4.75@5.50 for yearlings, \$4@4.50 for wethers and \$3.25@3.75 for ewes.

Horses were offered last week considerably less freely than a year ago, and more horses and mules of the heavier class could have been sold than arrived. A noteworthy sale was that of a car load of high-class loggers of heavy weight, numbering 21 head, at \$300 per head or thereabouts, for shipment to the northern Michigan lumber region. Lighter horses of the draft type were taken around \$175@225, and the heavier ones were wanted anywhere from \$250@325, while wagon horses brought \$160@250. Farm workers were salable at \$100@200, mares selling the highest invariably. Inferior horses sold as low as \$75.

LIVE STOCK NOTES.

A significant feature of the recent Chicago cattle trade is found in the numerous sales of Canadian steers at extremely high prices, quite a number of range steers from the Dominion having brought around \$9.50 per 100 lbs., while several days ago a sale was recorded of two car loads of Canadian range steers at \$10.25 per 100 lbs., the highest price ever paid on that market for grass-fed cattle. Such transactions are sufficient proof of the extraordinary scarcity of fat beef cattle. Not only are heavy, long-fed cattle commanding record prices, but the best little yearlings have been selling nearly as high as the heavier beefs.

The Chicago market for stocker and feeder cattle has been variable in recent weeks, with prices usually maintained much better for the better class of feeders than for other kinds of feeders and stockers. All along the eastern demand has been singularly poor, especially so far as the choicer feeders are concerned, with the region around Chicago taking the best lots as a general rule. The east has been obtaining its feeder supplies largely from its home region, purchasing chiefly rather ordinary stock. All this points to a great shortage of choice beefs throughout the eastern country for months to come.

Patrick Cudahy, the well-known packer, says: "While we are exporting considerable hog product at the present time, I believe the time is not far distant when growers in this country will not be equal to the task of meeting domestic consumption. We are even sending lard and hog meats to Canada, a big Calgary, Alberta, order having been filled at one plant recently. Everything has operated to curtail hog production since the panic of 1907. Disease has given the industry a setback, and high-priced corn has been another handicap. My forecast of the hog market is decidedly bullish."

A purchasing agent for a big horse ranch near Los Angeles, Cal., has made a recent purchase in Marshalltown, Iowa, of a pair of Percheron mares at \$2,000. The ranch is being stocked with Percherons, and the mares alluded to are pure-blooded animals, four years old, well-matched dapple grays, weighing 1,900 lbs each. During this autumn they won \$600 in cash prizes at the state fairs of Iowa, South Dakota and Minnesota, besides prizes offered at three fairs by the Percheron Society of America. Fourteen by the agent in the county at an average cost of \$285 per head, the entire car load costing an aggregate of \$5,290.

THIS IS THE LAST EDITION.

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.
October 24, 1912.
Cattle.

Receipts, 2,329. Bulls, canners and good feeders steady; all others 10@15c lower.

We quote: Extra dry-fed steers and heifers, \$8; steers and heifers, 1,000 to 1,200, \$6.50@7; do. 800 to 1,000, \$5.25@6; grass steers and heifers that are fat, 800 to 1,000, \$5.25@6; do. 500 to 700, \$4.25@5; choice fat cows, \$5@5.50; good fat cows, \$4.25@4.50; common cows, \$3.50@3.75; canners, \$2.50@3.50; choice heavy bulls, \$5@5.25; fair to good bolognas, bulls, \$4.50@4.75; stock bulls, \$4@5.50; choice feeding steers, 800 to 1,000, \$5.50@6.25; fair do., 800 to 1,000, \$5@5.50; choice stockers, 500 to 700, \$4.75@5.25; fair stockers, 500 to 700, \$4.50@4.75; stock heifers, \$3.50@4.25; milkers, large, young, medium age, \$4.50@5; common milkers, \$2.50@3.50.

Spicer & R. sold Sullivan P. Co. 10 butchers av 574 at \$4.50, 5 do av 732 at \$3.50; to Belford 25 steers av 962 at \$6.25; to Kamman B. Co. 1 do weighing 850 at \$4.50; to Bresnahan 4 bulls av 645 at \$4.25, 2 do av 590 at \$4; to Mason B. Co. 4 cows av 947 at \$3.75, 19 butchers av 593 at \$4.50; to Nagle P. Co. 2 cows av 1,150 at \$4.40; to Hammond, S. & Co. 2 heifers av 600 at \$4.65, 2 cows av 915 at \$3.65; to Snow 2 stockers av 550 at \$4.50; to Rattkowsky 2 cows av 1,060 at \$4.25; to Bray 7 do av 736 at \$3.40; to Snow 3 stockers av 607 at \$4.65.

Roe Com. Co. sold Hammond, S. & Co. 1 steer weighing 950 at \$6, 5 do av 960 at \$6.75, 6 cows av 965 at \$4.15; to Nagle P. Co. 2 cows av 1,150 at \$4.75; to Sullivan P. Co. 11 butchers av 615 at \$4.25, 32 do av 581 at \$4.50, 5 do av 500 at \$4, 4 cows av 847 at \$4.50, 2 bulls av 950 at \$4.50, 2 stockers av 380 at \$3.50; to Snow 2 do av 635 at \$5; to Newton B. Co. 15 stockers av 580 at \$4.50, 1 steer weighing 1,200 at \$7, 13 butchers av 1,025 at \$4.15, 11 cows av 822 at \$3.50, 4 steers av 830 at \$5.50; to Kamman B. Co. 6 butchers av 730 at \$4.75, 11 steers av 850 at \$5.75, 2 cows av 1,005 at \$4.50, 20 butchers av 552 at \$4.40, 4 do av 705 at \$5; to Breitenbeck 19 do av 740 at \$5.15, 4 cows av 1,010 at \$4; to Kamman B. Co. 14 butchers av 930 at \$4.25; to Schumaker 3 feeders av 903 at \$5.50; to Bresnahan 1 bull weighing 1,030 at \$4.75, 4 cows av 935 at \$3.50, 16 do av 923 at \$3.65, 10 do av 900 at \$3.60, 18 do av 846 at \$3.65, 11 do av 736 at \$3.60; to Fry 14 butchers av 570 at \$4.25; to Mason B. Co. 28 do av 752 at \$5.10.

Bishop, B. & H. sold Mich. B. Co. 9 cows av 1,053 at \$4.50, 8 heifers av 781 at \$4.75, 2 steers av 960 at \$6.25, 2 bulls av 1,025 at \$5; to Parker, W. & Co. 15 steers av 933 at \$7, 2 do av 900 at \$6, 22 butchers av 960 at \$6.25, 5 bulls av 885 at \$4.65; to Sullivan P. Co. 7 cows av 971 at \$4.30, 7 do av 964 at \$4, 5 butchers av 774 at \$4.75, 6 steers av 1,083 at \$7, 25 butchers av 373 at \$3.80, 11 do av 680 at \$4.50, 14 do av 550 at \$4.25; to Jones 15 stockers av 601 at \$4.75; to Hammond, S. & Co. 8 cows av 845 at \$3.60, 17 butchers av 675 at \$4.05, 28 do av 578 at \$4.35; to Nagle P. Co. 2 cows av 1,090 at \$4.60; to Goose 26 butchers av 520 at \$3.80; to Thompson Bros. 1 bull weighing 1,160 at \$4.75, 3 cows av 900 at \$3.85, 12 butchers av 752 at \$4.35; to Regan 26 do av 586 at \$4.10, 28 do av 592 at \$4.10; to Bresnahan 8 bulls av 571 at \$4, 2 cows av 900 at \$3.50, 8 do av 825 at \$3.50, 5 do av 884 at \$3.50, 13 do av 1,120 at \$3.60, 4 do av 937 at \$3.50, 2 bulls av 685 at \$4.25; to Mich. B. Co. 5 steers av 746 at \$5.25, 6 cows av 950 at \$4.10; to Bray 3 do av 1,026 at \$3.50.

