

GRANGE VISITOR

"THE FARMER IS OF MORE CONSEQUENCE THAN THE FARM, AND SHOULD BE FIRST IMPROVED."

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WHOLE NO. 503.

Reducing State Expenses.

The Fish Commission and the Cost of Courts.

BY EX-GOVERNOR CYRUS G. LUCE.

EDITOR GRANGE VISITOR:—The American farmers are powerless in their struggle to secure remunerative prices for the products of their farms. In saying this I do not forget that the price of wheat has greatly advanced within the last two months. This has been caused by failures in other great wheat growing countries. And we have no reason to believe that the present prices will be maintained when the wheat crops of our own and other countries reach their normal condition. The price now is only an average one when the crops of the world were good previous to three or four years ago. This advance has nothing to do with the almost universal demand that is being made by farmers for a readjustment of taxes and expenses to compare with the prices of agricultural products. When we ask for a reduction of taxes, a demand is very properly made for specifications. It is truthfully said that it is easy to simply demand lower taxes, but if this is secured somebody has got to point out where and how this can be done without impairing the usefulness of institutions or efficiency of service. I tried to do this in a limited way for the VISITOR a month ago and will now venture a few suggestions on a different line of economy.

THE FISH COMMISSION.

At each session of the legislature for the last dozen years from fifty to sixty thousand dollars have been placed at the disposal of the fish commissioners for the purpose of propagating fish. Great expense has been incurred in establishing hatcheries and the little fish have been distributed in the inland waters of the state. In nearly all cases failure has marked the progress of efforts made. Fish that are natural to these waters grow without artificial propagation, but out of the millions that have been distributed in the lakes none are ever caught. If they serve any useful purpose whatever it is simply as food for the fish natural to the waters and they are certainly too expensive for this purpose. Of course this has no reference to the laws which were intended to protect the fish from needless destruction. Even if the fish venture had proved to be a success I can see no good and valid reason why the people should be taxed to raise fish for food any more than they should be to raise pigs and calves. Even if the fondest hopes of the fish commissioners should be realized, is it just to the farmers to tax them for the purpose of creating another competitor, thus reducing the price of meats? But my greatest objection to this appropriation is found in the fact that the expense is much too great for the results achieved. If for localities the artificial propagation of fish may be made profitable, then such localities or individuals should pay the expenses. Men who are fishermen on a large scale derive income and profit from their business, and if the state incurs expense in providing them with profitable business then their nets ought to be taxed, or in some other way the state should reimburse itself from such profits and not tax those upon whom a downright injury is inflicted.

EXPENSE OF COURTS.

One more specification, and it will doubtless conclude my writing for the GRANGE VISITOR. No one can tell even approximately the loss inflicted upon the people of the state in the trial of unimportant cases that are appealed from justice courts to the circuit and from there quite frequently to the supreme court. I am not now speaking of the useless expense which individuals inflict upon themselves but the forced contributions that the public is compelled to pay in the trial of these cases. For many years Bro. Cobb brought all of his ability and energies to bear upon this evil in the columns of the VISITOR. He created a strong public sentiment against the appeal of all cases except where some principle of law was involved, where the judgment in the justice court did not exceed twenty-five dollars. People little think of the cost inflicted upon the public

in the trial of these cases. The public furnishes the jury for a nominal sum, they furnish the court house, trial judge, the officers of the court, and pay many other expenses incurred in the trial of civil cases, and still this is an expense being incurred in every county in Michigan, year in and out. And besides the needless expense inflicted upon the public by these appeals, they are often seemingly carried up by the more wealthy litigant for the purpose of wronging and oppressing his poorer contestant. I know of no place where money can be saved, where the reasons are all on one side as clearly as in this respect. The memory of Judge James V. Campbell is revered by all good men who ever knew him. In an address delivered in Lansing at the semi-centennial celebration he said: "It is worth considering whether litigation is not too much encouraged by imposing no restriction on appellate proceedings. No one doubts the importance of giving to every one legal protection and redress. But where from the nature of things the cost of controversy will go beyond any possible gain from it, there is much harm done by continued litigation. If small cases involving no important principle have once been fairly tried any further pursuit tends only to injure the public tranquility and burden the public treasury as well as the means of the litigants. Persons of small means are often injured and sometimes ruined by prolonged legal action and whether right or wrong they can do very little against a wealthier opponent who will not be seriously hurt though defeated on appeal. The courts are now driven to extremity to keep up with their business and if it once gets beyond their power to hear and decide speedily and the door is still left open for indiscriminate appeals, cases will be as they have been elsewhere, carried up for delay and vexation until deliverance is hopeless. It was supposed when the constitution allowed justices of the peace to take jurisdiction up to three hundred dollars that the circuits would be relieved. But nearly all cases are appealed if the parties can afford to appeal them, and a large amount of circuit and supreme court business comes up from justices."

There is a great opportunity for reform here and an unlimited reduction in public expenses. If you do not think that what I have said is worthy of your consideration please read and heed the words of Judge Campbell.

Coldwater.

Two Women.

There have come to Michigan this fall two women in whom we all feel a keen interest. They have been called to the two educational institutions of our state which before have never had a woman as head of any department. One of them was heretofore with no provisions for girl students. Particularly auspicious does it seem to me that the Agricultural College and the University of Michigan should recognize the woman factor in education for life at one and the same time. We are a trifle prone to think the farm need,—the agricultural idea,—is provided for as an afterthought. In this instance, girls at M. A. C. and at U. of M. are granted a "mothering" and a head, about which they may cluster, simultaneously.

It has been my happy privilege within the past few weeks to see each of these women in her own peculiar institutional setting, if we may call it such. If I might be eyes for a few moments to the readers of the VISITOR, who have not yet had this opportunity, so that you should come to see as I saw, I am sure you would be more than ever thankful for your girls of Michigan.

First, there was Dr. Eliza M. Mosher, the new woman's dean at the University. It was at her first introduction to one of the college audiences and was under the auspices of the White Shield society, an omen for usefulness in itself. The roomy church was deftly packed, by college girl ushers, with women, not "young" only, but just women,—for nobody is ever "old" in an Ann Arbor audience. It was a gathering to inspire a woman's dean if she had a heart for the meaning of it, an audi-

ence of those who had waited long for the coming of a woman nature to lead them, to lean on, to counsel with, to warn, defend and sometimes, mayhap, to cuddle them. Such it is believed Dr. Mosher will be. A practical physician, of broad culture and experience, she has begun her work with a large hope resting over her.

She is a woman of middle life, with a fine face and figure and winning presence. She speaks, and you feel she lives, on a level with your common plane. She teaches hygiene and her lectures on the most practical aspects of personal and domestic hygiene are "very popular," wives of the faculty and many resident women attending, besides regular students. She is director of the girls' gymnasium, examines every applicant, seeks to discover the overworked, cautions as to practice and study, and in all feasible ways strives to be a woman helper to more than six hundred girls who find themselves away from home in a multitude of new and perplexing environments. By inviting groups of them to tea, by sitting apart an evening for their calls, by familiar talks with them and by innumerable little ways, she is honey-combing the University girl's life with a new spirit and safety. Tempting as this subject is and full of meaning, the second is no less so.

The opening of the M. A. C. to every boy's sister is no longer a dream. Yet, standing in the light, roomy, laboratory kitchen, with its sinks and dishpans, its stoves, molding boards, measuring cups and spoons, its china closet and its lockers, from which peep bewitching white caps and aprons, one may be forgiven for thinking it a wand in a dream that has silenced the feet on the stair and banished the practice of ducking from Abbott Han. Here, with her girls about her, is the setting for its presiding genius, Miss Edith McDermott, the new professor of domestic science. Like the young housekeeper she really is, for all her efficient practice elsewhere, Professor McDermott is beginning housekeeping with everything fresh and new inside, smelling of paint, and odd jobs waiting their turn to be finished. Forty-one girls have so far entered college under the new rule, twelve only of these at present living in the Hall. Others come from homes near by or board in Lansing.

What a world it opens! What a place that kitchen is to make you wish you "could begin over again," as the friend beside me exclaimed as we stood looking and wondering. What relation did the contents of this bottle or that have to the human system? True, one was marked "cheese," the other "butter," but what of cheese? What of butter? Of beef? Of starch? Of soups,—just how are they made properly, anyway? How would this engaging professor at our side teach bread should be made? What about all the flours,—fancy, whole wheat, rye, graham and all? Will she solve the question for the housekeeper of tomorrow how to keep a healthful, happy home, run a henry and dairy, understand and sympathize in her husband's duties, take a kindergarten course of study, maintain her college interests and attend with a degree of faithfulness on church and Sabbath school, the woman's club, sewing circle and Grange or farmers' club? What a problem it is! What a spelling out of the Divine order,—the secret of a science in the slightest detail of human living! It is none too early to have begun to solve it in our midst. Well do we need and welcome the help of such women as Dr. Mosher and Professor McDermott.

J. H.

In the Nation's Capital.

EDITOR GRANGE VISITOR: In response to your cordial invitation to contribute a letter to the VISITOR, and feeling assured that many of its readers will be interested in some of the many lessons learned in our recent visit to Washington and the National Grange, I will tell you something of all this experience, and say: We left Lansing November 7, and Monday noon found very pleasant quarters at the National hotel, which had been secured by the secretary, Dr. John Trimble. Patrons of Husbandry began arriving very soon, and Wednesday the whole delegation had ar-

rived, and a most delightful and companionable people they were. I'll not attempt to say much about this great annual convention of agriculturalists, for I realize that I must be brief, and it will be given to your readers in the printed proceedings.

Walking out upon the broad-paved, well-cleaned streets of the city one is impressed at once with its unusual importance as a city, and standing there, where the never-ceasing throng of people are passing, and looking upon the beautiful Potomac, "Like a ribbon of silver winding through the valley," my mind was filled with memories of the brave hosts of noblest men moving with measured tread, in defense of the flag which floats above us, filling these beautiful streets, and this thought stirred within me a stronger love for my country, and a broader comprehension of what it is to be a citizen, in loyalty and truth. We climbed the long street to Arlington Heights, and walked through the home of that brave man, Robert E. Lee. There was much to teach us how his plantation was managed in days gone by. We walked through winding paths which wound in among the "mossy marbles" in this national cemetery, and remembered that many of Michigan's brave sons walked and tented here and now sleep peacefully in this bosom of mother earth. Stern sentries on duty, cannon planted where they could sweep the beautiful Potomac, if necessary, and the graves of thousands, each point us to the truth, that "this Union must and shall be preserved." Monuments to distinguished commanders are planted here, and on one grand, stately, marble shaft, with tear-dimmed eyes, we read these words, "Raised in memory of heroic deeds of two thousand men, (that strange, cold word, "unknown.")"

From here we went to the monument of Washington which towers far above any other structure in the city, and standing at the base of this marble shaft, and looking up, its apex is lost in the blue above us. We are impressed that this is typical of how his countrymen would lift his name above every other name and keep it green forever in the world's memories.

We knocked at the door of the palace of this great nation and the chief executive of sixty-five millions of people left his high post of duty and welcomed us with cordial greetings. We invaded the congressional library, and looked proudly upon this magnificent structure, its ceilings inlaid with gold, marvelous paintings and sculpture by great artists, massive columns of rich mosaics, statues of distinguished warriors and statesmen hold us entranced by the wonders and beauties of their realms. We realize too, how rich in mind and heart, as well as in money, our nation has grown, when we are told that this building has cost ten millions of dollars and has fifty miles of book shelves laden with books. We realize that ours, is indeed, the book age.

The national capitol looks more like an asylum for the oppressed than the temple of liberty, yet grand and stately. We saw how our money is made and cared for, and can understand how counterfeiting can be a fascinating business. We spent some time, but not enough, in Smithsonian Institute and saw marvelous wonders of the earth from every land and clime and myriads of creatures that have lived beneath the surging billows of old ocean. We looked almost with envy upon the backbone of the whale and regretted that some portion of its anatomy had not been more largely incorporated into the farmer's nature. But I must hasten on and say that the wonderful art gallery, botanical gardens, statues and majestic government buildings upon every side of us fill us with tender emotions and stronger love for our own fair and beautiful Republic.

We walked through the home of Washington and saw with pride its beauty and richness and, as we peered into the tomb where he rests, men hushed their voices and reverently doffed their hats.

I cannot close without mentioning that the Patrons of Husbandry received and accepted an invitation to worship in the old Presbyterian church on Sunday morning and as we gathered reverently around its altar we listened to the gifted Talmage

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Field and Stock

The Dairy Cow—Feeding and Care.