Haley & M. sold Bresnahan 9 stockers av 500 at \$4.15, 7 canners av 800 at \$3.50, 1 cow weighing 790 at \$3.50; to Rattkowsky 15 cows av 920 at \$3.90; to Bresnahan 6 heifers av 593 at \$4; to Mich. B. Co. 2 oxen av 1,575 at \$5, 5 cows av 1,000 at \$3.75, 1 bull weighing 1,320 at \$5; to Bresnahan 2 cows av 960 at \$3.50, 5 bulls av 625 at \$4.10, 8 butchers av 585 at \$4.35, 4 do av 587 at \$4.15, 13 cows av 823 at \$3.45, 3 bulls av 597 at \$4, 2 do av 660 at \$4, 8 cows av 767 at \$3.40, 8 butchers av 627 at \$4.15, 9 do av 855 at \$5.80, 6 cows av 925 at \$3.50, 4 heifers av 580 at \$4.25, 2 cows av 915 at \$3.50; to Breitenbeck 4 cows av 995 at \$3.75, 2 do av 1,000 at \$4; to Parker, W. & Co. 18 steers av 966 at \$6.25; to Hammond, S. & Co. 1 bull weighing 1,000 at \$4.75; to Schlischer 26 butchers av 620 at \$4; to Applebaum 8 do av 725 at \$4.65; to Fromm 3 do av 860 at \$5.25, 7 do av 743 at \$4.90; to Grant 9 do av 800 at \$4.60; to Sullivan P. Co. 3 do av 713 at \$4.50, 2 cows av 940 at \$4; to Bray 10 cows av 915 at \$3.50; to Warty 7 feeders av 860 at \$5.25, 3 do av 800 at \$5; to Brodero 5 cows and bulls av 936 at \$4.20.

Sandall sold Mich. B. Co. 14 butchers av 580 at \$4.50.

Same sold Newton B. Co. 2 bulls av 1,125 at \$4.75, 1 do weighing 600 at \$4.50, 2 canners av 765 at \$3.50.

Campbell & Co. sold same 7 cows av 787 at \$3.45, 3 do av 983 at \$4.

Veal Calves.

Receipts, 559. Market steady at Wednesday's prices; 50c lower than last week. Best, \$9@9.50; others, \$4@8; milch cows and springers steady.

Spicer & R. sold Sullivan P. Co. 3 av 150 at \$9.40; to Goose 2 av 150 at \$8.50, 2 av 275 at \$4.25, 2 av 140 at \$9.40.

Roe Com. Co. sold Thompson Bros. 1 weighing 120 at \$9, 1 weighing 200 at \$5; to Goose 4 av 250 at \$4.50, 1 weighing 140 at \$9; to Nagle P. Co. 13 av 160 at \$9.25; to Goose 2 av 125 at \$8, 1 weighing 230 at \$5, 4 av 250 at \$4, 1 weighing 140 at \$9; to Rattkowsky 3 av 150 at \$4.50, 10 av 278 at \$4, 1 weighing 290 at \$5.50.

Haley & M. sold Rattkowsky 2 av 125 at \$4.25; to Newton B. Co. 4 av 145 at \$8.50, 5 av 150 at \$8.75, 2 av 145 at \$9, 1 weighing 230 at \$8, 3 av 150 at \$8.50, 14 av 225 at \$4; to LaBoe 7 av 150 at \$9.50; to Thompson Bros. 8 av 130 at \$8.50; to McGuire 4 av 140 at \$9.

Bishop, B. & H. sold Newton B. Co. 5 av 155 at \$9, 9 av 150 at \$8.75; to Parker, W. & Co. 2 av 120 at \$7.50, 2 av 130 at \$8, 2 av 150 at \$7.50, 6 av 125 at \$8.50, 5 av 125 at \$9.50, 2 av 105 at \$7, 2 av 215 at \$7, 13 av 130 at \$9, 9 av 150 at \$9, 5 av 155 at \$8.50; to Sullivan P. Co. 14 av 140 at \$8.25; to McGuire 7 av 145 at \$7.50, 4 av 180 at \$9.50; to Goose 9 av 200 at \$4; to Burnstine 3 av 175 at \$6, 5 av 125 at \$9, 13 av 135 at \$9.50, 3 av 150 at \$9, 3 av 120 at \$9.

Haley & M. sold Newton B. Co. 4 av 145 at \$8.50.

Sheep and Lambs.

Receipts, 6,660. Market steady at last week's prices. Best lambs, \$6.50@6.65; fair to good lambs, \$6@6.25; light to common lambs, \$4.50@5.50; wethers, \$4@4.50; fair to good sheep, \$3@3.50; culs and common, \$2@2.75.

Haley & M. sold Hammond, S. & Co. 29 sheep av 100 at \$3.35, 11 do av 110 at \$3.35; to Costello 8 lambs av 45 at \$5; to Thompson Bros. 21 sheep av 90 at \$3.25; to Newton B. Co. 36 lambs av 58 at \$4, 39 do av 65 at \$6.25; to Costello 28 do av 55 at \$5; to Nagle P. Co. 150 do av 77 at \$6.60, 74 do av 70 at \$6.25, 43 wethers av 110 at \$4, 92 lambs av 65 at \$6.25, 74 sheep av 90 at \$3.25; to Thompson Bros. 44 lambs av 70 at \$6.40; to Costello 24 do av 45 at \$5, 17 do av 65 at \$6; to Hayes 15 do av 67 at \$5.75; to Breitenbeck 89 sheep av 80 at \$2.75, 106 lambs av 60 at \$6; to Sullivan P. Co. 10 sheep av 99 at \$2.50, 28 do av 115 at \$3.25; to Crom 20 lambs av 50 at \$5.50; to Thompson Bros. 44 do av 70 at \$6.40.

Spicer & R. sold Hammond, S. & Co. 15 sheep av 100 at \$3, 7 lambs av 65 at \$6.25, 42 do av 73 at \$6.65, 8 do av 70 at \$4, 13 sheep av 90 at \$3.25, 93 lambs av 75 at \$6.35; to Sullivan P. Co. 23 lambs av 50 at \$5.50, 8 wethers av 77 at \$4.50, 19 lambs av 55 at \$5.40, 32 do av 75 at \$6; to Crom 16 do av 55 at \$5.50; to Sullivan P. Co. 6 sheep av 115 at \$3.25, 16 lambs av 65 at \$6.25, 32 do av 50 at \$5.25; to Costello 13 sheep av 95 at \$2.50; to Nagle P. Co. 54 do av 120 at \$3.25; to Hammond, S. & Co. 65 do av 115 at \$3.50, 11 do av 95 at \$2.50, 12 wethers av 85 at \$4.50; to Sullivan P. Co. 2 sheep av 115 at \$2.50, 10 do av 99 at \$3.25, 10 lambs av 55 at \$5.25; to Mich. B. Co. 34 do av 75 at \$6.50.

Roe Com. Co. sold Mich. B. Co. 10 lambs av 64 at \$6.25, 8 do av 55 at \$6.25, 18 sheep av 100 at \$3.25; to Hayes 62 lambs av 65 at \$6.25, 26 yearlings av 70 at \$4; to Thompson Bros. 53 sheep av 95 at \$5; to Newton B. Co. 79 do av 75 at \$6.50; to Mich. B. Co. 69 sheep av 70 at \$2.

Bishop, B. & H. sold Hammond, S. & Co. 31 lambs av 83 at \$6.60, 6 do av 70 at \$6.25, 12 sheep av 115 at \$3.50; to Costello 29 lambs av 70 at \$5.25, 21 do av 55 at \$5.25; to Crom 12 do av 50 at \$5.50; to Sullivan P. Co. 22 do av 52 at \$5, 17 sheep av 90 at \$2.50, 20 lambs av 72 at \$6.50, 31 do av 80 at \$6.25, 12 do av 55 at \$5; to Mich. B. Co. 20 do av 55 at \$5.25, 149 do av 50 at \$5.35; to Sullivan P. Co. 20 lambs av 72 at \$6.50; to Crom 13 do av 55 at \$5.50; to Nagle P. Co. 56 do av 75 at \$6, 70 do av 67 at \$6.50, 84 do av 70 at \$6.50, 240 do av 75 at \$6.50, 128 do av 75 at \$6.50, 102 do av 70 at \$6.60, 232 do av 80 at \$6.65, 194 sheep av 110 at \$3.25; to Sullivan P. Co. 52 lambs av 70 at \$5.60; to Crom 49 do av 60 at \$5.50.

Hogs.

Receipts, 4,620. Nothing doing up to noon in this department.

Market 30@40c lower than last week's close. Best, \$8.35@8.40; pigs, \$7@7.75.

Bishop, B. & H. sold Hammond, S. & Co. 700 av 180 at \$8.45, 1,010 av 170 at \$8.40, 410 av 150 at \$8.35, 400 av 165 at \$8.35, 210 av 130 at \$8.10, 300 av 170 at \$8.30.

Same sold Newton B. Co. 69 av 175 at \$8.40, 83 av 155 at \$8.35.

Roe Com. Co. sold Sullivan P. Co. 125 av 200 at \$8.45, 240 av 190 at \$8.35, 26 pigs 115 at \$7.25.

Spicer & R. sold Parker, W. & Co. 200 av 175 at \$8.40, 110 av 170 at \$8.35, 115 av 150 at \$8.25, 75 av 200 at \$8.45.

Haley & M. sold same 350 av 175 at \$8.40, 210 av 200 at \$8.45, 75 av 170 at \$8.25, 125 av 170 at \$8.30.

NOTICE.

Quarantine Proclamation.

The sale of hogs for any purpose, except for immediate slaughter, is hereby prohibited until further orders of the Live Stock Sanitary Commission of this state.

This order is to be in full force and effect on and after 12 o'clock noon, Monday, Oct. 21, 1912.

By order of the Live Stock Sanitary Commission.
Dated at Detroit, Mich., Oct. 18, 1912.

Horses were offered in the usual numbers last week, with the customary small proportion of choice business horses, and the active demand for choice heavy drafters made firm prices. These were salable at \$250@325 per head, with sales all the way down to \$175@225 for lighter weights. Farm workers were quoted at \$100@200, with a moderate demand, and the call for wagon horses was as large as ever at \$160@250. A recent train of cars containing 100 Percheron, French and Belgian drafters valued at \$50,000 passed through Chicago for North Dakota. They are to be sold to farmers and ranchmen.



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Prof. R. A. Moore, of Wisconsin University, says: "We regard the cornstalks as being 1/3 of the value of the entire crop."

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Potatoes, Apples, Onions and Honey.

Will buy outright or handle on consignment.

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is rich in natural resources, and its climatic conditions and the fertility of its soils offer unexcelled opportunities for the profitable production of grains, grasses, live stock and truck crops. Fertile and attractive farm lands may be had at very low prices.

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Stock Ranch hereafter described is offered for sale at a very low price. Two hundred and forty-two acres one and one-half mile from Beaverton, Gladwin county, Mich. All under wire fence and watered by a fine, clear stream of water; high banks; no waste land. This land was used as a stock ranch by a large lumber firm, and it is in a prime No. 1 condition to make a fine farm and stock ranch combined. Here is an opportunity for YOU. Will you investigate it? Write us about it. We will give you full description and take you to the land at any time by appointment. Price for a quick sale, \$35 per acre. Send for illustrated Catalog of other farms.

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CENTRAL MICHIGAN. Write for list of stock and Grain Farms, also our booklet "Facts about Central Michigan", giving complete information regarding the finest farming district in Central Michigan. **HOLMES REALTY CO., Lansing, Mich.**

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NOW IS THE TIME TO BUY A FARM while you can see the crops. One hundred and sixty acre farm in Ogemaw County for sale. Good clearings, good buildings, good orchard and two silos. Also two hundred acres of cutover land two miles from the above farm, all at reasonable prices and on easy terms. Owner wants to quit farming. Enquire of W. H., Care of Michigan Farmer, Detroit, Mich.

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160 acres, 2 miles south of Romeo, 1/4 from electric R. R., good house, barns and out buildings, windmill, silo, and plenty of water, good wire fences, gravel and clay loam. This is one of the best dairy farms being near to the electric R. R. This is a snap at \$80 per acre as farmers near by are selling for \$110 and \$125 per acre.

80 acres, 5 miles from Romeo, good new house, barns and out buildings, 2 wells, 7 acres timber, good clay loam. This is a snap at \$80 per acre.

We have a list of Farms, and Houses and Lots. **ELDRIDGE ELLIOTT & McCAFFERTY, Farm & Real Estate Dealers, Romeo, Mich. Phone 245-2—Box 32.**

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In crops and profits. You hardly earn 5% net on your high priced land. But you can buy a New York State improved farm, as good or better than yours for half the price yours may sell for; and earn 20% every year.

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Trustee for Merritt Chandler, Onaway, Mich.

HORTICULTURE

THE MEDITERRANEAN FRUIT-FLY.

The recent announcement of Secretary Wilson, of the Department of Agriculture, of his purpose to hold hearings for the purpose of determining the advisability of establishing a quarantine against the importation of plants, fruits or trees from countries where the Mediterranean fruit-fly is known to exist, has aroused considerable interest in this very destructive insect and there have been many demands on the Department for information concerning it.

That the Mediterranean fruit-fly is a most serious drawback to the successful cultivation of fruit in the countries where it is established, there can be no question. Indeed, the cultivation of fruits is

market and guaranteed free from the maggots. On the trees that were not sprayed, the situation was just the reverse, almost every ripe fruit being infested by maggots ranging from newly hatched to fully developed. The pupa were also present under some of the decaying peaches, and there were numerous flies flitting about the trees. The poisoned-bait method of controlling the fly appears entirely feasible in this country, especially in more or less arid regions, where the spray cannot be washed off by rains.

HARVESTING THE ONION CROP.

All around, the season was wet with us this year and just right for the growth of our black seed, red-weatherfield onions. We had them on rich sandy loam, in fact, an old cow-yard and while in spite of us, the weeds grew, so also did the onions, and the harvest has been heavier than was expected at first.



Mr. Cowdin's Onion Field. The Onions are Pulled and Lying in Windrows to Dry Before Topping. See First Page.

scarcely possible in the worst infested regions. The fruit-growing industry of Bermuda was practically destroyed many years ago by the introduction of the insect into that island. Its introduction into the United States in all probability would be calamitous to the orchard interests of our more southern states and of California in which region it would find conditions very similar to those in countries where it now exists in most destructive numbers. By the establishment of a strict quarantine, such as proposed by the secretary, it is believed that it will be possible to prevent disaster to the American fruit industry.

The greatest amount of damage is done to the ripening fruit by the female which with her sharp ovipositor, pierces the fruit and deposits the small glistening white eggs just underneath the skin. These hatch in a very short time, two to four days in midsummer. Their development, however, depends upon the ripeness of fruit—in all probability if the fruit is green the eggs will not hatch. The larvae or "maggots," when hatched, at once begin to feed on the pulp of the fruit. In apricots they make straight for the center; in peaches and other fruits they are more inclined to work out in different directions. When fully developed, which usually requires a fortnight or three weeks, they leave the fruit, which has previously fallen, and enter the ground. Here they soon change to the pupal stage and remain for 12 days or three weeks, when they become transformed into the fly, completing one generation.

The governments of certain countries have put in force regulations for the enforced control of fruit-flies, and in each instance the principle followed has been the inspection of orchards and cleaning up and destruction of all fallen fruit. At the present time the United States authorities are experimenting with the "poison-bait" method of controlling the insect, similar to that tried in South Africa. In that case the bait consisted of a solution of five gallons of molasses, one pound of arsenate of lead, and 25 gallons of water. This was used in the form of a spray evenly distributed over the trees, bushes, prickly pears, etc. Not only were thousands of the flies prevented from reaching maturity, but the deposition of eggs in the fruit already ripening was almost completely stopped. The fruit on all the late varieties of treated trees ripened perfectly, and was sold on the

admirable mulch, and with a little care in removing can be used two or three times. Broken cornstalks that have been well tramped over in the barnyard are useful, and sorghum bagasse is utilized in some sections. In the colder and drier climate of the Upper Mississippi Valley the only sure protection for blackberries and raspberries is the laying down and covering of the canes. This is accomplished by digging away from one side of the plant, toppling it over with a fork, and wholly or partially covering the canes with earth from between the rows. This method involves staking or trellising the bushes when they are raised again in spring, but it is found profitable because of the insurance against crop failure which it affords. On most heavy soils water furrows should be run between the rows with a light one-horse or shovel plow late in fall, in order that surface water may be promptly removed during the winter months.

With the strawberry the only pruning needed will be the removal of superfluous runners. The raspberry and the blackberry, bearing their fruit almost exclusively on branches from canes of the previous year, are benefited by systematic pruning, while the currant and the gooseberry need it as urgently as do the tree fruits or the grape, if large fruit is the object sought.

Though sometimes subject to serious damage by insects and fungous diseases, the small fruits, as a class, are less injured by them than the tree fruits. Most of the serious troubles may be avoided by choosing vigorous and resistant varieties or by spraying with well-known insecticides and fungicides.

New York.

T. A. TEFFT.

RESTORING OLD ORCHARDS.

There are a great many neglected apple orchards in Michigan. In fact, it is the exceptional instance where an orchard receives anything like proper care and attention in the part of the state where the writer resides. Sod-bound and given over to neglect and disease they stand offering mute testimony to the fact that in the various activities of the farm the orchard as a rule is the last thing to be considered.