Prof. C. D. Smith, Agricultural College, at Round Up Farmers' Institute at Grand Rapids.

To treat properly this important branch of the general discussion of the dairy cow, in the time allotted me, necessarily limited, is, of course, impossible. I shall therefore attempt nothing more than to outline a few general principles and emphasize several details which seem to me to be of especial importance at this time. Concerning the usefulness of tables of food analysis and of the theoretically balanced ration, I have no time to speak, important as these topics are for discussion.

It may be well to remember at the outset that the cow is a machine, and, more than a machine, she is a living animal. Her function in the farm economy is to convert such forage and grains as the farm may produce into milk, butter and fertility. It is well in this great state, so completely given up to grain raising, to recognize the dairy cow as an important factor not only in increasing the wealth of the state, but in restoring to the soil its pristine fertility. The dairyman who would make a living, and at the same time maintain the fertility of his farm, must not only know how to feed cows to produce a profitable yield, but he must know in addition how to so compound his rations as to purchase the food stuffs which will best supplement the crops he raises and will bring on the farm the fertilizing elements which the soil needs. If he raises corn, timothy hay, oats and wheat, both from the point of view of the greatest yield of milk and butter and the maintenance of soil fertility, wisdom will dictate that he should purchase oil meal, cotton seed meal, pea meal, or wheat bran, because these foods, besides being rich in those food materials which are lacking in corn, timothy hay and wheat straw, contain the nitrogenous elements and ash constituents which will aid him in enriching his fields. No dairyman can therefore expect to succeed who is not a good all round farmer, blessed with nature's greatest gift, common sense.

The successful dairyman will remember that his best dairy cows are not the product of nature alone, they are the final results of centuries of breeding; they are not cows in their natural condition, they are abnormally developed and hence are abnormally sensitive. The highly bred cows which give him the greatest and most profitable yields are, on account of this abnormal sensitiveness peculiarly liable to lose the qualities that have been bred into them through the centuries to make them most valuable. By the law of breeding, universal and well known, they tend to revert to their natural condition. The first general principle then should be that if we would maintain and elevate the present high standard of our best dairy cows they must be fed and cared for according to the dictates of their changed and abnormal natures, and not according to the nature of an undeveloped animal.

WELL BRED COWS MUST HAVE CARE.

In nature a cow is bred with the ability to resist hardships; by aid those hardships are removed, and hence the energies which, in the natural cow are directed to a thick coat, strong neck and big horn, are now diverted to the production of milk and butter. By nature a cow consumes but a moderate ration; by art her capacity is increased three fold. By nature she yields but a small mess, and that for a short time; by art her daily yield has been increased ten-fold and her period of lactation indefinitely protracted. Now I repeat that it is the constant tendency of the highly developed modern dairy cow to lose these qualities bred into her by art and to revert to the original state of small capacities; and it is the business of the dairyman to prevent this reversion by protecting the cows from winter storms, by furnishing constantly good feeding and care from one year's end to another, and by careful and thorough milking to keep up the yield.

Protection from the winter's storms is given for the purpose of making the animal comfortable and to allow the food to be devoted to the production of milk that would otherwise be required to keep the animal warm or make it possible to endure hardships or discomforts of any kind. The attempt must be made to keep the animal under conditions at which she can do her best. What are these conditions? We notice that the largest messes are yielded by cows usually in the month of June. This suggests that it might be wise to attempt to continue the June conditions throughout the year.

VENTILATION IN THE STABLES.

We know as one of the most important of these June conditions that the cow gets plenty of sunlight and fresh air. The temperature seems a little too high, and as we watch the cow quietly chewing her cud on the hot days she gives us evidence that to be perfect for her the weather ought to be just a little cooler. It is my observa-

tion that the most highly civilized cows enjoy best during the winter the temperature between 40 and 50 degrees, and we try to keep the cow stables as near that temperature as possible. Disease germs have no worse enemy than sunlight. My ideal cow stable, therefore, would have the ridge pole run due north and south, and would provide accommodations for two rows of cows facing each other on the east and west sides of the central feeding alley. The windows would be large and frequent on either side, admitting an abundance of morning sunlight from the east and afternoon sunlight from the west. The walls would be thick and packed with sawdust or straw to exclude the cold, and a free access of fresh air would be permitted at such convenient points and in such ways as to admit an abundance without creating too great a draft. The problem of ventilation, however, is far from being settled. The importance of this daily sun bath cannot be exaggerated, and it is my firm belief that the presence of tuberculosis in so many closely housed and highly bred herds is to be ascribed very largely to the exclusion of sunlight from the stables. Do not try, therefore, to economize lumber by building your barns round or in any other form which does not permit a daily sun bath when the days are cloudless.

CLEANLINESS.

To keep the cows comfortable and at the same time clean is one of the difficult problems which confront the average dairyman. This is a question of stable fixtures. There are two kinds of cow stalls which I desire to commend. The first is called after its inventor, "The Hoard Stall." I describe it briefly and leave it to your ingenuity to construct it with such modifications as your own requirement may suggest.

Let us assume in the first place that the floor is level. Erect on either side of the feeding alley, and in front of each row of cows, a tight board vertical partition, 4½ feet high. Twenty-two inches from the floor on the side of the partition next the cows nail on a two-inch horizontal plank one foot wide. This is to serve as the bottom of a slanting, slatted rack into which the cornstalks or hay is to be placed. For the top of this rack fasten a 2x4 on a level with the top of the partition and 2½ feet distant from it. Nail slats four inches wide and six inches apart from the two-inch plank which was placed twenty-two inches from the floor to this 2x4. When the cow is now brought in she is tied to a ring in the center of the stall, fastened to the plank which constitutes the bottom of the feed rack. When the cow stands up the slant of the rack forces her to stand well back. When she lies down she can lie under the slanting rack and well up towards the partition in front of her. To compel her to do so a 2x2, or perhaps 2x4, three feet long, is spiked to the floor in front of her hind feet. In front of this 2x4 the bedding is placed. The droppings will fall to the rear of it. A box to contain the grain feed or silage is pushed through a hole in this tight partition in front of the cows and is thrust well back into the stall. It may be removed when the cow has finished eating. Partitions extending from the hind feet of the cows up to the 2x4, to which the slanting four-inch strips are nailed, and which makes the top of the slanting rack, should be erected between the stalls, which should be 3 to 3½ feet wide, according to the size of the cows.

I have seen this style of stall in successful operation in several places in the state. In each case the cows were perfectly clean. The other kind of stall is patented, and for that reason I hesitate to recommend it. It is called the Bidwell stall, and you can obtain full directions for its construction of Porter Bidwell, McGregor, Iowa. We are using the Bidwell stall on the College farm, and I have to report that the cows are comfortable and at the same time perfectly clean. We must remember in this connection that absolute cleanliness of flank and udder is necessary for the production of the highest quality of butter, hence I recommend the adoption of some such plans for keeping the cows comfortable and clean as I have suggested.

THE FOOD.

Concerning the food of the cow, time does not permit me to say much. Let us remember that the cow should never get hungry, and that our profit comes alone from generous feeding, from the excess of food furnished over the amount required to maintain the life of the animal. Let us remember, too, that it is a wise policy to feed what the farm produces and to purchase those things alone which are needed to fitly supplement these articles.

In the southern part of the state at least, the corn crop must be at the basis of nearly, if not in every, profitable ration which can be suggested. Well cured corn fodder, properly housed and judiciously fed, is one method of utilizing the corn crop. The silo is another place into which the corn crop can be profitably stored. I have fed corn silage for many years and can com-

mend it to every dairyman who will intelligently fill his silo and intelligently feed its contents. I know of no more economical and in every way satisfactory method of handling the corn crop than placing it in the silo. But this subject is to be treated at length later in the program and I need make no further mention of it here. I cannot pass this phase of the subject, however, without emphasizing the necessity of utilizing the entire corn crop, including the stalks, to the utmost. For this reason I recommend that the corn be cut as soon as it is thoroughly glazed and while the stalks are green and succulent. I recommend that it either be placed at once in the silo or that it be securely bound in large shocks with as little exterior left to the ravages of the weather as possible. Save and utilize the entire corn plant. Experiments west and east of us have shown that in these northern latitudes one-half of the feeding value of the entire plant rests in the stalk.

The silage of field-cured corn fodder should be supplemented with an abundance of grain feed. The question often comes to the station whether it pays to feed grain to dairy cows. I invariably reply that if the cow owner has any doubt on the point give the cow the benefit of the doubt. The cases are few where it does not pay to feed an abundance of grain judiciously to milk-giving cows. Feed nearer the upper limit than the lower.

Our experience at the College with cows of both the ordinary and extraordinary kinds leads me to believe that the results of feeding a large amount of grain are two-fold. In the first place, an immediate financial return comes from the increased amount of grain fed in the similarly increased yield of milk and butter, which more than compensates for the increased outlay. Here the knowledge of the chemical constitution of the grain feeds is indispensable to success. The feeder must understand the materials he is using and must combine them wisely. His financial success will depend on the two factors, knowledge and judgment of the desires and capacities of his cow, and knowledge of feeding stuffs and their proper combinations. With a grain ration wisely compounded the more he can get his cows to eat of it, in combination with cheap and effective coarse fodders, the greater the immediate profit. In the second place, a close observation of the constantly increasing yields of cows from year to year that are continuously well fed compels the belief that there is a residuary benefit from such high feeding, and that instead of the cow being "burned out," surfeited and spoiled by it, she is improved and rendered capable of larger yields and more economical.

I have abundant evidence to support this point in the records of the cows of the College herd. I need not refer to them to them here in detail. It is sufficient to say in this public talk that wherever we have fed a cow up to her capacity, she has increased her milk and butter yield the following year and has made the increased yield with equal food economy. The point is a very important one since the belief is not limited to a few farmers in the state that it hardly pays to feed grain in the first place, and secondly, that the continuous high feeding of the cow ruins her future usefulness. I will admit that when you approach the upper limit of the capacity of the cow, you must proceed with caution and must exercise more skill than when you feed more lightly, but the profits are also correspondingly greater as well, and in these days of close competition the dividing line between profit and loss, on the herd may be in the grain bin.

The question of

WHAT GRAIN TO FEED

is also a live question. The selection of the grain feed must depend upon the coarse fodder already on the farm. The wise dairyman will raise as much of his grain feed as he possibly can and will purchase such supplementary grain feeds as he must to make his ration palatable and effective.

For this reason I suggest, for the northern part of the state at least, that more peas should be profitably grown for stock feeding. If sown deep, say from three to four inches deep, in sandy or loamy soils, which are especially adapted to the crop, and put in early in the spring, they may be cut for hay early in the season and furnish a most excellent and useful forage. We sow two bushels to the acre of peas, plowed under four inches deep, and a half bushel of oats drilled on the surface later, for this purpose. If allowed to ripen, the peas, when ground, furnish a cow feed nearly as rich in protein as oil meal, and most excellent to feed with silage or timothy hay.

Clover hay is, in my opinion, the best single coarse fodder for milk cows. The animals are very fond of it and its chemical composition is such that it forms theoretically almost a perfect ration alone.

A RATION.

For a thousand pound cow in full milk a ration of eight pounds of corn meal, six

pounds of wheat bran and all the clover hay the cow will eat is suggested, to begin on. Increase the amounts of grain feeds as long as the increased yields pay for it. Then stop. With such a ration some roots may be profitably fed. I fed roots extensively to a large herd of cows in the early '80's, but the tender recollections of the backaches attendant upon their culture has prejudiced me against them since. Rather than raise roots for the succulent fodder I would certainly rig up a silo. With silage and clover hay both on hand, the dairyman is well fixed for the best and most economical feeding. With oil meal cheap as it is today, its use ought to be greatly extended in this state. A ration like this is almost perfect: Corn silage, forty pounds; clover hay as much as the cow will eat, usually five or six pounds; roller process bran, eight pounds, and oil meal, two pounds. Or substitute pea meal for the oil meal if on hand. Silage is weak in protein, the very element in which clover hay, oats, bran, pea meal and cotton seed meal are strong, hence the advisability of the mixture. So we might go on all day suggesting mixtures and rations, but we desist.

Love your cows, study them, supply all their wants, never neglect them, feed high, keep warm and comfortable in the winter, and supplement poor pastures in the summer with proper forage. Obey these rules and you cannot fail to reap a financial reward for your toil.

Inexpensive Shrubbery.

Many farmers, says the New York Ledger, are deterred from planting ornamental shrubs and trees by the supposed necessary expense. They have a variety of large and small fruit, but these are part of the economy of the farm and represent money well invested. Fruit trees and plants are longer in coming to the end, and the wise farmer is fully aware that apple orchards and strawberry beds pay better interest than county banks.

But with shrubbery it is different. The farmer may realize that ornamentation has something to do with determining the value of his place, but it does not come home to him so forcibly as the apple orchard and vineyard, and he puts it off from year to year, until money is more plentiful or he has more time, and the bare surroundings of his house are left to the charity of the small annuals which his wife and daughters raise from seed or are able to carry over from year to year by means of slips, and perhaps to the occasional sweetbrier or peony root, procured from a flower-loving neighbor. It is not that the farmer dislikes shrubbery or is niggardly with his money. He is rarely caught up with his work, and there are always important things waiting his attention—things that take money and time and are of prime importance to the prosperity of the farm. And, then, ready money is undeniably scarce, even to the average farmer who is ahead; new horses or tools or buildings are needed, and the small accumulations go to provide them, and the shrubbery is put off and off, and finally is lost sight of.

If the farmer knew how cheaply his grounds could be ornamented I am convinced there would be fewer unsightly yards in the country. Even the boys and girls, with little trouble, could surround the house with beautiful trees and shrubs and clambering vines, and the cost would be only a few days work each year. There is scarcely a tree or a shrub that will not propagate readily from cuttings, and all kinds can be increased almost indefinitely. Insert the cuttings in a moist piece of ground in the spring and give them one or two hoeings. By the second year they will be large enough to transplant to permanent quarters. Herbaceous plants, like lilies, phloxes, peonies, irises, yuccas, anemones, and hundreds of others, can have their roots divided, and the plants will be all the more thrifty for the division.

Pruning is the secret of successful shrub-growing, and in nearly every locality can be found a fair assortment of shrubs and plants whose owners would be perfectly willing to give away the cuttings of pruning, and cuttings of such desirable shrubs as might not be found in the neighborhood could easily be procured from a nursery for a few cents. I know a young man who has several acres of fine shrubbery, nearly all of which he raised from cuttings procured in the neighborhood. What would have cost him several hundred dollars at a nursery, cost him only a few days labor and some years of waiting. There are dozens of handsome California private hedges in his vicinity, all raised from cuttings furnished by a gentleman a few miles away who prunes his hedges three or four times each summer. I have propagated thousands of willows, poplars, hydrangeas, altheas, roses, spiraeas, and other trees and shrubs and lost less than five per cent of the cuttings. Outside of the saving, there is a fascination in raising one's own shrubbery; and, if desirable, one can easily make it a source of no inconsiderable profit. I know small farmers who add \$100 or more each year to their income by growing a small assortment of plants for local trade.

WOMAN'S WORK.

Buying Groceries.

Shall we buy groceries in large or small quantities? is a question so often asked that it is worth the while of every housekeeper to consider it seriously. We know that all food materials can be bought for less money in large quantities, the use of the money is often worth all the difference paid. Many housekeepers feel that they like to have some check placed upon themselves or their helpers, and some say, "I use so much more if there is plenty in the house." This thought is unworthy a house-keeper. No true woman saves just because she sees the bottom of the bag, and the real economist dips as carefully from the top of the barrel as she scrapes at the bottom.

There are some materials which grow better as they grow older; and such should be purchased in as large quantities as the house mother can well store. Hard soap is one of these. The older, drier, and harder it is, the better it lasts. If there be a dry place in the house where the box of soap will be out of the way, it certainly pays to buy soap by the box. Green coffee, if kept in a dry place, grows better with age. This is not true of brown coffee; for after coffee is roasted, it loses aroma and decreases in strength; therefore the more freshly roasted coffee is, the better the beverage made from it. Tea constantly loses strength,—slowly, to be sure,—and therefore should not be bought in large quantities. When sugar costs ten or twelve cents per pound, most household managers felt that there was enough waste between the barrel in the store and the sugar pail in the pantry to buy sugar by the barrel, in spite of the fact that the interest on the money paid for a barrel of sugar made quite a tidy sum before the sugar was all used. Today, when sugar is one of our cheaper foods, although perhaps the waste is no less, its cost is less, and sometimes the matter of providing for the sugar barrel costs more time and money than the waste will balance. The same arguments hold with many groceries. There may be many sides to the question.

Canned goods always come cheaper by the case. They do not deteriorate by keeping. They can be put away in almost any place where they won't freeze, and they take up but little room. It is worth the small amount of extra money put into them to have the freedom from worry which a well-stocked cupboard of canned goods of four or five varieties (mixed cases can be bought readily) will give. This is no more canned material than every housekeeper with a moderate family uses in a few months. If bought in this way instead of one can at a time, the fact that there is material on which to draw in case of unexpected company, or when there are unusual demands upon the time of the housekeeper, and she wishes to serve a quickly prepared meal, will often be of more value than several times the cost of the can of meat, fruit, or vegetables so quickly opened and so readily prepared for the table.

In this climate, flour, corn meal, oat meal,—all the cereals in whatever shape for household stores,—should be purchased only in moderate quantities; for in warm weather insect life is very vigorous, corn meal becomes rancid if much heated, and all the wheat products lose their "life" and become heavy and sticky. In damp weather, the starch in all these grains will absorb water and become less dry, the gluten will lose its tenacity, and bread made from such flour will never be so white and light as if made from fresh flour. Some flour dealers claim that flour does not deteriorate, but most housekeepers find that bread made from comparatively freshly made flour is best.

The buying of meats is a long subject, and one which accounts for the leak in many a housekeeper's accounts when she finds that she is spending too much money on her table. It is not usually economy to buy just meat for one meal at a time. In winter, there are times when a large piece of beef,—even a whole quarter,—can be used to good advantage in a family of even moderate size. The farmer's home does not see enough fresh meat, and often his table has less beef, either fresh or corned, than the good health of the family demands. A well varied diet, where beef and mutton take the place of some of the pork so freely eaten, will often give better health and more strength for work.

The whole matter of economy is one which every person must work out for himself. What is real economy in one household may not be in another, though there are some general truths which always hold. Given a large family, plenty of store room, and a wise cook, it generally pays to buy the greater part of the groceries in large quantities.—Mrs. Nellie Kedzie, in *Kansas Industrialist*.

Kitchen Economy.

Miss Margaret M. Sill, Detroit, at Round Up Farmers' Institute at Grand Rapids.

Good cooking consists in the first place in exciting the digestive organs. The

more we excite them and give them pleasure, the more thoroughly is our food digested. If we take into our mouths food that is poorly cooked, the saliva will not be excited; no pleasing taste is found, and the food passes to the stomach without having had the work done for it in the stomach that ought to have been done, hence more is demanded of the stomach, sometimes so much that it is not able to perform it and the person is made ill. This is indigestion, the foundation of many disorders.

It is a common saying that the mother is the teacher of cooking. Many mothers are not competent teachers, because they do not know themselves, not having been taught. Many of the discomforts of home, ill health, ill temper, and their attendant evils, come from the fact that the woman of the house has not been properly taught either as a cook, manager of home or her wife and mother.

There is a movement, which is growing in favor, to introduce into our public schools domestic economy. It is an excellent thing to have some knowledge of domestic economy. I think I am safe in saying, that in the average household, one-third of the food is wasted from lack of knowledge as to cooking, managing, and saving.

The question was asked, "What can five persons live healthily upon per week?" And when I replied, "five dollars," they were dismayed. I had charge of a house last summer where they averaged twenty persons a day. The cost of living for each person per week was one dollar and thirty-five cents. For breakfast, we had oatmeal, eggs, meat, potatoes, hot rolls or muffins. For dinner, soup, meat, two kinds of vegetables, potatoes, and dessert. There is no economy in buying cheap meats. Do not have the bones taken from beef or mutton; have them cracked, as they will make the best kind of soup. The American people do not eat enough soup. All food before it can be assimilated must be converted into liquid. If you will eat good soup, half the work of digestion is saved. What is good soup? Water that has taken into mixture with it all the nutritive properties of beef or vegetables, or of whatever it is made.

If domestic economy was taught in our public schools it would solve many of the problems of the "poor question." The possibilities of the woman in the home, her influence upon the inmates in cooking, managing, saving and training cannot be estimated. In selecting beef, choose that which is bright red, and which when pressed with the finger leaves no dent. The best pieces for beef tea come from the neck. The best piece for soup is the hind shank. In the shank you get marrow, lean meat, the particles that make bone and muscular tissue. The first cut of the ribs is the best for roast. The tenderloin steak is good, so is the porterhouse. While the round steak is tougher, it contains more nutriment. If mutton and lamb have a disagreeable woolly taste, remove the thin transparent fibre that covers them. The rule for cooking beef, mutton, and lamb, is to cook twelve or fifteen minutes for each pound.

To remove fat from the top of broth or soup, lay a piece of common brown paper on it, remove as soon as it absorbed all it will hold, then lay on another until all is removed.

To make chicken soup, cut into small pieces, add cold water, cover tight, simmer from four to six hours, strain, and add a little rice previously boiled, add a little cream and salt to taste.

Deep fat frying is much more satisfactory, as well as economical, than frying in a frying pan. Fish balls, doughnuts, croquettes, anything you wish may be fried in the same fat.

If the fat turns dark after repeated use, clarify it with pieces of potato. The best way of cooking steak is to broil it. This cannot be well done over wood coals. A shovelful of charcoal gives a good broiling fire. The next best way is to heat your frying pan very hot, lay in the steak, sear it, turn quickly and sear the other side.

To make oyster soup, boil your milk in a double boiler, season with butter, pepper and salt; drain your oysters, add them to the milk, and boil until the edges curl.

Good mashed potatoes must be boiled in water that breaks in bubbles at the top. Boil until soft, drain, then remove the cover and lay over the top a clean, dry cloth, mash, season with salt, pepper and hot milk. Beat them light with a fork.

To make coffee, buy the best, have it ground fine. To one-half cup of coffee, add one-half an egg, stir thoroughly, scald the pot, add the coffee, and pour over it one quart of boiling water; let it boil five minutes.

Young People on the Farm.

At the last farmers' institute in this county, the question as how to keep the boys and girls on the farm was generally discussed. Some original ideas were advanced, but it is doubtful if any practical conclusion was reached.

As some of the more thoughtful pointed out, it is not always advisable to keep the

boys and girls on the farm. Young people must be permitted to follow the bent of their own genius, and if this leads them to the towns it would be unwise for parents to interfere. It does not always follow that young people reared on the farm are adapted by tastes and endowment to farm life. Professions and trades are recruited from the sturdy youth of rural districts. As a class, farm-bred young men become the leaders in nearly every pursuit of life. There is an adaptability about the American mind that makes it impossible if it were desirable to confine a young man to the pursuits and occupations of his ancestors. The American mind intuitively seeks the field of usefulness that promises the most fruitful returns for endeavor, and young people shift from calling to calling and class to class as naturally as water seeks its level.

As a general proposition, then, it is not desirable "to keep boys and girls on the farm," for that would exclude from the learned professions and trades and industries the most vigorous and virile blood now infused into them. And yet there is the need of removing the idea that an educated, cultured, young person has no place on the farm. And there is need, too, of combating the prejudice of the average college bred youth against farm life, with its isolation and attention to detail.

We think that one of the principal causes of aversion to farm life among the young people is the popular impression that farming does not pay, that it yields no return for labor expended, that it is labor and drudgery without adequate returns or social standing. And for this unfavorable opinion of farming as an industry, farmers themselves are responsible. Too many of them make themselves and their children believe the failure is inherent in the business, and success a freak or accident. It is contrasted with the enchantment of distance, and young people cannot help becoming dissatisfied with their rural surroundings. If farmers wish to keep their children at home, they must more fully appreciate the nobleness and dignity of their own calling. They must teach that intelligent effort can win as rich rewards from the soil as it can in any line of labor in city or town. And this is true. Industry and intelligence win on the farm as well as in the professions. Farming pays under their sway, and when so conducted there is no surer, more independent, respectable, and pleasurable way of engaging one's time. Let farmers teach their children the true dignity and true worth and possibilities of their calling, and the problem of keeping them on the farm will solve itself as much as solution is desired.—Carroll (Iowa) Herald.

Butter Production.

Press Bulletin—Utah Agricultural Experiment Station.

A winter feeding experiment with dairy cows is reported in detail in bulletin No. 43, of the Utah Experiment Station, by F. B. Linfield. Tests were made to determine the value of Utah fodders in feeding dairy cows; also as to how much grain it would pay to feed with the fodders used; and, third, to determine the effect of feed on the per cent of fat in the milk. The experiment was conducted during the winter of 1894-5. Full details are given in the bulletin, and the results, as far as can yet be determined, are summarized as follows.