Farmers owning these plantations will say in excuse for not taking care of them, that apples do not pay, that in bearing years the price is too low to be profitable and that it is too much trouble to spray them as they should be to insure a profitable annual return.

Yet if properly managed there is no part of the farm that would pay better returns than these same old trees, for even up to the age of 40 to 50 years an apple tree can be made to produce, and produce profitably. In certain portions of the state there has been for several

pounded mixture to suit every need of the trees.

Orchards under the care of this society the present season hang full of perfect fruit, while those in the same vicinity not treated are almost barren. Is not this sufficient proof that the treatment is effectual and that even old neglected trees can be brought back to profitable bearing. One instance is cited of a man who had 40 acres in apple trees that had not been bearing to any extent for years. The first year that the spraying company rented it his half of the crop brought him more money than all the rest of his 200 acre farm. There is not a doubt about apples bringing good prices if they are prime in quality and put on the market by men who understand how to sell them. This is being demonstrated in hundreds of instances over the state but more especially is this the case in the fruit belt where orcharding receives proper attention. When Red Astrachans can be sold at six dollars a barrel any man knows there is a profit in it and this has been done the present season in Gd. Traverse county, possibly elsewhere. Where there is an orchard of good standard varieties it is like owning a gold mine and not having it developed, to pursue the course commonly followed and allow it to stand neglected and unfruitful. If one man does not feel able to carry on the work two or more neighbors can combine and hire it done. The coming winter will be a convenient time to talk this over and lay plans for operations early another season. Michigan apples are so superior in flavor that they always command top-of-market prices at any sales center. It is to be hoped that the tide now under way restoring them to favor will spread until every tree in the state is again producing bountifully.

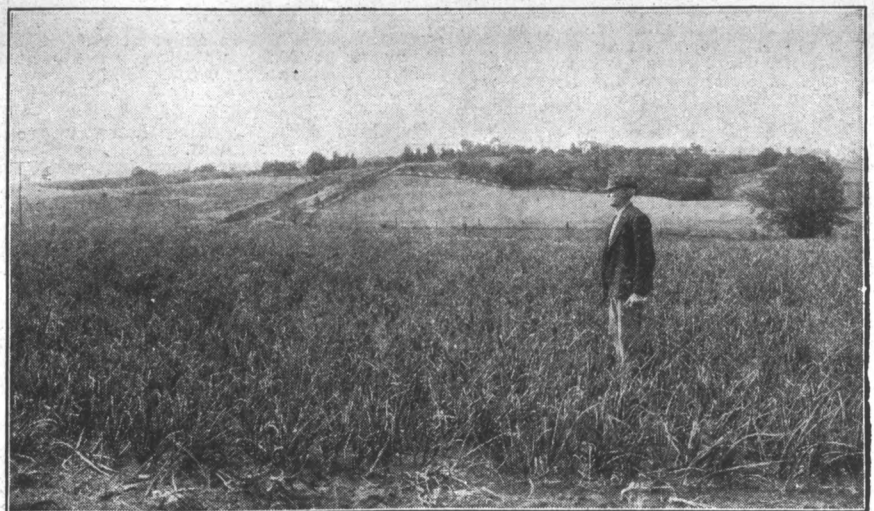
Genesee Co.

E. E. ROCKWOOD.

FILLING THE STRAWBERRY ROWS.

When it was seen that the white grub problem was going to be the source of a great many vacancies in the double-hedge rows, notwithstanding all due vigilance in hunting out and destroying the enemy, provision was made to secure a supply of plants to fill in these vacancies. For this purpose, and while engaged in filling in the regular rows, and pruning, extra plants were set in the narrow 16-inch space, to be taken up at the proper time and moved to the empty spaces in the rows. This work is now being done, during the fore part of October. It would no doubt have been more timely had this work been done two or three weeks earlier, but other duties prevented.

In moving plants in this manner, it is desirable that no more soil be disturbed than is necessary to preserve a good degree of life and vitality in the plants



Onion Field of Mr. Hilbert, of Leelanau County. The Onions are Grown on High Land and will Yield About 500 Bushels Per Acre.

years past an attempt on the part of skilled horticulturists to bring back into bearing some of these old orchards. The undertaking has proven successful, and others have been encouraged to try it.

In Genesee county a society has been formed which is meeting with gratifying results.

The society is composed of men who rent the orchards on the following basis: They attend to spraying and pruning and have half the crop. The owner has nothing to do but market his share of the harvest and this the company will do for him if he so desires.

The society is thorough in its operations. Orchards are sprayed as many as seven times if conditions require it. The work is done in a scientific manner with power sprayers and a carefully com-

PRUNING AND WINTER TREATMENT OF SMALL FRUIT.

Where winters are severe enough once in four years to seriously injure unprotected bush fruit, mulching or laying down will often pay well. Much depends upon the character and cost of the material used, and its durability. Straw, unless clean threshed and free from grass seeds, is a most productive source of future trouble to the grower. Forest leaves can be secured in sufficient quantity in some localities to be available for use among the bush fruits. Where obtainable, pine needles also form an

give fair returns on the investment, especially so if the bed is held over for a second harvest. Besides, the appearance of the field will be greatly improved thereby.

Looking over this strawberry bed, a few rods distant, there appears to be a perfect stand of plants as well as an ideal growth, but on closer inspection it will be seen that none of the rows contain a sufficient number of plants to make an ideal row, and a few have a very ragged appearance. These rows are along the north side of the bed and next to a clover field. Here there are several rows that are short from one-fifth to one-half of the number required to make a full row of plants. In fighting the grubs, the same care was exercised here as elsewhere in the bed. The logical conclusion is that the grubs have been working over from the clover into the strawberry rows, possibly because of a desire for varied fare. As this clover sod is to be plowed this fall and put in peas next spring, it is altogether likely that there will be further undesirable experiences of this nature. For, obviously, the grubs now in the soil will have to search elsewhere for feeding grounds, and the strawberry rows are easy of access.

A vacant space here and there in the rows of strawberry plants may not appear to signify a great deal, whereas the aggregate may total a considerable percentage of the whole. It is only that portion of the ground that is fully occupied with roots that is going to make good in the maximum yields. Whether results will justify the grower in filling in rows in this manner is a question that can only be answered by the individual himself, and this only after careful experimentation.

Emmet Co. M. N. EDGERTON.

DEALERS' OPPOSITION TO CO-OPERATIVE EFFORT.

Some peculiar conditions are developing in the apple deal in western Allegan county this fall. Heretofore there has been complaint, especially among dealers, that the pack has been uncertain and unreliable, but when an effort is made to correct this deficiency, strange to say, it meets with no encouragement from the men who have been raising the complaint. Without doubt there has been ground for this criticism. Some growers do not know how to put up good apples and too often there are found in any community those who are not disposed to pack their apples straight; and with all there have been different ideas regarding the matter of grades, so that there has been no uniformity in the grading.

To correct all of this, and to establish a reputation for the product of this section as well, growers, about 100 in number, have formed an organization and are putting up the apples and offering them for sale under one management. The growers have no voice in the grading, but a packer is put in each orchard who does the grading according to the instructions of the manager. A really fancy grade is being put up which corresponds with the regulations of the Sulzer act recently passed by congress, and a brand is put on the barrels which accords with the provisions of that law. In order to make such a grade, however, it is necessary to cull out considerable that usually goes into the ordinary pack, and which is really good fruit except it has some slight defect, like a curculio puncture or small scab, which only affects the appearance of the apples slightly.

The strange feature of the situation is that buyers will go out among growers who do not belong to this association and pay them as much for their pack of the general run of the orchard as they can buy this fancy grade of association apples for. In addition, it becomes necessary for the buyers to keep a man on the ground to receive the apples, and they must advance considerable money on their purchases besides, pay hotel and livery bills and load the cars, while in buying of the association all of these expenses would be saved and no money paid until the fruit is loaded in the cars. One explanation of the situation is that the buyers are for the most part brokers who buy for the larger dealers, and it does not require much sagacity for them to see that when the association accomplishes its object of securing a line of trade direct with the smaller dealers who supply a local market the business of these brokers will be cut out; but still, men sent out by the association to solicit this line of trade, while doing some business, are not met with the encouragement that might be expected. That

is, dealers who supply a local and constant demand, which naturally is best pleased with a reliable line of samples, are unwilling to pay much more for such fruit than they are for the general run of barreled stock.