1. This test adds but another item to the fairly well established fact that an increase in the quantity of concentrated food in the ration of a cow, does not increase the richness of the milk, provided the cows are well fed to start with.

2. Any increase in the grain fed over six pounds per day, increased the cost of the dairy products almost without exception; and the test indicates that, with the fodders used, eight pounds of grain is the highest limit for the greatest profit.

3. Considered from the point of price, lucerne hay and grain seem to be a more economic ration than one of mixed hay and grain, but considering the weight of food, there is very little difference, though the results are slightly in favor of lucerne.

4. It is evident from these tests that, with the price of lucerne as reported, (\$3.75 per ton) cows may be fed at a food cost in winter of less than nine cents a day per 1000 pounds live weight, even with cows that will produce one pound of butter or more a day.

5. The test also shows that, with the right kind of cows, butter fat may be produced during the winter at a cost of not more than nine cents per pound.

6. The cows which were the largest eaters per 1000 pounds live weight, were, without exception, the largest and most economic producers.

A Triumph.

Lake Co., Florida, Nov. 15, '96.

MR. O. W. INGERSOLL,

DEAR SIR:—We send herewith another large order. This is a triumph for your paints, as they have stood the test of the Florida climate better than any other paints used here.

Yours Truly,
J. H. VROOMAN.
See adv. Ingersoll's Liquid Rubber Paints.

The Juveniles.

Just How Much.

"I would do anything to get an education?" said Joe savagely thumping the down sofa pillow till a fine, fluffy dust flew from seams and corners.

"Just how much would you do, Joe?" said practical Uncle Phil, interestedly, "as much as Elihu Burritt?"

"How much did he do?" inquired Joe. "Was he a boy without any chance?" "No, indeed!" said Uncle Phil, who never sympathized with whining Joe's way of looking at things. "As many chances as you have or any boy with brains and ten fingers. Had to work at a forge ten or twelve hours a day, but that didn't hinder from working away in his mind while his hands were busy, used to do hard sums in arithmetic while he was blowing the bellows."

"Whew!" said Joe, as if he, to, saw a pair of bellows at hand. "How old was he? Older than I am wasn't he?"

"About sixteen when his father died. By and by he began to study other things, before he died he knew eighteen languages, and nearly twice that number of dialects. All this time he kept working hard at blacksmithing."

"I don't have to work as hard as that," said Joe after awhile with a shamed-faced look that rejoiced his uncle's heart.

Joe was a farmer's son, and in busy times there was a good deal for a boy of his age to do. So far he had not been spared to go away to any preparatory school to "fit" for college. So, he had faint-heartedly and sulkily given up the thought of going there. Somehow Uncle Phil's words put things in a new light.

Don't wish any wish and say you would do anything. Just how much would you do? Take your wish and look it over critically and find out its market value.

"I wish I was rich, mother," you girls say now and then, sentimentally. Wouldn't I dress you in silks and satins! Mother smiles her answer. She knows about how much the wishes are worth, and yet she likes to hear them. Its better than nothing. And, meanwhile, she turns her old shiny last summer's gown so that it won't be so hard for you to have your china silk or crepon. Just how much would you do, without being rich to make her life a bit easier? I wish you would sit down and think it out definitely.—*Young People's Weekly*.

An Unusual Examination.

The young man was a candidate appointment as foreign missionary. It was winter; the examiner sent the candidate word to be at his home at three o'clock in the morning. When the young man arrived at the appointed time, he was shown into the study, where he waited for five hours. At length the old clergyman appeared and asked the other how early he had come.

"Three o'clock sharp."

"All right; it's breakfast time now; come in and have some breakfast."

After eating they went back to the room. "Well, sir," said the old man, "I was appointed to examine your fitness for the mission field; that is very important, can you spell, sir?"

The young man said he thought he could.

"Spell baker, then."

"B-a, ba; k-e-r. Baker."

"All right; that will do. Now, do you know anything about figures?"

"Yes sir; something."

"How much is twice two?"

"Four."

"All right, that's splendid, you'll do first rate. I'll see the board."

When the board met the old man reported: "Well, brethren, I have examined the candidate, and I recommend him for appointment. He'll make a tiptop candidate—first class!"

"First," said the old examiner, "I examined the candidate on his own self-denial. I told him to be at my house at three in the morning. He was there. That meant getting up at two in the morning, or sooner, in the dark and cold. He got up; never asked me why."

"Second, I examined him on promptness. I told him to be at my house at three sharp. He was there, not one minute behind time."

"Third, I examined him on patience. I let him wait five hours for me, when he might just as well have been in bed; and he waited, and showed no signs of impatience when I went in."

"Fourth, I examined him on his temper. He didn't get mad, met me perfectly pleasant; didn't ask me why I had kept him waiting from three o'clock on a cold winter morning till eight."

"Fifth, I examined him on humility. I asked him to spell words a five-year-old child could spell, and to do sums in arithmetic a five-year-old child could do, and he didn't show any indignation; didn't ask me why I wanted to treat him like a child or a fool."

"Brethren, the candidate is self-denying, prompt, patient, obedient, good tempered, humble; he's just the man for a missionary, and I recommend him for your acceptance."—*Epworth Herald*.

THE GRANGE VISITOR

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OUR WORK.

The following has been approved by the State Grange as a fair statement of the objects the Grange of Michigan has in view, and the special lines along which it proposes to work.

- OUR OBJECT is the Organization of the Farmers for their own Improvement, Financially, Socially, Mentally, Morally. We believe that this improvement can in large measure be brought about: 1. (a) By wider individual study and general discussion of the business side of farming and home keeping. (b) By co-operation for financial advantage. 2. (a) By frequent social gatherings, and the mingling together of farmers with farmers, and of farmers with people of other occupations. (b) By striving for a purer manhood, a nobler womanhood, and a universal brotherhood. 3. (a) By studying and promoting the improvement of our district schools. (b) By patronizing and aiding the Agricultural Colleges and Experiment Stations in their legitimate work of scientific investigation, practical experiment, and education for rural pursuits. (c) By maintaining and attending farmers' institutes; reading in the Reading Circle; establishing and using circulating libraries; buying more and better magazines and papers for the home. 4. (a) By diffusing a knowledge of our civil institutions, and teaching the high duties of citizenship. (b) By demanding the enforcement of existing statutes, and by discussing, advocating, and trying to secure such other state and national laws as shall tend to the general justice, progress and morality.

For Discussion.

- 1. Are the present tax laws of Michigan just and fair to all classes? If not, why not? 2. Are the tax laws complied with in making assessments? If not, where is the blame? 3. What specific changes in our tax laws would be advantageous? (a) Specific taxes. (b) Inheritance tax. (c) Mandatory assessment under oath. (d) County boards of auditors. (e) Personal property. 4. How can expenses in our state government be reduced? (a) The departments at the capitol. (b) The legislature. (c) Miscellaneous. 5. How can expenses in our state institutions be reduced, without injuring their efficiency? (a) Educational institutions. 1. University. 2. Agricultural College. 3. Normal School. 4. Mining School. (b) Prisons. 1. At Jackson. 2. At Ionia. 3. At Marquette. (c) Asylums. 1. At Kalamazoo. 2. At Pontiac. 3. At Traverse City. 4. At Newberry. 5. At Ionia. (d) Other institutions. 1. Industrial school for boys. 2. " " " girls. 3. State Public School. 4. School for deaf. 5. School for blind. 6. Home for feeble minded. 7. Soldiers' Home. 6. How can county and township expenses be reduced? (a) Courts. (b) Schools. (c) Jails and poor houses. (d) Roads and drains. (e) Salaries. (f) Miscellaneous. 7. How can our pure food law be strengthened? 8. What can we do for temperance? (a) As to enforcing present laws. (b) An investigation of the liquor traffic by a commission, or by the Board of Corrections and Charities. (c) The formation of an anti-saloon league. 9. Shall free passes for state officers be prohibited? 10. Shall we have a uniform text book law? 11. Shall we have a free text book law? 12. How can we bring about the election of the United States Senators by the people? 13. Is free rural mail delivery practicable? 14. Are farm statistics valuable? 15. Can gambling in grain be prevented? 16. Shall we have state inspection of grain? 17. How improve district schools? 18. Shall women vote in Michigan?

We will pay 10 cents each for the first two copies of the GRANGE VISITOR for January 2, 1896, which are received by us. Send to the following address: K. L. Butterfield, Agricultural College, Mich. Write your name and address on the paper.

We were pained to receive, through resolutions of sympathy passed by Litchfield Grange at their meeting November 21, the notice of the death of Brother H. H. Dresser of Hillsdale county. He was at the time master of the Grange. Brother Dresser was on the Executive Committee of the State Grange when we were called to the editorial chair, and we remember him for his kindness at the time and his friendliness and encouragement since, as well as for his sturdy integrity and intense love of the Grange.

The Granges and the Farmers' Clubs should work together. Their purposes are the same though their machinery is different. Farmers are not so thoroughly united as to be capable of supporting two separate organizations which are working for different ends. Let there be a union of effort. We regret that the meeting of the State Association of Farmers' Clubs was called to meet so early during the Grange session. If it had been held on Thursday or Friday, which are the days when the Grange does the most of its real work, there could have been a conference and an announcement of a platform or course of action which could have been supported unanimously by both bodies. Possibly, however, this can be got at later through the executive committees of both organizations. Certainly there should be no friction, and there ought to be the most hearty union of sentiment and action.

Worthy Master Brigham, at the National Grange, in the course of his address spoke the following words: "While we should hold ourselves in readiness at all times to strike a blow for agriculture, I believe that we should concentrate our efforts on one or two measures. Let us secure free rural mail delivery this year, and unite upon something else next year. Concentrate and succeed. Divide our strength, and failure is almost sure to follow." This sentiment is only what we should expect from one so broad gauged, level headed, and progressive as is Brother Brigham. At the same time, it is a most significant utterance, because it shows that the leaders in our Grange movement have got to the core of successful legislative work. The next thing is to carry out this practical suggestion. We earnestly hope that our National Grange will take steps to do this. We hope that the executive committee will decide upon one or two measures that need especial attention, and that the State Granges, Pomona Granges, and Subordinate Granges in every state in this Union will be utilized to bring pressure upon members of Congress in favor of the specified measures. We have a magnificent machinery. Let the National Grange Executive Committee, or the Legislative Committee, turn on the steam, let the State Masters oil up a little, and we shall have some significant results very soon. We cannot commend too strongly these words of Brother Brigham, and we shall feel sorely disappointed if they are not followed by incisive and strong action on the part of the National Grange leaders.

The State Grange is an important gathering. Its action will be watched, not only by thousands of farmers, but by leaders of political thought in the state. Its importance arises largely from the fact that it is a union of forces. It is not that the Grange contains the majority of the farmers of the state within its fold, because it does not. It is not that it contains all the wisdom of the state, for probably it does not have more than its share. But it is strong and its action is watched because a large body of law-abiding, intelligent, progressive citizens of a single calling in life have united their energies for the benefit of that calling, of themselves, and of the whole state. It therefore behooves the State Grange to bear in mind that the eyes of the state are upon them, and to act in every respect worthy the occasion.

To perform their work most worthily, the delegates to the State Grange must see that their final actions possess at least two qualities. The first requisite is that they shall be broad, for it never pays to be narrow in public affairs. The narrow minded man is at enmity with the public weal. Their action should be broad, not only with respect to the intelligence that it exhibits, but also in respect to sentiment, and broad, furthermore, in respect to the lines of work approved or censured. To be a little more specific: The Grange has several lines of endeavor. It is designed for the improvement of the farmers financially, socially, mentally, morally. We shall expect, therefore, that the State Grange will take advanced steps in all these lines and pass resolutions and determine upon courses of action which will carry out in all departments of our work the purposes of the Grange. While this is legislative year and it is very important that the Grange shall take the strongest possible ground on legislative topics, it is just as important that questions of education, of co-operative buying, of woman's work, and so on, be discussed and acted upon.

But while the action of the Grange should be broad, it should also have the other quality of concentration. The Grange should take action on the various lines of endeavor in which it is engaged, but at the same time it should say something definite along each line. Here comes in the concentration. Let us have action broad in spirit, but let us unite on a few definite lines and push them until we accomplish them. We have tried this and it has succeeded,—let us not go back on our own experience, but rather, strengthened by our experience, prepare for wiser and better work.

We do not wish to outline a platform to be signed by delegates to the State Grange. We prefer to leave these matters to the wisdom of that body and to follow their dictates. At the same time, for the convenience of delegates, we wish to mention a few principles that it seems to us ought to govern action regarding public affairs. This, let us remind our readers again, is not a Grange platform, but is merely our opinion of what ought to guide any body of farmers in determining the specific things which they wish to favor or oppose in state legislation. We submit the following for what it is worth:

- 1. There should be the most rigid economy in the administration of affairs in every state department and state institution. No money should be appropriated or used that is not demanded by the greatest good of the people. At the same time, no institution or department should be crippled. Penuriousness is never economy. 2. Local taxation is far heavier than that imposed for state purposes. We should therefore look most sharply to the abolition of unnecessary county and township expenditures. 3. There should be such revision of our tax laws as shall more justly distribute the burden of our taxes, upon the basis of ability to pay. 4. The affairs of the state should be conducted as nearly as possible upon the same principles as a private business. There should therefore be laws designed to remove all public servants from the control of party patronage. Public servants should be chosen for fitness solely. 5. Every citizen should be guaranteed pure food, and there should be enacted and enforced laws that will insure to every consumer the goods he calls for, and to every producer freedom from the competition of fraudulent production. 6. We must have good wagon roads. They are the arteries of farm life. But they are equally for all people and should be maintained by a tax upon all. Therefore we should have laws and methods designed to secure the continuous and intelligent improvement of our highways, but without imposing heavy burdens upon the taxpayers as a whole or upon any class of taxpayers. 7. True temperance is the touchstone of a nation's greatness. The evils of the American saloon are most insidious, far-reaching, and dangerous. Because of this fact, the temperance question is the most important question of the generation. To arouse the people and to have a scientific basis for wise action, we should have a thorough investigation of the liquor traffic and its effect on the purses, health, and morality of the people of our state. Above all we must have a most rigid enforcement of every existing law concerning the liquor business, and the enactment of such further laws as shall destroy or greatly minimize the evil effects of intemperance. 8. Every child in our state should be educated to a fair preparation for citizenship. And furthermore, every child should be given an opportunity, by the state if necessary, to secure the very highest and best education. But education should, in every grade, from the highest to the lowest, be made as practical and useful as possible, fitting the student for the broadest and best work in the ordinary vocations of life. 9. Corporations should be under such state control that they can exact nothing from the people that is not perfectly just and fair, and especially that they shall deal fairly with those in their employ. They should have before the law all the rights and all the limitations of individuals.

A Suggestion for the State Grange.

I think there will be general regret this year that the Grange is debarred by its fundamental rules from expressing its views upon the silver question, just at the time when it has been most fully considered by the general public, most intelligently studied, and has consequently become most intensely interesting. We recognize the propriety of the rule as a wise precaution against intense partisan feeling and consequent friction among our members, yet can hardly be content that upon great issues we must be silent, and expend our united efforts only upon the less urgent questions.

I think one serious defect of our political system has been brought very forcibly to our attention this year. With some six national tickets and platforms for the voter to choose from, he has yet been unable, in perhaps the majority of cases, to vote for one principle dear to him, without at the same time supporting another which he abhorred. Did he favor a protective tariff system, he could not vote for it without also voting for a gold monetary standard. Did he favor bimetallic standard money, he could vote for it only by also voting "tariff for revenue only."

I think it within reason to say that had these questions been separated, so that each might have been intelligently and singly voted upon, at least one half our people might have voted differently upon one or the other. Neither question has been authoritatively settled, as each might

have been by a distinct and separate vote upon its individual merits. As a consequence prosperity still waits for certainty upon these important questions.

I believe that the honest judgment of the people is better than that of its intriguing politicians in or out of congress, and should decide each of these questions; that every voter should have an opportunity to vote upon each, without confusing complications with any other. Our system of conventions and platforms, (the latter quite as often drawn to conceal as to express the views and intentions of their authors) does not give this opportunity.

I hope our coming State Grange may declare in favor of the "Initiative and Referendum," or some like system with an intelligible, good English name; which when adopted shall permit and encourage a real "government of the people"—a ready and prompt method of settling conclusively by the court of last resort, questions so vital to our national prosperity.

The American people have always shown themselves careful and conservative—not given to rash experiments. Very forcible illustrations of this fact may be repeatedly found in Michigan history. Legislatures and conventions have often proposed radical changes in our state constitution, which the people have almost uniformly rejected. Is not the danger of hasty and ill considered action greater from our state and national legislatures than from the people?

Battle Creek.

C. C. McDERMID.

The Coming State Grange.

Now that the busy work of the season is over and a short rest is not only enjoyable but beneficial, the State Grange session, which commences December 8, should be the center of attraction for all members of the order. Special rates on the railroads are secured with cheap hotel accommodations. The session will be of unusual interest to Patrons. Tuesday evening will doubtless be set apart for a public meeting to which the State Association of Farmers' Clubs will be invited.

FIFTH AND SIXTH DEGREES.

Probably on Thursday evening these degrees will be conferred in full form. This will give a rare chance for members to receive these higher instructions. To all who receive the lessons of the sixth degree will be given a fine steel engraved certificate suitable for framing as a memento of the occasion and evidence of advancement to this high position in our order. The session will be full of interest and it will be an inspiration to all delegates to have their home associates there. The discussion of topics presented, the music, and the degrees, with the places of interest to be visited at the state capital should induce many to go. We especially need the advice and assistance of old-time workers. Let us have a grand reunion at the session of 1896 and do valuable work for the order.

Fraternally,

GEO. B. HORTON.

Notice.

An open meeting of State Grange has been arranged to be held Tuesday evening, December 8, in Representative Hall, with the State Association of Farmers' Clubs and State Officials as special guests. The public is invited and it is hoped the occasion will be one of unusual pleasure and benefit to all who can attend. Below is the program as thus far outlined:

- Music.....Lenawee Co. Grange quartette. Welcome to State Ass'n of Farmers' Clubs..... Jason Woodman. Response.....President A. N. Kinnis, Jr. Welcome to State Officials.....Ex-Gov. C. G. Luce. Response.....Fred S. Maynard, Atty Gen. Michigan, my Michigan.....Gov. John T. Rich. Song, "Michigan, my Michigan".....The audience. The Farmer and the State.....Gov. Elect H. S. Pingree. Michigan Agricultural College and the Farmer Boy.....President J. L. Snyder. Scotch Song.....Mrs. Mary Robertson. The Farmer's Wife.....Mrs. Emma Campbell. National Organizations of Farmers.....J. J. Woodman. What is Michigan Doing for her Girls?.....Mrs. Mary A. Mayo. The Grange and our Public Schools.....Prof. Edith F. McDermott. Supt. H. R. Pattengill. What is Worth While?.....Mrs. Belle Royce. Song, "Tribute to Nature".....The audience. JENNIE BUELL, Secretary.

Some Good Endorsements.

Of the Special Winter Courses at the Agricultural College, by Prominent Agriculturists of this and Other States.

We are glad to publish the following letters from a few well-known men, which have been received in response to a request, giving their opinions of the special courses which are offered at the Michigan Agricultural college, beginning January 4, 1897. Young men, who are anxious to make the most of themselves, should give a good deal of weight to the opinions of these practical men, who look at this matter from a broad but business standpoint.

MY DEAR SIR—I am heartily in favor of education in any line. The work done by short winter courses in agriculture will be very helpful to every one who attends with a desire to learn. It seems to me that the benefit will come largely from the inspira-

tion that one may get, as spoken of in the circular you sent me. Of course, one cannot actually learn any great amount in a few weeks, but he may be awakened, he may get glimpses of the best in every line, that will start him to growing and greatly broaden his life. Would that there had been such chances when I was a boy. Hon. J. S. Woodward, of New York, and the writer, were going through the dairy school in Wisconsin once, under the escort of Prof. Henry. We saw the young men taught every little detail, and the very best in every line, and friend W. turned to me and exclaimed, "Terry, we were born forty years too soon!" And it was true. The opportunities of the present are so much greater.

I have spent some weeks in talking to these short-term students at Purdue University. I know something about how successful they have been in awakening an interest in advanced methods. Letters have come right from the boys, showing what they have done, or are trying to do, since. I say "boys," but there is no reason why middle-aged men should not attend, as they have in some cases, and ladies, too.

The short term course comes between the Farmers' Institute and the full agricultural course. It is a six week's institute. It is not as good as a longer course, but practical and valuable to those who cannot afford to spend any more time.

Most truly yours,
T. B. TERRY.

Hudson, Ohio, Oct. 19, 1896.

DEAR SIR:—I beg to acknowledge receipt from you of leaflet issued by your State Board of Agriculture, explaining the short winter course offered at your Agricultural College the coming winter. I have given it some examination and am greatly pleased with the course of study outlined. It has always seemed to me as though the splendid effects of our Institute work as well as the short course work in the Wisconsin Agricultural College, should have larger and more thorough following among our sister states. This very fact of agricultural education, the institutes among the farmers, the short course with the boys, together with our dairy school, has done more to stop the frightful waste of farm labor, and turn loss into profit than any of the forces of civilization that we have put into effect for many years. I was reading the other day of the wonderful progress made by the manufacturing interests of Germany, and the same article stated that the agricultural interests of Germany were suffering largely in comparison with the advance made by her artisans, and it concluded with these words: "If the farmers of Germany would bestow as much thought and intelligence, as well as education, upon the problems of their business as the artisans do, they would have equal success, and would make equal conquest and advancement." I have no doubt whatever of the truth of this statement, and I believe it applies as well to the United States as to Germany, and to Michigan and Wisconsin as well as to any portion of our common country. The great difficulty of our agriculture is not an opportunity for the profitable employment of thought and labor so much as a lack of general comprehension as to the final and more profitable economics of our business. This can only be brought out through study and education of both the brain and the hand. Anything and everything which promotes more intelligent thinking and more intelligent working must add to the profit of the farm, and I am glad you are doing such excellent work in that direction.

Yours truly,
W. D. HOARD.

Et. Atkinson, Wis., Oct. 12, 1896.

TO THE STATE BOARD OF AGRICULTURE:—I have been examining a leaflet from the Agricultural College giving in detail a plan for a winter term for young men and women who may not wish to take a full course at the College. I heartily endorse the plan, believing it to be practical, beneficial and not expensive. The Agricultural College is on the right track; and in order that it may accomplish what it was designed to accomplish for agriculture, all who can should avail themselves of its numerous advantages. The farmer who succeeds in the future must avail himself of all the benefits offered in the direction of practical, scientific agriculture. Hazardous methods and indifference to details cannot longer be made successful. I know of no plan better calculated to assist the young farmer or his sister than the one now offered by the State Board of Agriculture.

WM. BALL.

Hamburg, Mich., Oct. 14, 1896.

MY DEAR SIR:—Replying to your recent favor asking my opinion of the short winter course provided at the College, I would say that I think it a very wise idea; it will open the way for many of our progressive young farmers to secure technical knowledge of their work, learning the latest and best methods, studying economy—in short getting themselves "up to date" as farmers, dairymen or fruit growers. To think that such a course of six weeks'

thorough study can be secured for less than \$25.00 "outside of R. R. fare" must commend itself to any enterprising young man engaged in farming; and dull indeed must he be who could not apply his added knowledge in such a manner as to return his money several times over within the year. All success to the short course I say!

Yours Respectfully,

R. MORRILL.

Benton Harbor, Mich., Nov. 17, 1896.

I firmly believe that the establishment of the short courses of study by the Agricultural College deserves the support of every farmer in Michigan. The courses as outlined in the prospectus are intensely practical. Just the thing the young farmers of this state need to make a marked success of their chosen profession. If these courses are kept true to the practical plan outlined in the announcement, no farmer's son who intends to stick to the farm, nor no young farmer who can possibly arrange to avail himself of the advantages there offered, can make an investment which will insure him better financial returns than to spend a few weeks at the College the coming winter.

A. C. BIRD.

Hightland, Mich., Nov. 16, 1896.

DEAR SIR: I have read carefully and with great pleasure your special courses for young farmers. The College is to be commended for this very helpful and practical suggestion. The persons who avail themselves of this delightful and comparatively inexpensive way of spending a few weeks in the winter will most certainly find it the most fruitful and enjoyable experience of their lives.

HENRY R. PATTEGILL.

Lausling, Mich., Oct. 21, 1896.

How to Improve our District Schools.