Viewed from the present experience, therefore, putting up fancy apples looks like a losing proposition. It costs considerable to grade the apples so closely, while the fruit can be run into the barrels in one grade much more rapidly, and then the lower grade must be sold for 50 to 75 cents less per barrel. Then there is the expense of the organization to be met. And, besides, there is the apparent hostility and evident ill will of the buyers to be met, which is not at all pleasant. Altogether, it looks as though the men who are not in the association are decidedly the gainers. On the other hand, however, there is no telling where the apple market might have gone to if the Fruitgrowers' Exchange were not in the field. This is evident from the experience of a year ago. Then the buyers became so arrogant and insolent that the growers became incensed, and held an indignation meeting, and that was the inception of this Exchange. That effort had the effect of immediately advancing the price fully 50 cents per barrel; and where the price would be now and what the attitude of the buyers might be this year, with the larger crop in the country, if a considerable proportion of the orchards were not tied up in the Exchange, is only a guess. The outside growers are doubtless money ahead, due to the existence of the Exchange.

But the organization was not affected merely for the present season but to establish a reputation and secure a permanent market, so that no matter what the size of the crop may be consumers who know our brand will look to us for their apples. Boxed apples are now quoted considerably higher than barrels, simply because the grade is higher. The grade the Exchange is barreling is equal to that of the boxed goods and must when it becomes known command a higher price and prove the wisdom of organized effort. Sales are being made of this fruit at profitable prices, however, and with a little patience the members will without doubt realize good money. Our experience will no doubt be of interest to those who may contemplate a similar move.

Allegan Co. EDWARD HUTCHINS.

MARKET NOTES.

Apples.—The general market for apples is active. There are probably more apples moving this fall than for the past few seasons. There is a general impression among consumers that a large harvest of this fruit is being made with the result that liberal buying is evident in the majority of our large cities. Especially is this true in New York City, where receipts are double what they were a year ago, but because of the wide demand trading there continues brisk and dealers are enabled to take care of a large portion of accumulations. Winter varieties are beginning to come into Chicago in large quantities and there is considerable inquiry for corlotts of this kind. Packing stock appears to be displacing the shipments of bulk apples and good fruit is finding a wide outlet. Receipts are heavy in Cincinnati and the market is a little weak yet. The amount of apples offered is larger than in ordinary seasons. Good apples are selling quite satisfactorily in the crowded markets of St. Louis. There, apples are arriving by both boat and rail. In Boston a good demand for fancy fruit prevails while lower grades are a burden to the trade.

Cabbage.—There is promise of a good crop of cabbage this fall and the market will probably rule lower than usual. In the cities along the Mason and Dixon lines the supply at this time is large, giving the trade a bearish tone. In Pittsburgh stock is accumulating, with trading favorable to the buyer. The same can be said of Baltimore, Cincinnati and Philadelphia. At St. Louis receipts are moderate and the demand fair, while at Memphis the movement has not been very heavy thus far. Northern cities have up to this time had a little firmer tone. Boston increased values last week but the advance attracted supplies and caused the figures to be lowered to the former level. In New York there was a fair trade but accumulations the past few days has given the market a duller tone. The market gardeners about Chicago are about cleaned up and that city is looking to Michigan and Wisconsin for its future supply. A fairly good crop is being grown.



A DULL SHARE OR A SHARP ONE Which Do You Prefer?



The dull share tears the soil by main force.
The sharp share cuts the soil as would a sharp knife.
The dull share causes heavy draft.
The sharp share makes light draft.
Wouldn't you prefer a plow with a share on which you can keep a sharp cutting edge, year in and year out?
Then the one Plow for you is the
"Best Ever"

With Acme Guaranteed Shares.

The Best Ever is the best built plow in the world.

The Best Ever is the best balanced plow.

The Best Ever is the lightest draft plow.

The Best Ever will plow more acres per day with less effort than any other plow.

The Best Ever saves time, saves labor, saves horses and saves money.

ACME STEEL SHARES

Used on Best Ever Plows are guaranteed not to break. After sharpening they can be rettempered any number of times and made as hard as new with no danger of breaking.

The Farmer can heat an Acme Share in a cook stove, draw it out with a hammer, and temper it in a tub or trough.

Think of it—Hard, Sharp, Keen cutting shares all the time.

Ask any Flying Dutchman Dealer to show you Best Ever Plows or write us for our Free Booklets on Best Ever Plows and Acme Steel Shares.



Moline Plow Company

Dept. 26

MOLINE, ILLINOIS



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 now 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 now.



The Jeschke Manufacturing Co., Box 111, Bellevue, Ohio

Spray for More and Better Fruit



Right spraying is of the biggest importance to every fruit grower—his profits depend on it. In our endeavor to get the best sprayer for use on our 300-acre fruit farm we tried nearly every make on the market—then out of our experience we invented the

ECLIPSE Spray Pump

It is the only one that meets every requirement of the fruit grower. It has proved by actual test to be the best. It has made money for us by making our trees produce their best. Let us prove its worth to you. Write today for free illustrated catalogue.

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Proved capacity, great strength, all sizes. Write for FREE catalogue today. MONARCH MCHY. CO., 644 Hudson Terminal, New York

CEDAR FENCE POSTS.

GEORGE M. CHANDLER, Onaway, Michigan.

Please mention the Michigan Farmer when you are writing to advertisers.

Ninety-Three or Nineteen Twelve

WE STAND at political cross-roads. The sign boards are clearly worded. We are the deciders of our fate for the next four years. Is it to be success or depression?

* * *

You have before you three candidates. Of the three:

Only one, Mr. Taft, has had the courageous strength to show where he stands on the tariff.

Only one, Mr. Taft, has taken the pains to attempt to produce a tariff law which would be just to the manufacturer and the consumer alike.

Only one, Mr. Taft, has tried to take the tariff out of politics, and get it on a fair protective basis—a basis resting upon facts.

Only one, Mr. Taft, has had the fearless strength to stand alone in the face of political demands, as well as popular demands, and refuse to O. K. tariff bills which he knew would bring disastrous results.

Only one, Mr. Taft, has been far-seeing statesman enough, to recognize that the control of monopoly could come only through the control of the patents which make this monopoly possible.

Only one, Mr. Taft, has gone direct to the heart of the matter, and proposed patent laws which would cure the evils of monopoly by removing the cause.

Only one, Mr. Taft, has *proven* himself the just judge, by calmly surveying the monopoly situation and putting his hands, backed by means of a cure, on the failings which the workings of the Sherman law have brought out.

* * *

Each one of these candidates stands at a cross-road.

Each one is pointing to one of the sign-boards.

Which road will you take?

* * *

On the board above Professor Wilson we read the warning against theory,—the untried, questionable dreams of the impractical theorist.

Alongside it is the warning: Remember 1893-1896.

Remember these four years, when not less than 3,000,000 men were out of employment.

Remember that when these men were marching up and down the land, eating at free soup houses, the money they were *not earning* was the money the farmers of this country were *not getting*.

Remember the fact that this lack of employment, this Democratic rule, cost the people fully four and one-half billion dollars—much more than the entire cost of the Civil War.

* * *

The learned Professor, in his request of you, the American Farmer, for your support, presents as his platform the same "Tariff For Revenue Only" principle, which caused the disastrous four years in the middle nineties.

He has worked out beautifully spun theories. But in reality here is what the Professor offers for your acceptance.

We quote from history; the history of the last Democratic administration:—

Bank failures throughout the country, as many as ten failures in one day. Collapse of commission houses. The Chemical Bank, one of the largest in the country, unable to fill its weekly orders for currency.

Encounter between anarchists and socialists.

Fifty million dollar Government bond issue to meet conditions. Ten thousand miners strike in Ohio. Property destroyed in Pennsylvania by striking miners. New York silk factories closed.

Riotous meeting of workmen in Boston. General strike among the silk weavers. Railroad bridges burned, and other riotous acts by miners in West Virginia. Troops ordered to Cripple Creek, Colorado, to suppress mining troubles.

Coxey's Army formed to march on Washington. Coxey's Army a terror to farmers of the West.

Governor of South Carolina declares martial law.

Men killed and wounded in Pennsylvania coke riots. United Mine Workers strike.

Attempted demonstration of Coxey's army on steps of Capitol. Members of army arrested for holding up railway train.

Farm products find no market. Farmers in financial difficulties.

* * *

But why continue? The fact remains that this is the only past history to which the Professor can "point with pride" as a promise of what his theories will develop in the future.

* * *

A loud noise distracts your attention to a second cross road.

Wild claims, resonant epithets, circus antics form the side-show of the campaign.

Here, gentlemen, is the road-way of *Promises* but no *fulfillment*. Anything you can think of, just ask for it.

It makes no difference how impossible or impractical the fulfilling of the promise may be—you'll be told your wants will be carried out.

The Jester, with his tinkling bells, has followed his cap into the ring.

The menagerie, fresh from the wilds, is with us.

Gentlemen, here is the Third Termer.

The way is impossible, hence,

A vote cast in favor of this road, is just as fully a vote cast for the road of the theorist, the Professor. A vote cast for the nightmare of eighteen ninety-three.

* * *

But here is a third road. The signboard is painted with fresh accomplishments.

No megaphone calls your attention. No "barker" stands in front calling on you to come inside.

The one appeal made to you is the statement of deeds well done.

Here is the record of what the Tariff Board tried to accomplish, and would have effected but for the obstruction of unfavorable Democrats in the political House.

Here is a \$58,000,000 deficit changed into a \$30,000,000 surplus.

Here is the central idea of Mr. Taft's Tariff plan—a plan as simple, as clear as sunshine. Namely:

—Base the tariff on the facts and figures which show the exact difference between foreign and home cost of production.

—Forget the political demands of office holders or favored interests. Take the tariff out of politics and place it on the solid foundation of real protection of home industry.

Here is the record of a calm, judicious, fearless man who neglected his *political* opportunity, that he might save the country from immeasurable loss.

Here is the record of the Wool Bill, vetoed because it would have crippled the American Wool Industry.

Here is the record of the president who promised Tariff Revision, and has accomplished an average of 4½ per cent revision *downward*.

This in face of the charge by his opponents that the tariff is higher than ever.

The figures of the Payne law, after 35 months of operation, show this 4½ per cent *below* the Dingley law.

Here is the record of the man who, by

wise administration of tariff and trade laws, has fostered industrial conditions, until the prosperity of the country has reached a height never before equalled.

Here are the figures which show an enormous increase in land values,—in farm products:

Figures showing manufacturing products nearly doubled.

Here is the story of the President who, recognizing that our future welfare depends largely on a prosperous, growing farm community, has encouraged and supported the study of soil and crop conditions as essential to national prosperity.

* * *

A wise statesman once said:

"The man the people laugh at, they don't make President."

The chair of the President is a position of calm, dispassionate dignity. The Chief Executive of our land should be one who is an index to the position the nation holds in the councils of the world.

Jest has its place,—but it is not in the controlling of our national destinies.

Sport, the hale and hearty, happy-go-lucky atmosphere of the outdoor life, has a peculiar hold on the fancies of most men. But the government of this country cannot be successfully run on the rules of a Wild-West show.

Theory is pleasant for some to study out—it is a means of mind development. But theory, unproved by practice, is too dangerous when the welfare of a hundred million people is at stake.

* * *

The strongest recommendation which the Taft administration has, is that its actions looking to country-wide prosperity have been carried out quietly, smoothly, almost without a knowledge that things were being done.

* * *

When you have a field to be plowed, do you jump from one thing to another, plowing, feeding the cattle, hustling here and there,—yelling, cracking a whip, and making a general hulla-balloo? Not much! You wouldn't accomplish much if you did!

You start a furrow, and you plow until that furrow or the entire field is finished.

Would you employ a farm hand who spent his time in telling about the theory of farming? Or would you get the man who *farmed*,—who did things?

Vote as you run your farm.

* * *

Gentlemen, we stand at political cross-roads.

On one side is a road abandoned sixteen years ago. It was rocky, it was full of chuckle holes, and mud patches.

The dust of sixteen years has smoothed the surface somewhat. The broom of theory has pushed a little sand into the holes, and the rocks have become covered with moss.

But underneath it all is the same disastrous going,—the impossible driving of old.

* * *

On another side is a zig-zag road, and smiling, smooth-tongued politicians are calling you by your first name, slapping you on the back, and telling you what a jolly good time awaits you on this road of empty promises.

* * *

The third road is the road you now are travelling. It has led you, quietly, but surely, into the land of prosperity and big values.

It has put the country on a height of wealth it never approached before.

Which road will you take?

REPUBLICAN NATIONAL COMMITTEE.

Charles D. Hilles, *Chairman*.
James B. Reynolds, *Secretary*.

—ADVERTISEMENT—

BUTTER.

(Continued from page 379).

itself, assuming that the cream has been brought in in good condition, for the successful manufacture of high-grade butter, is the observation of scrupulous cleanliness in the creamery. All of the products of milk, at some stage or other, are especially susceptible to bacterial invasion and form, as a rule, excellent culture media for the growth of various germs. Consequently the methods which science has shown to be fit weapons for the attack and eradication of bacterial diseases are the very methods which creamerymen and the butter-makers must call to their assistance in the creamery.

Rancidity in butter is not the result of aging of pure butter, but is the result indicating bacterial invasion of that butter. Fishy flavors and cowey flavors, strong aromas in butter, show lack of care somewhere along the line in the manufacture of the product.

A product which has been carelessly produced upon the farm can never be made into a good finished product. On the other hand, milk which has been produced under every possible precaution as to cleanliness may be ruined by the prevailing unsanitary conditions in the creamery and by untidiness on the part of the butter-maker.

Prices of Dairy Products Not so High as Meats.

Within the last few years, looking at it from the consumer's point of view, the various products of the dairy industries have been retailing to them at exceedingly high prices. While it is desirable, at the present time, from the consumer's point of view, to keep prices as low as possible, we should like to note that even at the prevailing prices the products of the dairy are selling much cheaper in comparison to their intrinsic worth than are practically all other animal food products.

Coloring of Butter.

A great deal has been said, especially in food circles, during the past few years, regarding the use of artificial coloring matter in butter. Most idealists fail to realize that it is an exceedingly expensive thing for the manufacturer of staple commodities, such as butter, to introduce with financial success innovations with regard to the product they are selling. It has been the custom for a great many years for the butter maker to add coloring matter to butter and judging from the market alone, coloring matter seems to be demanded by the consumer. This may be shown by the fact that in one section of the country a very light butter will be demanded, whereas in another section of the country a very heavily colored butter will be indicated. We believe, for example, that New York City will take a very light butter, whereas, on the other hand, we understand that the butter which secures the highest market price in the city of Washington is so yellow that it is almost red. Manufacturers like to cater to the demands of the consumer and the consumer is not always governed in the matter by the proper sense of the fitness of things. Personally, we are of the opinion that butter should be manufactured without the use of artificial coloring matter, and we certainly shall not change that viewpoint. On the other hand, we are unable to reconcile at the present time the great crying need in this state for a product uniform in quality as well as uniform in color, with the entire abolition of coloring matter in the product and the law has recognized this fact and by a specific proviso in that law permits the use of harmless coloring matter in butter.

WHAT ARE THE BEES WORTH?

It has been estimated that the annual production of honey in the United States amounts to the value of \$20,000,000. But officials of the Bureau of Entomology, however, state that the production of honey is not the most valuable service that bees render, since their work in fertilizing the blossoms of fruit trees is worth many times \$20,000,000 every year. Suppose, for instance, that there were no bees or other insects obtainable to move from flower to flower, carrying with them the pollen of one to the other, and thus fertilizing it, would not the farmer have a most difficult task if he should be required to hand-pollinate the blossoms on his growing crops?

On page 378 you will find an interesting offer. Don't fail to read it.

GRANGE

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

THE NOVEMBER PROGRAMS.

State Lecturer's Suggestions for First Meeting.

(Co-operation Day Program.—"They helped everyone his neighbor; and everyone said to his brother, 'Be of good courage.'"—Isa. xii, 6).

Fifteen minutes of orchestra music, followed by a song.

Election echoes by two men and two women.

"What shall the women do next?"

Whistling duet.

Business co-operation: 1, its need; 2, in England; 3, in Denmark.

The Grange plan of co-operation contrasted with the American Rochdale plan. Closing song, with whistling accompaniment.

Suggestions for Second Meeting.

(Farm and Home Day Program—"Life should yield results."—Richards).

Song.

The Farm: 1, what a man needs to know about his own farm. 2, how a man can know his farm better.

Instrumental solo.

The Home: 1, why its work needs to be studied. 2, helps that a woman has in studying her duties.

Quartet.

What breed of dairy cattle best meets the demand of our locality?

Declaration, "A tribute to the cow."

Dialog.

POINTS TO WORK TOWARD.