It seems to be the general opinion in the country that our district schools do not compare favorably with our city schools. The work done is not done as thoroughly in the country schools as it should be, or as it is in our town schools. Now if this be true where does the fault lie. Are the teachers the only ones to blame? We say, no. There are various reasons and we will attempt to state a few of them. In the country school we are in the habit of hiring a new teacher every term of school, with few exceptions. Such a course will spoil the interest of both teacher and pupils and the sooner we adopt the plan of hiring by the year the better. Some people have an idea that most any kind of a teacher will do for the country but herein we find another mistake is made. We, as a rule, hire young and inexperienced teachers for the country, and the result is our schools do not advance in learning as they do in town where they employ teachers of mature years and experience. I want to say right here in behalf of the young teacher, that we extend to them all the sympathy and encouragement possible for there are few who need it more than the young school teacher, but for the country we would advise hiring experienced teachers. It, of course, would call for higher wages, but it also requires greater tact and skill to teach a district school with eight grades or more with success than one with two or three grades, does it not? That is why we are in favor of teachers of experience in our country schools. And what would you do with the young teacher, did you say? We would have them teach the primary schools in town, where they would be under the supervision of the principal, and the other teachers might suggest something, too, that might be of help to them.

Teachers ought to know how to sympathize with each other, and we think they do. But how is it in the country. The school board hires the teacher to begin school such a day. Teacher commences work with high aspirations, but after a few weeks becomes a little discouraged. There has not been a living soul in to see how the school is progressing. No not even the board. Now we wonder after such neglect that many of our teachers lose their interest in school work, when parents and school board exhibit so little interest as they do, in the majority of our country schools? And we hear much the same complaint about our city schools, also. We are of the opinion that if we had been hired to do a piece of work and no one came around to inspect it, we would feel it made little difference how it was done. Under similar conditions a teacher might be influenced in the same way. We hope our readers see the point and profit by it.

We, as parents, are quite liable to exact more from a teacher than is really reasonable. We expect to have our children taught good manners, to be neat and orderly, learn everything you tell them to, and never do anything wrong or use bad language on the school ground, and go straight home after school. All this and much more we expect, that is, some of us do. Now on the other hand, the teacher has the right to expect their pupils to come to school well groomed, well washed and combed

and clothes clean, at least once a week, and that they understand at least the rudiments of good manners and correct language. This is exacting only what is just and reasonable from school patrons, yet if parents do not use correct language, children will not. A teacher can tell very well what a child's home training has been. A child's actions speak louder than words. The school board and especially parents should visit their school at least once or twice each term. This we consider to be only their real and plain duty. It would be evident then to both teacher and pupil that you did have an interest in the welfare of your school. We think such a course would tend to bring parents and teachers to a mutual understanding in social as well as in educational affairs. Whereas, as things now exist, teachers and parents are almost entire strangers. What we have written is from our own standpoint. Criticism is in order.

AUNT KATE.

From Oregon.

We acknowledge receipt of proceedings of last Oregon State Grange held in May, 1896. We quote from the report of the Worthy Master, Jacob Voorhees.

The conditions for good citizenship are deteriorating. We need a new Declaration of Independence. It is not an accident that all our property has depreciated and we are compelled to take less than cost for farm products. The agriculturist will have to be more awake to his interests and make his influence felt at the seat of government. See to it that just and economic laws are enacted and enforced; taxes reduced to our ability and our right to pay, so that the burdens of government are rightly distributed and the weak protected against the unjust combinations of the strong and selfish.

Some one has said that the farmers are mentally lazy—possibly we are, if so, that would account for the burdens we are unnecessarily carrying. Other interests have been unloading upon us; it is high time that we shake off some of our indifference and wake up to action. Insist that all kinds and classes of property be taxed and made to bear its share of the burdens of government.—So long as the farmer meekly submits to carry the burden, so long he may, and he will get no help in reformatory laws and the reduction of expenses, while he is footing nearly all the bills. The man who pays no taxes does not care how expensive or extravagantly our government is managed.

There are two ways in which we can work to improve our situation; the first is absolutely under our own control and management; that is, improve our methods of business so that we may be able to reduce the cost of production to the lowest limit; for only those who can put their products on the market at the least cost, and in the best condition, will be able to maintain themselves in these days of sharp competition and low prices. Keep the best stock, the best seeds, and implements, with which the best work can be done, so that all products may be put on the market in a manner that will make a reputation that is worth something to the person selling. Plant less, fertilize and cultivate more.—We have been robbing our soil in following bad methods. "Sell less in the bushel and more on hoof and in fleece; discountenance the credit system; the mortgage system; the fashion system, and every system tending to prodigality and bankruptcy." Keep as correct account of your farming as you do with your neighbor; leave nothing to guess work or chance. As aids to a better and more economical system, I would recommend that the Granges place in their libraries for the use of their members "The Rural Science Series" and the "First Principles of Agriculture." For the successful farmer will also be a scientific farmer and must read and study about his business.

The second way relates to our duty as citizens; to our ability to co-operate in making all needed reforms, and the transaction of public business. We have not yet learned to put in practice the second general object of our Declaration of Principles—"In essentials, unity; in non-essentials, liberty; in all things, charity;" but are too much given to magnifying the details of a proposition, rather than striving for the thing itself. We continually see transportation and other corporations—bankers, and brewers banded together, co-operating to get some advantage by law from productive enterprise, and they have succeeded to such an extent that the agriculturists are receiving no profit on their investment of capital and labor. Only by a like co-operation in essentials will we be able to maintain ourselves and secure that fair and equal treatment before the law we are justly entitled to receive, and must receive, if we are to remain any longer in business at the old stand.

In the Nation's Capital.

(Continued from first page.)

as he told us, in his own fascinating way, the wonderful story of how Jesus of Nazareth heals our infirmities, and as the

grand organ poured out its melody every heart was moved to sing, "Crown Him Lord of All." We came away, feeling that we had stood in the presence of the Loving Father and been baptized with his spirit. And now, kind editor, I must close, having only touched lightly upon these points in this Queen City of the East.

Fraternally yours,

MRS. OLIVIA J. WOODMAN.

Paw Paw.

Economy on the Farm.

Do all the work possible with suitable implements and the horse, but do not omit the hand-hoe if necessary to use it.

Harvest all crops when at the most profitable stage for use.

Have good accommodation for stock, and plenty of room for storage of crops and housing of all farm implements and machines.

Aim to secure the comforts of animals when at the barn, and convenience in caring for them. Of the stock, keep secure the best for the purpose, and by diligent selection, breeding, and care keep well up in the standard of excellence.

Always remember that one good animal, of whatever kind or breed, is worth at least two ordinary ones, and that the one is much more cheaply kept than the two. Here is true economy.

Keep the farm, stock, and crops improving from year to year, as here is where the progress comes in.

Be liberal in the management of household affairs; make a home in the true sense of the word to all connected with it.

Provide abundantly for intellectual as well as physical wants, for the soul is the real man or woman.

Trust in the Lord and do your work well, remembering that all are workers together with Him, and that although one may plant and cultivate, 'tis God that giveth the increase.—F. R. Tople in Massachusetts Phytologist.

Purge the Fountain Head.

The following from the Detroit Free Press in our judgment hits the nail squarely on the head:

The rather startling statement made at the meeting of the asylum trustees at Kalamazoo, that the insane patients in Michigan institutions are increasing at the rate of 300 every two years, loses some of its painful import through the opinion of one of the trustees that 30 per cent of all cases are curable under proper care and treatment. Regret over the growing list of unfortunates bereft of reason is still further modified by the declaration of a member of the legislative committee that a great many people are committed to asylums who do not properly belong there. But taking out the curables and the number improperly committed and there is still a sad showing in this department of state supervision. The enormous cost to the state of the care of these sadly afflicted people suggests the wisdom of devoting greater attention to the prevention of insanity instead of waiting till those whose reason has become impaired have become public charges. Intemperance, pauperism, moral and physical degeneracy—all these yearly swell the list of asylum inmates. Some of these sources of insanity may sooner or later yield to reformatory processes now in operation, but the most prolific cause of mental impairment—heredity—cannot be overcome until a prohibition is imposed upon the marriage of paupers; criminals and insane people.

AFTERTHOUGHTS.

I'm gittin' old 'n feel lonesome et night,
'N my eyes ain't any the strongest,
'N I'm allus thinkin' the room ain't light,
'N every new night seems the longest.

'N then I can't help thinkin' o' her,
'N all she done for me,
'N somehow the room 'l kinda biar,
'N tears won't let me see.

We'd lived together fer forty year,
'N gin'ally agreed,
Though I'd git cross when livin was dear
'N crops was mostly weed.

But now I know that we'd agree
Because she wouldn't fight,
'N right or wrong give inter me
Till I seemed allus right.

'N I was tight es bark to tree,
A savin might en main;
Though she wa'n't dressed as she should be,
I'd no thought o' her pain.

'N I knowed she wanted a poplin dress
By a wishful look on her face
At the neighbor's clothes, whose means was
less.

But I'd jest turn my face.

But now these thoughts es come too late
To bring us either cheer,
Er stay fer me the hand o' fate,
Er make my end less drear.

For though I'm givin lib'ral now,
It ain't no comfort when
I think o' Mandy en jest how
She loved en suffered then.

I tell ye, boys, love ain't no thing
To kinda fool away,
'N them that does 'il allus bring
Up short alone some day.

For loveless folks is mostly cross
'N cynic like 'n cold,
'N folks ain't both'rin' 'bout the loss
O' cranky folks thet's old.

S' when ye gits a wife thet's right,
'T won't hurt ye to be kind,
'N when she's gone ye'll sleep et night
More easy in the mind.

—Detroit Free Press.

State Grange Edition.

The next issue of the GRANGE VISITOR will be a State Grange edition, and will be published December 24.

Ripans Tabules: pleasant laxative.

College and Station

Keeping Fall and Winter Apples.

Newspaper Bulletin Purdue University Agricultural Experiment Station.

In many localities in Indiana there are often more apples grown than can be disposed of profitably at the time of gathering, and so serious loss to the growers is the result; much of this loss could be prevented by a proper handling of the fruit, and by providing a suitable place for storing until the congested state of the market is relieved.

In order to keep well, apples must be picked at the proper time. Care must be exercised in handling to prevent bruises, carefully assorting the ripe from the unripe, the perfect from the imperfect, and storing in a cool, dry place, with plenty of pure air free from all odors of decaying vegetables or other substances.

The average fruit-grower does not exercise enough caution in handling and assorting his fruit. The degree of maturity will have much to do with the keeping qualities. A late fall or winter apple should be mature, but not ripe, when it is picked, if it is expected to be kept for any considerable time. The process of ripening is only the first stage of decay, and if this is allowed to continue before picking, till the apple is ripe, or mellow, this breaking down process has proceeded so far that it is a difficult matter to arrest it. As soon, therefore, as the stem will separate freely from its union with the branch, the apple is sufficiently mature for storing.

The proper temperature for keeping apples is as nearly 35 degrees Fahr. as it is possible to keep it, and in order to maintain this, it will often be necessary in this climate to provide a separate place for storing the fruit, as the average cellar under the dwelling house is wholly unfit for this purpose. If the cellar consists of several departments so that one can be shut off completely from the others, and the temperature in this kept below 40 degrees, it will answer the purpose very well. If this can not be done, a cheap storage house may be built in connection with the ice house, by building a room underneath, having it surrounded with ice on the sides and overhead, with facilities for drainage underneath, keeping the air dry by means of chloride of calcium placed on the floor in an open water tight vessel, such as a large milk crock or pan. In this way the temperature may be kept very near the freezing point the year round, and apples may be kept almost indefinitely.

JAMES TROOP, Horticulturist.

Steer Feeding Experiments.

Bulletin Kansas Experiment Station, September, 1896.

SUMMARY OF RESULTS.

1. The result of the present experiment in the main confirm the results obtained in a similar experiment, and published in bulletin No. 34. 2. The "balanced ration" produced much the best gains, and at a less consumption of food per pound of gain than the corn ration, whether fed as corn meal or as ear corn. The lot made one pound of gain on 7.52 pounds grain fed, and 2.39 pounds fodder, while the lot fed corn meal required 9.11 pounds grain and 2.09 pounds fodder to make a pound of gain.

2. But the lot fed a balanced ration consumed a greater total weight of food than the lot fed corn meal. During the 147 days they were fed, each steer in the lot ate an average 20.8 pounds grain feed and 6.6 pounds fodder daily, on which he made an average gain of 2.76 pounds daily. The steers fed on corn meal ate 18 pounds meal and 4.13 pounds fodder daily per head, on which they gained 1.97 pounds per head.