At a meeting during the earlier part of the year, a member of Washtenaw Pomona was asked to name some things for its other members to think about and work toward. Bro. H. H. Hodge was the member who responded to this request. His points were so well taken that I made note of them at the time and now wish to pass them on in order that other Pomonas may have the benefit of such a statement of concrete things which it would be well to undertake. These were in the form of questions, as follows:

1. How can Pomona Grange enlarge its membership in unorganized sections?
2. Can we not devise some way by which Pomona Grange can be a clearing house in buying and selling?
3. Can we not devise some way by which we can co-operate with our state educational institutions in discussion of topics?
4. Cannot Pomona Grange have a conference with the scientific housekeeping department of the Normal college?
5. Cannot Pomona Grange devise some means by which all farmers' organizations can co-operate throughout the county?
6. Is there not some way in which the Grange can go to the leaders of the Men and Religion Forward Movement and say, "Is there not some way in which we can further the objects for which your movement stands?"

These questions cover a broad range. They show an open and kindly attitude toward the work of other organizations. They suggest progress not only along the usual lines of Grange endeavor, but also in the direction of the still larger thought of the co-operation of organizations. They are good to think on—good to act upon.

JENNIE BUELL.

GRANGE INFLUENCE.

Some critics of the Grange have called attention to the fact that the organization of many Granges in cities and large towns indicates that the control of the order is fast slipping away from the farmers and that it cannot longer be designated as a truly farmers' organization.

In contradiction of this criticism, says a writer in the Grange Review, instances without number may be furnished showing these so-called "city Granges" hard at work along distinctly agricultural lines, especially arousing among their members, who are workers in other occupations, a positive interest in the farm and in all that makes for its prosperity.

For example—one such Grange recently voted to procure a plot of land for the purpose of planting and cultivating corn by its members, who will compete in the big New England corn show. Another "city Grange" took hold of a dormant agricultural fair, got all the town's people interested and eventually put it well on its feet and with every indication of a successful future. Another holds an annual June flower show, that creates keen competition and wonderfully improves the quality of local cultivation. Another offers prizes for the best gardens

made each year by its members. Scores of such Granges conduct a fair every autumn at which exhibits of fruits and vegetables are made the conspicuous features. Other Granges of this type have excited a distinct influence in their city in behalf of more school garden work for the children; for tree planting along city streets and avenues; laying out public parks and playgrounds; not to mention the influence excited by such Granges for better market facilities for the nearby farmers and the bringing of producers and consumers of food products into closer relations, for mutual benefit, all of which seems to give the "city Granges" ample warrant to live and to increase.

Baraga Patrons Hold Fall Meeting.

The sixth session of Seward Pomona was recently held at L'Anse, Baraga county, with a fair attendance. This Pomona was organized a little more than a year ago with an enrollment of 49, which has since been increased to 85, and its financial condition is very satisfactory. The special committee, appointed at the Skanee meeting last June, reported a resolution favoring the abolishment of game laws, and the resolution was adopted. Mr. and Mrs. Chas. H. Anderson were chosen Pomona delegates to State Grange, and Edward Mitchell was selected to represent the subordinates of the county. Pomona officers for ensuing two years were elected as follows: Master, Hoaken Lundin; overseer, August Ohman; lecturer, Mrs. C. H. Anderson; chaplain, August Ohman; secretary, W. T. Menge; treasurer, Mrs. Peter Girard; steward, Peter Clyne; asst. steward, August Holmstrom; lady asst. steward, Miss Albertina Stenson; Ceres, Mrs. Hoaken Lundin; Pomona, Mrs. August Hanson; Flora, Mrs. Alvid Johnson; gatekeeper, Joseph Picard. L'Anse was awarded the winter meeting of the Pomona, to be held in January.

COMING EVENTS.

National Grange, Forty-sixth Annual Meeting, at Spokane, Wash., Nov. 13 to 26.

Pomona Meetings.

Genesee Co., with Enterprise Grange, Friday, Oct. 25.
Lenawee Pomona will visit Branch Pomona, Thursday, Oct. 31, at Coldwater. Lenawee members furnish program and Branch degree team exemplifies the Fifth Degree. Thursday, Dec. 5, Branch Pomona visits Lenawee Pomona at Adrian, with a reversal of above conditions.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—J. D. Leland, Corunna.
Vice-President—D. M. Morrison, St. Johns.
Secretary-Treasurer—Mrs. C. P. Johnson, Metamora.

Directors—C. L. Wright, Caro; E. W. Woodruff, Blanchard; C. P. Johnson, Metamora; H. W. Chamberlain, White Lake; Wm. T. Hill, Carson City; Jerry Spaulding, Belding.

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

Associational Motto.—

The skillful hand, with cultured mind, is the farmer's most valuable asset.

Associational Sentiment.—

The farmer, he garners from the soil the primal wealth of nations.

A SUCCESSFUL CLUB FAIR.

Lincoln Township Club of Isabella County. The members of the various Farmers' Clubs over the state may think we are dead, but we are not. We held our second fair in October, and though the day was cold, cloudy and somewhat rainy, we had a good attendance. The exhibits were very good. The greatest in variety of all were potatoes and squash. There was a good display of needlework, and some fine bead work, also canned fruit and fresh apples, some of the latter being very large, especially the Wolf River variety. There was a premium of 50 cents for the best peck of potatoes, won by Mr. C. A. White; best ten ears of corn, 50 cents, won by Mrs. Jos. Brownridge; best pair of chickens, 25 cents, won by Mrs. Wm. Hetherington. The winners were White Leghorns. Ye scribe had a pen of White Leghorns but they were not in it with the Orpingtons.

There was also a prize given for the best loaf of bread baked by a girl 12 years old or under. There was a prize for the best collection of canned fruit, and for the best quilt.

We had some good speakers from Mt. Pleasant, our county seat. Mr. Walter Keen, present county clerk, spoke on "Monopolistic Trusts." He brought out some very good points. Next Dr. Amanda Holcomb spoke on "Woman Suffrage and the White Slave," also "Child Labor." The other two speakers were Mr. H. A. Graham, candidate for judge of probate, and Mr. Northon, candidate for representative in the legislature. The last two did not talk politics. We had a bountiful dinner, and were treated to watermelons by Mr. and Mrs. Lewis Gray. Thus we spent the day, Friday, Oct. 11, in the Strickland Gleaner Hall.—One of the Charter Members.

CLUB DISCUSSIONS.

Labor vs. Capital.—The October meeting of the Wixom Farmers' Club was entertained by Mrs. Jane Larcum at her home in Wixom. Although a rainy day quite a number were there for the noon hour, and when President Gage called to order at 2:30 the house was comfortably filled. A good program was listened to, consisting of vocal and instrumental music, recitations and a number of good queries were discussed, but the question that provoked the most discussion was: "Resolved, that labor unions are the biggest trusts in the United States." The negative side said capital was the biggest trust; money moves men; nothing so powerful as money. Men are not sacrificing themselves for labor. When referred back to the Club, capital won out.—Mrs. R. D. Stephens, Cor. Sec.

Farmers' Hospitality.—The September meeting of the Assyria Farmers' Club was held at the pleasant home of D. W. Cargo and wife, Sept. 26, but owing to the very unpleasant day and the busy season of the year there were only about 60 to enjoy the fine dinner that was served. After the repast, President Mayo called to order, the Club sang Beulah Land. Chaplain read the twenty-third Psalm, then usual routine of business. Elsie Tasker read a fine piece, showing the difference between the hospitality of the farmer and the business people of the towns when they drive out in the country, if it is anywhere near meal time. The farmer says put your horses in and have something to eat, the farmer's wife gets up a good meal and they seem to enjoy it. No so when the farmer or his wife goes to town. If they have to stand around all day they are seldom even asked to go to dinner. Mrs. Nina Tasker's paper on "Influence," was fine and enjoyed by all. Song by the young ladies was much enjoyed.

Discuss Highway Problem.—The Odesa Farmers' Club met with Mrs. Lottie Durkee, Saturday afternoon, Oct. 11. The meeting was called to order by President Foght and opened with a piano solo by Mildred Durkee. This was followed by a reading by Mrs. Florence Lepard, "Gilliland," which was well received, as her selections always are. Mr. Kahn read his paper, which was very good, the subject being, "Do people watch the work of their senators and representatives as closely as they should?" This was well discussed by the gentlemen present. The subject for the September meeting, "Should farmers adjoining the roads be compelled to keep the roadside clear of brush or other rubbish, or should it be done by road officers?" was discussed by members, after which the meeting was adjourned for dinner. The afternoon session was given over to an entertaining literary and musical program.