4. The lot fed a balanced ration gained .79 of a pound daily per head more than the lot on corn meal, for which gain consumed only 2.8 pounds of grain and 2.47 pounds of fodder more daily than the lot fed corn meal; or at the rate of 3.5 pounds of grain and 3.1 pounds of fodder per pound of gain, while we have seen that it required 7.52 pounds of grain and 2.39 pounds of fodder to produce a

pound of gain. These facts prove that the better gain of this lot was due more to the quality of the food than to the fact that they had better appetites.

5. The mixed grain ration stimulates the appetite more than the corn ration and induces the steer to eat more heartily of it than he will of corn meal.

6. The steers fed on the mixed grain ration brought a better price on the market than either of the other lots, because they were in better condition. They averaged, on day of sale, 136 pounds per head more than the lot fed corn meal, 160 pounds more than the lot fed ear corn in the barn, and 164 pounds more than the outdoor lot.

7. The experiment shows that, for rapid gains and top prices, the balanced ration excels any corn ration.

8. But this does not necessarily imply that the balanced ration affords the cheapest gain. At the cost of feed in this case, 88 cents for oil meal, 50 cents for bran, and 35 cents for corn meal, per cwt., the gain produced by the mixed feed cost 3.94 cents per pound, while the gain produced by the corn meal cost but 3.5 cents per pound.

9. At the same price for the two lots in the stock-yards, the lot fed corn meal would have been the more profitable. As it was, the lot on a balanced ration brought 10 cents more per cwt. than the lot on corn meal; but, even then, there is but a slight margin of \$3 on the whole lot in its favor, or only 60 cents per steer.

10. The results, therefore, do not want an indiscriminate use of oil meal and bran when corn is cheap. Look well to their cost before you purchase.

11. In this experiment, the corn meal gave better returns than ear corn. In our first feeding experiment, reported in Bulletin No. 34, the ear corn gave better returns than corn meal. The question whether it pays to grind is, therefore, not settled.

12. The steers on ear corn voided in manure upwards of 15 per cent of their grain undigested, while those on corn meal voided but 6 1/2 per cent of grain found in the droppings when whole corn is fed agrees with the results of a previous experiment to the same effect.

13. The cost of the gain on ear corn was, in this experiment, half a cent per pound higher than the cost on corn meal. It is probable, however, that when hogs follow the steers, this difference will be more than balanced by the larger per cent of hog food furnished when ear corn is fed.

14. In spite of the fact that it was a favorable winter for outdoor feeding, the outdoor steers gained less and ate more than the indoor steers, though fed the same. This confirms our former experiment, in which it was found that the two lots gained alike, but the outdoor steers ate a good deal more.

15. In the present experiment, the cost per pound of gain on ear corn was 3.99 cents for the indoor lot, and 4.35 cents for the outdoor lot. While the showing is thus in favor of barn feeding, the feeder should, nevertheless, count the cost of providing adequate barn room, and of the extra labor stabling involves, before he abandons the open yard with the conventional sheds.

Surface- and Sub-Irrigation.

Bulletin New Hampshire Experiment Station.

SUMMARY REMARKS.

1. We irrigate because we are compelled to in order to secure the best conditions for raising crops in a dry season.

2. Apply enough water when irrigating to do some good; a painful applied now and then in a dry time is useless.

3. By being able to irrigate when a crop is nearly matured, we have a first-class crop, which otherwise would be an inferior one.

4. Ground beds in the forcing house, watered from the same row of tiles, with all conditions the same excepting that part of the bed had a water-tight bottom while the remainder did not, gave good results in the former case and very poor in the latter.

5. Experiments with celery upon a clay loam, with water applied both through ditches for surface irrigation, and through tiles below the reach of the plow for sub-irri-

gation, showed that the latter system required much more water than the former for the same results.

6. By taking advantage of the cloudy portions of the day and as well the shade from the foliage of the plants, the loss from evaporation in surface irrigation is greatly lessened.

7. The percentage of water saved in sub-irrigation out of doors is greatly reduced on account of its soaking off in the soil below.

8. The fact that the tiles are out of sight and their action unknown makes ordinary sub-irrigation a little uncertain.

9. Sub-irrigation out of doors, where it works well, is an idle system of watering.

10. If possible have a good pressure or fall.

11. Experiments for two seasons have shown that when the tiles were placed near the surface of the ground, the plants did fully as well as in the other systems and with less water.

12. By placing the tile near the surface, the great loss by evaporation was overcome. This system also placed the water where even the shallow-rooted plants could not fail to receive it. It also combined all the good points of deeper sub-irrigation.

13. Three thousand six hundred and thirty cubic feet, or about eight hundred barrels, of water is the amount estimated to cover one acre of ground to a depth of one inch,—the amount recommended per acre for reservoir capacity.

14. Onion seed sown upon upland, with and without irrigation, gave marked results in favor of irrigation.

15. To get the best results cultivation goes hand in hand with irrigation.

16. Mulching and sub-soiling are milder forms of irrigation which can be resorted to with good results to counteract drouth.

17. Many soils need drainage, perhaps, rather than irrigation, while in some others there is a medium, which gives best results.

18. Under existing climatic and meteorological conditions, irrigation solves a very discouraging problem.

Co-operative Stores.

Some interesting facts are given in the bi-monthly bulletin of the United States department of labor in regard to distributive co-operation. While co-operative stores have always been considered commendable institutions, such enterprises have, as a rule, resulted in failure. During the period from 1847 to 1859 many union stores were established in New England, but the majority of these either went out of existence or became private enterprises. Only 350 of the 769 stores established in this country were doing business as co-operative stores in 1857, and most of these were in the New England states. The effort of the grange to organize union stores in the majority of cases resulted in failure, besides disrupting the organization in many places. An inquiry was made in 1886, by which it was ascertained that, outside of New England, there were but thirty co-operative stores, of which number but thirteen are now doing business in the original form. In all states co-operative trade is being supplanted by private enterprises which are either diverting the business of the union stores or absorbing them. As an indication of the rapid decline of distributive co-operation it is stated that of the twenty-seven associations organized in New Jersey since 1873, nineteen have disbanded. In New England, however, where the union stores seem to have met with better success than elsewhere, the thirteen now in existence, of the number originally organized, report an increase in trade to \$978,951, as shown by recent reports, as against \$479,000 in 1886. But in addition to these stores nine new ones have been established, which report an annual trade of over \$250,000. Whether through lack of good management or other causes, distributive co-operation in the United States has been a failure, while at the inception of the movement there was every indication that it must be successful. Conditions seemed to warrant this expectation. In connection with the above facts the phenomenal success of the English distributive stores is point-

ed out. There are 1,500 of these stores doing business on capital stock aggregating \$40,000,000, and returning handsome profits. The English differs from the American plan in that there is a division of profits on the amount of purchases, and profits are returned on the capital invested, the same as in a private business enterprise. The failure of distributive co-operation is due probably to the modern business policy—large trade and small profits. The co-operative stores could not compete with the large business houses which sell goods at almost cost and depend for their profits on the volume of business rather than upon individual sales. Modern business methods render co-operation in the retail trade a rather hazardous undertaking, except in localities far from the large cities. But if co-operative stores have proved impracticable, farmers clubs and associations may effect a large saving by co-operative purchasing of fertilizers, machinery and many of the articles of every day necessity. —Farmers' Union League Advocate.

A Novel Industry.

A Grand Traverse industry about which but comparatively little is known, but which is really of a good deal of importance is the gathering of ginseng, to ship to China. In that country it is regarded in almost a sacred light, and supposed to cure all the ills that flesh is heir to.

From July or August until October the Indians of this region, and some of the white people, make quite a business of hunting the roots, which grow only in the deepest forests, and will not stand open fields or cultivation. They dry the roots and bring them in by the bag full, selling them to the druggists, who in turn ship them to "middle men" who deal with the Chinese market. From \$1000 to \$1500 is paid out here every season, the dry roots bringing \$2.75 to \$3 a pound, and green roots 80 cents. Although the root is found in a number of places in the United States, the best quality comes from Michigan and other north and northwestern states. It would seem that in time the supply would become exhausted, as it takes three or four years to grow to a size that would warrant digging, but the quantity brought in remains about the same from year to year.

The best roots resemble rudely the shape of a human body, and the Indians have given it the name of A-ne-she-na-ba-se-wang, or "The Little Indian." They have many superstitions about it, among other things believing that unless an offering is made it will exert an evil influence if dug, and even bring on war. Accordingly they always scatter a little tobacco in the hole from which the root has been dug, to induce it to grow again, and avert the evil. They tell many stories about it that have been handed down from generation to generation. They never under any circumstances use the root as a medicine themselves, although they are well versed in the medical lore of roots and herbs and make much use of them.

The name ginseng has a foreign sound but it is not generally known that it is an Anglicised form of the Chinese gen sang. The Chinese, who are the only people who use the root, are full of superstitions in regard to it, and it is the favorite medicine of the highest Mandarin and the lowest coolie alike. They claim that if they carry it on long journeys it will give them strength and health, and preserve them from all ills and misfortunes.

Their theory it that in whatever form moisture appears in the body it is governed by the veins, and ginseng so tones them up that they keep the other organs in a normal state of saturation and the animal spirits flow freely. The nearer the root resembles the human form the more efficacious it is supposed to be. The genuine root, they say, will have two off-shoots near the crown to represent the arms, and about the middle will bifurcate to represent the legs. It is taken in three ways: Pills, confections and infusion. The pills are made of the poorest roots and are known as young deer-horn pills; confections, by steeping in rice or sugar and drying; in infusion, the most common process is by steeping in a closed vessel with sugar. People at first take a tenth of an ounce at

a dose, but after awhile often take two or three ounces, and families at the beginning of summer buy enough to meet emergencies.

The people believe that they never get the original—that root grows only in the garden of the Gods—and their druggists tell them that only the earth-grown imitations can be had. The roots, they say, have the power of concealing themselves from the eyes of the curious, while a few, who have pure natures, can see at night the halo of spiritual essence it puts forth, and at daybreak can unearth it.

If they were to see the native Americans hunting for it in the Grand Traverse woods and digging it by the bushel, it would be a sorry blow to this idea, but as it is they are happy in getting it, the Indians are happy in selling it, and it all goes to show that this isn't a very big world after all, and we are all dependent upon each other for much of the comforts of life. —Grand Traverse Herald.

OFFICIAL DIRECTORY

Table listing various officials and members of the Michigan State Grange, including Officers National Grange, Officers Michigan State Grange, County Deputies, and Revised List of Grange Supplies.

Notices of Meetings.

KENT POMONA GRANGE will hold its annual meeting at Grand Rapids, in the court house, Wednesday, December 16, 1896, for election of officers and the transaction of such other business as may come before the Grange.

Grange News.

Danby Grange No. 185 held its third fair and festival at Grange hall in the afternoon and evening of October 10. Supper was served during the evening. The ladies of the Grange had made many useful articles during the past year, which they placed on sale. They were not all sold; but are being disposed of at every opportunity. The receipts of the evening were upwards of \$20. The exhibits of vegetables and all products of the farm were splendid, better than you would see at the county fair. All in all, the fair was a grand success. Danby Grange is up to date in Grange work.

Headquarters Corry Grange No. 291. The following resolution was received and adopted by Corry Grange. Whereas, the Great Master of the universe has seen fit to call our worthy lecturer, A. P. Shepherdson, from labor to reward; Therefore, it is resolved by Corry Grange, that in the death of brother Shepherdson our order loses one of the charter members and first master of Corry Grange; The bereaved family, a true, loving husband and father, we shall miss him in our counsels in the order, but feel that our loss is his gain. And we can only bow in submission to the will of Him who doeth all things well. GEORGE STANDERLINE. JANE STANDERLINE. DANIEL H. POND. Committee.

The National Grange. Office of the Secretary, 514 F Street, N. W. Washington, D. C., November 20, '96. Report and resolutions adopted by the National Grange in its thirtieth annual session, held in Washington, D. C., November 11, 1896. JOHN TRIMBLE, Secretary. The following report of the special committee on the relations of the Grange to the U. S. department of agriculture, was adopted by the National Grange in its thirtieth annual session, in Washington, D. C., November 16, 1896.

WORTHY MASTER: For many years the farmers of the United States felt the necessity of elevating the position of commissioner of agriculture to a cabinet office, as secretary of agriculture, in order to give due recognition to the foundation interest of all prosperity in this country. To this end the Patrons of Husbandry, through their subordinate State and National Granges, labored until the object sought had been attained. The position of secretary of agriculture is regarded by the farmers as one which should be the farthest removed from politics of any of the cabinet positions, and one that should at all times be filled by a practical farmer. Resolved, By the National Grange, in its thirtieth annual session, in the city of Washington, D. C., that we respectfully request the president-elect to appoint to the position of secretary of agriculture a man actively engaged in agricultural pursuits, who has the confidence and esteem of the farming population of the entire country. AARON JONES, Ind. D. N. THOMPSON, Mo. O. H. HALE, N. Y. W. W. GREER, Cal. GEO. A. BOWEN, Conn.

Attest: JOHN TRIMBLE, Secretary National Grange, Washington, D. C., November 20, 1896.

The following, offered by Bro. Aaron Jones, of Indiana, was adopted November 19, 1896: "RESOLVED, That the Executive Committee have published in full the proceedings of the National Grange in the matter of the relation of the department of agriculture and the secretary of agriculture to the National Grange, in sufficient number to send ten copies to each subordinate Grange in the United States, and that the secretary of the National Grange be, and hereby is, directed to send to the Master of each State Grange, as soon as practicable, ten copies thereof for each Grange with a request that state masters send to each Grange in their respective states to be read at the first meeting of the Grange after their reception."

The following resolution, offered by Mr. H. O. Devries, of Maryland, was adopted by the National Grange, November 16, 1896:

"Whereas, this National Grange has placed itself on record to favor the appointment of a competent and practical farmer at the head of the department of agriculture; therefore,

"RESOLVED, That a committee of three be, and is hereby appointed, consisting of Aaron Jones, of Indiana; O. H. Hale, of New York; and George B. Horton, of Michigan, to wait upon Hon. William McKinley, president elect of the United States, to urge that a practical farmer be honored with a seat in his cabinet, and that said member be a Patron of Husbandry, in recognition of the wisdom and labor of our order in the creation of said department of agriculture."

Delegates to State Grange.

The following are the delegates so far as reported to this office, elected to attend the session of the State Grange to be held at Lansing, Tuesday, December 8, 10:00 a. m.:

- Allegan } Mr. and Mrs. G. Miner, Frank Andrews.
Antrim } Mr. and Mrs. T. E. Niles, Edgar Brown.
Barry }
Benzie }
Berrien }
Branch } Mr. and Mrs. J. D. Studley, J. G. Rossman, J. M. Willison, Robt. H. Wiley, J. W. Ernest, Wm. Shapton, Jay Ives, James Murray, A. B. Knight, Mrs. Neil Munro, S. P. Richardson, A. H. Drake, E. R. Rockwood.
Calhoun }
Cass }
Clinton }
Charlevoix }
Eaton }
Genesee }
Gr'd Traverse } Mr. and Mrs. Neil Munro, S. P. Richardson, A. H. Drake, E. R. Rockwood.
Hillsdale }
Huron }
Ingham }
Ionia }
Jackson }
Kalamazoo }
Kent }
Lapeer }
Lenawee } E. A. Taylor, B. M. Colgrove, Jos. Driscoll, Jasper Park, J. M. Parkhurst, Leroy Backus, Dav. Roberts'n, Chris Leap, J. M. Norton, J. Y. Clark, John Ovais, C. A. Lapeer, Geo. Dodge, A. E. Hicks, T. Reeves, E. Wildy, R. L. Bly, D. V. Harris, R. C. Norris.
Livingston }
Manistee }
Mecosta }
Montcalm }
Muskegon }
Newaygo }
Oceana }
Oakland }
Ottawa }
St. Clair }
St. Joseph }
Saginaw }
Sanilac }
Shiawassee }
Tuscola }
VanBuren }
Washtenaw }
Wayne }
Wexford }

Reserved Forest Area.

A proposition relative to practical present disposition of denuded pine lands has recently been made in Minnesota that may be worthy of consideration in Michigan. The proposition is that the owners of the land from which the timber has been cut and which are not available for agriculture, may deed them to the state, when so recommended by the town and county forestry boards, and thus they will be exempt from taxation. This land shall be called "reserved forest area." One-third of the future income of these lands shall go to the state, towns and counties, to reimburse them for protection and the loss of taxes. Another third of the income shall go to the original owners and their heirs, who have deeded over the lands for a period of 100 years. After that period the income is to go to some institution of public benefit. The remaining third is to be devoted to the state university or other designated institution. The state shall have power to sell dead or down timber, and generally to have full control where the public welfare may require changes in the forest domain.—Cadillac News and Express.

The public is not as familiar with its privileges about postal matters as might be supposed. Many times people would like to recall a letter after it had been mailed. This can be done, even if the letter has reached the postoffice of the destination. At every postoffice there are what are called "withdrawal blanks." On application they will be furnished, and when a deposit is made to cover the expense, the postmaster will telegraph to the postmaster at the letter's destination asking that it be promptly returned.—Ex.

How's This!

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure. F. J. CHENEY & Co., Props., Toledo, O. We the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligation made by their firm. WEST & TRUAX, Wholesale Druggists, Toledo, Ohio, WALKING, KINNAN & MARVIN, Wholesale Druggists, Toledo, Ohio. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c. per bottle. Sold by all Druggists. Testimonials free.

SUCCESS IS EASILY ATTAINED

If the Means in Hand are Only Made Effective. The appearance is that only a comparatively small number of people ever quite realize what an easy thing success would be if only they made effective the means to it which they have already in hand. writes Rev. Charles H. Parkhurst, D. D., in an article on "The Young Man on the Fence," in the December Ladies' Home Journal. "Difficulties among people in respect to efficiency are far less an affair of resources than they are a matter of getting those resources trained upon a particular point, and heart that it shall be close to the eye and the hand, which he laid upon the crackling bonfire of that purpose. Success was, therefore, easy to him."

Life at Washington.

The inauguration of a president, the selection of his cabinet, and the starting of a new congress—national events of the coming year—suggest the question, What are the powers and duties of these high officials? During 1897 it will be answered through the Youth's Companion, in a remarkable series of articles by Secretary Herbert, Postmaster-General Wilson, Attorney-General Harmon, Senator Lodge and Speaker Reed. The Illustrated Announcement for 1897 (mailed free on application to the Youth's Companion, Boston) shows that the above is only one of many brilliant "features" by which the Companion will signalize its seventy-first year. Three novelists who at present fill the public eye—An Maclaren, Rudyard Kipling and Stephen Crane—will contribute some of their strongest work. Practical affairs and popular interest will be treated by Andrew Carnegie, Hon. Theodore Roosevelt, Dr. Lyman Abbot, Madame Lillien, Nedica, Hon. Carl Schurz, Charles Dudley Warner, Mrs. Burton Harrison, and a hundred other famous men and women. Four fascinating serials, more than two hundred short stories, and ten times as many sketches and anecdotes will be printed during 1897; and all the departments will be maintained at the high standard which has made the Companion's name a synonym for impartial accuracy. The cost of the Companion is but \$1.75 a year, and we know of no investment that will give so great returns for so small an amount of money. New subscribers will receive the paper free from the time the subscription is received until January 1, 1897, and for a full year to January, 1898. New subscribers also receive the Companion four-page Calendar, lithographed in twelve colors, which is the most expensive color production its publishers have ever offered. Address, THE YOUTH'S COMPANION, 235 Columbus Ave., Boston, Mass.

In the December Arena will be found part X of Prof. Frank Parson's series of articles on "The Telegraph Monopoly," which are being so widely read and deeply pondered throughout the country. They are crammed with "facts, facts, facts," and their logic is luminous and incontrovertible, while amid the shower of sledge-hammer blows every once in a while sparkles a gem of humor that not only tickles the reader's risibilities but drives the argument home. Part X deals with the experience of England in the matter of telegraphs.

Improper and deficient care of the scalp will cause grayness of the hair and baldness. Escape both by the use of that reliable specific, Hall's Hair Renewer.

PERFECT HEALTH.

HOW IT MAY BE OBTAINED BY ALL.

An Interesting Bit of History as Told by a Travelling Man, Followed by Affidavits of Two Prominent People.

From the World, Cleveland, Ohio. After an extended trip lasting several months and embracing many points of interest throughout the West and South, Mr. George Lockhart, of Hudson, Ohio, returned home a few days ago. He is bright and genial as ever and looks as if his long holiday had thoroughly agreed with him. Mr. Lockhart's business during his travels took him frequently to Hot Springs and other health resorts. He does not appear to have been very favorably impressed with the peculiarities of life at such places, nor with the benefits received by the patients. "Men go there to get cured of disease," says he. "They take one hot bath in the morning and spend the rest of the day generally in drinking, gambling and general dissipation. How can they expect to recover under such treatment passes my comprehension. But they are, as a rule, what the world calls good fellows, free with their money and bent on enjoying themselves."

many remedies, but with no satisfactory results. "We read of the Marshall case, of Hamilton, Ontario, a wonderful cure attributed to Dr. Williams' Pink Pills for Pale People. I sent for a box of them, and was helped at once, and by the time I had taken one box I could get up out of a chair as spry as any one, and could run, and could do any kind of work I ever could. "Since taking Pink Pills I have been able to work at such work as sawing wood, rolling logs, in fact, I have no occasion to favor myself on account of my injury. Why, last summer I dug a ditch eighty rods long and two feet deep. I attribute my freedom from pain entirely to Pink Pills. It is a wonderful medicine. I think my wife's cure from creeping paralysis was even greater than mine." Mr. Rose desired to put the above in the form of an affidavit, and did so as follows: STATE OF MICHIGAN, } COUNTY OF ANTRIM, } James F. Rose, being duly sworn on his oath says that the foregoing statement is true. JAMES F. ROSE. Sworn and subscribed to before me this 22nd day of February, 1896. C. E. DENSMORE, Notary Public.

From the Breeze, Bellaire, Mich. DR. WILLIAMS' MEDICINE COMPANY, Schenectady, N. Y. GENTLEMEN: I feel that I should write you of the benefit I have received from your Pink Pills for Pale People. I have been a great sufferer, and for nearly twenty years cannot truly say I have seen a well day until after I used Pink Pills. I was an invalid for fourteen years, seven of which I was almost helpless, and had to be carried when moved from place to place. I was troubled with serious stomach troubles, and was constantly growing worse. My feet became paralyzed, then my ankles, and afterwards my knees became paralyzed. We became convinced that creeping paralysis had fastened itself upon me, and my death was thought to be a matter of only a short time. My husband had procured some Pink Pills, and as they were helping him greatly I tried them, and can truly say of them that they are an extraordinary medicine. I have experienced relief beyond my fondest hope almost. My paralysis is a thing of the past, and though I am a woman of sixty-three years, I now do all my own housework, and am enjoying good health. Thanks to Dr. Williams and his good medicines. (Signed,) MARGARET ROSE. STATE OF MICHIGAN, } COUNTY OF ANTRIM, } Margaret Rose, being duly sworn, deposes and says that the foregoing statement by her subscribed is true. C. E. DENSMORE, Notary Public. Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of a gripe, palpitation of the heart, pale and sallow complexions, all forms of weakness in male or female. Pink Pills are sold by all druggists, or will be sent post paid on receipt of price, 50 cents a box, or six boxes for \$2.50.—(They are never sold in bulk or by the 100)—by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.

A Lumberman's Experience. From the Breeze, Bellaire, Mich. "Have Pink Pills done me any good? What, Dr. Williams' Pink Pills for Pale People? Indeed, I should think they have. "My family have every reason to feel grateful to Dr. Williams for his wonderful medicine," said James F. Rose, a gentleman sixty-three years of age, and one of the oldest settlers of Helena township, in Antrim county, Mich. "I was working with some large logging wheels lumbering, some eighteen years ago, and was seriously injured. I was thrown a long distance striking on some logs and I broke my left hip, fractured three ribs, and injured my left shoulder. I was unconscious twenty-four hours, and it was a long time before I could walk at all. "Finally I got so I could hobble around a little, but always suffered great pain while moving about. I could sit in a chair quite comfortably but could only get up after great difficulty and by helping myself with my hands or with other assistance. "I had consulted physicians and tried a good

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C. & G. T. Special Rates. Homeseekers' excursions to the west, south and southwest. Dates, November 2, 3, 16, 17 and 30, December 1, 14 and 15, 1896. Rate lone fare plus \$2.00 except to the extreme south where a plus of \$5.00 will be charged at destination when securing ticket for return passage. Return limit 21 days. Write for full particulars. A Zoological Clearing House. We are not only fencing the animals in the leading parks but furnishing specimens, when needed, and buying their surplus. In this way whole droves of Peap, elk and buffalo have changed hands and the Peap keeps right on holding them. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.