Elect New Officers.—The members of the Charleston Farmers' Club were very pleasantly entertained at the home of Mr. and Mrs. J. B. Miller on the afternoon of Oct. 5. About 50 were present. Many of the ladies took advantage of the opportunity afforded by the display of fancy work and lessons given by Miss Spring. After the usual business meeting the following officers were elected for the ensuing year: President, W. J. Hagelshaw; vice-president, George Perry; secretary, Mrs. L. J. Bradley; treasurer, Mrs. Theron Palmer; lecturer, Mena Holmes; reported, Clara Palmer; directors of the Junior Club, Mrs. Floyd Coville and Carey Rowland. A fine literary program was also enjoyed. Mr. Rowland entertained the company with a pleasing description of a junior corn growing contest held in Indiana a short time ago and which he attended. A piano solo by Miss Leon Miller and a reading "Willie's First Halloween," by Lura Snell were also greatly enjoyed. The occasion being the anniversary of the discovery of America by Christopher Columbus, Verne Palmer gave a brief talk of his life and compared his progressive spirit with the progressive spirit of the Farmers' Club. Hazel Bradley gave a piano solo. The afternoon closed with the serving of a fine picnic supper. The next meeting will be held at the home of Mrs. Alice Henson, on November 9, with a picnic dinner instead of supper.

The Golden Potlatch.—In an open letter to the Ingham County Farmers' Club, Mr. and Mrs. W. H. Horton, former members of the Club now residing in the state of Washington, in addition to describing sights and scenes incidental to their trip to the west, described the historic festival of Seattle and the city itself in the following interesting manner: "Each July Seattle has a gala week called 'The Golden Potlatch,' an Indian name for free festival. It is after the manner of New Orleans' Mardi Gras and St. Louis' Villed Prophet. It, however, celebrates the arrival in Seattle harbor of the first gold-laden steamer, 'The Portland,' from Alaska in 1896, that event awakening the world to untold wealth in Alaska. It is a fine sight to go down to the docks and see the vessels loading for Alaska. One cannot conceive of the vast trade with Alaska. Seattle never forgets Wm. H. Seward, as he was indirectly influenced in making the city what it is today, by the United States purchasing Alaska. At the entrance to Volunteer Park you will observe a life-size bronze statue of Mr. Seward, and at the Washington State University grounds a home constructed after the style of his eastern home. * * * The general topography of the city is hilly. Several long ridges rise gradually to the elevation of 350 feet above sea level. To the west is Elliott Bay, an arm of Puget Sound. Three miles east of the salt water is beautiful Lake Washington, 30 miles long and from three to four miles wide. Lake Union and Green Lake are within the city limits. Work is progressing upon a canal to connect Lakes Union and Washington with Puget Sound, so all large ocean-going vessels can enter Lake Washington, affording one of the finest fresh water harbors in the world."

\$985

Overland
1913

\$985

Completely Equipped

The Fastest Selling Car in America

BEFORE we announced this car we had signed contracts for over 39,000. Yet we had planned to limit our 1913 production to 40,000 cars. We are now shipping 150 cars a day. Yet we could ship 500 a day if we could make them. Right now we are over 3,000 cars behind our immediate shipping orders. We have been in this condition for the last 30 days. It is beginning to look as if we never could catch up.

Practically every important 1913 announcement has been made. A careful examination of these announcements will prove precisely what we have been claiming—that there is not a \$1,200 car built that has any more practical value to offer than this one for \$985.

And here are the comparative facts which support this seemingly bold statement.

Automobile values must be looked at from several different angles. You must consider not only the price, but what that price buys you. You must take into consideration the power, the strength, the beauty, the construction, the size, the appearance and the equipment of the car. You must judge a car by the material in it; the workmanship in it; the methods employed to produce to and last but not least, the facilities behind the production methods.

Examine each one of these fundamentals in this Overland at \$985 and you will find a car that is identical with any \$1,200 car in the world. Go further and

you find high-grade construction and painstaking care in finish that equal the production methods employed in the making of any \$5,000 car you know of.

This car has the power of a \$1,200 car; it has the strength of a \$1,200 car; it has the size of a \$1,200 car; it has the seating capacity of a \$1,200 car; it has the wheel base of a \$1,200 car; it has the chassis construction of a \$1,200 car; it has the comfort of a \$1,200 car; it has the beauty and finish of a \$1,200 car.

Take the equipment item alone. It has a Warner speedometer—the best made; it has a fine mohair top and boot; it has a clear vision wind shield; it has a self-starter and Prestolite tank—every practical accessory made for an automobile. And all for the one price—\$985. There are no "extras."

Then there are those important construction features which are only found on the very high-priced cars. This model has a drop-forged I beam section front axle, fitted with the famous Timken bearings; a three-quarter floating rear axle fitted with Hyatt bearings; a selective transmission, with three speeds forward and reverse, fitted with annular bearings, and a cold rolled pressed steel frame. It has the center control. The brakes are unusually large for a car of this size and power, and are ample for cars of much greater weight. There are two powerful sets of the drum type, internal expanding and external contracting. The great braking surface of these is indicated by their dimensions,

13 inches by 2½ inches each. These are the brake dimensions you find on \$1,500 cars. Pick up the catalogue of any \$1,500 car and see for yourself. The springs are semi-elliptic front, three-quarter elliptic rear. Each spring has six leaves. Tires are 32x3½ Q. D.

This model is superbly finished. The striking body is in dark Overland blue. Battleship Gray wheels harmonize perfectly with the rich, dark body which is trimmed in black and nickel plate.

How can we market this car at this price? By making 40,000 cars a year. Increased production brings decreased selling prices. There is the answer in six small words.

If we could bring you fully to realize the size of our huge organization, you would more fully appreciate and understand the value of this car and why we can do what others cannot.

The demand for this car has already swamped the entire visible supply for the 1913 season. It has actually simmered down to a mere allotment proposition. So if you want an Overland "69" get your order in quick.

Any man who pays over \$985 for a completely equipped 30 horsepower, five passenger touring car of this type and size is just wasting money.

See this Model "69" at the Overland salesroom in your city at once. Order early if you want it early. Handsome catalogue on request. Write today, addressing Department 86.

The Willys-Overland Company, Toledo, Ohio

Self Starter

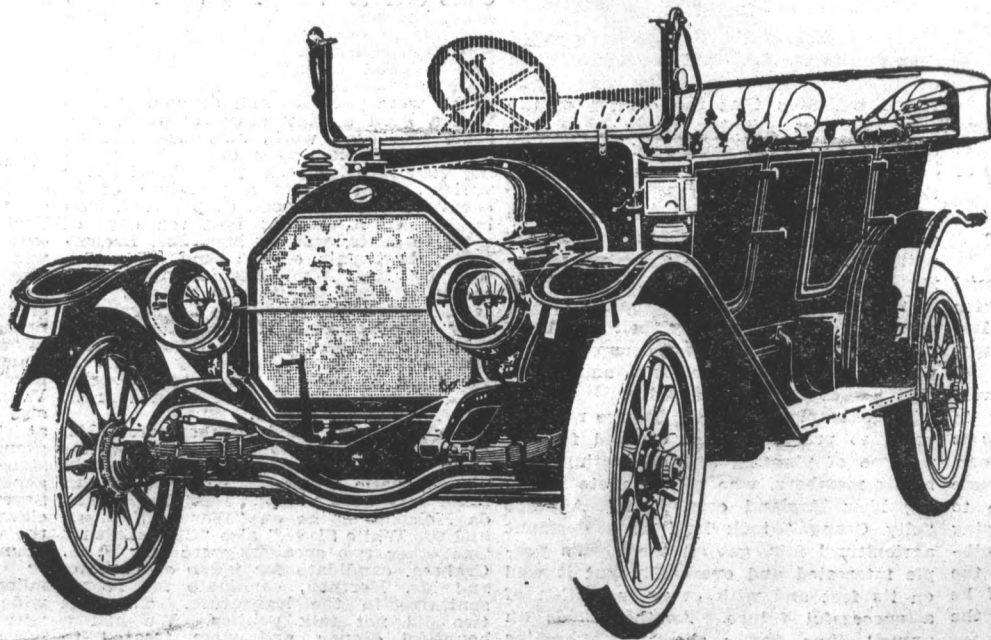
30 Horsepower

5-Passenger Touring Car

110-inch Wheel Base

Timken Bearings

Center Control



Warner Speedometer

Remy Magneto

Prestolite Tank

Mohair Top and Boot

Clear Vision Wind

Shield